

General Surgery Residency Program

Grandview Medical Center

Dayton, Ohio



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Program Director

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Table of Contents		Page
1. Introduction		3
2. Hospital Requirements		3
3. Hospital/Faculty Responsibilities		4
4. Program Director Responsibilities		5
5. Resident Requirements		6
6. Resident Selection		6
7. Duties and Requirements for Surgery Residents		7
8. Chief Resident Duties		9
9. Training Program – General Surgery Resident Curriculum		10
10. Didactic Reading Assignments		10
11. Resident Certificate		10
12. Out-Patient Clinic		10
13. Autopsies		10
14. Cadaveric Surgery		10
15. Osteopathic Principles and Therapy		11
16. Meeting Attendance		11
17. Out Rotations		11
18. Leave Policy		12
19. Evaluation Process		12
20. Policy on Academic and disciplinary dismissals including appeal		12
Appendix A – Five-year ACOS Curriculum & Four-year CORE curriculum		14
Appendix B – Evaluation Forms		245
Appendix C – Moonlighting Policy		261
Appendix D – Policy on Resident Performance, Remedial Action, Grievance, & Appeals		267
Appendix E – Abbreviations		278

1. INTRODUCTION

It is the goal of this program to meet the ever present; ever changing needs of Residency Training program in General Surgery. We wish to implement this program to help meet the demands of training the modern surgeon. We hope to provide in a progressive manner, continuous training to satisfy all requirements necessary for eventual certification in General Surgery by the American Osteopathic Association through the American Osteopathic Board of Surgery. This program will be under the direction of the Department of General Surgery at Grandview Hospital through the Residency Program Director at Grandview Hospital.

The Department of General Surgery at Grandview Hospital assumes the obligation to supervise training of General Surgery Residents.

Residents will be exposed to basic sciences as related to surgical practice, and have required rotations in various specialty areas relating to the practice of surgery. (This will be defined more clearly later in this outline). There will be special emphasis on developing technical skills, diagnostic competency, sound medical and surgical judgment, preoperative and postoperative care, as well as progressive development and responsibility in the seven competencies: professionalism, Osteopathic principles and practices, medical knowledge, communication and interpersonal skills, practices-based learning, systems-based practice, and patient care. Emphasis will be placed on high ethical and moral standards in the Surgical Resident throughout the training program.

2. HOSPITAL REQUIREMENTS

Grandview Hospital is accredited by the AOA. It is a designated osteopathic institution and is a member of the American Osteopathic Hospital Association. Southview Hospital will provide rotational exposure for our residents.

Grandview Hospital offers services through Departments of Radiology, Nuclear Medicine, Clinical Laboratory, Pathology, and Non-invasive Vascular Laboratory. Board certified physicians head all departments.

Grandview Hospital's Medical Library offers carefully selected texts, the latest editions of current medical journals, and other appropriate publications, in the various branches pertaining to the residency.

The library is in charge of a full time librarian. A Library Committee of the hospital staff is responsible for the organization and development of this department.

There is access to computer-assisted illustrations, access to educational video and audiotapes. Affiliations with Ohio University College of Osteopathic Medicine strengthen this advancement of surgical education.

Hospital Administration, in cooperation with the Director of Medical education, Post Doctoral Education Committee, Department Chairman, and Program Director shall provide an atmosphere for proper training of residents according to guidelines of the AOA.

Association of Grandview Hospital's graduate medical education program with Ohio University (in the CORE Program) meets the requirements established by the ACOS, that all surgical residency-training programs participate in academic consortia by July 1, 1996. Grandview Hospital's Graduate Medical Education Program involvement with an academic consortium with Ohio University started July 1, 1995.

Grandview Hospital is approved for surgical PGY-1 training by the AOA with rotating services through Obstetrics/Gynecology, Radiology, Pathology, Anesthesiology, Orthopedics, ENT, Family Practice, Internal Medicine, General Surgery, Emergency Medicine, Pediatrics, and various electives.

Annual admissions to the Surgical Department include Gynecology, Breast, Gastrointestinal, Biliary tract, Urological, Orthopedic, Endocrine, Vascular, Hernial, and Neurologic surgical exposure.

Outpatient clinics with definite resident assignments are part of Grandview's teaching structure. The Victor J. Cassano Health Center offers surgical resident clinics in general surgery, bariatric surgery, and vascular surgery.

Residents shall be provided stipend for postgraduate work and additional training outside the base of the hospital. Contracts shall be completed according to the guidelines of the AOA.

The Department of General Surgery currently consists of eight General Surgeons. All are Board Certified.

3. HOSPITAL/FACULTY RESPONSIBILITIES

It is the prerogative of the governing body of the hospital to discontinue training of a resident if he is considered to be intellectually, educationally, temperamentally, morally, or otherwise unsuited to participate in a continued Residency Program. The professional staff of Grandview Hospital collectively assumes responsibility for appropriate training of residents.

Residents receive a copy of the training program and a manual describing duties and responsibilities of the resident. These are located on the hospital intranet for immediate availability.

The program director and the faculty ensure that each resident is provided with direct and progressively responsible patient management that will result in the demonstration of competence in technical skills and clinical decision-making upon successful completion of the program.

Residents are supervised and evaluated throughout their training with availability of teaching staff scheduled within the program. During daytime hours, residents are responsible to attending physicians for assignment of responsibility.

Faculty provide appropriate resident supervision and instruction in the operating room, at the bedside, and in ambulatory settings. Once a resident is credentialed in a procedure, less supervision is provided. Prior to this, direct supervision is foremost for patient safety.

Faculty, along with the Program Director will evaluate the progress each resident. The Program Director then discusses these evaluations with each resident.

Faculty, the Program Director, and the residents will evaluate, at least annually, the quality of the program. The results are expected to direct Department and residency changes to ensure continual program improvement.

The faculty and Program Director are to be peer evaluated annually with respect to their teaching abilities, commitment to the program, and scholarly activities.

4. PROGRAM DIRECTOR RESPONSIBILITIES

The Program Director must be a board-certified osteopathic physician licensed to practice in the state of Ohio. He/She will be an active member of the American College of Osteopathic Surgeons (ACOS).

The Program Director must be appointed in good standing to the medical staff(s) of Grandview/Southview hospitals.

The Program Director must be certified by the American Osteopathic Board of Surgery and meet all requirements of Program Director listed in the AOA Basic Standards for Residency Training for General Surgery.

The Program Director must be an experienced educator with at least five years of practice experience. Previous experience as a program director is preferred. An educational background with faculty appointment through a recognized college of osteopathic medicine and research experience is considered desirable, but not mandatory. The Program Director will become adjunct faculty with the OPTI partner (Ohio University College of Osteopathic Medicine).

The Program Director is responsible for the following aspects of the program:

- Ensure the administrative and educational aspects of the program are consistent with the model AOA curriculum
- Arrange for affiliated training sites and electives to meet program objectives, consistent with approval of the DME
- Document compliance with the standards, policies, and procedures of the AOA.
- Submit reports as required by the AOA Approval Procedures
- Ensure resident completion and submission of the resident annual reports to the ACOS
- Prepare the required documentation for, and participation in, the AOA site visit process
- Coordinate educational administrative activities of the training program to include resident schedules and resident assignments for educational activities
- Ensure all components of the training program are evaluated as required
- Encourage residents to apply for ACOS resident membership status

- Attend the ACOS Osteopathic Surgical Educators' Seminar at least once every three years
- Register program residents to utilize the ACOS electronic data collection/log system
- Review resident's in-service examination score results in consultation with the resident

5. RESIDENT REQUIREMENTS

Candidates for residency shall be graduates of an approved Osteopathic college.

Candidates shall also be members of the AOA, and maintain membership throughout their specialty training. Applicants are required to apply for license to practice Osteopathic Medicine and Surgery in the State of Ohio.

It shall be understood that appointment for Residency Program is for a period of one year only. Re-appointments are on an annual basis. Under no circumstances does acceptance for one-year training imply acceptance for additional training. Re-appointment is based upon progression within the model curriculum based on evaluations, skills, and discussion at Fall Department of Surgery Meeting.

Residents shall devote time and efforts to the program and are not permitted to engage or participate in any outside activities of a professional nature during their period of residency when such activities interfere with the training program.

6. RESIDENT SELECTION

Application shall be submitted in writing or online to the Director of Medical Education, Grandview Hospital. Applications shall then be submitted by the Director of Medical Education to the Program Director and active members of the Department of General Surgery. All candidates for Residency Training Program must be interviewed in person prior to acceptance in the program.

Selection will be made by the Program Director and members of the Department of General Surgery, contingent upon approval of the SEC, Medical Staff, and the Hospital Board. Admission to the residency program shall not be influenced by race, color, sex, religion, creed, national origin, age or handicap as defined by laws and regulations.

All applicants, whether accepted or rejected, shall be notified in writing by the Director of Medical Education.

A personal interview with the resident shall be held by the trainer or his/her designatee within six months after the training program has begun. Each resident's work will be reviewed and recommendations made at that time for continuation in the program, probationary status, or with final recommendation for continuation or termination of the resident at the end of the first year.

7. DUTIES AND REQUIREMENTS FOR SURGICAL RESIDENTS

Duties:

With the approval of the Program Director and the Department of General Surgery, the Chief Surgical Resident shall designate the hours of duty, including weekend and call schedules.

The resident shall be required to assist or perform on all patients of the attending physician. He shall assist in boarding patients and formulating surgical schedules. He shall visit all patients of the attending physician whose rotation he is serving daily. Whenever possible, he shall make such visits with the surgeon in attendance.

The resident shall perform history and physical examinations of all surgical cases on his service.

The resident shall be responsible for all work and orders of the intern and students on his service. This includes instruction and training in the principles of sterile technique as applied to surgery, dressings, use of various catheters, drains, packs, sutures, clips, etc.

The resident shall write complete admission notes on all patients admitted to his service; progress notes daily, operative notes when assigned for dictation.

The resident shall review daily all x-rays performed on his patients.

The resident shall make surgical rounds with the attending physician and have all information pertinent to those patients available when making rounds.

The Emergency Room is a major source of training for the surgical resident. Assignment to the Emergency Room will be made by the Chief Surgical Resident with the approval of the Program Director and the Department of General Surgery. There will be formal training in trauma care and proper ER protocols will be learned and followed. The Emergency Room will be covered 24 hours per day, 7 day per week, by a surgical resident.

The resident shall be assigned, at the discretion of the attending surgeon, dictation of operative reports. The resident shall also be responsible for discharge summaries of all patients assigned to his service.

Requirements:

Residents shall take part in weekly case presentations. Residents shall attend all conferences held by the Department of General Surgery. Residents are expected to participate in professional staff activities. For example, patient care, department meetings, mortality and morbidity meetings, etc.

The resident is required to maintain and accurately complete records for their educational activities in the required surgical log form. The logs must be submitted at the end of each rotation to the program director for review and verification. The logs should document the fulfillment of the requirements of the program, describing the scope, volume, variety, and

progressive responsibility by the resident. Residents are responsible for completion of annual reports as required by AOA and ACOS. These shall be submitted within thirty (30) days of completion of each training year, in adequate time for review by the Evaluation Committee of the ACOS. The resident is required to keep an accurate record of all reading material, all meetings attended, autopsies attended, lectures attended, lectures given, and papers written or published.

Each resident is required to complete the annual ACOS General Surgery In-Service Examination. General Surgery Emphasis intern will not take the examination.

Postgraduate work courses may be attended at the discretion of the Program Director and the Director of Medical Education. Requests must be submitted in writing for such programs. The resident should attend the Annual Postgraduate Course in Surgery sponsored by the American College of Osteopathic Surgeons preferably in the second or third year of training. At least on one occasion during his program, he should attend the Annual Clinical Assembly of Osteopathic Surgeons.

The resident shall complete at least one scientific paper or poster per year, and these should be in accordance with the guidelines of the RESC (Resident Evaluation and Standards Committee). The subject of the paper must be mutually acceptable and approved by the Program Director PRIOR TO beginning the paper.

The length of the annual paper shall be at least 1500 words; double spaced, paginated, with references required for all material derived from the work of others. The annual paper shall be submitted in duplicate to the ACOS Evaluation Committee within 30 days of completion of each contract year. The fourth year paper must be suitable for publication in a peer review medical journal. Preparation of a poster session for the Annual Clinical Assembly of Osteopathic Specialists may be done in lieu of a paper for one of the first three years of the General Surgery Residency. The resident may select his topic for this paper subject to approval of the Program Director.

Residents are expected to abide by all applicable policies and procedures of the sponsoring institution and the primary training institution, such as, work hours, call, and leave policies, financial arrangements, including housing, meals, and benefits; resident supervision and evaluation; specifics of contract renewal; and disciplinary, due process, and appeal policies.

Residents must only engage in program director-approved outside activities which do not interfere with the resident performance in the training program. The resident is prohibited from acting as a consultant, engaging in a private specialty practice, or maintaining attending status during residency.

The resident is expected to behave in a professional manner, consistent with his degree of education and responsibility. Relationships with other professionals, such as other residents, interns, externs, nursing staff, and attending staff, is to be above reproach. Constructive criticism, academic discussions concerning patient care may be expressed at bedside or in front of a group. Personal dislikes or complaints should be handled privately. Any reprimand must be carried out in a very professional manner, and privately between the resident and the individual concerned.

Residents are to appear in proper attire at all times. The resident in General Surgery is required to wear the proper identification badge at all times when not in the Operating Room. Scrub suits are to be worn only in the Operating Room and not between hospitals.

Residents must be neat and well-groomed at all times subject to the approval of the attending physician.

Penalties for infraction of the rules may include suspension of a time off, suspension of weekends off for a specific period of time, and ultimately, termination from the Residency Training Program if infractions are frequent or severe enough.

8. CHIEF RESIDENT DUTIES

The Chief Surgical Resident is to be appointed by the Department of General Surgery. This appointment shall be reviewed at six months intervals. He shall serve as representative of the entire group of General Surgery Residents. If requested, he shall attend the Department meetings to represent the residents or for discussion of any problems arising in the program.

The Chief Surgical Resident is directly responsible to the Program Director. He/She shall also communicate with the Director of Medical Education concerning matters related to coordination of medical education. The Chief Surgical Resident shall be responsible for submitting the "on-call" schedule on a monthly basis to the Program Director and Director of Medical Education.

He/She shall facilitate the implementation of the educational program for interns and externs. This includes Book Review Club, Journal Club, Morbidity & Mortality Conference, educational conferences, gross anatomy sections, guest lectures, and journals.

The Chief Surgical Resident shall assume various other responsibilities under guidelines established by the Department of General Surgery, including the following:

- a. Assignment of interns, not on elective rotation, and externs and Ohio University CORE students. This includes assignment in surgery on a daily basis.
- b. Surgical Out-patient Clinic as outlined by the Department of General Surgery.
- c. Review of resident logs.
- d. Grand Rounds
- e. May assign various responsibilities to remaining residents and they shall be directly responsible to him.

Journal Club shall meet at least monthly. The Chief Surgical Resident makes assignments to the junior residents and interns on the surgical service. Current surgical journals are reviewed and summaries of pertinent articles are prepared and presented at a common meeting with time provided for discussion and interpretation of the articles.

Morbidity and Mortality Conference will meet at least monthly.

9. GENERAL SURGERY RESIDENT TRAINING PROGRAM

The comprehensive General Surgery Residency curriculum was approved by the AOA and ACOS and is to be followed in general for this training program. Appendix "A" is the document on the General Surgery curriculum and is included at the end of this manual. In addition, the residents are offered additional learning opportunities each month such as: Morbidity and Mortality Meetings, Journal Clubs, the CORE Education program, and OPP workshops.

10. DIDACTIC READING ASSIGNMENTS

Various reading assignments will be provided to the resident throughout his five-year program. Specific assignments in basic sciences such as Anatomy, Physiology, Pathology, and Pathophysiology will be made. As the training program progresses, residents will continue to read on a broad scope of subjects.

11. RESIDENT CERTIFICATE

In addition to the various rotations in specific training areas, residents will also rotate at Southview Hospital and Family Health Care Center as part of their rotational schedule. This will provide for exposure to coverage in all area of General Surgery. Upon completion of the five-year training program, the resident shall receive a certified transcript of this training program from Grandview Hospital in combination with the postgraduate consortium with Ohio University.

12. OUTPATIENT CLINIC

Due to changing modes of practice, evaluation of patients by residents prior to surgery has changed, due to SDS and I&O surgery. Because of this, outpatient clinic evaluation of patients is important in training the resident in pre-operative evaluation.

Whenever possible, the General Surgery Resident should attempt to see patients in the attending surgeon's office to get more pre-operative evaluation and post-operative follow-up. Practice economics can be addressed at this time, especially when the resident is in the final year.

13. AUTOPSIES

Attendance at autopsies on surgical cases is encouraged.

14. CADAVERIC SURGERY

Arrangements have been made for cadaveric work for the General Surgery Resident. Assignment is by the Chief Surgery resident. If possible, the first or second year resident should attend an anatomy course.

15. OSTEOPATHIC PRINCIPLES AND THERAPY

Residents are expected to attend monthly OMM workshops at Grandview Medical Center. In addition, the CORE emphasizes OPP throughout lectures and also conducts dedicated academic sessions with practical instruction and applications.

The structural physical examination is an important part of the physician's diagnosis and should be recorded on all surgical patients by the resident.

16. MEETING ATTENDANCE

It is an AOA requirement that the resident attend all staff and departmental and/or divisional meetings as well as all other committees directly associated with the level of care of the surgical patient. This would include such meetings as Utilization Review, Tumor Board, Tissue Committee, Mortality Review, etc. Attendance must be kept for documentation purposes. The resident is expected to attend all General Surgery RPAC meetings unless on "out" rotation.

17. "OUT" ROTATIONS

The purpose of the "out" rotation is to enhance specific areas of the training program. Established rotations include:

- PGY-1: 1 month – Children’s Medical Center
- PGY-2: 1 month – Miami Valley Hospital Burn / Plastics
- PGY-3: 3 months – Children’s Medical Center
1 month – Grant Hospital Trauma
1 month – Grandview Hospital Urology
- PGY-4: 1 month – Grant Hospital Trauma
- PGY-5: The resident should be at the base hospital during the entire last year. (There is a four months elective but this must be completed at base hospital affiliations. A rotation in Endoscopy and Advanced Laparoscopy is encouraged.

The purpose of "out" rotations is to enhance any area (s) of weakness. The policy of the AOA and ACOS state that, "no surgical program will be approved containing more than a total aggregate of 12 months away from the base institution during the four year residency training period".

Outside rotations will be approved by the Program Director after discussion with department members.

Outside rotations should be to enhance knowledge and skills in areas not sufficiently available at Grandview/Southview Hospital.

18. LEAVE POLICY

No more than twenty days each calendar year for sick leave, vacation, and military leave will be permitted. If additional maternity leave, sick leave, or other personal or professional leave is granted, the program must be extended to meet all the time and rotation requirements of the program. A training year shall consist of a minimum of 48 weeks of documented training.

19. EVALUATION PROCESS

Evaluations of the residents for monthly rotations are to be submitted no later than thirty (30) days after the completion of the rotation. Likewise, residents must submit their evaluation of the rotation no later than thirty (30) days after the completion of the rotation. These evaluations are considered when the Program Director completes quarterly and end of year evaluations of each resident. Certain matters may be brought before the Department at the discretion of the Program Director.

Appendix "B" includes sample forms for the evaluation of a resident.

20. ACADEMIC AND DISCIPLINARY WARNINGS AND DISMISSALS

The policy regarding Residency Performance, Remedial Action, Grievance & Appeal along with the Academic Warning Process is outlined in Appendix C. The purpose of the Academic Warning process is to recognize issues prior to the need to enforce probation or demand dismissal.

Academic dismissals result from a failure to attain a proper level of scholarship or non-cognitive skills, including clinical abilities, interpersonal relations, and/or personal and professional characteristics. Institutional standards of conduct include such issues as cheating, plagiarism, falsifying records, stealing, alcohol and/or substance abuse, or any other inappropriate actions or activities.

In cases of academic dismissal, the hospital and department will inform residents, orally and in writing, of inadequacies and their effects on academic standing. The resident will be provided a specified period in which to implement specified actions required to resolve academic deficiencies. Following this period, if academic deficiencies persist, the resident will be placed on probation for a period of three (3) to six (6) months. The resident may be dismissed during this period, if deficiencies remain and are judged to be irremediable. In accordance with institutional policy, the resident will be provided an opportunity to meet with evaluators to appeal decisions regarding probation or dismissal. Legal counsel at hearings concerning academic issues will not be allowed.

In cases of disciplinary infractions that are judged irremediable, the hospital and department will provide the resident with adequate notice, in writing, of specific ground(s) and the nature of the evidence on which the disciplinary action is based. The resident will be given an opportunity for a hearing in which the disciplinary authority will provide a fair opportunity for the resident's position, explanations and evidence. The department will act as the disciplinary authority. Residents may be allowed counsel at hearings concerning disciplinary issues. Pending

proceedings on such disciplinary action, the hospital, in its sole discretion, may suspend the resident, when it is believed that such suspension is in the best interest of the hospital or of patient care.

Appendix "A"

**Five-Year ACOS Curriculum
and
Four-Year CORE Curriculum**

OGME-1 ROTATION GUIDELINES –

GENERAL SURGERY, NEUROLOGICAL SURGERY, AND UROLOGICAL SURGERY (OGME-1R)

The following rotation is required for first-year residents in general, urological, and neurological surgery:

1. Rotations for ½ day per week, for 46 weeks, in a **primary care** out-patient clinic or office.
2. Two months of general internal medicine
3. One month of ICU
4. One month of emergency medicine
5. One month of **female reproductive medicine**
6. One month of pediatrics, **if available, or other primary care specialty at the discretion of the training institution**
7. Four months of general surgery
8. Two months of electives to include any of the following areas:
 - a. Urology
 - b. Orthopedics
 - c. Anesthesia
 - d. ENT
 - e. General Surgery
 - f. Vascular Surgery
 - g. Neurosurgery
 - h. Cardiovascular Thoracic Surgery
 - i. Plastic and Reconstructive Surgery
 - j. Radiology

American College of Osteopathic Surgeons



**Osteopathic General Surgery
Model Curriculum for
Residency Training**

*ACOS • 123 North Henry Street • Alexandria, VA 22314 • phone: (800) 888-1312 • web site:
www.facos.org*

CONTENTS

Preface	Page 3
Part I: The Program Director's Guide.....	Page 5
• New Educational Paradigm – Competency-Based Curriculum	Page 5
• Implementation of a New Curriculum	Page 8
• Designing the Program Organizational Plan.....	Page 13
• Developing a Mission Statement	Page 15
• Developing an Evaluation Policy and Plan.....	Page 16
• AOA Core Competencies	Page 20
• Curriculum Work Plan.....	Page 24
• Glossary of Educational Terms.....	Page 28
Part II: Specialty-Specific Model Curriculum: General Surgery	Page 29
• The Practice, The System, The Profession.....	Page 29
• Clinical Sciences and Skills.....	Page 39
• Associated Specialties.....	Page 67
• Principal Surgical Areas.....	Page 99

PREFACE

Each year, program directors have the responsibility of ensuring that residents receive adequate scope and volume to complete a surgical residency-training program. However, the most important part of the task is determining what the residents should learn, how it should be taught, and how to measure the learning outcomes.

The Residency Evaluation and Standards Committee (RESC) of the American College of Osteopathic Surgeons (ACOS) embarked on a journey to develop a model curriculum for each surgical specialty (general surgery, general vascular surgery, plastic and reconstructive surgery, neurological surgery, urological surgery, cardiothoracic surgery, and surgical critical care). The model curriculum was designed to enhance the resident learning experiences while emphasizing the uniqueness of osteopathic surgical training. It incorporates the American Osteopathic Association (AOA) core competencies with suggested learning activities and evaluation methods. The curriculum describes expected learning outcomes and performance indicators of the surgical specialties. The document serves as a reference to not only program directors, but to directors of medical education, other faculty, and residents as well.

Program directors should, at minimum, train residents to achieve the basic cognitive and technical performance indicators outlined in the model curriculum. However, training should be customized for a specific training program to exceed the model curriculum. The model curriculum document is a *living* document that will be maintained by the RESC to reflect a current body of knowledge. The format was designed to enable program directors to integrate OGME-1 outcomes into a seamless training and experiential plan. The RESC will link the model curriculum to training standards and performance evaluations at all levels, OGME1-5.

The RESC invites your comments regarding the model curriculum document. In addition, osteopathic surgical residency programs are encouraged to submit curriculum samples that have been developed using the ACOS model curriculum to the ACOS. To share your comments and learning experiences, contact:

American College of Osteopathic Surgeons
123 North Henry Street
Alexandria, Virginia 22314-2903
Telephone: (800) 888-1312
Fax: (703) 684-3280

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With the assistance of ACOS members as content experts, India Broyles, EdD, and Cynthia Cartwright, RN, MT, MSEd, educational consultants, and Tracy Lofty, MSA, CAE, ACOS Director of Postdoctoral Training Standards and Evaluation, a model curriculum was developed for each osteopathic surgical specialty.

Although many ACOS members (general surgeons and residents) gave time for review, the following individuals served on the ACOS general surgery model curriculum subcommittee thus providing guidance and subject matter content throughout the general surgery model curriculum project:

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PART I: THE PROGRAM DIRECTOR'S GUIDE

INTRODUCTION

A NEW EDUCATIONAL PARADIGM -- COMPETENCY-BASED CURRICULUM

The ACOS model curriculum design project began with the idea of a bold new plan for residency education using a competency approach based on an understanding of the clinical nature of resident education. The vision of the RESC was a national model curriculum, emphasizing the strengths of osteopathic principles and the depth of training in principal surgical areas while honoring the unique capacities for optional surgical subspecialties.

The American Osteopathic Association (AOA) established a Core Competency Task Force whose report in July 2003 became the foundation of new curriculum design. As a result, specialty colleges were required to incorporate seven core competencies into postdoctoral training, inspection, and recertification over the next three years – Osteopathic Principles and Practice, Medical Knowledge, Patient Care, Interpersonal Communication Skills, Professionalism, Practice-Based Learning and Improvement, and Systems-Based Practice.

The acceptance of the AOA competencies as the framework for the ACOS surgery curriculum was the first step in changing to a competency-based educational (CBE) system. This did not mean simply rewriting the goals and objectives, rather a significant paradigm shift. Moving into CBE places the ACOS in harmony with a growing and worldwide emphasis on the use of competencies in the education of health care professionals.

What does it actually mean to become competency-based? From the traditional educational unit that was time-based and instructor-centered, the unit of progression becomes a demonstration of specific knowledge and skills and is learner-centered. Most definitions of *competencies* make clear the primacy of professional practice. "A competent clinician is one who is able to perform a clinical skill to a satisfactory standard."² The AOA accepts the definition proposed by Epstein and Hundert: "Professional competence is the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individual and community being served."³ Hence, the competency-approach places emphasis on the application and integration of knowledge. Basically, the competency-based approach in residency education asks the question: What do surgeons need to know and be able to do upon completion of this residency?

² Sullivan P and McIntosh N. The competency-based approach to training. Retrieved on May 17, 2004 at <http://www.jhpiego.org/pubs/BALI/PRk5RS05.pdf>

³ Epstein R and Hundert EM. Defining and Assessing Professional Competence, *JAMA*, 2002,287; 226-235.

Each ACOS specialty subcommittee began the design process with a review of the literature in the field in order to keep an open eye to the future while recording current program curricula, balancing the real with the ideal.

The conceptual framework of each specialty was identified and organized as principal surgical areas, associated specialties, clinical sciences and skills as well as OGME-1 electives. Later, the generalizations, principles, concepts, skills and attitudes were examined to develop specific learning outcomes and performance indicators. At each step, the subcommittees kept in mind that the application of knowledge within a profession usually requires the integration of knowledge from a variety of disciplines. The members of the subcommittee had to justify teaching/learning a concept or skill based on the professional performance of a surgeon rather than the broad scope of the field. Learning outcomes are broad statements describing what the resident will be able to do at the end of training, but they are written in terms often too broad to be readily measured. Therefore, multiple performance indicators, describing how residents behave who have accomplished the outcome, elaborated the learning outcomes. In this way, performance indicators set the agenda for learning and assessment, identifying measurable behaviors. As a result, the model curriculum documents have the following format:

Clinical Sciences and Skills	Associated Specialties	Principal Surgical Areas
Prerequisites	Prerequisites	Rationale
Learning Outcomes	Learning Outcomes	Prerequisites
Performance Indicators (Phase I, II, III)	Performance Indicators (Phase I,II, III)	Learning Outcomes
Cognitive & Technical	Cognitive & Technical	Performance Indicators (Phase I, II, III)
Learning Experiences	Learning Experiences	Cognitive & Technical
Resources	Resources	Learning Experiences
Resident Assessment	Resident Assessment	Resources
		Resident Assessment

Each performance indicator was labeled as *cognitive*, the application of knowledge, or *technical*, the application of surgical skills. Cognitive performance indicators are complex and extend to the clinical setting not just the didactic setting. Technical performance indicators are primarily situated in the operating room. The performance indicators became especially important when they were grouped together to set benchmarks for resident performance. Competency will be assessed at Phase I, II, and III allowing some flexibility for each residency to correlate the performance indicators with a specific year of training. With the 2008 incorporation of OGME-1 into the General Surgery Residency curriculum, Phase I will address Learning Outcomes and Performance Indicators of OGME 1-2.

The general surgery model curriculum framework of learning outcomes and performance indicators is outlined as follows:

<u>The Practice, The System, The Profession</u>	<u>Clinical Sciences and Skills</u>	<u>Associated Specialties</u>	<u>Principal Surgical Areas</u>	<u>OGME-1 Rotations/ Electives</u>
Interpersonal & Communication Skills	Blood & Blood Products	Anesthesiology Hematology Imaging Infectious Disease	Breast Burns Critical Care Endocrine Gallbladder/Biliary Tree Gastrointestinal Tract	<u>Anesthesiology</u> <u>CardioVascular Surgery</u> <u>ENT</u> <u>Peds or other primary care specialty</u> <u>Neurosurgery</u> <u>Female Reproductive Surg</u> <u>Orthopedics</u> <u>Plastic & Reconstructive Surgery</u> <u>Radiology</u> <u>Internal Medicine</u> <u>Emergency Medicine</u> <u>Trauma?</u> <u>Urology</u> <u>Vascular Surgery</u>
Professionalism	Incisions, Sutures & Wound Healing	Medicine Neurology Oncology	Head & Neck Pancreas Pediatrics Liver Spleen	
Practice-based Learning & Improvement	Fluid & Electrolytes Laparoscopy	Osteopathic Manipulative Medicine	Skin & Soft Tissue Thoracic Trauma & Emergency Vascular Hernia	
Systems-based Practice	Nutrition Pain Management			
Practice Management	Shock Surgical Infections			

Below is a summary of the rationale for the key sections outlined in the model curriculum: clinical sciences and skills, associated specialties, and principal surgical areas.

Clinical Sciences and Skills

Development of intra-operative technical skills is a well-recognized component of surgical training. When considering the broad realm of patient care, both within and outside the operating room, an equally important aspect is development of the surgeon's ability to understand and assimilate the clinical sciences and skills.

During training, the osteopathic surgical resident must acquire knowledge and skills in all areas of clinical science and skills including shock, incisions, sutures & wound healing, surgical infections, nutrition, blood and blood products, fluids and electrolytes, pain management and laparoscopy. Integration of the clinical sciences by the surgical resident into all aspects of practice will enhance his or her ability to appropriately diagnose, organize a management plan, perform necessary surgical procedures and care for the postoperative surgical patient in the short and long term.

Surgical residents learn clinical sciences and skills on all clinical rotations and in didactic settings. Knowledge and skills are assessed informally on a daily basis by faculty and attending surgeons. Since these clinical sciences and skills are part of a core curriculum related to each and every principal surgical area, they are grouped together and not repeated in separate surgical areas.

Associated Specialties

Development of professional collaboration is an important component of surgical training. When considering the broad realm of patient care, both within and outside the operating room, the surgeon must understand and be able to use specific concepts and skills related to associated specialties including hematology, oncology, radiology, neurology, anesthesiology, infectious diseases, and internal medicine.

Integration of the associated specialties by the surgical resident into all aspects of practice will enhance his or her ability to appropriately diagnose, organize a management plan, perform necessary surgical procedures and care for the postoperative surgical patient in the short and long term. Surgical residents learn associated specialty concepts and skills on all clinical rotations and in didactic settings. Knowledge and skills are assessed informally and on a daily basis by faculty and attending surgeons. Since these associated specialties are part of a core curriculum related to each and every principal surgical area, they are grouped together and not repeated in separate surgical areas.

Principal Surgical Areas

Residents spend much of their training on teams that are responsible for a variety of types of general surgery, rather than on rotations that are specific to one of the principal surgical areas. However, several areas such as trauma and surgical critical care have separate rotations, often at a partner institution. The principal surgical areas are the heart of the surgical residency training;

therefore, competence in each area is critical. Each of these areas is evaluated monthly by attending physicians and staff.

OGME-1 Electives and Optional Surgical Areas

The ACOS now accepts OGME-1 residents directly into a general surgery residency program where the new resident becomes part of a general surgery team in the principal surgery areas for four months and focuses on Phase I of the curriculum. The OGME-1 resident will be expected to spend 1/2 day per week, for 46 weeks, in an out-patient clinic or office. In addition, the residency program may require one month of ICU, one month of emergency medicine, one month of OB/GYN, one month of Pediatrics, two months of general internal medicine, and two months of electives. These elective rotations may also be used in later years at the discretion and planning of the residency program. The learning outcomes and performance indicators for these rotations can often be derived from Phase I of that area of the curriculum.

- Anesthesia
- Cardiothoracic/Cardiovascular
- ENT
- General Surgery
- Neurosurgery
- Plastic and Reconstruction
- Radiology
- Orthopedics
- Urology
- Vascular Surgery

IMPLEMENTATION OF A NEW CURRICULUM

Are you ready for a new national model residency curriculum? Are you prepared to change how you train residents? What do you need to know to implement change? Hall and Hord (2001), researchers who study change, have given educators a set of principles that can be used to guide the process of curriculum renewal:

1. **Change is an ongoing process, not a short-term event.** Change requires ongoing support and resources and it takes time. Sometimes new users of an innovation get discouraged when they don't see immediate results. It is important to have realistic expectations about the time it will take to see significant progress and to make sure that other stakeholders in the community understand this as well. According to these researchers, "Most changes in education take three to five years to be implemented at a high level. Failure to address key aspects of the change process can either add years to, or even prevent, successful implementation."
2. **Change occurs in individuals first, then in organizations.** The best curriculum in the world will not succeed in your residency unless the people implementing it are ready and willing to make it a success. However, individual change is difficult if the organization is not supportive of the change. For example, if the institution doesn't have the resources for a special rotation, they must find a partnering institution. Therefore, program directors will need to pay attention to the needs and concerns of individual faculty and attending physicians, as well as work with the Director of Medical Education to successfully integrate the new competency approach into the educational program.

3. **People go through change at different rates and in different ways.** Everyone cannot be ready at the same time to implement all components of the new curriculum. Small subcommittees have been trained for the development work required of the ACOS, but training will also need to occur at the local level. Some people need more information to be convinced. Some need more training to feel prepared.
4. **As people implement a new program, their concerns change.** For example, when attending physicians first hear about the competency program, they might not be concerned because they don't think it will affect them. However, once they understand that the curriculum deals with learning in the operating room, on the service and the office as well as in the classroom, they may have concerns about how to fit the program into their already busy schedules.
5. **Change agents need to adapt to different individuals' changing concerns** over time in order to make effective organizational change. The curriculum consultants for the ACOS RESC have served as initial change agents for the process. Now, each program director is a change agent as well. The program director needs to notice when people's concerns change. For example, once someone begins using competency-based curricula, he or she may need further assistance, even if that person had been to a national conference or institutional workshops on competencies prior to implementation. Faculty and attending physicians need opportunities to get together, share their experiences, and learn from one another.
6. **Change agents need to take into account the larger system** in which a program is being implemented, since a change in one part of the system could have effects in another. During implementation of the competency-approach, think about its possible impact on other individuals and parts of the program or schedule. Change agents will be most successful if they find multiple ways to integrate the competencies into all parts of the educational program.

Are you ready to change? From these principles, *The Concerns-Based Adoption Model* (Hall & Loucks, 1979) was developed to describe the seven levels of concern that users experience as they adopt a new program or practice:

- **Awareness.** Users have little concern or involvement with the innovation.
- **Informational.** Users have a general interest in the innovation and would like to know more.
- **Personal.** Users want to learn about the personal ramifications of the innovation. They question how the innovation will affect them.
- **Management.** Users learn the processes and tasks of the innovation. They focus on information and resources.
- **Consequence.** Users focus on the innovation's impact on learners.
- **Collaboration.** Users cooperate with other users in implementing the innovation.
- **Refocusing.** Users consider the benefits of the innovation and think of additional alternatives that might work even better.

If you understand the stages of concern, you will recognize the expressions of concern voiced by users of a new program (Figure 1). Program directors can use the following chart to assess their

own stage of concern, and use it later when providing leadership to or participating in the process within a local residency program.

Figure 1. Expressions of Concern

STAGES OF CONCERN	I MAY BE STUCK IF I AM SAYING...	I'M READY TO CHANGE AND AM FOCUSED ON...
Awareness	Everything is fine, so I am not interested. I am not concerned about it.	What is it? (reactive)
Information	I don't want to do it.	I would like to know more about it. How does it work?
Personal	I can't do all that!	How will using it affect me? What's my role in it?
Management	I will try it, but I am not a believer. I spend all my time getting materials ready.	How can I master this? How can I fit it all in? What's the minimum I must do?
Consequences	I am not concerned that it is worth it.	Is it worth it? How is my use affecting learners? What's the maximum potential of this?
Collaboration	I have my own way of doing things.	How do others do this? How can I relate what I am doing to what others are doing?
Refocusing	Everything is fine.	Is there a better way? (pro-active). How can I refine it to have more impact? I have some ideas about something that would work even better.

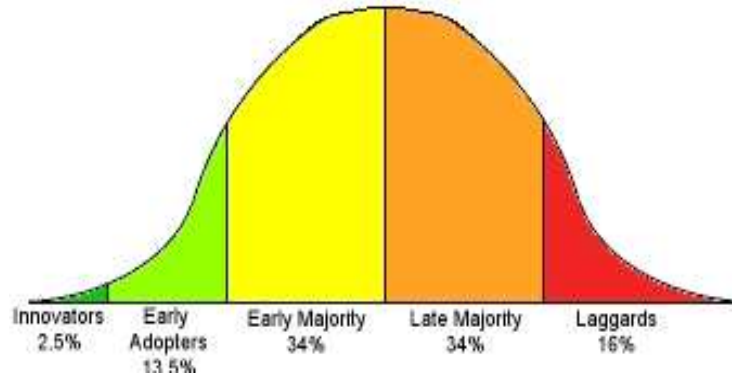
Dr. Earl A. Grollman, a writer, lecturer, and rabbi, tells us that above his desk is a statement by the French novelist Gustave Flaubert:

"The better part of life is spent saying, It's too early, and then it's too late."

Rogers' (1995) Individual Innovativeness Theory suggests that individuals react differently to change based on a stable trait or predisposition. He has developed a classification scheme of potential adopters based on their receptivity. Figure 2 is a visual representation of the data.

- Innovators - the risk takers willing to take the initiative and time to try something new
- Early Adopters - tend to be respected group leaders, the individuals essential to adoption by whole group.
- Early Majority - the careful, safe, deliberate individuals unwilling to risk time or other resources
- Late Majority - those suspect of or resistant to change: hard to move without significant influence
- Laggards - individuals who are consistent or even adamant in resisting change: pressure needed to force change.

Figure 2. Individual Innovativeness Theory



Bell shaped curve representing Rogers' (1995) findings on categories of individual level of innovation with percentages for each category.

After you have examined your own role in the process of change, you need to connect the analysis to the institutional readiness for systemic reform. Michael Fullan and other change specialists agree that the process of systemic reform must emphasize building the capacity of institutions to renew themselves as much as it emphasizes new accountability and competency-based performance assessment. The ACOS recognizes that some residency programs may need to supplement learning experiences leading to competency by offering rotations in affiliated institutions.

Another central issue facing systemic change efforts is a balance between guidance from the top and bottom-up innovation. For example, some residencies have been early adopters and innovators in the integration of AOA competencies at the local level. John W. Gardner describes this process for both individuals and institutions:

“For those who have accepted the reality of change, the need for endless learning and trying is a way of living, a way of thinking, a way of being awake and ready. Life isn't a train ride where you choose your destination, pay your fare and settle back for a nap. It's a cycle ride over uncertain terrain, with you in the driver's seat, constantly correcting your balance and determining the direction of progress. It's difficult, sometimes profoundly painful.”

Change is not an easy process, and it involves buy-in from others in the residency program. Determine who should be involved in the development of your new residency training program curriculum and share the ACOS model curriculum document with them. Be prepared to champion change and to promote competency-based education. Change agents recommend organizing an advisory council or curriculum committee to promote the adoption of a model curriculum. Key to getting buy-in from all other participants, this council/committee must encourage and stimulate positive attitude toward the new curriculum and make major decisions about the implementation process. The council/committee can include the director of medical education, the program director, and key attending physicians and residents.

To facilitate a discussion with the council/committee, consider the following questions:

- Does everyone understand the purpose of a training program curriculum?
- Does everyone understand competency-based education?

- What aspects of the old program will be continued and what aspects will be modified or eliminated?
- Who will provide leadership for the new program's learning subsets?
- What are the advantages of the new program to both residents and attending physicians?
- How do we structure a gradual implementation starting at the 2nd year of Osteopathic Graduate Medical Education (OGME 2) residency training without denying access to new ideas at the OGME 4-5 training years?
- How does resident evaluation change in keeping with competency-based education?
- How will we gather data and give feedback on the challenges and success of the new curriculum in our setting?

It is recommended that you identify topics and prepare a series of workshops to give during joint faculty and resident sessions. The workshops and presentations should be designed to develop support of the new curriculum. The list of activities in Figure 3 will assist you in facilitating discussions with the advisory council/committee and identifying topics and activities for your presentations as you plan and develop the curriculum.

While working with the advisory council/committee you will also have to determine if the institution has the capacity to fulfill the principal surgical areas. As you plan, consider changes that are needed in organization, scope/sequence, balance and patterns, as well as volume and variety of cases. Are adjustments required in the current program to support resident training in the principal surgical areas? Are outside rotations required? Do new affiliation agreements have to be prepared and acknowledged by the ACOS? From this discussion with the advisory council/committee, you will have to develop a program overview that includes a narrative or graphic description of the service team and rotations by year. This section should summarize the rotations the resident can expect throughout the training process.

References:

Fullan M. *Leading in a culture of change*, Hoboken, NJ: Jossey-Bass, 2001.

Gardner JW. *Self-Renewal: The individual and the innovative society*, New York: W. W. Norton & Company, 1995.

Hall GE, Hord SM. *Implementing change: Patterns, principles, and potholes*. Boston, MA: Allyn and Bacon, 2001.

Hall GE, Loucks S. *Teacher concerns as a basis for facilitating staff development*. Teachers' College Record, 1978; 80 (1): 36-53.

Rogers EM. *Diffusion of innovations*. New York: The Free Press, 1998.

Activities for Planning and Implementing a New Training Program Curriculum

What	How	Completed
Understand the purpose of a curriculum and competency-based education.	Learn the competency-based educational approach to training. Read journal articles and newsletter columns. Have discussions with faculty and residents.	
Develop a mission statement.	Write a mission statement for your residency during a joint faculty and resident session.	
Plan the instruction and assessment of AOA competencies.	Complete the AOA competency grid during several joint planning sessions of faculty and residents.	
Determine institutional capacity in principal surgical areas.	Examine the discipline framework and determine if your institution has the capacity to fulfill the principal surgical areas. Plan for any changes that are needed in organization, scope/ sequence, balance, patterns, as well as volume, and variety of cases. Write up a program overview including a chart of rotations.	
Plan incorporation of OGME-1.	Establish elective rotations and team assignments.	
Plan all resident learning experiences.	Organize assignments/rotations and determine if principal surgical areas are block(s) or longitudinal experiences throughout the program.	
Link prerequisites.	Determine if you want to have pre-assessments related to prerequisite knowledge, skills, and attitudes.	
Review learning outcomes and performance indicators.	Review the learning outcomes and performance indicators and add additional items to these areas, if necessary.	
Benchmark.	Review performance indicators and set competencies at specific postgraduate years, if desired.	
Plan didactic series.	Plan a series of didactics related to the cognitive performance indicators. These didactics may include direct instruction, case presentations, journal club, morbidity and mortality meetings, workshops, and conferences outside the program.	
Plan workshops and labs.	Plan skill workshops and labs related to technical skills.	
Develop strategies for teaching.	Look for ways that teaching can be improved, both clinical and didactic. Communicate with and train participating instructors and attending physicians. Establish the teaching relationship between junior and senior residents. Improve advising to help students set and reach their personal learning goals.	
Gather learning resources.	Look for self-directed learning opportunities (books, models, simulators, software, Internet websites).	

Develop an evaluation policy and plan.	The evaluation policy and plan includes resident assessment, faculty evaluation, and program evaluation.	
Develop resident assessment.	Develop assessment instruments and procedures that relate to the learning outcomes and performance indicators. Examine optional tools for assessing the AOA competencies www.acgme.org/Outcome/assess/Toolbox.pdf	
Disseminate your curriculum.	Everyone involved in the residency program should have a copy of the curriculum. Post the curriculum on the institution/residency website for current and future residents. Include an "Introduction to the Curriculum" during orientation of new residents.	

DESIGNING PROGRAM ORGANIZATIONAL PLAN

How does our residency set benchmarks for Performance Indicators in Phases I-III? Example.

Phase I		Phase II	Phase III	
OGME 1	OGME 2	OGME 3	OGME 4	OGME 5

Does the new curriculum require changes in the overall organization of teams and rotations? The program overview should be a narrative or graphic description of the program (service team/external rotation) by year. While working with the advisory council/committee you will also have to determine if the institution has the capacity to fulfill the principal surgical areas. Plan for any changes that are needed in organization, scope/sequence, balance, patterns, as well as volume and variety of cases. Are adjustments required in the current program to support resident training in the principal surgical areas? Are outside rotations required? Do new affiliation agreements have to be prepared and acknowledged by the ACOS? From this discussion with the advisory council/committee, you will have to develop a program overview that includes a narrative or graphic description of the service team and rotations by year. This section should summarize the rotations the resident can expect throughout the training process.

XXX Hospital General Surgery Residency Program					
Rotation	OGME-I	OGME-II	OGME-III	OGME-IV	OGME-V
1	Emergency	Red	Trauma	Peds	Red
2	Red	Intensive Care (ICU)	Trauma	Elective	Red
3	Gen Medicine	Blue	Thor	Red	Red
4	Orthopedics	Red	Red	Red	Red
5	Pediatrics	Red	Red	Red	Admin
6	Blue	ICU	Blue	Red	Admin
7	ICU	Red	Red	Blue	Admin
8	OB/GYN	Blue	Red	Blue	Admin
9	Red	Trauma	H & N	Blue	Blue
10	Blue	Trauma	Blue	Red	Blue
11	Gen Medicine	Blue	Blue	Blue	Blue
12	Vacation	Blue	Blue	Blue	Blue
13	Elective	Vacation	Vacation	Vacation	Vacation

<p>Rotation = 4 weeks Blue = General Surgery, Vascular, GYN and Pediatrics Red = Plastics/Hand, Urology and Thoracic, ENT and General Trauma = Trauma and Neurosurgery Peds = Pediatric Surgery at Columbia-Presbyterian H&N = Head and Neck at Memorial Sloan-Kettering Thor = Cardiothoracic at Weill Cornell</p>	<p>Examples of elective rotations: Atlantic City Medical Center, NJ – General Surgery Haiti medical/surgical missionary work Ryder Trauma Center, Jackson Memorial, University of Miami, FL R.A. Crowley, Baltimore Shock & Trauma Center, MD Deborah Heart and Lung Center, NJ – Vascular Surgery Westchester County Medical Center, NY – Plastics/Burns</p>
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XXXX General Surgery Residency Program					
	OGME 1	OGME 2	OGME 3	OGME 4	OGME 5
General Surgery	4	9	7	10	13
Vascular	1	1	1		
Transplant		2	1		
Pediatrics	1			1	
Gastrointestinal	1			1	
Intensive Care	1	1	1		
Elective			2		
Cardiothoracic				1	
Urology	1				
Internal Medicine	2				
OB/GYN	1				

Each rotation is 4 weeks. OGME1 resident must spend 1/2 day per week for 46 weeks in office practice

OGME-1 Planning Guide	
Rotations	Corresponding curriculum documents:
Rotations for 1/2 day per week, for 46 weeks, in an out-patient clinic or office.	THE PRACTICE
Two months of general internal medicine	GS Associated Specialty: Internal Medicine
One month of ICU	GS Principal Surgical Area: Critical Care
One month of emergency medicine	GS Principal Surgical Areas: Trauma and Emergency, Burns
One month of obstetrics and gynecology	
One month of pediatrics	GS.Principal Surgical Area: Pediatrics
Four months of general surgery	GS All Clinical Sciences and Skills; GS Principal Surgical Areas: Spleen, Pancreas, GI, Liver, Hernia, Head & Neck, Gall Bladder/Biliary, Endocrine, Breast
Two months of electives to include any of the following areas:	
Urology	URO.Principal Surgical areas
Orthopedics	
Anesthesia	GS.Associated Specialty: Anesthesiology
ENT	
General Surgery	GS All Clinical Sciences and Skills. GS.Principal.Spleen, Pancreas, GI, Liver, Hernia, Head & Neck, Gall Bladder/Biliary, Endocrine, Breast
Vascular Surgery	GS.Principal Surgical Area: Vascular
Neurosurgery	GS Associated Specialty: Neurology. Additional resource: NEURO documents
Cardiovascular Thoracic Surgery	GS Principal Surgical Area: Thoracic; additional resource: CardioThoracic curriculum
Plastic and Reconstructive Surgery	GS Principal Surgical Area: Skin & Soft Tissue, Burns; additional resource: PLASTIC & Reconstructive Surgery documents
Radiology	GSAssociated Specialty: Imaging

Example of Rotation Focus from UMDNJ
Clinic The Practice, OMM, hernias
Internal Med I internal medicine

Internal Med II	infectious disease, hematology, blood and blood products
ICU	critical care, burns, trauma
EM	incisions, sutures, wound healing, skin and soft tissue
OB/GYN	surgical infections, pain management
PEDS	pediatrics
Surgery I	gastroenterology
Surgery II	breast endocrine, oncology
Surgery III	biliary, pancreas, liver, spleen
Surgery IV	laparoscopy, fluids, electrolytes, nutrition
Elective I, II	vascular, thoracic, head and neck, imaging, anesthesia, neurology

DEVELOPING A MISSION STATEMENT

The ACOS recommends that each residency program write its own mission statement. During the first workshop with the curriculum advisory council/committee, conduct a group exercise to draft a mission statement of your residency program. Dialogue with attending surgeons and residents is important to the process. Even relatively new mission statements should be reviewed and rewritten as part of this process.

A mission is a statement of guiding principles and provides a philosophical overview that directs all the other components of the curriculum. Because the residency program mission is based on the underlying values of the teaching program, it tells current and future residents who you are and what they can expect.

As you go through the process of writing the residency mission, consider your answers to these prompts:

What is the primary aim of your educational program?

What are your educational values?

What is important to you as a teaching program?

Ask each member of the residency curriculum committee (faculty and residents) to give five words they would like to see included. Then look for themes and incorporate some of the words into the mission. You may find some of this language in your Resident Manual in a section called Purpose or in your program description.

Keep in mind the mission of the American College of Osteopathic Surgeons:

The ACOS is committed to assuring excellence in osteopathic surgical care through education, advocacy, leadership development, and the fostering of professional and personal relationships.

A sample residency mission extrapolated from the ACOS mission could be as follows:

The XXX General Surgery Residency is committed to assuring excellence in osteopathic surgical education through training and self-directed learning, patient care and advocacy, and leadership development. We seek to foster continuing personal growth and professional relationships.

Samples from ACOS subcommittee members:

The UMDNJ School of Osteopathic Medicine, Department of Surgery is committed to providing a superior educational environment that trains skilled surgeons who practice patient-centered care and to organizing a service community that guides physicians as leaders.

St. Barnabas Hospital, Department of Surgery seeks to foster an increasing competence in surgery matched with a passion for knowledge and teaching.

The UNT-HSC Surgery Residency will provide an educational experience that will create a surgeon of character who demonstrates excellent judgment, technical expertise, compassion, and a lifelong commitment to learning, community and profession.

DEVELOPING AN EVALUATION POLICY AND PLAN

Resident assessment is the keystone of a curriculum, not an addendum. Assessment is not something done to residents after the curriculum has been implemented. Curriculum and assessment must be inextricably tied together; we must not teach one thing and assess another. To bring together curriculum and assessment, the evaluation process must be honored and given the appropriate time. Program evaluation seeks to ascertain if the results of the curriculum have been achieved with primary focus on resident performance. The evaluation policy sets the tone and describes the philosophical framework for current and future assessments. Beyond that, the evaluation plan is concerned with everything significant that has happened during and as a result of the program.

Purposes of evaluation include:

1. Resident assessment (formative and summative).
 - Formative assessment gives the resident feedback and allows faculty to plan with the resident for optimum teaching and learning experiences; you evaluate the training and not the resident.
 - Summative evaluation certifies that the person is worthy of the trust inherent in promotion as well as recommendation for board approval; you evaluate the resident.
2. Faculty evaluation to ensure excellence in teaching.
3. Program evaluation in order to plan for program restructuring.

Components needed include:

1. Evaluation policy
2. Evaluation plan
3. Resident evaluation forms and instruments
4. Faculty evaluation standards and components
5. Program evaluation standards and components

All Residents are entitled to:

- equal access to quality intellectual work and fair distribution of patient load
- clear, public, and consistently-applied criteria in assessment
- ample time and opportunities to show performance capacity and to create appropriate assessment documentation
- multiple and varied evidences of achievement for both short-term assessment and longitudinal growth
- prompt written feedback from assessors
- the freedom, climate and policies to confront personal deficiencies
- opportunity to justify performance deemed inappropriate by an assessor
- an early warning system which initiates remediation for those who are deficient
- summative information on their strengths and weaknesses, and their long-term progress toward a set of exit-level standards
- evaluation policies that provide incentives for pushing personal boundaries and performing quality work

All Faculty are entitled to:

- useful data on resident performance
- use of assessment instruments and procedures that reflect the intellectual values, standards, and unique strengths of the surgeon
- logistical, collaborative and/or secretarial support services for assessment procedures that require additional resources
- resident feedback on various forms of teaching: OR, Service, Office, and Classroom
- a venue for faculty to share ideas, observations, kudos, and concerns about residents
- access to staff development opportunities which accompanies the new evaluation process

Both Faculty and Residents are entitled to:

- identification of personal learning styles and appreciation of diversity
- a system in which each form of assessment is administered/ conducted in a timely fashion so that data is reported in appropriate ways for informing stakeholders (resident, advisor, head nurse, medical director, director of residency program, faculty, and chief of department).
- a system that does not place an unreasonable burden on faculty and resident time.

According to the *AOA/ACOS Basic Standards for Residency Training in Surgery and the Surgical Specialties, Standard V. Evaluation, 5.0-5.3*, the program, with the support of the sponsoring institution, must document and implement an ongoing evaluation process that focuses upon improving the quality of osteopathic surgical education provided to their residents.

- 5.0 The program director, with faculty input, must complete written evaluations of resident performance at least quarterly. This must include evaluations from all affiliated training sites and elective assignments.
- 5.0.1 The evaluations should be learner-centered, developmental, improvement-oriented, and based upon educational objectives for each assignment and program activity, and reflect the AOA core competencies.
- 5.0.2 Completed evaluations must be signed by the program director and the resident as documentation that evaluation and counseling have occurred quarterly as required.
- 5.0.3 Copies of the quarterly evaluations should be filed, made available to the resident upon request, and submitted to the RESC as necessary or requested.
- 5.0.4 Residents requiring remediation or counseling should be evaluated more frequently.
- 5.0.5 A final evaluation of each resident's general and technical abilities, which attests to their competence at graduation from the program, must be completed and filed with their permanent record.
- 5.1 The program director and the faculty should be peer evaluated annually with respect to their teaching abilities, commitment to the program, and scholarly activities.
- 5.2 The quality of the program should be evaluated at least annually by the program director, faculty, and residents, and the results should be used for program improvement.
- 5.2.1 Recommended methods include: program improvement and outcome results such as resident in-service examination scores and graduate performance on the

certifying examination; postgraduate professional performance satisfaction surveys and records of the professional accomplishments of the program graduates; the resident attrition rate from the program and the percent of graduates completing the program on time.

5.3 Annual evaluation of the resident

The program director must submit the *Program Director's Annual Resident Evaluation Report for Surgery* with the resident annual reports.

Evaluation/Assessment Plan on the following page. Each institution should create a similar evaluation chart.

Figure 6. Evaluation/Assessment Plan

Component	Instrument	Description	Completed By	Report(s) go to	Schedule
Pre-assessment	Interview rating form, resume, letters of recommendation; other documents	Recruitment is based on attributes of humanism, maturity, responsibility, clinical competence, interpersonal skills, communication skills, and commitment to the profession of surgery.	Interview(s)	Program Director	At the end of each interview
Pre-assessment of skills	Self-assessment checklist	Focus is on procedures and knowledge of topics.	New residents	Orientation Coordinator who sends reports to faculty	Completed prior to orientation. Reports due July 15.
Assessment of physical exam	Observation	Conducted during the orientation month.	Inpatient service director	Report to Residency Development Team (RDT) notification of deficiencies	July observation; August report
Inpatient rotations	Resident evaluation after rotation: attending and self	Resident reviews the written curriculum, sets personal goals, and identifies possible learning experiences. Attending(s) or chief resident completes end-of-rotation evaluation form.	Teaching physician and resident complete parallel forms	Education (Ed.) Coordinator; send copy to resident and faculty advisor for quarterly review	Within three days after the rotation ends
Evaluation of rotation	Rotation assessment instrument	Evaluation of inpatient rotations includes quality of teaching, observations, and opportunity to perform procedures. These evaluations are used by the curriculum committee for revision of rotations.	Resident; maintained in a rotation folder for curriculum review	Ed. Coordinator who directs them for sign-off by Program Director and faculty in charge of review	At the end of each rotation

Component	Instrument	Description	Completed By	Report(s) go to	Schedule
Inpatient service/ morning report	Informal verbal feedback self assessment through reflection	Residents receive feedback on both the quality of presentation and the quality of thinking process from the faculty on service. This process is significant for improving their ability to communicate.	In-patient service director; Attending of the month; senior residents	Resident	At the time of presentation
Preceptor feedback	Verbal feedback; documentation on competency card	Preceptor describes an event or interaction between a resident and patient/preceptor/ staff member during the day's session. Preceptor gives written feedback regarding strengths and areas for improvement.	Preceptor	Competency Cards placed in resident folder; Ed. Coord. compiles them for quarterly review; resident may keep.	Resident should receive multiple responses monthly; quarterly review
Self-assessment	Resident self-evaluation	Resident completes a self-assessment as a companion to faculty assessment for competencies.	Resident	Faculty Advisor	Quarterly
Clinical team	Resident evaluation, clinical team	The nursing staff is a source for significant resident evaluation in identifying strengths and weaknesses regarding issues that are separate from preceptor assessment: communication with staff, personal and professional conduct, planning and organization, family and community focus, and patient focus.	Team nurses complete one form together for each resident on a team	Ed. Coordinator who sends to Program Director and Medical Director (file in resident folder)	Quarterly (prior to quarterly review)
Patient interaction	Medical interview skills; Competency evaluation	Bi-annual videotaping focuses on patient/physician interactions. Residents receive immediate feedback.	Behavioral science faculty	Ed. Coordinator for quarterly review folder	Coordinated with direct observation

Component	Instrument	Description	Completed By	Report(s) go to	Schedule
Intensive direct observation	Direct observation form	A four-step process in which the resident sets objectives for the faculty to conduct observations in the patient examining room. Post observation conferences allow for the resident to reflect and for the faculty to give constructive feedback. The resident also gives feedback to the faculty on the process.	Faculty observer	Resident for discussion in the quarterly review with advisor	Quarterly
Teaching conferences	Evaluation via email (also tracks attendance)	Residents rate the usefulness/relevance of the educational topic, the quality of the teaching strategy, and give other personal comments as appropriate. Self-directed learning gives the opportunity for resident to plan makeup work to accomplish the curriculum outcomes of the teaching sessions over the three-year program.	Residents complete form immediately after each teaching conference.	Ed. Coordinator directs to key curriculum faculty	Each Tuesday teaching session; Annual faculty reviews
Procedure log	Access database; linked to electronic medical record	Documentation of each procedure performed from OGME-1 through OGME-5.	Resident is responsible for recording outpatient procedures	Reviewed by faculty advisor and kept in permanent folder	Reviewed quarterly
Quarterly review	Quarterly/semi-annual evaluation summary	Discussion of personal issues, teaching, and strengths and weaknesses in meeting curriculum objectives. Evaluation/feedback forms from each rotation and ambulatory settings; presentation of other artifacts/ anecdotes as evidence of mastery. Used to develop a plan of action for the next quarter.	Conducted by faculty advisor and resident	Program Director	July, October, January, April

Component	Instrument	Description	Completed By	Report(s) go to	Schedule
Preceptor and faculty evaluations	Likert-scale checklists	To complete the evaluation loop, residents evaluate preceptors and faculty in writing by residents.	Residents	Program Director	Annually at the end of the cycle
Permanent folder	Folder	Contains quarterly review materials, remedial learning contracts, critiques from faculty with resident response, faculty and resident summary of the success of the residency, research/scholarship, and presentation for gaining hospital privileges (license, Drug Enforcement Agency (DEA) number, Board Certification, procedure log, letter from director).	Program Director	Chief and Assistant Chief of Department; RDT; faculty advisors	On-going compilation of documents
External examination – formative	ACOS General Surgery In-Service Examination	Based on deficiencies, problems are identified and a plan of action is designed that may include re-teaching, self-teaching, and/or extra time in area of need.	All general surgery residents	Program Director reviews exam results and consults with each resident;(reviews for individual and program concerns)	Annually in January; reports come back in April
Internal assessment – summative	Portfolio	Residents construct a professional portfolio with required components (such as a curriculum vitae and personal statement) and personal choice components with accompanying reflections to demonstrate their competency in patient care, medical knowledge, interpersonal and communication skills, and practice.	All residents with their faculty advisors	Competency Committee	Annual presentation of each portfolio by resident to Competency Committee in April/May

Component	Instrument	Description	Completed By	Report(s) go to	Schedule
Promotion	Resident advancement form (for appropriate year)	Review of each resident and recommendation for promotion to the next level. The faculty may decide to allow extra time to complete the program. Final promotion leads to eligibility to sit for certifying Board Examination	Competency assessment team and program director	Chief of Department; Vice President for Medical Education to initiate contract	Annually in spring
External examination – summative	Board Certification Examination	Final examination to determine qualification as a board-certified surgeon.	OGME-3 residents	Individual resident; summary to Program Director and Chief of Department	July following graduation
Annual curriculum evaluation	Questionnaire	Department assessment by year of educational experiences.	Residents	Ed. Coordinator compiles reports to assure anonymity and sends to Director	Annually
Exit interview	Interview	Discussion of strengths and weaknesses of the program and suggestions for improvement.	Program Director and resident	Discussed with RDT	End of OGME 5; if a resident chooses to leave without graduating

AOA CORE COMPETENCIES

All AOA-approved residency programs are required to adopt and implement the AOA core competencies. Each AOA specialty college is specifically responsible for the competencies of Osteopathic Principles and Practices (OPP), Medical Knowledge and Patient Care as related to their specialty. Consequently, the focus of the core curriculum (principal surgical areas, clinical sciences and skills, and associated specialties) is on Medical Knowledge and Patient Care. Furthermore, each principal surgical area has a learning outcome for Osteopathic Manipulative Medicine (OMM); performance indicators for OMM are explicated in the associated specialties section.

When developing the ACOS model curriculum, subcommittee members were advised to address the remaining AOA/ACOS core competencies (Interpersonal and Communication Skills, Professionalism, Practice-Based Learning and Improvement, and Systems-Based Practice) in the principal surgical areas. The model curriculum promotes both direct and integrated instruction of these specific core competencies by including learning outcomes and performance indicators in the section called The Practice, The System, The Profession (Part II).

Below are the competencies customized and adopted by the ACOS:

Competency: Osteopathic Principles and Practices (OPP)

Residents are expected to understand and apply the osteopathic principles and practices (OPP) appropriate to the care of patients.

Elements

- Recognize and treat each patient as a whole person integrating body, mind and spirit.
- Use the relationship between structure and function to enhance wellness.
- Evaluate and explain the medical evidence in osteopathic manipulative therapies (OMT) and promote OMT research.

Competency: Medical Knowledge

Residents are expected to understand and apply knowledge of accepted standards of clinical medicine in their respective specialty area, remaining current with new developments in medicine.

Elements

- Understand and apply biomedical, clinical and epidemiological sciences to patient care.
- Understand and apply the foundations of clinical and behavioral medicine appropriate to their discipline.

Competency: Patient Care

Residents are expected to treat patients effectively, providing medical care that incorporates osteopathic philosophy, patient empathy, behavioral perspectives, preventive medicine and health promotion.

Elements

- Gather accurate, essential information from all sources, including medical interviews, physical examinations, medical records, and diagnostic/therapeutic plans and treatments.
- Diagnose, treat and perform procedures appropriate to the medical specialty.
- Provide health care services consistent with osteopathic philosophy, including preventative medicine and health promotion that are based on current scientific evidence.

Competency: Interpersonal and Communication Skills

Residents are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.

Elements

- Demonstrate effectiveness in developing appropriate doctor-patient relationships.
- Exhibit effective listening, written and oral communication skills in professional interactions with patients, families and other health professionals.

Competency: Professionalism

Residents are expected to uphold the Osteopathic Oath in the conduct of their professional activities that promote advocacy of patient welfare, adherence to ethical principles, collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Residents should be cognizant of their own physical and mental health in order to effectively care for patients.

Elements

- Demonstrate respect for patients and families and advocate for the primacy of patient's welfare and autonomy.
- Adhere to ethical principles in the practice of medicine.
- *Demonstrate awareness and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities.*

Competency: Practice-Based Learning and Improvement

Residents are expected to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.

Elements

- Treat patients in a manner consistent with the most up-to-date information on diagnostic and therapeutic effectiveness.
- Perform self-evaluations of clinical practice patterns and practice-based improvement activities using a systematic methodology.
- Understand research methods, medical informatics, and the application of technology as applied to medicine.

Competency: Systems-Based Practice

Residents are expected to understand health care delivery systems, provide effective and quality patient care within the system, and practice cost-effective medicine.

Elements

- Understand national and local health care delivery systems and how they impact patient care and professional practice.
- Advocate for quality health care on behalf of patients and assist them in their interactions with the complexities of the medical system.

The AOA competency grid that follows is a resource for developing the teaching/learning program. You should develop your own grid while working with your institution's Director of Medical Education, other faculty members, attending surgeons, and resident representatives.

AOA Competency Grid		
AOA General Competencies	Methods for fostering learning of this competency	Methods for assessing competence
Summative for all competencies		ACOS Annual Resident Evaluation Patient Assessment and Management Exam (Standardized Patient & oral) Sentinel Case Mapping
Osteopathic Principles and Practice - Residents are expected to understand and apply the osteopathic principles and practices (OPP) appropriate to the care of patients.		
Recognize and treat each patient as a whole person integrating body, mind and spirit.	Patient care rounds	Patient Survey Attending feedback
Use the relationship between structure and function to enhance wellness.	Patient care rounds, skills lab, videotapes, Procedure program	Direct observation by attending physician
Evaluate and explain the medical evidence in osteopathic manipulative therapies (OMT) and promote OMT research.	Journal Club, Grand rounds, lectures	Evaluation of a case presentation with references
Medical Knowledge – Residents are expected to understand and apply knowledge of accepted standards of clinical medicine in their respective specialty area, remaining current with new developments in medicine.		
Understand and apply biomedical, clinical and epidemiological sciences to patient care.	Morbidity/mortality conference, case conference, patient care rounds	Feedback on case presentations to the group Direct observation and feedback by attending physicians Structured Oral Examination

Understand and apply the foundations of clinical and behavioral medicine appropriate to their discipline.	Study group in preparation for in-training examination. Mock oral examinations	Structured Oral Examination Direct observation and feedback by attending physician in OR
Patient Care – Residents are expected to treat patients effectively, providing medical care that incorporates osteopathic philosophy, patient empathy, behavioral perspectives, preventive medicine and health promotion.		
Gather accurate, essential information from all sources, including medical interviews, physical examinations, medical records, and diagnostic/therapeutic plans and treatments.	Patient care rounds, case conference	Chart work, proctoring, examinations, Direct observation and feedback by attending physicians, nurse reports, patient feedback
Diagnose, treat and perform procedures appropriate to the medical specialty.	Models, virtual-reality training devices, cadaver parts, and animal labs. Procedure certification programs.	Procedure checklist and signoff; Videotaping to certify competence of a procedure; direct observation by attending physician
Provide health care services consistent with osteopathic philosophy, including preventative medicine and health promotion that are based on current scientific evidence.	Grand round discussions, lectures, case conference, computer training, library training, interdepartmental case conference	Chart work, examinations, attending physician feedback, feedback on case presentations to the group
Interpersonal and Communication Skills – Residents are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.		
Demonstrate effectiveness in developing appropriate doctor-patient relationships.	Patient care rounds	Feedback from attending physicians, nursing staff, and patient/family
Exhibit effective listening, written and oral communication skills in professional interactions with patients, families and other health professionals.	Direct instruction and videotaped review by behavioral science faculty	Chart & referral letter review Patient/ family feedback Standardized patient feedback Feedback from health care professionals

<p>Professionalism – Residents are expected to uphold the Osteopathic Oath in the conduct of their professional activities that promote advocacy of patient welfare, adherence to ethical principles, collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Residents should be cognizant of their own physical and mental health in order to effectively care for patients.</p>		
Demonstrate respect for patients and families and advocate for the primacy of patient’s welfare and autonomy.	Ethics lectures Patient care rounds	Direct Observation and feedback on attending rounds Standardized patient feedback Feedback form Nurses and other health care professionals Portfolio Exhibit
Adhere to ethical principles in the practice of medicine.	Eight-session, case-based program on resource allocation, research ethics, substituted consent, competition of interest, truth-telling and communication	Feedback from hospital staff, nurses and other health professionals Chart work Portfolio Exhibit
Demonstrate awareness and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities.	Teaching conferences Observation on patient care rounds	Attending physician, nurses, and patient feedback Chart review Portfolio Exhibit
<p>Practice-Based Learning and Improvement – Residents are expected to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.</p>		
Treat patients in a manner consistent with the most up-to-date information on diagnostic and therapeutic effectiveness.	Development of scholarly paper Journal Club Preparation for patient care Journal Watch summary through email by faculty and residents	Feedback from attending physician Scholarly paper Evaluations of resident presentations Portfolio Exhibit
Perform self-evaluations of clinical practice patterns and practice-based improvement activities using a systematic methodology.	Serve a one-year appointment on a hospital Continuous Quality Improvement (CQI) committee. Maintain a logbook of CQI issues and implications for practice change.	Resident semi-annual evaluation Analysis of logbook Practice-based improvement form for each patient discussed at Morbidity and Mortality (M & M) conference. Portfolio Exhibit

Understand research methods, medical informatics, and the application of technology as applied to medicine.	Case conference, rounds, journal club Computer training	Attending physician feedback Research paper Portfolio Exhibit
Systems-Based Practice – Residents are expected to understand health care delivery systems, provide effective and quality patient care within the system, and practice cost-effective medicine.		
Understand national and local health care delivery systems and how they impact patient care and professional practice.	Teaching conferences Design and complete a project with a resident partner for presentation at surgical grand rounds, e.g. root-cause analysis of a systems error occurring in the management of one of their patients.	Social services report Chart Review Project evaluation Portfolio Exhibit
Advocate for quality health care on behalf of patients and assist them in their interactions with the complexities of the medical system.	Teaching Conferences Journal club Rounding with social services	Social services report Chart Review Portfolio Exhibit

* adapted from Dunnington GL, Williams RG. Addressing the new competencies for residents' surgical training. *Academic Medicine*. 2003;78:14-21.

CURRICULUM WORK PLAN

Although the model curriculum lays out the framework for residency training, residencies can design their own organization, instruction, resources, and assessments. Training should be customized for a specific residency program and may exceed the model curriculum. The following work plan is designed to assist you in writing a residency curriculum based on the ACOS model curriculum. These elements should become the introduction of the Residency Curriculum.

1. Draft a preface. Explain how the curriculum was developed and acknowledge who served on the curriculum advisory council/committee.

PLACE RESIDENCY PREFACE AND CURRICULUM COMMITTEE NAMES IN THIS BOX.

2. Draft a mission statement. A mission is a statement of guiding principles and provides a philosophical overview that directs all the other components of the curriculum. Since the residency program mission is based on the underlying values of the teaching program, it tells current and future residents who you are and what they can expect.

PLACE RESIDENCY MISSION IN THIS BOX.

3. Develop a program overview. The program overview should be a narrative or graphic description of the program (service team/external rotation) by year. While working with the advisory council/ committee, you will also have to determine how to incorporate the OGME-1 needs/requirements and if the institution has the capacity to fulfill the principal surgical areas. Plan for any changes that are needed in organization, scope/sequence, balance, patterns, as well as volume and variety of cases. Are adjustments required in the current plan to support OGME-1 resident training electives? Are adjustments required in the current program to support resident training in the principal surgical areas? Are outside rotations required? Do new affiliation agreements have to be prepared and acknowledged by the ACOS? From this discussion with the advisory council/committee, you will have to develop a program overview that includes a narrative or graphic description of the service team and rotations by year. This section should summarize the rotations the resident can expect throughout the training process.

PLACE RESIDENCY OVERVIEW IN THIS BOX.

4. Prepare a competency grid. The competency grid must include the AOA/ACOS core competencies, methods for fostering learning of the specific competency, and methods for assessing the specific competency.

COMPLETE ALL BLANK CELLS IN THE GRID BELOW FOR YOUR RESIDENCY PROGRAM.

AOA Competency Grid

AOA General Competencies	Methods for fostering learning of this competency	Methods for assessing competence
Summative for all competencies		
Osteopathic Principles and Practice - Residents are expected to understand and apply the osteopathic principles and practices (OPP) appropriate to the care of patients.		
Recognize and treat each patient as a whole person integrating body, mind and spirit.		
Use the relationship between structure and function to enhance wellness.		
Evaluate and explain the medical evidence in osteopathic manipulative therapies (OMT) and promote OMT research.		
Medical Knowledge – Residents are expected to understand and apply knowledge of accepted standards of clinical medicine in their respective specialty area, remaining current with new developments in medicine.		
Understand and apply biomedical, clinical and epidemiological sciences to patient care.		

Understand and apply the foundations of clinical and behavioral medicine appropriate to their discipline.		
Patient Care – Residents are expected to treat patients effectively, providing medical care that incorporates osteopathic philosophy, patient empathy, behavioral perspectives, preventive medicine and health promotion.		
Gather accurate, essential information from all sources, including medical interviews, physical examinations, medical records, and diagnostic/therapeutic plans and treatments.		
Diagnose, treat and perform procedures appropriate to the medical specialty.		
Provide health care services consistent with osteopathic philosophy, including preventative medicine and health promotion that are based on current scientific evidence.		
Interpersonal and Communication Skills – Residents are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.		
Demonstrate effectiveness in developing appropriate doctor-patient relationships.		
Exhibit effective listening, written and oral communication skills in professional interactions with patients, families and other health professionals.		

Professionalism – Residents are expected to uphold the Osteopathic Oath in the conduct of their professional activities that promote advocacy of patient welfare, adherence to ethical principles, collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Residents should be cognizant of their own physical and mental health in order to effectively care for patients.		
Demonstrate respect for patients and families and advocate for the primacy of patient’s welfare and autonomy.		
Adhere to ethical principles in the practice of medicine.		
Demonstrate awareness and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities.		
Practice-Based Learning and Improvement – Residents are expected to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.		
Treat patients in a manner consistent with the most up-to-date information on diagnostic and therapeutic effectiveness.		
Perform self-evaluations of clinical practice patterns and practice-based improvement activities using a systematic methodology.		
Understand research methods, medical informatics, and the application of technology as applied to medicine.		
Systems-Based Practice – Residents are expected to understand health care delivery systems, provide effective and quality patient care within the system, and practice cost-effective medicine.		
Understand national and local health care delivery systems and how they impact patient care and professional practice.		

Advocate for quality health care on behalf of patients and assist them in their interactions with the complexities of the medical system.		
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5. Adopt prerequisites, learning outcomes, and performance indicators. Identify experiences and resources. (See Part II.) Develop optional surgical areas as needed.

<u>The Practice, The System, The Profession</u>	<u>Clinical Sciences and Skills</u>	<u>Associated Specialties</u>	<u>Principal Surgical Areas</u>	<u>OGME-1 Electives</u>
Interpersonal & Communication Skills	Blood & Blood Products	Anesthesiology	Breast	<u>Anesthesiology</u>
Practice-based Learning & Improvement	Incisions/ Sutures / Wound Healing	Hematology	Burns	<u>Cardiothoracic Surgery</u>
Professionalism	Fluids & Electrolytes	Imaging	Endocrine	<u>ENT</u>
Systems-based Practice	Laparoscopy	<u>Infectious Disease</u>	Gallbladder/Biliary Tree	<u>Neurosurgery</u>
	Nutrition	Internal Medicine	Gastrointestinal Tract	<u>OB/GYN</u>
	Pain Management	Neurology	Head & Neck	<u>Orthopedics</u>
	Shock	Oncology	Pancreas	<u>Plastice & Reconstructive Surgery</u>
	Surgical Infections	Osteopathic Manipulative Medicine	Pediatrics	<u>Radiology</u>
			Liver	<u>Urology</u>
			Spleen	<u>Vascular Surgery</u>
			Skin & Soft Tissue	
			Thoracic	
			Trauma/ Emergency	
			Vascular	
			Hernia	

GLOSSARY OF EDUCATIONAL TERMS

ACOS model curriculum document: a document that lays out the framework for osteopathic residency training. It describes the minimum expectations which must be completed by residents during osteopathic surgical training.

AOA Competency grid: a graphic display of the AOA competencies with their associated elements. The grid includes a description of teaching and learning activities and assessment strategies related to each element.

Application and integration of knowledge: The clinical behaviors and skills exhibited by a resident that demonstrate to an observer that a particular set of performance indicators have been learned.

Associated specialties: medical specialties that are not surgery, but include concepts and skills that are important for a surgeon to understand and in some cases be able to do. Professional collaboration with specialists in these areas is a central part of a surgeon's job. Associated specialties described in the general surgery model curriculum include hematology, oncology, neurology, anesthesiology, infectious diseases, and internal medicine.

Benchmark: A group of performance indicators that suggests when residents should have attained a particular competency. For residency programs of 4 years, such as general surgery, performance indicators were benchmarked at three phases: I, II and III. The three phases correlate with early, middle and late residency and can be associated with a specific year by individual residency programs.

Clinical sciences and skills: essential components of patient care for surgeons that include shock, incisions, sutures & wound healing, surgical infections, nutrition, blood and blood products, fluids and electrolytes, pain management and laparoscopy.

Competency-based curriculum: an educational program in which the unit of progression for learners is a demonstration of specific knowledge and skills and is learner-centered.

Conceptual framework: a set of topics that when taken together describe the basis of the discipline. In general surgery, the conceptual framework was divided into principal surgical areas, clinical skills and associated specialties.

Core competencies: Broad statements that describe the outcomes of residency training. The seven areas of core competency approved by the AOA and customized and adopted by the ACOS are Osteopathic Principles and Practices, Medical Knowledge, Patient Care, Interpersonal and Communication Skills, Professionalism, Practice-Based Learning and Improvement, and Systems-Based Practice.

Curriculum: the sum total of a training program: the mission, vision, written description of training, teaching, learning experiences, learning resources, assessment and evaluation.

Curriculum committee: A group of interested individuals from the residency program who meet monthly to develop, review and improve the residency curriculum. This group facilitates the process of change and adoption of new ideas and methods of teaching and learning. Members can include the program director, director of medical education, representative faculty members, the education coordinator and resident(s).

Elements: The AOA core competencies are explicated by a set of two or three broad statements called “Elements.”

Evaluation plan: a graphic display, such as a table of all the components of evaluation within the residency program. The plan should include the name of the component, the name of the instrument, a description of the instrument, who is responsible to completed the instrument, to whom the reports go, and a schedule.

Evaluation policy: a collection of statements that sets the tone and describes the philosophical framework for current and future assessments of residents, faculty and the program.

Evaluation strategies: the methods residency programs may use to assess and evaluate resident performance. A description of specific methods and recommendations for their use can be found at the ACGME website: <http://www.acgme.org/Outcome/assess/Toolbox.pdf>

Learning Experiences: a description of individual and group activities in which residents participate to develop the knowledge and skills that lead to competence.

Learning outcomes: statements describing what the resident will be able to do at the end of training, but often written in terms too broad to be readily measured. They fall within the seven areas of the AOA Competencies.

Learning Resources: books, journals, videotapes, internet sites and CD ROMs that residents use to support their learning.

Mission statement: a statement of guiding principles that provides a philosophical overview that directs all the other components of the curriculum. It is based on the underlying values of the teaching program.

Performance indicators: statements that elaborate the learning outcomes. They describe how residents behave who have accomplished the learning outcome. Performance indicators set the agenda for learning and assessment, identifying measurable behaviors

Cognitive performance indicators: describe the application of knowledge. These generally take place outside the operating room.

Technical performance indicators: describe the application of surgical skills. They are primarily situated in the operating room.

Prerequisites: Learning outcomes that are expected to have been met by the resident before

beginning a particular surgery residency training program. These could have been met in medical school or during the rotating internship year for such specialties as general surgery or neurosurgery, or during a previous residency training experience in the case of such specialties as cardiothoracic or urologic surgery.

Principal surgical areas: the clinical content at the heart of surgical residency training. The principal surgical areas for general surgery include breast, gastrointestinal, trauma, vascular and pediatrics.

Program Overview: a summary of the resident experiences throughout the training program. The overview tells what period of time a resident can expect to work on a team or in a particular area of surgery. It can be a graphic display, such as a table, or a narrative.

Rationale: describes why a particular content area of the residency curriculum is important to a surgeon in practice.

Surgical Residency Curriculum Work Plan Template

CURRICULUM WORK PLAN

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Evaluate and explain the medical evidence in osteopathic manipulative therapies (OMT) and promote OMT research.		
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Diagnose, treat and perform procedures appropriate to the medical specialty.		
Provide health care services consistent with osteopathic philosophy, including preventative medicine and health promotion that are based on current scientific evidence.		
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Adhere to ethical principles in the practice of medicine.		
Demonstrate awareness and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities.		
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Treat patients in a manner consistent with the most up-to-date information on diagnostic and therapeutic effectiveness.		
Perform self-evaluations of clinical practice patterns and practice-based improvement activities using a systematic methodology.		
Understand research methods, medical informatics, and the application of technology as applied to medicine.		
Systems-Based Practice – Residents are expected to understand health care delivery systems, provide effective and quality patient care within the system, and practice cost-effective medicine.		
Understand national and local health care delivery systems and how they impact patient care and professional practice.		

Advocate for quality health care on behalf of patients and assist them in their interactions with the complexities of the medical system.		
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5. Adopt prerequisites, learning outcomes, and performance indicators. Identify experiences and resources. (See Part II.) Develop optional surgical areas as needed.

<u>The Practice, The System, The Profession</u>	<u>Clinical Sciences and Skills</u>	<u>Associated Specialties</u>	<u>Principal Surgical Areas</u>	<u>OGME-1 Electives</u>
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Systems-based Practice	Laparoscopy	<u>Infectious Disease</u>	Gallbladder/Biliary Tree	<u>Neurosurgery</u>
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	Pain Management	Neurology	Head & Neck	<u>Orthopedics</u>
	Shock	Oncology	Pancreas	<u>Plastice & Reconstructive Surgery</u>
	Surgical Infections	Osteopathic Manipulative Medicine	Pediatrics	<u>Radiology</u>
			Liver	<u>Urology</u>
			Spleen	<u>Vascular Surgery</u>
			Skin & Soft Tissue	
			Thoracic	
			Trauma/ Emergency	
			Vascular	
			Hernia	

American College of Osteopathic Surgeons

General Surgery: The Practice, The System, The Profession



All osteopathic training program directors will be required to implement the seven AOA core competencies by 2006. While the core competencies of Osteopathic Principles and Practices, Medical Knowledge, and Patient Care are well known to surgical training programs, new program structures and learning experiences may be required for a training program to assure that the competencies related to Interpersonal and Communication Skills, Professionalism, Practice-Based Learning, and Systems-Based Practice are adequately covered by the program. Each of the proposed model curricula for a surgical specialty integrates all seven AOA core competencies for residency training. Therefore in an addition to integrating the core competencies in the key areas of the ACOS model curriculum document (clinical sciences, associated specialties, and principal surgical areas), the proposed model curriculum also dedicates one section to these four competencies under one umbrella document: *The Practice, The System, The Profession*. These core competencies are:

- Interpersonal and Communication Skills includes teaching, listening, written and oral communications, developing appropriate doctor-patient relationships, and collaborating with health care professionals. As with other topics, residency programs should establish evidence-based communication skills including extending to areas such as the difficult clinical encounters, cultural sensitivity, and health behavior change.
- Professionalism links three areas important to both the individual physician and the success of the practice: ethics, self-directed and life-long learning and sensitivity to diversity.
- Practice-Based Learning and Improvement covers three important areas: informatics, evidence-based medicine, and systematic practice improvement. Medical information is increasing and changing at an accelerating rate. New tools and techniques are introduced into surgical practice every day. Findings from research studies are reported in medical journals and translated into the popular literature for patients to access. As a result, it is essential for all surgeons to be able to critically appraise a large volume of new information quickly and efficiently.

Increasingly physicians are being asked to participate in endeavors to improve the quality of patient care. Using the fundamentals of evidence-based medicine, residents will learn how to use current evidence and practice guidelines in making decisions about patient care by integrating

many of the concepts from research, informatics, and scholarship. Adopting research and evaluation strategies will lead to the improvement and growth of a clinical practice.

- Systems-Based Practice competencies improve the care of individual patients by incorporating cost-effective medical care, evaluating and where necessary reorganizing system complexities, and establishing appropriate connections to the larger field of health care.

In addition, this section of the model curriculum includes the more traditional areas of practice management that may be defined as the body of knowledge and skills necessary to efficiently manage the multiple elements of the specific practice of a surgeon. The elements of sound management of a practice include leadership, administration, organization, economics, patient care and quality improvement. Practice management has become increasingly important in the training of physicians aspiring to any mode of practice – including self-employment, salaried group practice, administrative and academic. The increasingly competitive economic environment underscores the importance of this sphere of medicine.

Developing a training program curriculum based upon the proposed ACOS model curriculum, will result in training programs addressing the core competencies required by the AOA. The proposed ACOS model curriculum includes learning outcomes, resources, learning experiences, and resident assessment methods.

<p>The Practice, The System, The Profession</p>
<p>Developed by: India Broyles, EdD; Cynthia Cartwright, RN, MT, MEd; Stephen E. Small, D.O.</p>

<p>Resident Competencies</p> <ul style="list-style-type: none"> Osteopathic Principles and Practices Medical Knowledge Patient Care Interpersonal and Communication Skills Professionalism Practice-Based Learning and Improvement Systems-Based Practice

<p>Prerequisites</p> <p>Prior to entering a general surgical residency, the resident should:</p> <ul style="list-style-type: none"> • Understand the United States (U.S.) medical system • Compare institutional organizations within the larger system • Understand basic coding related to diagnoses and procedures • Consider ethical, social and legal aspects of patient care • Protect patient privacy through confidentiality and avoid inappropriate use of personal health information • Recognize limits of knowledge and skills • Use common computer hardware and operating systems (e.g., Windows, Personal Digital Assistant) • Use word processing, spreadsheet, and presentation software effectively • Organize systems of electronic communications • Access internet resources including: search engines, databases, discussion forums, organizational information (e.g. ACOS, AOA)

<p>Learning Outcomes</p> <p>Upon completion of a general surgery residency, the resident will:</p> <ul style="list-style-type: none"> • Use interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams create and sustain a

therapeutic and ethically sound relationship with patients

- Develop appropriate physician-patient relationship
- Use effective listening, written and oral communication skills in professional interactions with patients, families and other health professionals.
- Uphold the Osteopathic Oath in the conduct of professional activities that promote advocacy of patient welfare, adherence to ethical principles, collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Residents should be cognizant of their own physical and mental health in order to effectively care for patients.
 - Demonstrate respect for patients and families and advocate for the primacy of patient's welfare and autonomy
 - Adhere to ethical principles in the practice of medicine
 - Demonstrate awareness and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities
- Critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices
 - Treat patients in a manner consistent with the most up-to-date information on diagnostic and therapeutic effectiveness
 - Perform self-evaluations of clinical practice patterns and practice-based improvement activities using a systematic methodology
 - Understand research methods, medical informatics, and the application of technology as applied to medicine
 - Facilitate the learning of students and other health care professionals
- Understand health care delivery systems, provide effective and quality patient care within the system, and practice cost-effective medicine
 - Understand national and local health care delivery systems and how they impact on patient care and professional practice
 - Advocate for quality health care on behalf of patients and assist them in their interactions with the complexities of the medical system
- Understand the principles of practice management and the business aspects associated with the delivery of health care
 - Organize an office with attention to leadership, staffing, office and personal finances

Interpersonal and Communication Skills: Performance Indicators

Communicate effectively with patients, their families, and other caretakers to ensure quality therapeutic relationships

- Enable patients to 'tell their own story' and to be comfortable asking questions
- Effectively addresses patient concerns
- Use appropriate eye contact, body language, and non-verbal communications
- Assess the health of non-English-speaking and deaf patients
- Address cultural and religious issues and sensitivities in the doctor-patient relationship
- Provide pertinent educational information that promotes patient and family participation in management of care and allows them to make informed decisions
- Complete patient interview in a timely and professional manner
- Return patient and family calls promptly and effectively

Effectively provide information necessary for patients and families to understand diagnosis and treatment

- Use language appropriate to the level of comprehension in a culturally sensitive and professional manner
- Incorporate evidence-based medical information and consensus, when available

Professionalism: Performance Indicators

Professional Qualities and Responsibilities

Place the welfare of patients as the ultimate concern

Appreciate the benefits of peer review and membership in professional associations

Identify challenges to physician/surgeon responsibilities (e.g., harassment, abuse of power, greed, conflicts of interest), and describe how the welfare of the patient or society should supercede physician's self-interest

Take responsibility for one's own actions, including errors

Understand medico-legal issues related to professional liability insurance, risk management, and what to do if faced with a potential occurrence of a liability claim

Recognize patterns of interactions with others and cope with differences in people in a constructive way

Interact effectively, professionally, and respectfully with patients and their families, fellow residents, medical students, allied health care personnel, hospital staff, faculty physicians, and referring physicians

Ethical Principles

Understand the concept of respect for personal autonomy as a basic principle for ethical conduct in the patient-physician relationship

Use the ethical and legal foundations of the right of patients to refuse medical care even when self harm is the likely result and the guidelines for assessing and responding to refusal of treatment by patients

Identify the ethical hazard and respond appropriately in situations such as:

- being asked to practice beyond legal limits or personal comfort
- weighing the educational benefit to a student that increases the risk to a patient
- performing procedures upon the newly dead
- accepting of gifts
- collaborating with industry when courted by industry to prescribe their products

Sensitivity to Diverse Populations

Understand diversity as inclusive of race, ethnicity, handicapping conditions, gender, sexual orientation, and class

Recognize personal biases and reactions to persons from different minority, ethnic, and socio-cultural backgrounds and the need to deal with cultural counter transference

Avoid stereotyping, recognizing that there is "within-culture" variability regarding health beliefs and practices

Be sensitive to differences among cultures in family decision-making processes, including the role of the extended family

Practice-Based Learning and Improvement: Performance Indicators

Informatics

Commit to self-directed learning principles and practice

Evaluate which source (review articles, practice guidelines, treatment and diagnosis articles) is best for the information being sought

Use cogent search strategies within the Internet and professional databases

Evaluate the validity and relevance of medical information from a variety of sources

Understand uses and capabilities of electronic health records

Evidence-Based Medicine & Critical Appraisal

Apply the principles of evidence-based medicine in clinical practice:

- Identify a problem
- Formulate a relevant, focused, clinically important question
- Find and appraise the evidence
- Assess the clinical applicability of any recommendations or conclusions
- Implement the decision into patient care
- Assess the outcome of the actions

Locate, appraise, and assimilate evidence from clinical guidelines, systematic reviews, and articles related to patients' problems:

Apply knowledge of study designs and statistical methods to appraise information about diagnostic tests and therapeutic interventions:

- Explain the principle of clinical uncertainty in clinical judgments
- Define basic epidemiologic and bio-statistical concepts and applications
- Describe frequently-used study designs
- Describe the relationship among incidence, duration, and prevalence of a disease in a population
- Describe "risk factor" and identify how risk factor information is determined
- Define sensitivity, specificity, and predictive values of a test
- Understand the trade-off between sensitivity and specificity of a test upon changing the cut-off values for normal/abnormal test results
- Evaluate how predictive values are affected by disease prevalence
- Analyze essential concepts of epidemiology, including pre- and post-test probabilities
- Know what is meant by the term "gold standard"
- Describe the difference between efficacy and effectiveness
- Understand the principles associated with critical appraisal of a clinical trial
- Evaluate when /when not to perform population screening for a disease
- Analyze sources of systematic error that can affect study conclusions
- Describe principles that lead to prudent ordering of diagnostic and screening tests

Performance Improvement

Set effective personal and professional goals for practice

Identify clinical processes that might be improved using Practice Improvement methodology:

- Identify the individual/group that owns the process and ensure they participate in quality assessment
- Collect and analyze data from a variety of sources
- Pose a relevant question
- Search the literature using both print and internet-based resources
- Understand study design and statistical methods in evaluating relevant clinical information
- Apply the literature to the pertinent clinical issue
- Determine the outcome of a given intervention with relevant information

Understand the role of information systems in process improvement with information from the following sources:

- External organizations – National Committee for Quality Assurance (NCQA), Dartmouth Atlas, Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
- Patient accounting systems
- Health plan reports
- Hospital data systems
- External sources (e.g. Peer Review Organizations, County Health Department)

Analyze the issues of quality assurance as related to surgical practice including:

- Maintenance of the clinical record
- Review and documentation of morbidity and mortality
- Risk management
- Understand Current Procedural Terminology (CPT) coding including complex procedural coding
- Describe the considerations in Evaluation and Management (E & M) coding, including documentation requirements

Teaching and Education

Develop an effective curriculum and /or lesson plan appropriate to the learning outcome and the teaching/learning context:

- Write learning outcomes and performance objectives
- Identify effective methods
- Match appropriate assessment tools to learning outcomes

Use a learner-centered approach for clinical teaching in the inpatient or outpatient setting

Conduct an effective and interactive presentation using questions effectively

Identify methods for effective feedback, assessment and evaluation of learners

Systems-Based Practice: Performance Indicators

Collaborate with other members of the health care team to assist patients in dealing effectively with the complex systems and to improve systematic

processes of care

Understand the reciprocal impact of personal professional practice, health care teams and the health care organization on community/society

Understand coordination of inpatient and outpatient care

Apply knowledge of systems to reduce errors and improve patient care

Code effectively using national coding standards to remain in compliance and to maximize benefits

Recognize effective management regarding employee benefits, personal financial planning and tax implications of medical practice

Access and utilize the multidisciplinary resources, providers and systems necessary to provide optimal care

Utilize hospital, community, and practice resources for appropriate and successful patient care

Understand the role and influence of national quality oversight and review organizations for hospitals and health plans (JCAHO, NCQA)

Practice Management: Performance Indicators

Compare varying practice facilities with regard to location, design, cost, equipment, inventories and supplies, and rented or owned facilities and equipment

Understand the organization of a practice including chain of command, schedules, number and type of support staff, computerized or not, and supply and inventory management

Participate as an effective member and leader of the clinical team (e.g., communication, compromise, conflict resolution)

Supervise care delivered by clinical practice team and report decisions to practice leadership

Understand the administrative structures and processes required for managing an office practice

Comprehend general accounting principles as well as personal financial planning for budget and retirement

Understand Health Insurance Portability and Accountability Act (HIPAA) regulations and how they apply to patient confidentiality and security of personal health information

Understand staff and personnel policies for employee salaries, benefits, motivation, recruitment, retention, discharge, evaluation, accountability, and job description

Discuss the principles and techniques of risk management and determine the insurance requirements associated with surgical practice

Learning Experiences -- Examples: (select or develop locally)

Orientation: Teaching conferences on systems-based practice (SBP) and practice-based learning and improvement (PBLI) competencies.

Chart Audits: Annual review of the resident's patients in a specified area of treatment to evaluate adherence to evidence based standards of care, appropriateness of treatment, and opportunities for improvement.

Participation in Practice Team Meetings: Attendance at team meetings with a focus on improvement in systems and processes of care.

Morbidity and Mortality Conference: Attend (X number) yearly

Professional Development Sessions: Residents will be encouraged to attend multi-disciplinary, and/or multi-departmental Faculty/Professional Development sessions geared towards competency-based education and evaluation.

Scholarly Project: Each resident will be expected to do a scholarly project of his/her choice on clinical research, medical education research, a community-based effort or a practice improvement outcome over the course of the residency (see *Trainer's Manual*). Residents will be expected to attend sessions for review and evaluation of their projects, discussion of study design, techniques and analysis.

- Original Scientific or Clinical Research: Residents may select a quantitative or qualitative approach to original scientific or clinical research including literature review, case study, new surgical procedure report.
- Community Project: Residents may select a specific health improvement or disease prevention issue or need within the community. The resident must identify a population of interest within the community, summarize the problem and the population, review the current literature, perform a needs assessment, and design, implement and evaluate an intervention to address the issue or need.
- Medical Education Research: Improvements in medical education have led to more effective training processes and programs for medical students and residents. Residents who wish to pursue a medical education research project must identify a process or program need, review the current literature, perform a needs assessment, and design, implement and evaluate the proposed improvement project.
- Root Cause Analysis: Design and complete a project with a resident partner for presentation at surgical grand rounds focusing on the root-cause analysis of a systems error occurring in the management of one of their patients.

Journal Club: a monthly conference focused on learning critical appraisal of the medical literature. Residents will attend and participate in the monthly journal club discussions related to the review of clinical research.

Local university-based research/biostatistics courses:

Effective Teaching Workshops: Attend workshop on making effective presentations or on effective teaching.

Career Planning: Maintain checklist and timetable prior to entering practice for medical licensure, Drug Enforcement Agency (DEA) certification, hospital privileges, Medicaid/Medicare and third-party provider numbers, and changes of address.

Resident Assessment *Examples: (select or develop locally)*

A scholarly project on clinical research, medical education research, a community-based effort or a practice improvement outcome. Residents attend quarterly sessions for review and evaluation of their projects, discussion of study design, techniques and analysis.

Review a published clinical practice guideline using an evidence-based approach and audits 25 office charts to compare treatment, screening, or diagnostic testing of patients with the recommendations of the guideline.

Videotape patient encounter and conduct a post-conference assessment.

Resident Portfolio: (examples of exhibits; not inclusive)

- Summary of an article presented at Journal Club, with reflections on how the results of this article might be used to change the resident's practice.
- A description of a situation in which the resident was involved in the education of a junior resident or another health professional, including colleague or staff member, including reflection regarding the approach that was taken to education and its effectiveness with supporting documentation.
- A description of a clinical situation in which information was needed to answer a clinical question. The document should include a well-formulated question, the source of the answer found, some appraisal of the quality of the evidence found, and a description of how the information impacted the care provided.
- Description of involvement in committee or other work that addresses system level issues, e.g. Resident Business Meeting, Operations, Curriculum Committee, Competency Committee.

Resources *Examples: (select or add locally)*

Publications:

Clinical Evidence: the international source of the best available evidence for effective health care. London, UK: BMJ Publishing Group. (updated semi-annually)

Quality of Health Care (6 part series) *NEJM*. 1996; September-October.

Users' Guides to the Medical Literature (Multipart series) *JAMA*. (available online at <http://www.cche.net/principles/main.asp>).

Berwick DM. *On Quality*. Hoboken, NJ: Jossey-Bass, 1995.

Sackett D. *Evidence-Based Medicine: How to Practice and Teach EBM*. London: Churchill Livingstone, 2000.

Silverman WA, Sackett DL. *Where's the Evidence? Debates in Modern Medicine*. Oxford: Oxford University Press, 1999

Organizational Resources:

Medication errors and subsequent adverse drug events (ADE):

Joint Commission on Accreditation of Health Care Organizations (JACHO)

Institute for Clinical Systems Improvement (ICSI)

Institute for Health Care Delivery Research (IHC)

Institute for Health Care Improvement (IHI)

Institute of Medicine (IOM)

Occupational Safety and Healthcare Administration (OSHA)

Websites:

An Introduction to Information Mastery. Michigan State University by Mark Ebell. A Web-based course that introduces the basic concepts of Information Mastery, Evidence-Based Medicine (EBM), and critical appraisal of the medical literature. <http://www.poems.msu.edu/InfoMastery/>

"Clinical Microsystems" for process/practice improvement activities, especially links (on the left of the page) to Assessing, Diagnosing and Treating Workbooks, Clinical Microsystem Assessment Tool, and Microsystem Action Learning Series. <http://www.clinicalmicrosystem.org/>

Introduction to Evidence Based Medicine: Critical Appraisal and Informed Medical Practice
<http://www.health.library.mcgill.ca/ebm/>

Centre for Evidence-Based Medicine (links to resources): <http://cebm.jr2.ox.ac.uk/>

Users' Guides to Evidence-Based Practice: http://www.cche.net/principles/content_all.asp

National Guideline Clearinghouse: <http://www.guideline.gov/index.asp>

American College of Osteopathic Surgeons General Surgery: Clinical Sciences and Skills



Development of intra-operative technical skills is a well-recognized component of surgical training. When considering the broad realm of patient care, both within and outside the operating room, an equally important aspect is development of the surgeon's ability to understand and assimilate the clinical sciences and skills.

During training, the osteopathic surgical resident must acquire knowledge and skills in all areas of clinical science including shock, wound healing, surgical infections and burns, nutrition, blood and blood products, fluids and electrolytes, pain management and laparoscopy. Integration of the clinical sciences by the surgical resident into all aspects of practice will enhance his or her ability to appropriately diagnose, organize a management plan, perform necessary surgical procedures and care for the postoperative surgical patient in the short and long term.

Surgical residents learn clinical sciences and skills on all clinical rotations and in didactic settings. Knowledge and skills are assessed informally and on a daily basis by faculty and attending surgeons. Since these clinical sciences are part of a core curriculum related to each and every principal surgical area, they are grouped together and not repeated in separate surgical areas.

**American College of Osteopathic Surgeons
General Surgery Residency**

**Clinical Sciences:
Blood and Blood Products**

Developed by:

Lori Chapleskie, D.O.; Harold Schreiber, D.O., FACOFP; Lana Nelson, D.O.; Marc Rosen, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand blood groups and the principles of transfusion as they relate to anemia and shock
- Recognize the events that occur in hemostasis including vasoconstriction, platelet activity and the intrinsic and extrinsic pathways of blood coagulation
- Compare the clinical use of blood components including whole blood, red blood cells, platelets, cryoprecipitate and fresh frozen plasma
- Understand religious implications with regard to blood transfusion and suitable blood alternatives

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the function of the cell products responsible for hemostasis
- Monitor coagulation status
- Understand the critical values required to use blood products appropriately
- Understand, identify and use interventions available in the treatment of coagulopathies
- Realize the natural anticoagulation mechanisms
- Identify common bleeding disorders
- Recognize the risks of blood product transfusion
- Recognize and treat the common pro-coagulant states commonly found in the post-surgical patient
- Counsel and educate patients and their families about the use of blood products

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Understand and treat accordingly the potential effects of surgery on the oxygen/hemoglobin dissociation curve with regard to leftward and rightward shifts and the anatomic conditions that cause these shifts, such as temperature, pH, and PCO₂</p> <p>Understand the function of prostacyclin, nitric oxide, platelet activating factor, von Willebrand's factor, thromboplastin, tissue plasminogen activator and plasminogen activator inhibitor</p> <p>Understand the mechanisms of antithrombin III, activated protein C & heparin cofactor II</p> <p>Select lab tests such as platelet function, protime and prothrombin time appropriately to monitor coagulation status</p> <p>Identify coagulation factor deficiencies such as Hemophilia A (factor VIII), Hemophilia B (factor IX) and von Willibrand's disease as well as disorders of platelet function and fibrinolysis (alpha 2-AP)</p> <p>Identify and treat coagulopathy using heparin, warfarin, antiplatelet agents, fibrinolytic agents, DextranTM and mechanical methods of clot prevention, e.g., anti-embolism stockings, early ambulation and sequential compression devices (SCD)</p> <p>Educate patients on the risk associated with transfusion of blood products including transmission of Human Immunodeficiency Virus (HIV), hepatitis, cytomegalovirus</p>	<p>Cognitive Understand the influences of age, coronary artery disease, trauma and other conditions such as pregnancy on transfusion</p> <p>Recognize and treat post-surgical:</p> <ul style="list-style-type: none"> • Heparin-induced thrombocytopenia • Antithrombin III deficiency • Protein C & S deficiencies • Lupus anticoagulant-antiphospholipid syndrome <ul style="list-style-type: none"> • Platelet deficiency or abnormality • Disseminated intravascular coagulation (DIC) <p>Recognize and treat common transfusion reactions, infection transmission, graft-versus-host reaction, immunosuppression and the definition of and metabolic changes associated with massive blood transfusion</p> <p>Technical</p>	<p>Cognitive</p> <p>Technical</p>

<p>(CMV) as well as transfusion reactions</p> <p>Effectively communicate the need for immediate, intra-operative or postoperative use of blood and blood products</p> <p>Educate patients whose religious beliefs may contraindicate blood transfusion on available blood substitutes</p> <p>Understand and appropriately use albumin solutions, artificial blood and plasma substitutes</p> <p>Understand the processes of thrombosis and inflammation and the importance of tumor necrosis factor in these processes</p> <p>Select acceptable transfusion methods and storage media and understand time constraints of blood and blood products</p> <p>Understand laboratory policies regarding blood product administration</p> <p>Understand clinical indicators that may override laboratory policies regarding blood product administration</p> <p>Technical</p>		
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

**Clinical Sciences:
Fluids and Electrolytes**

Developed by:
Marc Rosen, D.O.; William Henwood,
D.O., FACOS

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering surgical residency, the resident will be able to:

- Identify the fluid compartments in the body and the chemical components and distribution of fluids and electrolytes within them
- Understand osmotic terms: mole, molarity, molality, osmolarity, osmolality
- Understand tonicity terms: hypertonicity, hypotonicity, isotonicity
- Understand the body's central and peripheral regulatory mechanism for volume
- Understand the basic changes that occur in a surgical patient with hemorrhage, persistent vomiting or diarrhea, intestinal obstruction and dehydration
- Understand the relationship between basal metabolic rate and daily water requirements
- Indicate normal daily requirements of fluids and electrolytes for adult and pediatric patients
- Understand the concept of acid-base balance, how this is maintained and the role of the kidneys and lungs in this process
- Identify the daily sensible and insensible fluid and electrolyte losses in the routine postoperative patient
- Request and interpret laboratory studies and write fluid and electrolyte orders for:
 - Imbalances of fluids and/or electrolytes
 - Dehydration, fluid excess, and hypo- or hyper-natremia, kalemia, calcemia, magnesemia or phosphatemia
 - Acid-base imbalance
 - Coordination of fluid, electrolyte, acid-base and nutrition problems
- Evaluate daily glucose requirements to prevent ketosis
- Understand the role of the adrenal gland and antidiuretic hormone (ADH) in maintaining serum sodium, glucose and body water
- Understand renal function and the ability to distinguish between renal and pre-renal azotemia
- Understand the pathophysiology of hypernatremic and hyponatremic dehydration
- Obtain a history and physical exam to assess the state of a patient's hydration

Learning Outcomes

Upon completion of the general surgical residency, the resident will:

- Understand the daily shifts of fluids and electrolytes in the gastrointestinal tract
- Determine the volume status of a patient
- Determine and correct a body water deficit
- Choose appropriate fluids and routes of administration for different patient issues
- Identify electrolyte imbalances for patients and replete them

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Know where it exists in the body, how the body regulates it and the daily requirements of potassium, chloride, phosphorus, calcium and magnesium</p> <p>Assess the volume status of a patient by history, physical exam, clinical signs, and laboratory tests</p> <p>Describe the body's normal daily losses (urine, sweat, stool, insensible), gastrointestinal fluid and electrolyte secretion per day (cc/24Hr) and gastrointestinal fluid absorption per day (cc/24Hr)</p> <p>Explain the etiology, signs, symptoms, clinical consequences and treatment of hyper- and hypo-electrolyte disturbances, including:</p> <ul style="list-style-type: none"> • Natremia (including the effects of glucose on sodium levels) • Kalemia (including severe acidosis and the effect of pH on serum potassium level) • Chloremia • Phosphatemia • Calcemia • Magnesemia <p>Accurately assess the fluid and electrolyte status of surgical patients</p> <p>Calculate the total body water deficit, sodium deficit, insensible loss during surgery, serum osmolality, and a fractional excretion of sodium</p> <p>Write orders for maintenance fluids, deficit fluids, and postoperative fluids for adult and pediatric patients</p> <p>Choose fluids based on an understanding of the electrolyte components, calories, osmolality, and tonicity</p> <p>Describe the electrolyte abnormalities be able to replace output from sweat, diarrhea, pancreatic fistulas, small bowel fistulas, t-tubes, nasogastric tubes, new and old</p>	<p>Cognitive Administer fluids to correct abnormalities</p> <p>Respond to renal failure with appropriate orders</p> <p>Know the theory for use and non-use of dopamine</p> <p>Technical</p>	<p>Cognitive Correct fluid and electrolyte imbalances in critically ill patients</p> <p>Closely monitor Swan-Ganz values and respond appropriately</p> <p>Technical Insert Swan-Ganz catheters, central venous catheters and percutaneous intravenous catheter (PIC) lines</p>

<p>ileostomies, and colostomies</p> <p>Choose appropriate routes of administration: oral, enteral, peripheral or central</p> <p>Place a tube for fluid and electrolyte administration: nasogastric, gastrostomy, jejunal</p> <p>Understand how electrolytes relate to each other when replenting</p> <p>Understand how electrolytes relate to acid base disorders</p> <p>Technical</p>		
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons

General Surgery Residency

Clinical Skills: Laparoscopy
Developed by: Lana G. Nelson, D.O.

Resident Competencies Osteopathic Principles and Practices Medical Knowledge Patient Care Interpersonal and Communication Skills Professionalism Practice-Based Learning and Improvement Systems-Based Practice

Prerequisite Prior to entering a surgical residency, the resident should: <ul style="list-style-type: none">• Understand the benefits of laparoscopy and its application in general surgery

Learning Outcomes Upon completion of the general surgery residency, the resident will: <ul style="list-style-type: none">• Select patients and conditions amenable to laparoscopic surgery• Understand the pathophysiology of pneumoperitoneum• Understand abdominal anatomy as it relates to port placement• Understand basic instrumentation as it applies to laparoscopic surgery• Position patients in the operating room in such a way to maintain musculoskeletal integrity• Manage patients postoperatively

surgery		
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Clinical Sciences:

Nutrition

Developed by:

Harold Schreiber, D.O., FACOFP;
Lori Chapleskie, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering surgical residency, the resident should:

- Understand the basic biochemistry of metabolism
- Identify the components of total body mass
- Indicate the basic nutritional requirements of any patient, including calories, protein, carbohydrates, fats, electrolytes, trace elements and vitamins
- Classify and characterize each of the types of malnutrition
- Appreciate patient risk factors for malnutrition and stratify perioperative patients according to these factors
- Realize how certain disease processes affect metabolism in the perioperative patient
- Recognize the essential vitamins, minerals, and trace elements as well as formulations available for supplementation
- Distinguish the routes of enteral and parenteral nutrition as well as the risks, benefits and complications of these routes

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Accurately calculate daily protein, non-protein and lipid caloric requirements
- Recognize and treat complications of nutritional excesses and deficiencies
- Counsel patients to correct imbalances of nutritional requirements
- Calculate the Harris-Benedict Equation for Basal Energy Expenditure (BEE) and Respiratory Quotient (RQ) for females and males in states of minimal, recommended and catabolic states
- Recognize nutritional deficiencies, perform appropriate diagnostic testing to prove/disprove these deficiencies and understand the indications for the various types of nutritional support in the perioperative patient
- Display and manage the appropriate use of enteral and parenteral nutrition
- Place nasoenteric, gastrostomy (endoscopic and open) and jejunostomy feeding tubes

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Understand the process of metabolism in the conversion of basic nutrients to thermal energy and heat</p> <p>Understand the method of indirect calorimetry as a measure of daily energy expenditure, oxygen consumption (V_{O_2}) and carbon dioxide production (V_{CO_2})</p> <p>Calculate resting energy expenditure (REE)</p> <p>Calculate the Harris-Benedict Equation used to predict basal energy expenditure (BEE)</p> <p>Take into consideration common correction factors for BEE such as minimal activity, fever, and mild, moderate and severe stress</p> <p>Understand the 12 essential vitamins and recommendations for daily supplementation in well and hospitalized patients</p> <p>Understand folate and thiamine supplementation dosing for patients with hypermetabolic states</p> <p>Recognize, diagnose and treat the clinical manifestations of thiamine deficiency including beriberi disease, lactic acidosis and Wernicke's encephalopathy</p> <p>Utilize intravenous and oral maintenance dosing</p>	<p>Cognitive Recognize the recommended daily protein requirements as well as those for patients with minimal intake and those in catabolic states</p> <p>Measure catabolism using twenty-four hour urinary nitrogen excretion</p> <p>Recognize and calculate the nitrogen balance equation: (Nitrogen balance in gm) = (protein intake/6.25) – (UN + 4)</p> <p>Appreciate conditions of the hospitalized patient that result in increased nitrogen losses, including diarrhea, blood loss and mucosal sloughing</p> <p>Recognize the contribution of carbohydrates with respect to:</p> <ul style="list-style-type: none"> • the average American diet • impaired utilization with resultant hyperglycemia in sepsis and stress states • excess ingestion and the formation of fatty liver, excess CO_2 production and detrimental effects on respiratory function • highest caloric value and respiratory quotient (RQ) [$RQ = V_{CO_2} / V_{O_2}$] for each of the basic substrates <p>Appreciate the contribution of lipids such as linoleic acid and essential fatty acids, to ingested calories in hospitalized patients and their status as the preferred fuel in sepsis</p>	<p>Cognitive</p> <p>Technical</p>

<p>guidelines for trace elements such as chromium, selenium, zinc and copper</p> <p>Understand the role of the alimentary tract in avoiding trophism</p> <p>Understand the interrelationship of disease symptoms, including anorexia, nausea and vomiting, diarrhea and fistulae</p> <p>Appreciate the indications, contraindications, general and special formulations available for tube feedings and understand the advantages and disadvantages of feeding site choices and timing regimens</p> <p>Coordinate the nutritional needs of patients with a multidisciplinary team including pharmacists, dieticians, nurses, the patient and family members and others as needed</p> <p>Technical</p> <p>Understand the procedure and perform competent insertion of a nasoenteric tube for enteral nutrition; recognize improper placement</p> <p>Perform central venous access for parenteral nutrition</p>	<p>Recognize the complications of lipid infusion such as impaired oxygenation, hyperlipidemia, electrolyte abnormalities, bowel atrophy and acalculous cholecystitis</p> <p>Recognize and treat the clinical manifestations of essential fatty acid deficiency such as eczema-like rash, hair loss, neutropenia and thrombocytopenia</p> <p>Understand the mechanism of ‘re-feeding diarrhea’ after prolonged bowel rest in the hospitalized patient</p> <p>Identify the role of bacterial translocation in the development of multi-organ dysfunction syndrome (MODS)</p> <p>Understand and care for patients on Total Parenteral Nutrition (TPN), including:</p> <ul style="list-style-type: none"> • indications for TPN • creating a TPN formulation including daily caloric requirements, protein needs, dextrose caloric rations and calculated lipid volume • types of TPN solutions available (dextrose only, amino acid only, dextrose-amino acid mixture, fat emulsion) <ul style="list-style-type: none"> electrolyte, trace element and vitamin additives necessary for complete nutritional support • complications of TPN administration including hyperglycemia, hyperphosphatemia, fatty liver and carbon dioxide retention <p>Understand the legal and ethical implications of instituting enteral feedings</p> <p>Technical</p>	
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	Insert endoscopic and open gastrostomy and jejunostomy tubes successfully	
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Clinical Sciences:

Pain Management

Developed by:

Harold Schreiber, D.O., FACOFP; Lori Chapleskie, D.O.; Lana G. Nelson, D.O.; Marc Rosen, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the anatomy and physiology of the pain response as well as the major theories of pain
- Know the location and function of the spinothalamic tract, dorsal root ganglion, spinal cord, peripheral nerves, nociceptive C fibers, kinins and catecholamines as they relate to pain
- Perform a history and clinical evaluation of a patient with the presenting complaint of pain
- Appreciate the quality, characteristics, potential etiologies and accompanying symptoms of the major classifications of pain: visceral, somatic and referred
- Understand analgesics and their mechanism of action, side effect profiles and drug interactions
- Understand the general policies of the Drug Enforcement Agency (DEA)

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Appreciate the complexity of pain and the multiple modalities available to treat it
- Acknowledge pain and communicate effectively with patients and their families regarding management plans
- Understand and integrate patterns of pain to arrive at a differential diagnosis
- Prescribe analgesics appropriately in the perioperative period
- Develop a plan for postoperative pain management that provides maximum patient comfort without compromising prompt recovery
- Perform or refer osteopathic manipulative treatment that is patient-appropriate

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Elicit an accurate and appropriate history from a patient with the chief complaint of pain while demonstrating empathy and providing reassurance</p> <p>Determine the history of pain including character, severity, location, timing and factors which augment or alleviate pain</p> <p>Recognize characteristic pain patterns and their association with certain pathologic states</p> <p>Perform a physical examination that includes observation of general appearance, level of distress, facial expression and body carriage</p> <p>Observe, palpate and auscultate the affected area including a sensory/motor/neurovascular evaluation, if appropriate</p> <p>Appropriately use analgesic medications, including non-steroidal anti-inflammatory drugs (NSAIDs), opioids, epidural anesthesia and narcotics (transdermal, oral, intramuscular and intravenous routes); understanding their mechanism of action and side effect profile</p> <p>Correctly use patient-controlled analgesia (PCA) including medications used, physician order examples and potential problems of PCA use</p> <p>Technical</p>	<p>Cognitive Recognize the impact of acute pain as well as underlying chronic pain disorders</p> <p>Develop plans for pain management, utilizing an understanding of the interconnection of the mind, body and spirit</p> <p>Effectively communicate pain management plans with patients and their families</p> <p>Perform osteopathic manipulation (OM) or refer patients to an OM specialist for the treatment of pain</p> <p>Technical</p>	<p>Cognitive</p> <p>Technical</p>

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Clinical Sciences:

Shock

Developed by:

Lana G. Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the pathophysiology of shock including effects on oxygen delivery and tissue ischemia
- Recognize shock, based on history and physical exam
- Maintain current certification in advanced cardiac life support (ACLS)

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Perform a history and physical exam to identify and classify shock
- Understand principles of resuscitative therapy
- Understand principles and application of hemodynamic monitoring
- Understand principles of pharmacologic treatment of shock
- Recognize the importance of treatment protocols and goal-directed therapy in the management of a patient with shock

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Understand the etiology of the four types of shock: hypovolemic, cardiogenic, neurogenic, and septic</p> <p>Use history and physical exam data to accurately identify and classify the phases of shock in a patient</p> <p>Utilize crystalloid and colloid appropriately in the resuscitative process</p> <p>Identify appropriate pharmacologic therapy of shock</p> <p>Utilize hemodynamic parameters to guide diagnosis and treatment of shock</p> <p>Evaluate the effects of vasoactive medications and identify indications for their use</p> <p>Identify indications for invasive hemodynamic monitoring and complications associated with invasive monitoring</p> <p>Identify surgically treatable causes of shock</p> <p>Technical Perform central venous catheterization</p> <p>Perform arterial line placement</p> <p>Perform pulmonary artery catheter placement</p> <p>Perform intubation</p>	<p>Cognitive Recognize criteria that predict recovery or death in the initial evaluation of shock</p> <p>Technical Perform needle decompression of a tension pneumothorax</p> <p>Perform tube thoracostomy</p> <p>Perform pericardiocentesis</p>	

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Clinical Sciences: Surgical Infections
Developed by: Wayne Wolf, D.O.; Marc Rosen, D.O.

Resident Competencies
Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites
Prior to entering a surgical residency, the resident should:
<ul style="list-style-type: none">• Recognize normal flora and organisms that commonly cause infections in the context of a specific body organ• Describe the body's natural defense against infection and response to infection• Understand pharmacology pertaining to anti-microbial therapy• Understand sterile technique

Learning Outcomes
Upon completion of the general surgery residency, the resident will:
<ul style="list-style-type: none">• Diagnose and manage perioperative infectious processes• Understand the effects of antimicrobial agents (antibiotics, antiviral, antifungal)• Select the appropriate antimicrobial agent for a surgical infection based on evidence, cost and population• Initiate preventive measures for infections• Perform sterile surgical techniques• Evaluate and treat sepsis• Understand the societal implications and individual outcomes of nosocomial infections

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Identify signs and symptoms of wound infections</p> <p>Recognize and treat abscesses</p> <p>Understand image guided modalities used for percutaneous drainage and their limitations</p> <p>Prevent and manage nosocomial infections in the perioperative period, including infections of the urinary tract, surgical wounds, lungs and blood as well as line infections</p> <p>Identify patient factors that increase risk for infection</p> <p>Understand surgeon factors that contribute to increased infection rate</p> <p>Technical Perform sterile gloving and gowning</p> <p>Perform sterile prepping and draping</p> <p>Collect a sample of a surgical wound for culture and sensitivity</p>	<p>Cognitive Understand differences in radiologic tests to aid diagnosis</p> <p>Choose appropriate treatment for an infection of various body organs based on evidence</p> <p>Identify allergies and side effects of antibiotics</p> <p>Prescribe antimicrobials in a cost-effective manner</p> <p>Understand patterns in antimicrobial sensitivity and resistance related to characteristics of local and national populations</p> <p>Prevent and manage infections associated with prosthetic valves, grafts and meshes</p> <p>Conduct the work up of a postoperative fever</p> <p>Discuss the proper use of drains in preventing and managing postoperative infections</p> <p>Technical Conduct drainage of infection</p> <p>Perform debridement of wounds</p>	<p>Cognitive Select appropriate antibiotics for preoperative prophylaxis in elective procedures and trauma</p> <p>Identify degrees of contamination in wounds and manage them appropriately</p> <p>Select wound closure, drains, and antibiotics for elective procedures and trauma</p> <p>Technical Control contamination of surgical wounds</p>

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

**Clinical Sciences:
Incisions, Sutures, and
Wound Healing**

Developed by:
Lana G. Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the anatomy and physiology of skin and soft tissue structures
- Understand cellular physiology of wound healing

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Place and perform surgical incisions and excisions upon the skin in a manner that maximizes cosmesis, promotes good healing and maintains normal function
- Utilize different surgical techniques for incisions as well as closing in routine and complex wounds
- Evaluate and treat patients with wound complications
- Identify factors related to wound healing
- Understand wound contamination and its relationship to complications and healing
- Understand the importance of wound tension as it relates to location, direction, and closure of incisions

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Understand the phases of wound healing</p> <p>List factors that promote and impair normal wound healing</p> <p>Describe the mechanisms of scarring and wound healing</p> <p>Classify surgical wounds based on type of procedure and amount of contamination</p> <p>Recognize and manage the following wound complications: seroma, hematoma, abscess, dehiscence, evisceration, hernia</p> <p>Manage an open wound</p> <p>Manage chronic wounds using a multidisciplinary approach</p> <p>Identify pre- and postoperative treatment of surgical wounds that will minimize complications or enhance wound healing</p> <p>Understand osteopathic techniques that can provide appropriate treatment while minimizing traumatic tension on healing surgical incisions</p> <p>Technical Perform intradermal skin test as a predictor of allergy to sutures</p> <p>Perform tissue handling with the appropriate instruments</p> <p>Close wounds using the appropriate primary method</p> <p>Choose an incision and method of closure appropriate to various surgical procedures</p> <p>Choose appropriate suture materials and needles for wound closure</p> <p>Debride a wound</p>	<p>Cognitive</p> <p>Technical</p>	<p>Cognitive</p> <p>Technical</p>

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery: Associated Specialties



Development of professional collaboration is an important component of surgical training. When considering the broad realm of patient care, both within and outside the operating room, the surgeon must understand and be able to use specific concepts and skills related to associated specialties including hematology, oncology, radiology, neurology, anesthesiology, infectious diseases, and internal medicine.

Integration of the associated specialties by the surgical resident into all aspects of practice will enhance his or her ability to appropriately diagnose, organize a management plan, perform necessary surgical procedures, and care for the postoperative surgical patient in the short and long term. Surgical residents learn associated specialty concepts and skills on all clinical rotations and in didactic settings. Knowledge and skills are assessed informally and on a daily basis by faculty and attending surgeons as well as formally on the annual American College of Osteopathic Surgeons (ACOS) General Surgery In-Service Examination. Since these associated specialties are part of a core curriculum related to each and every principal surgical area, they are grouped together and not repeated in separate surgical areas.

**American College of Osteopathic Surgeons
General Surgery Residency**

Associated Specialties:
Anesthesiology

Developed by:
Harold Schreiber, D.O.; Lori
Chapleskie, D.O.; Lana G. Nelson,
D.O.; Marc Rosen, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the different modalities of anesthesia and pain management
- Perform a preoperative anesthesia evaluation and physical examination
- Appreciate patient risk factors for anesthesia and be able to stratify preoperative patients according to these factors
- Predict how certain disease processes affect anesthetic choices in the preoperative patient
- Understand local anesthetic agents and their pharmacology
- Interpret electrocardiogram (ECG) information, including recognition of arrhythmias and acute changes

Learning Outcomes

Upon completion of the general surgical residency, the resident will:

- Understand the mechanism of action of general and local anesthetic agents and their physiologic effects, half-life and toxicity levels
- Use appropriate regional anesthetic techniques and knowledge of agent indications and contraindications
- Understand considerations for anesthesia in special patient subsets such as the pediatric, geriatric and gravid populations
- Understand the role of the anesthesiologist to achieve, maintain, and reverse levels of anesthesia and analgesia during surgical procedures while providing sufficient analgesia to minimize postoperative pain.
- Manage the appropriate use of hemodynamic monitoring in the critical care setting
- Manage patients in the recovery room during the immediate postoperative period
- Respect the consequences of anesthetic agents on the perioperative patient as well as anticipate the effect of anesthetic agents on coexistent medical conditions
- Perform or refer osteopathic manipulative treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevention of postoperative complications

	Perform orotracheal and nasotracheal intubation	
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Associated Specialties:

Hematology

Developed by:

Lilibeth Sanchez-Geswaldo, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the fundamental components of hematopoiesis, including the development of lymphocytes and hematopoietic cells from multipotent cells
- Understand the structure, function, production, and degradation of hemoglobin
- Understand the structure, function, lifespan, metabolic activity, and degradation of red blood cells (RBCs)
- Compare the common congenital and acquired anemias, such as those associated with decreased RBC production and excessive RBC destruction, including hemoglobinopathies
- Understand polycythemia and implications for surgical patients

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the physiology of hematopoiesis and the cellular constituents of blood
- Predict how common hematologic disorders affect the surgical patient
- Describe the normal and abnormal mechanisms of hemostasis, coagulation, and fibrinolysis
- Diagnose hypercoagulable states and their implications for care of surgical patients
- Evaluate the indications and potential complications of transfusion therapy

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive</p> <p>Understand the fundamental roles of granulocytes (polymorphonuclear leukocytes [PMNs], basophils, eosinophils), lymphocytes and monocytes in inflammation, immune response, and infection</p> <p>Understand platelet production and physiology related to common problems such as autoimmune thrombocytopenia (ITP)</p> <p>Understand the phases of normal hemostasis, including primary hemostasis (vasoconstriction and platelet aggregation/activation) and secondary hemostasis (activation of the coagulation cascade and formation of a fibrin clot)</p> <p>Evaluate the effect of common drugs on hemostasis</p> <p>Categorize the fundamental cellular and molecular events involved in platelet activation</p> <p>Identify the endogenous pro-coagulants and anticoagulants in blood</p> <p>Diagram the intrinsic, extrinsic, and common coagulation pathways and their sites of activation</p> <p>Explain the delicate interaction of forces in control of coagulation: blood flow, endothelium, thrombomodulin, fibrinolysis</p> <p>Select the appropriate method(s) of testing coagulation and hemostasis, including partial-thromboplastin time (PTT), prothrombin time (PT), thrombin time, bleeding time and platelet aggregation studies</p> <p>Indicate the mode of action and site of action for common drugs affecting blood clotting, including heparin, coumadin, aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs)</p> <p>Identify congenital coagulopathies and summarize considerations made in the diagnosis and management of patients with these disorders undergoing elective surgery</p> <p>Understand the pathophysiology of coagulation and manage common acquired disorders (coagulopathies) associated with stress, trauma, surgery, and co-morbid disease, including disseminated intravascular coagulation (DIC), dilutional thrombocytopenia, mechanical circulation, vitamin K deficiency, uremia, liver failure and hypothermia</p>		

<p>Differentiate among the features, diagnosis, and management of hypercoagulable states, including Protein C deficiency, Protein S deficiency, Antithrombin III deficiency, Antiplatelet antibody production and Factor V Leiden</p> <p>Understanding the implications and complications, prescribe pharmacologic therapy to modify hemostasis, including agents which affect platelet function, heparin, coumarin-type drugs, hirudin, epsilon aminocaproic acid and other antifibrinolytic agents</p> <p>Select methods to reverse or modify the activities of heparin and coumarin-type drugs</p> <p>Manage the anticoagulated patient referred for elective surgery</p> <p>Understand the preparation, handling, and use of additives for blood components, including RBCs, platelets (PLTs), fresh frozen plasma (FFP), cryoprecipitate, granulocytes and factor concentrates</p> <p>Understand the elements of informed consent for blood transfusion</p> <p>Understand the clinical and economic rationale for blood component transfusion therapy</p> <p>Understand factors that influence the decision to transfuse</p> <p>Explain the principles of blood typing and transfusion therapy, including indications and complications of:</p> <ul style="list-style-type: none"> • Major and minor blood group antigens and their laboratory evaluation • Blood components and indications for transfusion • Risks of transfusion, diagnosis and therapy of transfusion complications • Indications for and methods of autotransfusion and autologous blood donation • Complications resulting from blood transfusion, including relative risk of viral infections <p>Understand the significance of major and minor blood group antigens and auto-antibodies in blood screening, typing, and compatibility testing</p> <p>Identify the cardinal features, diagnose and manage febrile, allergic and hemolytic transfusion reactions</p> <p>Assess the incidence and risk of transfusion-related infections such as Acquired Immune Deficiency Syndrome (AIDS), cytomegalovirus (CMV) and hepatitis</p> <p>Understand the methods, indications, and benefits of autologous blood donation</p> <p>Use erythropoietin, granulocyte-colony stimulating factor and similar</p>		
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<p>agents as appropriate to treat the surgical patient with co-morbid disease Understand the mechanics, application, and limitations of intra-operative autotransfusion</p> <p>Discuss with patients and their families the risks, benefits, and alternatives to blood component transfusion</p> <p>Devise a cost-effective strategy for preoperative patients at risk for abnormal bleeding based on history of bleeding, diathesis, magnitude of surgery and potential for vascular involvement</p> <p>Evaluate patients with known hematologic disorders</p> <p>Identify patients at risk for developing deep venous thrombosis (DVT) and prophylax against DVT, using pharmacologic and mechanical methods</p> <p>Identify the indications for Desmopressin (DDAVP) in patients with coagulation disorders</p> <p>Recognize changes in the hematopoietic and coagulation systems associated with aging</p> <p>Recognize chronic diseases that influence the hematopoietic or coagulation systems that are prevalent in elderly patients</p> <p>List common drugs prescribed to elderly patients which are prone to alter hematopoietic reserve or coagulation</p> <p>Manage patients on chronic anticoagulation therapy who require elective surgery</p> <p>Technical Surgically manage patients who have hemoglobin S disease (sickle cell disease) and related disorders</p> <p>Recommend and perform preoperative, intra-operative, and postoperative interventions to minimize morbidity in patients with hematologic disorders</p> <p>Diagnose and definitively treat unexpected intra- and post- operative hemorrhage</p> <p>Assess risks and perform vascular access procedures in patients with anemic, neutropenic, and coagulopathic disorders</p> <p>Participate in the surgical care of patients undergoing splenectomy, liver biopsy, and nodal staging for hematologic disease</p>		
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

Associated Specialties:

Imaging

Developed by:

Lori Chapleskie, D.O.; Lana G. Nelson, D.O.; Marc Rosen, D.O.; Steven Small, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Relate basic anatomy to what is seen on imaging studies
- Understand indications for plain films, ultrasound, computerized tomography (CT), contrast studies, positron-emission tomography (PET) scans and magnetic resonance imaging (MRI)
- Comprehend the value of *gold standard* studies
- Appreciate the appearance of tissue, fluid, air and bone and understand the value of Hounsfield units in differentiating different anatomic tissues
- Understand the basics of MRI and PET scans as well as their appropriate use as a diagnostic and cost-effective modality

Learning Outcomes

Upon completion of a surgical residency, the resident will:

- Recognize and utilize imaging studies to aid in the diagnosis of common surgical diseases
- Understand and appropriately order the imaging modalities available for therapeutic treatment
- Utilize ultrasound to assist evaluation of the trauma patient
- Assess and interpret ultrasound, plain films and CT scans in the evaluation of pathologic conditions of the chest and abdomen

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Select an appropriate imaging test to evaluate the surgical patient based on sensitivity and specificity of the imaging modality, ease of administration, available resources, time and cost efficiency</p> <p>Understand and interpret radiographic examinations (including plain films, fluoroscopy, CT, MRI, PET scan, ultrasound, nuclear medicine) of the following systems and their associated disease processes:</p> <ul style="list-style-type: none"> • abdominal viscera, e.g., appendicitis, cholecystitis, perforated viscus • vascular system • chest, e.g., pneumothorax and pleural effusion • genitourinary system • head and neck <p>Utilize radionuclide scanning in diagnosing pathology of the adrenal glands, biliary tree, vascular anatomy, gastrointestinal system, liver, thyroid gland, and infectious processes</p> <p>Understand imaging contrast agents, their associated toxicities as well as the prevention and treatment of these toxicities</p>	<p>Cognitive Select and interpret plain films, ultrasound, and CT scan in the acute care of the trauma patient</p> <p>Technical Perform a focused abdominal sonographic test (FAST) to evaluate the trauma patient</p> <p>Perform diagnostic evaluation of cystic and solid abnormalities of the thyroid and breast</p> <p>Perform ultrasound guided vascular access</p>	<p>Cognitive</p>

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

**Associated Specialties:
Infectious Diseases**

Developed by:
Marc Rosen, D.O.; Wayne Wolf, D.O.;
William Henwood, D.O., FACOS

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the microbiology of bacteria, parasites, viruses and fungi
- Predict probable organisms of infection based on tissue and system
- Recognize presentation, differentially diagnose and understand treatment options of infectious diseases
- Understand the pharmacology of antimicrobials (antibiotics, antiparasitics, antivirals, and antifungals): how and where they work and why, effectiveness, tissue concentrations and current theories of development of resistance
- Be able to identify allergies and side effects to antimicrobials

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand how an existing infectious disease complicates surgery and recovery
- Use techniques for preventing a pre-existing disease from infecting the surgeon and staff
- Understand the epidemiology related to infectious diseases
- Work with a multidisciplinary team including public health scientists and practitioners, pharmacists and microbiologists
- Utilize new regimens to prevent and possibly treat resistant organisms
- Use best practices to prevent and treat ventilatory-associated infections including fungi and central venous catheter infections

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Recognize normal flora and organisms that commonly cause infections in the context of specific body organs</p> <p>Understand infectious conditions that may affect the outcomes of a surgical procedure:</p> <ul style="list-style-type: none"> • Tuberculosis (TB) • Human Immunodeficiency Virus (HIV) Acquired Immunodeficiency Syndrome (AIDS) • Necrotizing Bacteria • Parasites • Epstein Barr/ Mononucleosis • Urinary Tract Infections (UTI) • Respiratory Tract Infections • Hepatitis • Organisms with anti-microbial resistance <p>Select appropriate antibiotics for preoperative prophylaxis in elective procedures and trauma</p> <p>Select radiologic tests to aid in diagnosis of infectious diseases</p> <p>Predict the effects of antimicrobial agents (antibiotics, antiparasitic, antiviral, antifungal) chosen for different infections taking into account cost, population, and evidence</p> <p>Prevent infection to the resident or member of the surgical team by initiating treatment in the event of an accidental injury from a needle or instrument</p> <p>Technical Handle instrument and tissue safely to prevent infection of the surgeon and staff</p> <p>Understand universal precautions for insertion of lines</p>	<p>Cognitive Establish isolation precautions for patients whose infectious disease impacts the hospital environment</p> <p>Tailor treatment of infectious diseases to the individual patient</p> <p>Use appropriate antibiotics based on the antibiogram</p> <p>Select regimens to prevent and possibly treat resistant organisms such as:</p> <ul style="list-style-type: none"> • Clostridium difficile • Methicillin Resistant Staphylococcus Aureus (MSRA) • Vancomycin Resistant Staphylococcus Aureus (VSRA) • Cephalosporin Resistant Enterobacter • Acinetobacter <p>Initiate preventive measures for nosocomial infections</p> <p>Evaluate and treat sepsis</p>	<p>Cognitive Educate staff regarding the management of nosocomial infections</p> <p>Treat nosocomial infections with attention to individual outcomes</p> <p>Employ American Heart Association prophylaxis procedures</p> <p>Understand time interval for the treatment of:</p> <ul style="list-style-type: none"> • Developing infections (e.g. Clostridium) • Abscesses <p>Apply osteopathic manipulative therapy to increase response of antibiotic treatment of infections</p>

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

**Associated Specialties:
Internal Medicine**

Developed by:
Marc Rosen, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the physiology of diabetes mellitus, coronary heart disease, aortic stenosis, hypertension, chronic obstructive pulmonary disease, renal failure, liver failure, cerebral vascular accident, adrenal insufficiency
- Conduct a history and physical examination and recognize signs and symptoms for these disorders
- Order and interpret laboratory examinations focused on these disorders

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand co-morbid conditions and the complications that have implications for pre- and postoperative care
- Appropriately order basic function tests and interpret the results
- Understand epidemiology and genetics related to both internal medicine surgeries and co-morbid conditions
- Assess and advise patients regarding operative risk
- Coordinate a multidisciplinary team for the pre- and postoperative care of patients with co-morbid medical conditions
- Prepare for surgery those patients who have co-morbid disease states
- Use osteopathic principles and techniques to control body functions that improve surgical success

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive</p> <p>Adjust medications of patients with co-morbid conditions prior to surgery</p> <p>Counsel patients and their families of their prognosis related to internal medicine conditions</p> <p>Encourage lifestyle modification to improve healthcare outcomes, e.g., smoking cessation, regular exercise, weight control</p> <p>Advise patients of the benefit of using relaxation techniques, self-hypnosis and cognitive reframing in preparation for surgery</p> <p>Perform or refer osteopathic manipulative therapy in pre- and postoperative settings, which would be beneficial to patients' co-morbid conditions</p> <p>Apply a cardiac risk index as part of the comprehensive preoperative assessment</p> <p>Identify signs and symptoms of renal insufficiency, liver insufficiency or neurologic impairment by clinical and laboratory examinations and treat accordingly</p> <p>Manage postoperative hypertension and hypotension, hyperglycemia and hypoglycemia</p> <p>Communicate effectively with internal medicine health care professionals to optimize patient care</p> <p>Technical</p> <p>Interpret electrocardiograms (ECGs)</p> <p>Interpret chest X-Rays</p> <p>Interpret pulmonary function tests</p>		

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

Associated Specialties:
Neurology

Developed by:
Harold Schreiber, D.O. FCOFP;
Lori Chapleskie, D.O.; Lana G.
Nelson, D.O.; Marc Rosen, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Describe the anatomy of the scalp, skull and brain
- Understand the location and function of the different centers of the brain
- Perform a neurological examination including cranial nerve as well as motor and sensory evaluation
- Appreciate patient risk factors for perioperative neurologic complications and the ways to minimize these risks

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Complete neurological evaluations of patients who are ill or who have head-injuries
- Recognize the presence of a neurological deficit and order appropriate tests and diagnostic studies to aid in diagnosis
- Recognize perioperative risks for neurological events and plan strategies to minimize those risks in the surgical patient
- Recognize and understand the treatment of lesions of the spinal cord and brain, including neoplasms and infections
- Participate in the multidisciplinary care of patients with a head-injuries including observation, appropriate diagnostic studies and supportive therapy
- Understand how certain neurological disease processes affect surgical outcomes

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Perform an accurate, appropriate and professional history and physical exam on a patient with a suspected neurological event:</p> <ul style="list-style-type: none"> • Determine onset, duration, quality and extent of symptoms and deficits • Assess pertinent medical history and risk factors • Observe general appearance, obvious paralysis or weakness and facial expression or droop • Examine cranial nerve, motor, and sensory function using appropriate maneuvers <p>Recognize the warning signs of impending neurological events</p> <p>Counsel patients and their families regarding the risks of perioperative neurological events</p> <p>Describe the neurological presentation caused by neoplasms of the brain and spinal cord</p> <p>Understand the neurological presentation caused by vascular diseases of the neurological system, including congenital lesions, infections and diskitis</p> <p>Communicate effectively with neurological health care professionals to optimize patient care</p> <p>Refer patients appropriately for rehabilitation following neurological events</p> <p>Communicate with patients showing sensitivity to their neurological impairment</p>	<p>Cognitive Recognize intracranial hemorrhage on both physical exam and diagnostic evaluations</p> <p>Differentiate between extra and subdural hematoma utilizing physical exam and diagnostic studies</p>	<p>Cognitive Evaluate the indications for ventricular shunt placement, ventriculostomy and intracranial pressure monitoring</p> <p>Evaluate the indications for spinal cord and nerve decompression</p> <p>Recognize and treat extra and subdural hematoma and depressed skull fractures</p>

Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Associated Specialties:

Oncology

Developed by:

Lilibeth Sanchez-Geswaldo, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Prerequisites

Prior to entering a surgical residency, the resident should:

- Analyze frequency/death rates of the top five benign and malignant neoplasms in men, women, and children in the United States
- Analyze trends of increasing, decreasing, and high incidence for certain solid neoplasms
- Understand current theories of carcinogenesis
- Summarize the tenets of tumor biology, including the biochemical events of invasion and metastasis; describe the natural history of these lesions
- Describe the characteristics of the various staging systems and explain their use in evaluating malignant neoplasms

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the biology, pathology, diagnosis, treatment, and prognosis of neoplastic diseases
- Critically appraise prior research milestones, current research efforts, and cancer research methodology
- Diagnose, prepare, treat operatively, and manage the patient with cancer, including long-term follow-up or palliative care
- Design appropriate nutritional support programs for cancer patients
- Evaluate surgical options of therapeutic and palliative care for cancer patients
- Coordinate the network of community resources available to patients at end of life based on the function of each resource
- Analyze the economic and psychosocial issues associated with malignant disease, and how they affect the management of patients with cancer
- Apply osteopathic principles and practices in the care of patients with cancer

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Describe the mechanisms of cellular apoptosis and the potential feasibility for therapeutic applications</p> <p>Identify genetic factors associated with neoplastic disease in regard to known proto-oncogenes</p> <p>Understand the rationale for the use of heat shock proteins in conjunction with immunology</p> <p>Understand the biologic rationale, mechanisms, and current status of gene therapy for malignancy</p> <p>Counsel patients and families regarding current techniques of genetic screening for cancer</p> <p>Critically appraise the current predominant investigative work in cancer immunotherapy</p> <p>Outline the appropriate use of tumor markers, tumor excretory metabolites, and diagnostic cytologic techniques</p> <p>Identify the enzymatic determinants of prognosis for epithelial derived cancers and their biologic sources</p>	<p>Cognitive Compare the diagnostic features of benign versus malignant neoplasms (gross and microscopic)</p> <p>Understand the implications of the heterogeneous cellular makeup of most solid neoplasms and predict clinical behavior and response to adjuvant treatment</p> <p>Predict patterns of presentation of malignant neoplasms</p> <p>Utilize endoscopic techniques based on traditional surgical principles for the treatment of malignant diseases</p> <p>Formulate therapeutic plans for curative versus palliative treatment</p> <p>Plan postoperative pharmacologic support based on the indications for and actions of each medication</p> <p>Create a nutritional plan for patients with cancer, understanding how it differs from those recommended for a patient in good health</p> <p>Plan the medical preparation of patients for cancer surgery to include the correction of metabolic and nutritional deficits</p>	<p>Cognitive Screen for common malignancies</p> <p>Recognize typical presentations and clinical manifestations of neoplasms</p> <p>Understand the stimuli for and the biologic events in angiogenesis and the potential therapeutic implications</p> <p>Critically appraise current research on tumor suppressive genes and the implications of mutations</p> <p>Stage specific neoplasms both clinically and pathologically, including the tumor, nodes, and metastasis system (TNM)</p> <p>Relate tumor staging to prognosis</p> <p>Identify the differences in presentation, treatment, and outcomes for malignancy in the geriatric population</p> <p>Compare the prognosis/outcome of each applicable treatment modality for patients with tumors within the scope of general surgery</p> <p>Apply post-treatment screening/surveillance for common malignancies</p> <p>Predict tumor recurrence after local resection of a</p>

<p>Perform a complete history and physical examination on patients with cancer Understand the ethics of cancer management with special attention to problems of the elderly</p> <p>Plan the work of the service/office with attention to cost containment and conservation of inpatient resources</p> <p>Identify available social service and community agency resources</p> <ul style="list-style-type: none"> • Rehabilitation • Home care resources • Patient support groups • Family support groups • Enterostomal therapy <p>Record clinical and pathological correlations by presenting the clinical picture and operative findings on each assigned cancer patient</p> <p>Formulate an appropriate differential cancer diagnosis, and record an independent, written diagnosis for each cancer patient assigned</p> <p>Submit proper clinical and demographical data to the appropriate tumor registry database</p> <p>Perform nutritional assessments for patients with cancer</p>	<p>Evaluate the surgical options, risks and complications for venous access and oncologic care</p> <p>Anticipate the need in elderly patients for postoperative urinary tract decompression, nutritional support and thromboembolism prophylaxis</p> <p>Understand the fundamental principles of radiation oncology and detail its application as a primary therapy for the treatment of selected benign and malignant lesions</p> <p>Participate in a multidisciplinary tumor board</p>	<p>primary lesion of the breast and colon with regard to survival Identify margins of resection and how this relates to local recurrence</p> <p>Evaluate the indications and appropriate modalities for adjuvant therapy within the scope of general surgery, including chemotherapy, radiation therapy, immunotherapy and gene therapy</p> <p>Understand the rationale and methodology employed in lymphatic mapping and sentinel node biopsies along with the expected level of positive findings</p> <p>Evaluate the criteria and necessary procedures for intra-operative monitoring of cardiovascular and pulmonary functions of the cancer patient</p> <p>Prepare and defend the preoperative assessment plan for the elderly patient in preparation for: gastric resection, colon resection, pancreatic resection (Whipple Procedure), mastectomy</p> <p>Indicate the potential alterations in pulmonary function in the elderly patient which may affect preoperative preparation and postoperative management</p> <p>Implement plans for palliative or therapeutic treatment</p> <p>Analyze and explain the rationale for combined adjuvant modalities in the prevention and treatment of cancer recurrence</p>
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<p>Interpret frozen section slides with supervision</p> <p>Perform or refer patients for osteopathic manipulative therapy appropriate to the condition of the patient with cancer, pre- and postoperatively</p> <p>Manage colostomies and ileostomies</p> <p>Technical Cut en bloc gross surgical specimens</p>	<p>Technical</p>	<p>Outline the indications for and initiate requests for appropriate consultation</p> <p>Manage the psychosocial aspects of care of patients with neoplastic disease</p> <p>Technical Use and interpret operative and endoscopic ultrasonography</p> <p>Use laser therapy, photodynamic therapy, and cryotherapy, observing proper precautions</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

**Associated Specialties:
Osteopathic Manipulative
Medicine**

Developed by:
India Broyles, EdD; Boyd Buser, D.O.,
FACOFP; Michael H. Whitworth,
D.O., FACOS; Harold Schreiber,
D.O., FACOFP

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge
Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Surgery is a significant trauma to the body. Osteopathic Manipulative Medicine (OMM) remains an important asset for the osteopathic surgeon as it serves to facilitate postoperative recovery, thereby shortening hospital stays, and attracting patients into our care. As an osteopathic physician, the surgeon gives proper preparation of the patient in mind, body and spirit. Just as the surgeon uses a variety of preoperative testing tools from associated specialties such as radiology and hematology, the surgeon uses osteopathic manipulative treatment (OMT) as a preoperative testing tool. Just as the surgeon determines the appropriate use of preoperative medications, the surgeon also determines the appropriate use of specific OMT to prepare the patient for surgery. The osteopathic surgeon combines hands-on care with other technologies for the postoperative care of a surgery patient as well.

The role of OMT in the care of surgical patients is detailed in this document and is integrated into each of the principal surgical areas.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Conduct an integrated physical and structural exam that includes analysis of viscero-somatic relationships
- Evaluate a patient for structural asymmetries and tissue texture abnormalities
- Test for alterations of motion and identify abnormalities
- Understand the balance between the sympathetic and parasympathetic nervous systems
- Understand how OMT can assist pulmonary function and return of bowel activity postoperatively
- Interpret structural findings in context of osteopathic principles and practices (OPP)
- Analyze whether an osteopathic manipulative treatment is applicable to the patient's condition

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Approach the patient with recognition of the entire clinical context including mind-body and psychosocial interrelationships
- Understand the influence of the physical and social environment on the health of individuals, families and communities
- Conduct a history and perform a physical examination based on OPP
- Perform or refer a surgical patient for pre- and postoperative OMT
- Communicate effectively with patients and families regarding OMM principles and the use of OMT in relation to their disease process and its treatment options
- Collaborate with OMM specialists for pre- and postoperative patient care
- Value OMM as a way to improve the overall anatomic and physiologic functioning of the patient in anticipation of surgery and in surgical recovery
- Use proper operating surgeon's posture to prevent musculoskeletal dysfunction, short and long term
- Analyze and review research on OMM to establish practice guidelines related to the use of OMT in surgical patient care
- Evaluate and explain the medical evidence in osteopathic manipulative medicine

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Recognize and treat each patient as a whole person, integrating body, mind and spirit</p> <p>Enhance patient care by promoting self-care competence</p> <p>Honor individual and community values, beliefs, abilities, and preferences</p> <p>Perform an integrated history and physical exam, through inspection, auscultation, palpation, and percussion</p> <p>Add to diagnosis using osteopathic techniques to assess tenderness, asymmetry, restricted motion, and texture</p> <p>Perform a structural examination; diagnose through palpation of the spine noting spinal curvatures, posture and positioning</p> <p>Identify the association between organ systems and structural findings</p> <p>Understand how structure can affect fluid in low-pressure systems (venous and lymphatic)</p> <p>Identify common and referred pain patterns and plan for OMT</p>	<p>Cognitive Model and use proper posture by surgeon in the operating room (OR)</p> <p>Determine appropriate OMT to match characteristics at each stage of the postoperative and convalescent period</p> <p>Perform or refer for treatment using a cranial-based decompression and release in the postsurgical patient where appropriate</p> <p>Select OMT such as lumbosacral pelvic soft-tissue therapy /articulation and/or lumbosacral pelvic decompression and release for problems that compromise the normal physiologic function of pelvis</p> <p>Select OMT such as thoracic diaphragm soft-tissue therapy and myofascial release to improve physiologic functioning, especially for the patient experiencing respiratory distress or the patient who is on a ventilator</p> <p>Perform a pedal lymphatic pump procedure to encourage fluid movement</p> <p>Instruct patients and families on the use of active and passive range of motion exercise of extremities to encourage fluid movement</p> <p>Discuss and promote emotional and spiritual wellbeing of surgical patients and their families</p>	<p>Cognitive</p>

<p>as part of pain management protocol</p> <p>Describe proper and improper patient position based on anatomical and physiological conditions</p> <p>Apply or refer appropriate OMT to prepare patient to tolerate anesthesia and intubation</p> <p>Differentiate specific manipulative techniques and their appropriate use for surgical patients: thrust techniques, muscle energy techniques, soft tissue techniques, strain-counterstrain techniques, myofascial release, posture and positions, lymphatic techniques, and cranial techniques</p> <p>Explain the anticipated effect of OMM to the surgical patient</p> <p>Determine appropriate treatment for sympathetic versus parasympathetic symptoms and related treatment</p> <p>Pre-treat or refer for OMT a surgical patient with musculoskeletal pain in the body to lower the threshold of pain resulting from surgery</p> <p>Understand the use of OMT in the prevention and treatment of postoperative complications</p> <ul style="list-style-type: none"> • Pneumonia and postoperative atelectasis • Deep vein thrombosis (DVT) as well as venous and lymphatic pooling and stasis • Headache, nausea and vomiting • Urinary retention and poor renal output 	<p>Understand and apply OMT to improve breathing mechanisms (e.g., rib raising)</p>	
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery: Principal Surgical Areas**



The principal surgical areas are the heart of the surgical residency training; therefore, competence in each area is required. Residents spend much of their training on teams that are responsible for a variety of types of general surgery, rather than on rotations that are specific to one of the principal surgical areas. However, several areas such as trauma and surgical critical care have separate rotations, often at a partner institution.

All American Osteopathic Association (AOA) competencies have been integrated into each principal surgical area. Each of these areas is evaluated monthly by attending physicians and staff.

Optional surgical areas are not developed in this document and will not be tested through the American College of Osteopathic Surgeons (ACOS) General Surgery In-Service Examination.

American College of Osteopathic Surgeons General Surgery Residency

Principal Surgical Areas: Breast
Developed by: India Broyles, EdD.; Adam Smith, D.O., FACOS; Lana G. Nelson, D.O.; Marc Rosen, D.O.; Lori Chapleskie, D.O.

Resident Competencies Osteopathic Principles and Practices Medical Knowledge Patient Care Interpersonal and Communication Skills Professionalism Practice-Based Learning and Improvement Systems-Based Practice
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Rationale Diseases of the breast constitute a major portion of a general surgical practice, reportedly as high as 14% of the core operations of a general surgeon. General surgeons offer a full spectrum of surgical treatment options. Breast surgery should be conducted within a comprehensive and multidisciplinary approach that includes the latest understanding of breast health and training in various diagnostic and therapeutic treatments. Residents are taught to give patients who have been diagnosed with breast cancer or other breast diseases highly individualized care. It is important for senior residents to continue to participate in all levels of breast procedures. Breast cancer is the most common cancer to affect women, which accounts for 32% of the 662,800 cases of cancer and 15% of 275,000 deaths cancer. Approximately 200,000 new cases of breast cancer are diagnosed in American women each year. Fortunately, 80% of these women have relatively early stage disease, which generally responds well to treatment. In women, breast cancer incidence rates increased rapidly in the 1980s due to increased use of mammography and have increased slightly since. However, breast cancer death rates were virtually unchanged between 1930 and 1990, and have since decreased. In 2000, the CDC showed an 88% survival rate for white women; whereas, African American women had a 75% survival rate. This is due, in part, to African Americans being less likely to receive a cancer diagnosis at an early, localized stage, when treatment can improve chances of survival. Additional factors that contribute to the survival differential include unequal access to medical care and a higher prevalence of coexisting medical conditions and other risk factors. All ages and races are affected: 1 in 9 white, 1 in 11 African-American, and 1 in 20 Hispanic and Asian women will develop breast cancer during their lifetimes. A woman under the age of 40 with breast cancer does not fit the risk profile, yet they are not rare, constituting about 6% of the cases (11, 000 per year). In addition, every year in the US approximately 1,000 men will develop carcinoma of the breast. While the average age at diagnosis is around 65 years, the problem can occur in younger (or older) men. Survival rates markedly increased for cancers of the breast. Yet, breast cancer treatment varies widely across the US. With new treatment techniques and increased utilization of screening, there is hope for even greater improvements in the not-too-distant future.

Prerequisite

Prior to entering a general surgical residency, the resident should:

- Understand the normal development, anatomy and physiology of the breast
- Understand the lymphatic system for breast tissue drainage: medially, superiorly and inferiorly
- Be able to evaluate the risk factors for the development of breast cancer
- Be able to conduct a breast exam
- Be able to evaluate the treatment options of benign diseases of the breast and inflammatory diseases of the breast

Learning Outcomes

Upon completion of the general surgical residency, the resident will:

- Understand the etiology, pathophysiology, presenting symptoms, differential diagnosis and treatment options of breast diseases
- Diagnose abnormal breast conditions by history, physical examination and radiologic diagnostic procedures
- Understand the benefits of pre- and postoperative osteopathic manipulative treatment in order to normalize tissue and remove restrictions to normal function
- Perform diagnostic procedures and therapeutic surgeries for benign and malignant breast conditions
- Perform or refer osteopathic manipulative treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevention of postoperative complications
- Coordinate multidisciplinary care for benign and malignant breast conditions
- Counsel patients and families on all aspects of breast diagnosis, surgery and treatment

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive</p> <p>Perform an accurate and appropriate history and physical exam on both female and male patients with breast problems, using appropriate maneuvers such as accurate positioning of the patient and the arm and with professionalism (introductions, draping the patient, and effective communication).</p> <ul style="list-style-type: none"> • Inspection of breasts • Palpation of all quadrants • Palpation of nipple and areola • Palpation of the axillary tail • Palpation of axillary lymph nodes • Palpation of supraclavicular nodes <p>Manage the treatment of benign diseases of the breast and inflammatory diseases of the breast including fibrocystic disease, cystosarcoma phyllodes, and intraductal papilloma</p> <p>Understand the relationship of oral contraceptives and hormone replacement therapy (HRT) to breast tenderness and enlargement which can mask other breast disease</p> <p>Identify the particular characteristics of Paget's disease and its relationship to other breast disease</p> <p>Compare indications for radiologic biopsy techniques including ultrasound and stereotactic guided biopsies</p>	<p>Cognitive</p> <p>Evaluate the requirements for adequate local therapy of malignant disease</p> <p>Compare the criteria for using regional therapy including axillary dissection and sentinel node excision</p> <p>Understand the rationale for hormone therapy, cytotoxic chemotherapy, radiation therapy and bone marrow transplantation</p> <p>Understand the principles of breast cancer genetics</p> <p>Perform and/or refer patients for pre- and postoperative osteopathic treatments to reduce restrictions to blood and lymph flow to the breast, with special emphasis on potential compressions of the axillary artery</p> <p>Understand the processes of thoracic outlet syndrome that could affect blood flow to the breast</p> <p>Educate patients regarding the after effects of surgery including frozen shoulder, back problems, lymphedema, scar tissue and prescribe appropriate osteopathic manipulative treatment, occupational therapy and physical therapy</p> <p>Analyze current literature to assess design of studies for evidence of opportune timing for surgery based on patient menstrual cycle</p> <p>Evaluate patients postoperatively for tissue and</p>	<p>Cognitive</p> <p>Evaluate the breast condition and the patient's desire for breast reconstruction to determine the appropriate techniques and the choice of either immediate or delayed reconstruction</p> <p>Evaluate a patient (non-cancer) for breast augmentation or breast reduction (surgery or liposuction) including men with gynecomastia</p> <p>Identify particular conditions of subareolar breast cancer with no nipple-areolar complex (NAC) involvement</p> <p>Diagnose all benign and malignant breast disease through appropriate physical exam, fine needle aspiration and cutting needle biopsy, and appropriate radiologic testing and interpretation</p> <p>Counsel patients and families on all aspects of breast diagnosis, surgery and treatment</p> <p>Coordinate multidisciplinary care for breast cancer both operatively and non-operatively, maintaining close collaboration with mammographers, pathologists, reconstructive surgeons, oncologists, radiation oncologists, pain management specialists and behavioral</p>

<p>Evaluate an abnormal finding on physical or radiologic exam to include:</p> <ul style="list-style-type: none"> • a palpable mass • a nonpalpable mass lesion on ultrasound or mammogram • microcalcifications and other abnormalities <p>Acknowledge the unique psychosocial aspects of breast disease and breast surgery, including the relationship of body image to wellbeing</p> <p>Understand the differences in male breast pathophysiology and histology and be alert to the diagnosis of breast gynecomastia and breast cancer in men</p> <p>Identify lymphatic flow from the breast and upper extremities and perform or refer osteopathic manipulative treatment (OMT) appropriate for benign and malignant conditions</p> <p>Evaluate viscerosomatic reflexes to chest (T4,5,6) to identify somatic dysfunction</p> <p>Manage postoperative care including complications</p> <p>Educate patients for postoperative self-care, pain management, physical therapy and resumption of normal activities</p>	<p>myofascial restrictions to appropriate drainage of blood and/or lymph</p>	<p>scientists</p>
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<p>Technical</p> <p>Aspirate a breast cyst</p> <p>Perform breast biopsy by fine needle aspiration or by open biopsy with or without needle localization</p> <p>Drain an abscess</p>	<p>Technical</p> <p>Select the proper incision size of periareolar incisions as a factor in the development of hematoma, hypethesia and retractions</p> <p>Perform cutting needle biopsy and core biopsy</p> <p>Perform excision of recurring suppuration</p> <p>Perform excision of breast mass</p> <p>Perform lumpectomy</p> <p>Perform simple mastectomy and quadranectomy</p>	<p>Technical</p> <p>Perform modified radical mastectomy, standard radical mastectomy, partial mastectomy and subcutaneous mastectomy</p> <p>Perform axillary node sampling, dissection, and sentinel node excision</p> <p>Localize a non-palpable tumor and excise with surgical free margins without excessive mass of tissue</p> <p>Use radio-guided occult lesion location for resection of non-palpable breast tumors</p> <p>Collaborate with a plastic surgeon to perform removal of implants at the time of excision of a Chest Wall Recurrence (CWR) and prior to radiation therapy</p> <p>Perform subcutaneous mastectomy</p> <p>Perform breast reduction for male gynecomastia with regard for the differing gender aesthetics</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Fearing NM, Cusick TC, and Helmer SD. An evaluation of resident training in breast procedures. *American Journal of Surgery*. 2002;184: 360-371.

Kotwall C, Brinker C, Covington D, Hall T, Hamann MS, Maxwell JG, Stiles A, Weiss A. Local and national trends over a decade in the surgical treatment of ductal carcinoma in situ. *American Journal of Surgery*. 2003; 186: 723-729.

Gajdos C, Tartter PI, Bleiweiss IJ. Subareolar Breast Cancers. *American Journal of Surgery*. 2000; 180: 167-170.

Colombo-Benkman M, Buse B, Stern J and Herfarth C. *American Journal of Surgery*. 1999; 178: 60 – 63.

Hagen AA, Hrushesky WJM. Menstrual Timing of Breast Cancer Surgery. *American Journal of Surgery*. 1998; 104: 245 – 261.

Resident Assessment:

American College of Osteopathic Surgeons

General Surgery Residency

Principal Surgical Areas:

Burns

Developed by:

Stephen E. Small, D.O.; Lana Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Burn patients present across a spectrum from mild cutaneous insults to severe life-threatening injuries. The incidence of burn injuries are estimated at more than one million per year with less than five percent requiring admission to a hospital. Children less than 5 years of age are often the victims of accidental scalding while up to 20% involve abuse or neglect. Teenagers and adults are often injured with flammable liquids, commonly at work.

Fire and burn related deaths are estimated at 4,500 people per year and this number represents a 50% decline over the past three decades. The decline has been attributed to improved firefighting strategies, prevention, and educational programs. These programs have resulted in fewer patients with fewer life-threatening injuries and from improved management of the severely injured patient.

General and plastic surgeons often care acutely burned patients. These patients are often injured in ways consistent with non-burn trauma and require the same assessment as an acute trauma. Once assessed and stabilized care needs to be stratified based on the burn size, depth, and associated injury with triage to an appropriate facility.

Burn care has become increasingly complex. The surgeon needs to have an in-depth understanding of wound healing, surgical technique and wound care to manage the burned patient. The more severely burned patient requires critical care management until wound closure with unique nutritional, occupational therapy and psychosocial needs.

Burn care is a challenging and rewarding field of surgery with an overlap of many disciplines. The improved outcomes and quality of life have come about with many technical advances however it is only by a dedicated, multidisciplinary team that these and future advances can be realized.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand anatomy and physiology of skin and soft tissue structures
- Understand wound healing-see clinical science document
- Assess and manage the traumatically injured patient
- Understand the diagnosis, pathophysiology and management of shock - see clinical science document: Shock
- Understand infectious disease-specifically wound infection, sepsis and pneumonia - see associated specialty document: Infectious Diseases
- Understand and manage nutritional needs (enteral and parenteral) in a critically injured patient
- Understand pain management - see clinical science document: Pain Management

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Perform an initial assessment regarding burn depth and extent of injury in regards to total body surface area and determine the need for transfer to a burn center while initiating resuscitation
- Diagnose and manage acute life and limb threatening conditions particular to the burn patient: inhalation injury, carbon monoxide poisoning, limb and trunk constricting eschar, and compartment syndromes
- Diagnose and perform the initial management of a patient with an electrical or chemical injury
- Perform wound care and grafting
- Perform nutritional support appropriate to the patient with burns
- Perform or refer osteopathic manipulative treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevention of postoperative complications

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Determine depth of burn wound and the percent body surface area injured based on the Rule of Nines and a Lund-Browder chart</p> <p>Recognize patterns of injury consistent with abuse or neglect</p> <p>Know the American Burn Association Criteria for the transfer of patient to a burn center</p> <p>Understand the pathophysiology of burn injury and initiate fluid resuscitation with the Parkland formula</p> <p>Diagnose inhalation injury and understand the pathophysiology and management</p> <p>Diagnose carbon monoxide exposure and understand the pathophysiology and management with oxygen and hyperbaric medicine</p> <p>Understand the pathophysiology of electrical injury and the differences in resuscitation and monitoring of a thermally injured patient; differentiate low versus high voltage injury</p> <p>Understand the pathophysiology of acid and alkali injury and management</p> <p>Know the indications and adverse reactions of topical antibiotics-silver sulfadiazine, silver nitrate, sulfamylon, and silver impregnated dressings</p>	<p>Cognitive Know the indications for using cadaver allograft and xenograft dressings</p> <p>Know the indications and application of cultured epidermal autografts and dermal substitutes</p> <p>Diagnose and manage vascular/respiratory compromise from a constricting eschar and/or compartment syndrome</p> <p>Understand the differences and indications of tangential and fascial excision</p> <p>Understand the differences and indications of a split skin graft versus a full thickness skin graft</p> <p>Coordinate hospital-based care and after care with social services and mental health in cases of abuse or neglect</p>	

<p>Understand the differences between wet and dry wound healing</p> <p>Know the composition and indications of the following dressings: trancyte, biobrane, scarlet red, xeroform, tegaderm/op-site</p> <p>Calculate nutritional needs based on the Curreri formula for children and adults</p> <p>Technical</p> <p>Apply splints in positions of function</p> <p>Select and apply appropriate dressings and change dressings in the acutely injured burn patient</p> <p>Perform burn wound biopsies</p>	<p>Technical</p> <p>Perform and escharotomies and fasciotomies</p> <p>Perform techniques to minimize blood loss such as: subcutaneous epinephrine clysis, pneumatic</p>	
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	<p>tourniquets/extremity exsanguinations, topical hemostatic agents, maintaining euthermia</p> <p>Perform tangential excision with Weck/Goulian and Humby knives</p> <p>Perform fascial excision</p> <p>Perform full thickness and split thickness skin grafting</p> <p>Apply xenograft/allograft</p> <p>Apply cultured epidermal autografts</p>	
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons
General Surgery Residency

Principal Surgical Areas:

Endocrine

Developed by:

Marc Rosen, D.O.; Harold
Schreiber, D.O., FACOFP

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Endocrine surgery is a specialized field of general surgery in which surgeons with expertise in endocrine disorders diagnose and treat patients with diseases of the thyroid, parathyroid and adrenal glands, as well as hormone-secreting tumors of the pancreas and gastrointestinal tract. Endocrine disease is relatively uncommon. Within the field, thyroid tumors are the most common endocrine tumors, accounting for approximately 90% of endocrine malignancies and resulting in close to 60% of deaths related to endocrine carcinomas. The incidence of thyroid cancer in females is 5.8 per 100,000 and in males, 2.4 in 100,000 population. Endocrine surgery requires a comprehensive understanding of the embryology, local anatomy, normal physiology, and the pathology of the endocrine glands. With this knowledge, the surgeon approaches multiple endocrine neoplasias and their related genetics. Operations for endocrine disease are less than 25% of the practice of a general surgeon.

Prerequisites

Prior to entering a general surgical residency, the resident should:

- Understand the normal development, anatomy and physiology of the thyroid, parathyroid, adrenal and endocrine pancreas
- Conduct appropriate history and physical exams focused on these organs
- Order and interpret basic laboratory and radiologic examinations
- Integrate the conceptual framework of the sciences into the practice of surgery
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Learning Outcomes

Upon completion of a general surgical residency, the resident will:

- Understand the anatomy, embryology and physiology of the endocrine glands, i.e., thyroid, parathyroid, adrenals, and endocrine pancreas
- Understand the pathologic physiology of these organs, including that related to functional diseases of these organs and the overall consequences of these states
- Understand the diagnostic evaluations, medical management, and surgical procedures to treat these conditions
- Plan and execute surgical procedures to treat these conditions
- Evaluate the success of treatment, recognizing and managing the complications
- Perform or refer osteopathic manipulative treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevention of postoperative complications

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive</p> <p>Describe the pathophysiology of</p> <ul style="list-style-type: none"> • Thyroid: nodules, cancer, hyperthyroidism, thyroiditis, thyroglossal duct cysts. • Parathyroid: primary hyperparathyroid (adenoma, hyperplasia, cancer), secondary hyperparathyroid, tertiary hyperparathyroid, hypercalcemia. • Adrenal: adenoma, cancer, pheochromocytoma, hypercortisolism, hyperaldosteronism, adrenal insufficiency • Endocrine pancreas: hypoglycemia, diabetes mellitus, and functioning tumor <p>Diagnose hormonal changes through interpretation of specific laboratory tests</p> <p>Establish a differential diagnosis for hypercalcemia, hypoglycemia, hypergastrinemia, increased serum thyroxine level, decreased thyroid stimulating hormone (TSH) level, increased adrenocorticotropic hormone (ACTH) level</p> <p>Establish a differential diagnosis of thyroid nodules</p> <p>Identify neuromusculoskeletal changes that occur due to endocrine disease and perform or refer the patient for osteopathic treatment</p> <p>Manage the postoperative care of patients after thyroidectomy, parathyroidectomy, adrenalectomy</p>	<p>Cognitive</p> <p>Plan surgical approaches to right and left adrenals, head and tail of the pancreas, inferior and superior parathyroids, and retrosternal goiter</p> <p>Describe localizing procedures for parathyroids and pheochromocytomas</p> <p>Order and interpret specialized imaging studies related to endocrine disorders</p> <p>Manage the preoperative care of patients with thyroid storm, hypercalcemic crisis, Graves disease, Hashimoto’s disease, pheochromocytoma, hyperaldosteronism, hypercortisolism, insulinoma, gastrinoma, adrenal insufficiency</p> <p>Manage postoperative care of complications</p>	<p>Cognitive</p> <p>Understand Multiple Neoplasia (MEN) syndromes and their management</p> <p>Understand functional tumors of the endocrine pancreas</p>

<p>Implement the use of oral calcium and Vitamin D supplementation after total thyroidectomy</p> <p>Technical</p> <p>Perform fine needle aspiration</p> <p>Perform thyroid biopsy</p>	<p>Technical</p> <p>Identify the recurrent laryngeal nerve and superior laryngeal nerve</p> <p>Perform a neck exploration</p> <p>Perform thyroid lobectomy and subtotal thyroidectomy</p> <p>Use nuclear-guided localization for parathyroid adenoma</p> <p>Use intraoperative ultrasound</p> <p>Excise thyroglossal duct cyst</p>	<p>Technical</p> <p>Excise a lingual thyroid</p> <p>Perform a parathyroidectomy with auto-transplantation</p> <p>Perform an adrenalectomy</p> <p>Perform an enucleation of a functional</p>
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		pancreatic tumor Perform a subtotal pancreatectomy Perform a substernal thyroidectomy
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Principal Surgical Areas:

Gallbladder and Biliary Tree

Developed by:

Lana G. Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Diseases of the gallbladder constitute a large part of the general surgeon's clinical practice with laparoscopic cholecystectomy being the most commonly performed abdominal surgical procedure. The general surgeon is called upon to evaluate a wide range of gallbladder problems ranging from asymptomatic gallstones to gallstone ileus, requiring a thorough understanding of history and progression of gallbladder disease. The general surgeon takes into account the overall health and wellbeing of an individual in order to appropriately manage the patient with gallbladder problems. At times, a multidisciplinary approach is necessary to minimize morbidity and maximize successful treatment of gallbladder disease. Although less common, pathology related to the biliary tree demands a thorough knowledge of biliary anatomy and physiology. The general surgeon gives attention to potential etiologies of processes which affect the biliary tree including congenital abnormalities, neoplastic processes, iatrogenic injury, and outflow obstruction. Each individual problem requires different diagnostic and therapeutic interventions; therefore it is essential to have close working relationship with other specialists in the fields of radiology, gastroenterology, and oncology.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the anatomy of the gallbladder and biliary tree, including functions and interrelationships
- Diagnose and evaluate the signs, symptoms and physical findings in gallbladder and biliary disease
- Identify the basic laboratory tests used to evaluate gallbladder and biliary function
- Understand the different modalities used to diagnose gallbladder and biliary problems such as radiographs, ultrasound, computed tomography, magnetic resonance imaging, nuclear medicine, and endoscopic retrograde cholangiopancreatography and when they should be utilized

Learning outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the etiology, pathophysiology, presenting signs and symptoms, differential diagnosis and treatment options of gallbladder and biliary diseases
- Diagnose gallbladder and biliary diseases by history and physical examination, as well as appropriate use of laboratory and imaging studies
- Perform surgical procedures appropriate for benign and malignant disease of the gallbladder and biliary tree
- Understand the consequences of disease of the organs to the patient as a whole
- Coordinate multidisciplinary operative and non-operative care for diseases of the gallbladder and biliary tree
- Counsel patients and their families on all aspects of the diagnosis and treatment of surgical diseases of the gallbladder and biliary tree
- Perform or refer osteopathic manipulative treatment (OMT) in the pre- and postoperative period

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p><i>Cognitive</i></p> <p>Understand the normal physiology, anatomic relationships and variant anatomy of the gallbladder and biliary tree</p> <p>Analyze fundamental pathologic processes such as cholangitis, gallstone formation, cholecystitis and the overall clinical significance of these conditions</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p><i>Technical</i></p> <p>Perform any preoperative resuscitation and preparation that a patient may require prior to gallbladder or biliary surgery</p>	<p>Cognitive</p> <p>Evaluate the common and unusual pathologic problems of the gallbladder and biliary tree and their interrelationship with other organ systems</p> <p>Understand the pathogenesis of gallstones and related complications including: Mirizzi's syndrome, gallstone pancreatitis, bile duct obstruction, gallstone ileus, acute and chronic cholecystitis</p> <p>Understand the pathophysiology of stone formation as it relates to pregnancy</p> <p>Educate patients and their families of the possible risks and complications associated with gallbladder and biliary surgery, and inform them of alternative treatments</p> <p>Identify and manage early and late post-cholecystectomy problems</p> <p>Manage the postoperative care of complex biliary injuries or resections</p> <p>Manage gallbladder disease in a gravid female</p> <p><i>Technical</i></p> <p>Perform laparoscopic and open cholecystectomy and cholangiography</p>	<p>Cognitive</p> <p>Choose instrumentation and treatment modalities for major gallbladder and biliary surgery</p> <p>Understand diseases of the biliary tree including malignancies, biliary cysts, bile duct injuries, congenital anomalies, cholangitis, inflammatory biliary disorders, benign and malignant strictures</p> <p>Evaluate factors associated with poor outcomes in advanced biliary disease</p> <p>Discuss aspects of benign and malignant diseases of the gallbladder and biliary tree with patients and their families</p> <p>Collaborate with professionals in pathology, radiology, internal medicine, oncology, critical care, and behavioral sciences when necessary in the treatment of biliary diseases</p> <p>Collaboratively manage non-resectable malignancies (decompressions, diversions, and non-curative ablations)</p> <p><i>Technical</i></p> <p>Perform common bile duct exploration</p> <p>Perform major biliary reconstruction (intra- and extra-hepatic)</p>

Assist laparoscopic and open cholecystectomy and identify techniques to avoid ductal injury		
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons
General Surgery Residency

Principal Surgical Areas:
Gastrointestinal Tract

Developed by: Adam Smith, D.O.,
FACOS; Lana G. Nelson, D.O.;
Lillibeth Sanchez-Geswaldo, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Diseases and disorders of the gastrointestinal (GI) tract constitute a great portion of the general surgical practice. Surgeons must incorporate knowledge of the anatomy, physiology, pharmacology, and pathophysiology of organ systems related to the gastrointestinal system; this is then integrated to formulate a comprehensive approach to managing these disorders of the gastrointestinal tract. Further, a wide spectrum of disorders affects the gastrointestinal tract. These range from developmental anomalies to genetic disorders to diseases perpetuated by the environment. From the esophagus to the anus, the surgeon must consider anatomic variations, environmental exposures, dietary habits, familial disorders and neoplastic processes when evaluating and treating the patient with gastrointestinal complaints.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the basic anatomy and physiology of the gastrointestinal tract
- Understand the signs, symptoms and physical findings in disorders of the digestive tract
- Understand the interaction of microbiology, biochemistry, pathology, and the musculoskeletal system as it relates to the digestive tract
- Understand the primary functions of the gastrointestinal tract
- Understand screening standards for diseases of the gastrointestinal tract
- Understand the imaging modalities used to diagnose gastrointestinal diseases

Learning Outcomes

Upon completion of the general surgical residency, the resident will:

- Understand the etiology, pathophysiology, presenting signs and symptoms, differential diagnosis and treatment options of gastrointestinal diseases
- Understand anatomy, physiology, pathology, oncology, pharmacology, microbiology and immunology as it relates to the gastrointestinal tract
- Diagnose gastrointestinal diseases by history and physical examination, and appropriate use of laboratory tests and imaging studies
- Identify the consequences of disease of the gastrointestinal tract to the patient as a whole
- Coordinate multidisciplinary operative and non-operative care for benign and malignant diseases of the gastrointestinal tract
- Understand the benefits of Osteopathic Manipulative Treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevention of postoperative complications
- Counsel patients and their families on all aspects of the diagnosis and treatment of surgical diseases of the digestive tract
- Perform diagnostic and therapeutic endoscopy within the gastrointestinal system
- Perform open and laparoscopic surgical procedures on the gastrointestinal tract

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p style="text-align: center;">General Cognitive</p> <p>Understand the embryologic development of the gut including normal and abnormal rotation and formation of peritoneal attachments</p> <p>Understand the anatomy and physiology of the gastrointestinal tract including the normal anatomy and congenital and developmental anomalies</p> <p>Identify microbiologic activity both normal and pathologic that affects the GI tract</p> <p>Describe the digestive process, both normal and abnormal both from a gross and biochemical level</p> <p>Identify structural dysfunction associated with gastrointestinal disorders through history and physical exam</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p>Perform or refer patients for osteopathic manipulative treatments that are useful in stimulating peristalsis</p>	<p style="text-align: center;">General Cognitive</p> <p>Understand the pathologic conditions of the gastrointestinal tract including etiology, epidemiology, disease progression, operative and non-operative management</p> <p>Understand the endocrine and exocrine functions of the gastrointestinal tract</p> <p>Evaluate the indications, contraindications, and risks for endoscopy</p> <p>Locate and appraise current literature as it relates to the gastrointestinal tract</p> <p>Plan the appropriate use of nutritional support techniques</p> <p>Interpret laboratory, radiographic, and endoscopic tests and utilize them appropriately in the evaluation of gastrointestinal abnormalities</p> <p>Identify peritonitis; formulate an algorithm for evaluation and treatment</p> <p>Manage critically ill patients with acute gastrointestinal disorders and intervene in a timely fashion</p> <p>Evaluate the impact of weight loss surgeries on</p>	<p style="text-align: center;">General Cognitive</p> <p>Understand organ transplantation as it relates to the gastrointestinal tract</p> <p>Evaluate surgical weight loss options with their risks and complications both short and long term</p> <p>Manage complications of gastrointestinal tract surgery</p> <p>Utilize tertiary referral to social services, dietary professionals, enterostomal therapist or hospice when appropriate</p> <p>Collaborate with pathologists, radiologists, gastroenterologists, primary care specialists, medical and radiation oncologists, as well as behavioral scientist when appropriate</p> <p>Describe the use and method of placement of retention sutures</p> <p>Describe the pathophysiology and treatment of ascites in:</p> <ul style="list-style-type: none"> • Malignancy • Hepatic disease: cirrhosis, Budd Chiari Syndrome • Chylous leak • Pancreatic leak • Cardiac disease • Renal disease

<p>Identify the pharmacologic agents utilized in treating disorders of the gastrointestinal tract, mechanism of action, potential side effects and interactions</p> <p>Assess the following signs associated with the acute abdomen and describe their pathophysiology:</p> <ul style="list-style-type: none"> • Referred pain and rebound tenderness • Guarding • Rigidity <p>Specify characteristics of the history, physical examination findings, and mechanism of visceral and somatic pain for the following processes:</p> <ul style="list-style-type: none"> • Acute appendicitis • Bowel obstruction • Perforated ulcer • Ureteral colic • Diffuse peritonitis • Biliary colic <p>Explain the mechanism of referred pain in:</p> <ul style="list-style-type: none"> • Ruptured spleen • Biliary colic • Basilar pneumonia • Renal colic • Pancreatitis • Inguinal hernia <p>Discuss the following causes of paralytic ileus:</p> <ul style="list-style-type: none"> • Postoperative electrolyte imbalance • Retroperitoneal pathology • Trauma • Extraperitoneal disease (central nervous system, lung) 	<p>the gastrointestinal tract</p> <p>Select and utilize appropriate laboratory, imaging and endoscopic tools to evaluate and treat the patient with a gastrointestinal disorder</p> <p>Differentiate between the conditions favoring percutaneous drainage versus operative drainage for each of the abscesses listed above, describing the safest and most effective approach using each technique</p> <p>Explain and give examples of infections inside and outside the GI tract from esophagus to anus, including the peritoneum</p> <p>Explain and give examples of embryologic abnormalities of the GI tract, including</p> <ul style="list-style-type: none"> • Strictures • Atresias • Stenoses • Duplications • Webs • Malrotations <p>Explain and give examples of congenital and acquired abnormalities of gut motility</p> <p>Explain and give examples of neoplasia of the GI tract</p> <p>Differentiate ulceration of the proximal and distal GI tract</p>	<ul style="list-style-type: none"> • Bile leak <p>Describe the etiology, manifestations, and treatment of Desmoid tumors, rectus sheath hematoma, and retroperitoneal fibrosis</p> <p>Explain the indications for use and complications of peritoneo-venous shunts</p> <p>Establish a treatment plan for perforated infection</p> <p>Describe the clinical presentations, treatments, and prognoses of the common retroperitoneal tumors, sarcomas, and liposarcomas</p> <p>Understand endoscopic procedures for esophageal disorders with concerns for the efficacy, complications and impact on future surgery</p> <p><i>Specify the pathophysiology of multisystem problems of the gastrointestinal system, including neurohumoral and hormonal interactions</i></p>
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<p>When considering the possibility of wound complications:</p> <ul style="list-style-type: none"> • What are the risk factors for abdominal wound infection? • What are the contributing factors for abdominal wound dehiscence and evisceration? • What are the usual clinical presentations and timing? • What is the incidence of wound infection in surgeries involving the biliary tree, upper GI tract, and colon? • Which wound complications that are more problematic in the elderly patient? <p>Differentiate between the following intestinal fistulas and the organs to which they most often communicate:</p> <ul style="list-style-type: none"> • Esophageal • Gastric • Enteric (including duodenal) • Colonic <p>Explain the role of a fistulogram in the diagnosis of intra-abdominal fistulas and abscesses.</p> <p>List the factors that prevent healing of a fistula.</p> <p>Summarize the conditions favoring operative versus non-operative treatment for fistulas listed above.</p>	<p>Identify causes of GI obstruction, hemorrhage, and perforation</p> <p>Identify the causes of paralytic ileus, abdominal abscess formation or secondary peritonitis, and acute abdomen</p> <p>Explain and give examples of short gut and malabsorptive conditions</p> <p>Differentiate acute and chronic mesenteric ischemia and ischemic bowel</p> <p>Understand portal hypertension and venous thrombosis</p> <p>Explain and give examples of inflammatory bowel diseases</p> <p>Describe the management of intestinal ostomies</p> <p>Plan the surgical care of traumatic injury to abdominal viscera</p> <p>Explain the formation of fistulas in each of the following disease processes or factors:</p> <ul style="list-style-type: none"> • Operative complications (bowel injury with abscess formation) • Inflammatory bowel disease • Acute pancreatitis • Foreign body or prosthetic material • Malignancy <p>Provide follow-up care to the surgical patient in the outpatient clinic or surgical office.</p>	
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<p>Perform, record, and report a complete patient evaluation and assessment</p> <p>Evaluate, diagnose, and formulate a management plan for the acute abdomen</p> <p>Interpret the following in coordination with attending radiologists and staff:</p> <ul style="list-style-type: none"> • Acute abdominal series (identify free air, small bowel obstruction, ileus, colonic pseudo-obstruction, volvulus; the presence of ascites, atelectasis vs. pneumonia) • Upper GI series • Barium enema (identify neoplasms, signs of ischemia) • Abdominal ultrasound and computerized tomography (CT) scans • Nuclear medicine • Magnetic Resonance Image (MRI) <p>Coordinate pre- and postoperative care for the patient with the acute abdomen</p> <p>Evaluate and manage nutritional needs (enteral and parenteral) of surgical patients until normal GI function returns</p> <p style="text-align: center;"><i>General Technical</i></p> <p>Safely insert nasogastric and nasoenteric tubes</p> <p>Safely remove drainage tubes from the abdomen</p>	<p>Manage postoperative care (under the guidance of the chief resident and attending surgeon) the postoperative management of:</p> <ul style="list-style-type: none"> • Nasogastric tubes • Intestinal tubes • Intra-abdominal drains • Intestinal fistulas • Abdominal incisions (simple and complicated) <p><i>Perform or refer for OMT that will lessen abdominal gas related to gastrointestinal surgery</i></p> <p style="text-align: center;"><i>General Technical</i></p> <p>Perform upper and lower diagnostic endoscopy</p>	
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<p>Care for an ostomy appropriately</p> <p>Evaluate and institute surgical management of abdominal wound problems, including:</p> <ul style="list-style-type: none"> • Infection • Evisceration • Fasciitis • Dehiscence <p>Assist in closure of abdominal incisions exhibiting appropriate suture technique</p>	<p>Use proper tissue handling techniques and securely staple enteric anastomoses</p> <p>Institute drainage for abdominal wall fistula and protection of surrounding structures, especially skin.</p> <p>Perform diagnostic endoscopy skills including diagnostic esophagogastroduodenoscopy and Diagnostic colonoscopy</p> <p>Perform less complicated surgical procedures such as:</p> <ul style="list-style-type: none"> • Gastrostomy • Meckel's diverticulectomy • Appendectomy • Hemorrhoidectomy • Anal fissurectomy and fistulectomy • Incision and drainage of perirectal abscesses 	
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<p>Esophagus Understand the anatomical relationships of the cervical thoracic and intradominal esophagus</p> <p>Describe the patterns of lymphatic drainage of the esophagus</p> <p>Describe the motor activity of the esophagus and its upper and lower sphincters</p> <p>Understand the basic motor abnormalities of the esophagus including Zenker's diverticulum, epiphrenic diverticulum, achalasia, diffuse esophageal spasm, scleroderma, gastro-esophageal reflux</p> <p>Interpret barium swallow, upper GI series and 24 hour pH probe</p> <p>Identify risk factors for development of esophageal diseases including varices, strictures, neoplasia, cancer, motility disorders, diverticulae, gastroesophageal reflux disease, perforation</p> <p>Stomach and Duodenum Identify risk factors for the development of disorders of the stomach and duodenum including peptic ulcer disease, gastritis, gastrointestinal bleeding, neoplasia, cancer,</p>	<p>Esophagus Select and interpret tests to evaluate esophageal function (manometry and pH studies)</p> <p>Stomach and Duodenum</p>	<p><i>General Technical</i> Perform hand-sewn enteric anastomoses</p>
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<p>motility disorders and congenital anomalies</p> <p>Abdominal Wall Diagram the anatomy of the abdomen including its viscera and anatomic spaces:</p> <ul style="list-style-type: none"> • Musculoskeletal envelope • Lesser sac • Subphrenic spaces • Morrison's pouch • Foramen of Winslow • Pouch of Douglas • True pelvis • Lateral gutters • Contents of the retroperitoneum • Major lymph node groups and their drainage <p>Explain absorption and secretory functions of the peritoneal surfaces and the diaphragm</p> <p>Describe the anatomy of the omentum and its role in responding to inflammatory processes</p> <p>Small Bowel Identify risk factors for the development of disorders of the small bowel including neoplasia, cancer, motility disorders, adhesive disease, congenital anomalies, vascular</p>	<p>Perform closing/ patching procedures for acute perforation of peptic ulcers</p> <p>Perform pyloromyotomy for pyloric stenosis</p> <p>Place an open gastrostomy tube</p> <p><i>Abdominal Wall</i> Identify the anatomic locations for the following intra-abdominal abscesses; name disease process(es) associated with each:</p> <ul style="list-style-type: none"> • Left subphrenic space • Right subphrenic space • Subhepatic space • Lesser sac • Interloop • Pelvis • Left paracolic gutter • Right paracolic gutter • Psoas muscle <p>Identify the anatomic locations for the following intra-abdominal abscesses; name disease process(es) associated with each:</p> <ul style="list-style-type: none"> • Left subphrenic space • Right subphrenic space • Subhepatic space • Lesser sac • Interloop • Pelvis • Left paracolic gutter 	<p>Open and close abdominal incisions of all varieties</p> <p>Treat wound complications such as infections and evisceration</p> <p>Use retention sutures appropriately.</p> <p>Assist with thoracoabdominal and retroperitoneal exposures for access to kidneys, pancreas, aorta, iliac arteries</p> <p>Perform laparotomy for acute abdomen, demonstrating a systematic approach for determination of the etiology of the process via a systematic abdominal exploration and appropriate measures for its management</p> <p>Perform more complex laparotomies involving diffuse peritonitis in the septic patient (e.g., a gangrenous or severely inflamed gallbladder or perforated diverticulitis requiring resection)</p> <p>Coach a junior resident through the repair of simple hernia (indirect inguinal or umbilical)</p> <p>Provide appropriate surgical drainage for any intra-abdominal abscess</p> <p>Develop therapeutic endoscopy skills such as:</p> <ul style="list-style-type: none"> • Endoscopic control of GI bleeding • Percutaneous endoscopic gastrostomy • Dilation of intestinal strictures • Assist with endoscopic retrograde cholangiopancreatography (ERCP)
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<p>disease, vascular malformations, enterocutaneous fistulae, inflammatory bowel disease and diverticulae</p> <p>Colon Identify risk factors for the development of disorders of the colon including neoplasia, cancer, polyps, motility disorders, diverticular disease, inflammatory bowel disease, ischemic colitis, volvulus, lower gastrointestinal bleeding</p> <p>Perform open appendectomy</p> <p>Anorectum Identify risk factors for the development of anorectal disorders including neoplasia, cancer, motility disorders, incontinence, hemorrhoids, fistulae, fissure, pilonidal disease, condyloma, abscess</p> <p>Perform rigid proctoscopy, pilonidal cystectomy, and fissurectomy</p> <p>Perform ablative procedures for condyloma</p> <p>Drain a perianal and perirectal abscess</p> <p>Manage hemorrhoids, surgically and non-</p>	<ul style="list-style-type: none"> • Right paracolic gutter • Psoas muscle <p><i>Small Bowel</i></p> <p>Perform lysis of adhesions</p> <p>Perform reduction of intussusception</p> <p>Perform Meckel's diverticulectomy</p> <p>Insert jejunostomy feeding tube</p> <p>Perform stapled anastomoses of the small intestine</p> <p><i>Colon</i></p>	<p>cholangiopancreatography (ERCP)</p> <ul style="list-style-type: none"> • Polypectomy <p>Perform appropriate reoperative laparotomy for a variety of gastrointestinal problems Coordinate intervention of multiple specialties that may be involved in management of complex GI problems such as:</p> <ul style="list-style-type: none"> • Variceal hemorrhage • Biliary obstruction • Chronic varices • Inflammatory bowel disease • Chronic abdominal pain • Chronic constipation • Localized and advanced malignancies <p>Esophagus Diagnose, manage, and respond to complications for surgical patients with congenital esophageal abnormalities particularly esophageal atresia and tracheal esophageal fistula</p> <p>Perform esophageal resection</p> <p>Perform esophageal myotomy</p> <p>Perform anti-reflux procedures, both endoscopic and laparoscopic</p> <p>Repair hiatal hernia</p> <p>Stomach and Duodenum Perform gastric resection with reconstruction, including:</p> <ul style="list-style-type: none"> • Billroth I gastroduodenostomy
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<p>surgically</p>	<p>Perform laparoscopic appendectomy</p> <p>Perform partial colectomy, including right, left, and sigmoid (low anterior)</p> <p>Perform stapled enterocolo- and colonic anastomoses</p> <p>Perform a mature colostomy</p> <p><i>Anorectum</i></p> <p>Perform sphincterotomy and fistulectomy</p> <p>Perform hemorrhoidectomy</p>	<ul style="list-style-type: none"> • Billroth II gastrojejunostomy • Roux-en-y gastrojejunostomy <p>Perform vagotomy and pyloroplasty, including:</p> <ul style="list-style-type: none"> • Heineke-Miculicz • Finney • Jaboulay <p><i>Abdominal Wall</i></p> <p>Construct a plan for the diagnosis and potential for surgical repair of the following congenital abdominal wall defects including gastroschisis, omphalocele, diastasis recti</p> <p>Explain the rationale for and mechanics of techniques of peritoneal dialysis in renal failure and the management of peritoneal infections or pancreatitis</p> <p>Assess the treatment of secondary peritoneal infections due to peritoneal dialysis catheters</p>
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		<p><i>Small Bowel</i> Perform resection, ileostomy, and Stricturoplasty</p> <p>Perform drainage procedures for pancreatic cysts, including cyst-gastrostomy and cyst- jejunostomy</p>
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		<p><i>Colon</i></p> <p>Perform low anterior resection, abdominoperineal resection, and colostomy</p> <p>Repair perforated colonic disorders</p> <p><i>Anorectum</i></p> <p>Perform transanal excision of tumors</p>
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Learning Experiences (list titles of teaching conferences, labs, procedure workshops, etc.):

Learning Resources

Books

Youngblood RW. Surgical diseases of the esophagus. In: Adkins RB, Jr., Scott HW, Jr. (eds), *Surgical Care for the Elderly* (2nd ed). Philadelphia: Lippincott-Raven Publishers, 1998;269-276.

Zinner MJ, Schwartz SI, Ellis H (eds). *Maingot's Abdominal Operations* (10th ed). Stamford CT: Appleton & Lange 1997; Vols I-II.

Zuidema GD (ed). *Shackelford's Surgery of the Alimentary Tract* (4th ed). Philadelphia, PA: WB Saunders Company, 1996; Vols. I-V.

Web references

American College of Gastroenterology <http://www.acg.gi.org>

American Society of Colon and Rectal Surgeons <http://www.fascrs.org>

The American Gastroenterological Association <http://www.gastro.org>

Videos: http://gastro-org.healthology.com/focus_index.asp?f=gi

The Society for Surgery of the Alimentary Tract <http://www.ssat.com>

University of Oklahoma Pathology Case <http://moon.ouhsc.edu/kfung/JTY1/Com/SpecialtyList-Diagnosis.htm#Gastrointestinal>

Bandolier "Evidence-based Thinking about health Care:

<http://www.jr2.ox.ac.uk/bandolier/booth/booths/gi.html>

Gastrointestinal Pathology <http://medstat.med.utah.edu/WebPath/GIHTML/GIIDX.html>

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

Principal Surgical Areas:

Head and Neck

Developed by:

Lilibeth Sanchez-Geswaldo, D.O.; Lana
G. Nelson, D.O.; Marc Rosen, D.O.;
Harold Schreiber, D.O., FACOFP

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Although the head and neck comprise a small part of the total body area in adults, many organ systems are present in this area and both benign and malignant diseases can occur in all of these organ systems. General surgeons are the most readily available professionals to assist otolaryngologists in the evaluation, diagnosis and treatment of head and neck lesions. Likewise, general surgeons in conjunction with otolaryngologists perform most palliative procedures in the treatment of head and neck neoplasms. General surgeons are often the first to examine the trauma patient, where neck exploration is crucial.

Prerequisites

Prior to entering a residency, the resident should:

- Understand the embryology, development, anatomy and physiology of the head and neck
- Conduct an appropriate examination of the head and neck, including inspection, palpation and auscultation
- Understand the blood supply and lymphatic drainage of the organs of the head and neck
- Realize the validity of abnormal thyroid function, complete blood count and calcium lab values as they pertain to head and neck disorders
- Understand the treatment options of benign and malignant disease of the head and neck

Learning Outcomes

Upon completion of a general surgical residency, the resident will:

- Understand the etiology, contributing factors and pathophysiology of the diseases of the head and neck
- Evaluate presenting symptoms, review the differential diagnosis and plan treatment options for both benign and malignant head and neck neoplasms
- Diagnose abnormal head and neck conditions using history, physical exam and diagnostic procedures
- Manage preoperative, operative, and postoperative care of patients using a multidisciplinary approach
- Perform or refer osteopathic manipulative treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevention of postoperative complications

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive</p> <p>Perform an accurate, appropriate, and professional history and physical exam</p> <ul style="list-style-type: none"> • Elucidate symptoms of weight loss, decreased oral intake, dysphagia, odonyphagia, and dysphonia • Recognize pertinent social history, including smoking, alcohol use and exposure to chemicals • Examine the head intraoral, laryngeal, pharyngeal areas and neck, demonstrating skills of inspection, palpation and auscultation • Auscultate cardiovascular and pulmonary systems <p>Evaluate benign and malignant disease processes using staging criteria</p> <p>Provide the patient with guidance regarding differential diagnosis, planned diagnostic studies and possible treatment options</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p>Recognize ethnic and cultural conditions as they relate to specific illnesses, e.g., African-American males are at increased risk for obstructive sleep apnea</p> <p>Technical</p> <p>Perform an intradermal skin test as a predictor of allergy to sutures</p> <p>Perform indirect laryngoscopy</p>	<p>Cognitive</p> <p>Assess the indications for different types of biopsy depending on the differential diagnosis</p> <p>Evaluate the adjuvant therapies available for the treatment of malignant neoplasms of the head and neck</p> <p>Differentiate primarily fungal infection of the epiglottis from a clinical malignancy</p> <p>Technical</p> <p>Perform an open tracheostomy</p> <p>Perform a lymph node biopsy</p> <p>Excise a salivary gland</p> <p>Perform needle, incisional and excisional biopsy techniques</p>	<p>Cognitive</p> <p>Lead the multidisciplinary team of surgeons, otolaryngologists and behavioral scientists treatment of patients with and neck diseases including the social ramifications of a potentially disfiguring surgery and the need for urgent behavior modification</p> <p>Advise patients on plastic/ reconstructive procedures including free and transposition flaps after radical head and neck surgical procedures</p> <p>Evaluate patients with HIV/AIDS who have recurrent or chronic sinusitis for endoscopic sinus surgery</p> <p>Prepare patients for rehabilitation resources available for postoperative patients</p> <p>Technical</p> <p>Excise a thyroglossal duct cyst and a branchial cleft cyst</p> <p>Perform an emergent cricothyroidotomy</p> <p>Perform a partial or complete thyroidectomy and parathyroidectomy</p> <p>Assist on a laryngectomy with radical neck dissection</p>

		Perform an operation of schwannoma of the cervical vagus nerve, avoiding hoarseness
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons
General Surgery Residency

Principal Surgical Areas:

Hernia

Developed by:

India Broyles, EdD; Cynthia Cartwright, MEd, RN, MT; Harold Schreiber, D.O., FACOFP; Lori Chapleskie, D.O.; Lana Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

A general surgeon is capable of dealing with and receiving referrals for adult patients with hernias of all types and clinical presentations. Pediatric hernia patients are seen and counseled by specialists in pediatric surgery. On the general surgery service the patient is evaluated, counseled, and a surgical procedure (if recommended) is performed. Hernias cannot improve by themselves and usually require surgery; however, surgical repair may or may not prevent a hernia from recurring. This surgical area includes the hernia in different body locations and using different repair techniques appropriate to the condition, including laparoscopic techniques, as well as primary or mesh repair. Hernia repair remains one of the most commonly performed surgical procedures.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the anatomy and mechanism of hernia formation
- Illustrate normal and abnormal rotation of the gut and the formation of peritoneal attachment
- Perform an appropriate history and physical examination of the patient with suspected hernia
- Appreciate possible consequences of untreated hernias including incarceration and strangulation, and peritonitis

Learning outcomes

Upon completion of the general surgery residency, the resident will:

- Summarize the correlation between the hernia problem and the impact on functionality
- Diagnose and treat each type of hernia with appropriate repair protocols
- Communicate effectively with the patient and counsel the patient and family regarding type of hernia repair risks, benefits and relation to coexisting medical conditions
- Perform both open and laparoscopic surgery appropriate to the type of hernia and condition of the patient
- Perform or refer Osteopathic Manipulative Treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevent postoperative complications

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive</p> <p>Perform a directed history and physical exam on both male and female patients with suspected hernias</p> <p>Retrieve pertinent data regarding hernia signs and symptoms, limitations on daily function and wellness as well as previous exams and evaluations</p> <p>Differentiate between direct and indirect inguinal hernias</p> <p>Identify intra-abdominal and congenital hernia</p> <p>Differentiate between reducible, incarcerated and strangulated hernias including symptoms of bowel obstruction and peritonitis</p> <p>Evaluate the risks of hernia repair, including anesthetic type, infection risk with and without mesh, nerve injury and recurrence rate</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p>Predict the natural history of untreated hernias</p>	<p>Cognitive</p> <p>Recognize peritonitis</p> <p>Examine patients for the presence of inguinal, femoral, umbilical, epigastric, spigelian and incisional hernias as well as bowel obstruction associated with hernias</p> <p>Compare omphalocele and gastroschisis</p> <p>Identify paraduodenal hernias</p> <p>Discriminate abdominal wall and mesenteric tumors from hernias</p> <p>Predict operative success based on risk factors associated with hernia recurrence and incisional herniation</p> <p>Educate patients regarding the applicability, benefits and risks of laparoscopic versus open hernia repair</p> <p>Explain principles and strategies for effective perioperative management for the patient with a perforation secondary to strangulated/ incarcerated hernia</p> <p>Technical</p> <p>Perform incisional hernia repair</p>	<p>Cognitive</p> <p>Diagnose rectus sheath hematoma and plan its treatment</p> <p>Evaluate alternative options for closure of large abdominal wall defects</p> <p>Recognize and begin treatment for incarcerated hernias and bowel obstruction associated with hernia</p> <p>Recognize symptoms associated with Richter's, obturator and lumbar hernias</p> <p>Outline the uses of prosthetic material and management of infection for incisional or recurrent hernias involving prosthetic material</p> <p>Establish a treatment plan for perforated infection</p> <p>Instruct junior residents on hernia repairs in the operative setting</p> <p>Predict postoperative structural changes that occur in a patient having undergone hernia repair and identify best methods to correct them</p> <p><i>Technical</i></p> <p>Perform posterior inguinal hernia repairs both</p>

<p><i>Technical</i></p> <p>Perform inguinal field block with local anesthetic</p>	<p>Perform hernia repair including umbilical, epigastric and femoral</p> <p>Perform anterior inguinal hernia repairs including bassini, shouldice, and Lichtenstein</p>	<p>open and laparoscopic</p> <p>Perform repair and resection of incarcerated or strangulated hernias</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Principal Surgical Areas:

Liver

Developed by:

Michael H. Whitworth, D.O., FACOS

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

The liver is the largest gland of the body and plays a vital role in many life-sustaining functions. It provides energy sources through the metabolism of carbohydrates and lipids. It is important in protein synthesis and the production of bile as well as detoxifying drugs and excreting those products from the body. A high vascular perfusion and central location in the body coupled with an active filtering system make the liver a common site for metastatic disease when dealing with cancers. In selected cases of metastatic and primary liver cancers, unique opportunities exist for surgical excision and non-surgical technologies resulting in cure or palliation. The liver is also the source of a host of infectious diseases, some of which require surgical therapy. One of the most unique capacities of the liver is its ability to regenerate. However, chronic injury from sources such as drugs, alcohol, viruses and other inflammatory states can lead to irreversible changes that eventually comprise a major source of suffering. An understanding of hepatic cirrhosis, portal hypertension and their consequences are basic elements in the practice of surgery. Understanding the indications for liver transplantation can assist the surgeon in saving the lives of many people suffering from end-stage liver disease when the physician knows when and how to help these people access the system in order to benefit from this service. As a physician, the surgeon is also an advocate for organ donation.

As large solid organs, the liver and spleen are the most commonly injured organs in abdominal trauma. Its size and location make the liver a major site of injury in penetrating trauma as well. A rich vascular supply ensures challenges when dealing with liver injuries. Traumatic injuries comprise major sources of morbidity and mortality in our society and strain our resources when dealing with these problems.

The surgical treatment of liver diseases can present some of the most challenging situations one will encounter. All surgeons should not feel compelled to perform all surgical procedures. It is essential to understand when some of these cases should be referred to a major center for treatment. It is also important to learn how to effectively collaborate with professional colleagues in the approach to treating many of these problems. Surgeons must be competent in all aspects of liver disease in order to effectively counsel with patients and their families.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the primary functions of the liver
- Understand liver anatomy including the supporting ligaments, and the unique aspects of the blood supply of the liver
- Understand the signs, symptoms and physical findings in liver disease.
- Identify the basic lab tests and how they are used to evaluate liver function
- Understand the different imaging modalities used to diagnose liver problems

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the etiology, pathophysiology, the presenting signs and symptoms, the differential diagnosis and treatment options of liver diseases
- Diagnose liver diseases by history and physical examination, and appropriate use of imaging studies
- Perform or refer Osteopathic Manipulative Treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevention of postoperative complications
- Coordinate multidisciplinary operative and non-operative care for benign and malignant diseases of the liver
- Perform both open and laparoscopic surgery appropriate to the type of liver disease and condition of the patient
- Counsel patients and their families on all aspects of the diagnosis and treatment of surgical diseases of the liver

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p><i>Cognitive</i></p> <p>Identify and describe the supporting ligaments of the liver and external anatomy of the liver during operative procedures</p> <p>Summarize the differential diagnosis of the jaundiced patient, the appropriated tests and their interpretation, the significance of each and surgical implications of testing</p> <p>Identify the defect involved in and the diagnosis of the following: Gilbert’s Syndrome, Dubin-Johnson Syndrome, Criglar-Najjar Syndrome and Rotor Syndrome</p> <p>Summarize the differential diagnosis related to primary liver cancers, metastatic liver disease, hepatic abscesses, hepatic cysts, and hepatitis</p> <p>Select and interpret appropriate diagnostic studies including laboratory tests, X-ray, ultrasound, computerized tomography (CT), magnetic resonance imaging (MRI), and nuclear medicine</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and</p>	<p>Cognitive</p> <p>Diagnose benign tumors including adenomas, Focal Nodular Hyperplasia (FNH), Hemangiomas and Hamar-tomas, and determine which should be treated using data concerning the incidence and significance</p> <p>Conduct a history and physical exam, identifying the signs and symptoms and select laboratory tests and other diagnostic studies utilized in the care of the liver</p> <p>Plan the management of primary liver cancers using the following factors:</p> <ul style="list-style-type: none"> • Worldwide incidence vs. U.S. incidence • Different types of primary cancers and their predisposing factors • Signs/symptoms, physical findings, differential diagnosis • Laboratory tests and diagnostic studies • Techniques to establish a biopsy proven diagnosis • The surgical therapy, its indications and contraindications • Non-surgical alternatives in treatment. • Role of liver transplantation, if any, and anticipated recurrence rate following transplantation • Role of chemotherapy and response rates • Tumor staging and survival rates <p>Plan the management of metastatic liver disease based on the following factors:</p> <ul style="list-style-type: none"> • Incidence of metastatic vs. primary liver cancer • Routes of metastasis to the liver • Signs/symptoms, physical findings, differential diagnosis 	<p>Cognitive</p> <p>Use knowledge of anatomy of the liver along with methods of resection and achieving hemostasis in elective surgeries of the liver and trauma of the liver</p> <p>Choose appropriate instrumentation and treatment modalities when approaching major liver surgery</p> <p>Plan the management of portal hypertension based on the following factors:</p> <ul style="list-style-type: none"> • Etiologies and incidence in the US vs. worldwide • Normal portal venous pressure vs. that in portal hypertension • Accessory circulatory pathways involved • Signs/symptoms, physical findings, important aspects of history • Laboratory and diagnostic studies • Hypersplenism as it relates to portal hypertension • Ascites as it relates to cirrhosis and portal hypertension • Medical and surgical management of ascites • Surgical portal venous shunting techniques based on indications, effectiveness, benefits and possible problems encountered with shunts • Indication and protocol for transjugular intrahepatic portosystemic shunt (TIPS)

<p>normalizing function</p> <p>Utilize pre- and postoperative OMT in surgical patients to improve pulmonary and liver function and increase blood and lymph flow</p>	<ul style="list-style-type: none"> • Laboratory and diagnostic studies • Biopsy alternatives • Indications for surgical resections, and the segmental lobar anatomy to be considered • Contraindications to surgery • How is survival impacted by surgical resection <p>Plan the management of hepatic abscesses using the following factors:</p> <ul style="list-style-type: none"> • Main types of abscesses (bacterial and amebic) • Clinical manifestations in diagnosing. • Appropriate lab and diagnostic studies • Antibiotic selection and response rates • Indications for surgical intervention, and surgical approaches to utilize • Role of CT or ultrasound guided drainage <p>Plan the management of hepatic cysts based on:</p> <ul style="list-style-type: none"> • Nonparasitic, parasitic and Echinococcal cysts • Appropriate laboratory and diagnostic studies • Signs/symptoms, physical findings, differential diagnosis • Surgical considerations • Etiology, and incidence in the world • Risks of surgical removal • Significance of bile in simple cysts of the liver <p>Plan the management of hepatitis based on the cause:</p> <ul style="list-style-type: none"> • Different viral agents and the implications of each virus • Nonalcoholic Steatohepatitis (NASH) • Autoimmune • Alcohol and drug induced <p>Manage problems encountered with extensive liver resections or injury</p>	<p>procedure</p> <p>Understand esophageal varices as related to portal hypertension:</p> <ul style="list-style-type: none"> • Significance and diagnosis of esophageal varices • Medical, endoscopic and surgical treatment of esophageal varices • Medical management of acute esophageal bleeding • Indication for Sequeira devascularization procedure <p>Use the Child-Pugh classification of advanced liver disease to plan treatment and predict surgical mortality</p> <p>Grade hepatic encephalopathy</p> <p>Evaluate factors associated with bad outcomes in advanced liver disease</p> <p>Understand the Hepatorenal Syndrome</p> <p>Diagnose fulminate hepatic failure and plan its treatment</p> <p>Plan appropriate surgical techniques of liver transplantation based on indications, absolute contraindications and relative contraindications</p> <p>Apply factors utilized in evaluating candidates for liver transplantation before referring candidates for consideration</p>
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<p><i>Technical</i> Perform core and wedge biopsy of the liver</p>	<p>Choose correct nutritional solutions in hepatic failure and understand which to avoid and why</p> <p>Educate patients and their families preoperatively of the possible risks and complications associated with hepatic surgery, inform them of alternative treatments when appropriate and discuss the possibility of care in an intensive care unit (ICU) setting</p> <p>Manage the postoperative care of complex liver injuries or resections</p> <p><i>Technical</i> Perform mobilization techniques on the liver</p> <p>Apply basic vascular isolation techniques such as the Pringle Maneuver</p> <p>Perform the basic techniques of liver dissection and achieve hemostasis in simple liver dissections or trauma to the liver</p> <p>Apply fibrin sealants in achieving hemostasis</p> <p>Perform omental patching or grafting techniques to the dissected or injured liver.</p> <p>Aspirate or unroof a simple cyst of the liver</p> <p>Place and manage a Sengstaken-Blakemore tube for bleeding esophageal varices</p>	<p>candidates for consideration</p> <p>Discuss all aspects of benign and malignant diseases of the liver with patients and their families</p> <p>Counsel families about end-of-life issues and assist with social services, behavioral sciences or pastoral services when needed</p> <p>Discuss organ donor issues with families, and help coordinate the process of organ donation</p> <p>Collaborate effectively with Pathology, Radiology, Internal Medicine, Oncology, Critical Care and Behavioral Science services when necessary in the treatment of liver diseases</p> <p><i>Technical</i> Drain hepatic abscesses and cysts</p> <p>Mobilize the liver and achieve vascular isolation of the liver</p> <p>Perform liver resections</p> <p>Resect malignant and benign tumors or cysts of the liver</p> <p>Collaborate in the management of non-resectable malignancies including diversions, decompressions, and non-curative ablations</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons

General Surgery Residency

Principal Surgical Areas:
Pancreas

Developed by:
Lana G. Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

The pancreas is a complex organ from both a physiologic and anatomic standpoint. It plays a key role in digestive physiology and the management of serum glucose levels. In addition, its anatomic location and complex relationship with surrounding structures demands an in-depth knowledge of anatomy and disease processes affecting the pancreas. Inflammatory processes of the pancreas range from a relatively benign course to life threatening. The general surgeon is frequently called upon to assess the severity of pancreatitis as well as participate in the management; whether it be in a critical care role or an operative role, an in depth understanding of acute inflammation of the pancreas is essential. Once the initial insult has passed, patients may be left with long-term sequela, which must be addressed as well.

Prerequisites

Prior to entering into a surgical residency, the resident should:

- Understand of the primary functions of the pancreas
- Illustrate the pancreatic anatomy
- Understand the signs, symptoms and physical findings in pancreatic disease
- Identify the basic laboratory tests used to evaluate pancreatic function
- Understand the different modalities used to diagnose pancreatic problems and when they should be utilized

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the etiology, pathophysiology, the presenting signs and symptoms, the differential diagnosis and treatment options of pancreatic diseases
- Diagnose pancreatic diseases by history and physical examination, and appropriate use of laboratory tests and imaging studies
- Understand the consequences of disease of the pancreas to the patient as a whole
- Understand the benefits of Osteopathic Manipulative Treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevent postoperative complications
- Coordinate multidisciplinary operative and non-operative care for benign and malignant diseases of the pancreas
- Counsel patients and their families on all aspects of the diagnosis and treatment of surgical diseases of the pancreas

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p><i>Cognitive</i></p> <p>Describe the anatomic interrelationship of the pancreas and surrounding structures</p> <p>Understand the normal physiology of the pancreas and how it interacts with and responds to other organs and external stimuli</p> <p>Analyze fundamental pathophysiologic processes such as pancreatic neoplasms, acute and chronic pancreatitis and the overall clinical significance of these conditions</p> <p>Understand the etiology of acute and chronic pancreatitis</p> <p>Compare the usefulness and limitations of endoscopic and imaging technologies for evaluation of these organs</p> <p>Identify variant anatomy of the pancreas and understand potential contribution to pathologic processes</p> <p>Apply grading scales to patients with acute pancreatitis and identify the anticipated effect on outcome</p>	<p>Cognitive</p> <p>Evaluate the common and unusual pathologic problems of the pancreas and its interrelationship with other organ systems</p> <p>Manage non-operative care of acute and chronic pancreatitis; identify timing, indications, and selection of operative treatment of complications of acute and chronic pancreatitis</p> <p>Understand the pathogenesis of pancreatic malignancies and the rationale for resection and/or adjuvant therapy</p> <p>Manage the postoperative care of complex pancreatobiliary injuries or resections</p> <p>Apply the following concerns to the management of primary pancreatic cancers:</p> <ul style="list-style-type: none"> • Different types of primary cancers and their predisposing factors • Signs/symptoms, physical findings, differential diagnosis • Lab tests and diagnostic studies to order in aiding the diagnosis • Techniques to establish a biopsy proven diagnosis • Surgical therapy, indications and contraindications • Non-surgical alternatives in treatment. • Role of chemotherapy and response rates • Tumor staging and survival rates 	<p>Cognitive</p> <p>Choose different instrumentation and treatment modalities needed when approaching major pancreatic surgery</p> <p>Evaluate factors associated with bad outcomes in advanced pancreatic disease</p> <p>Counsel families about end-of-life issues and assist with social services, behavioral sciences, pastoral services or hospice when needed</p> <p>Discuss all aspects of benign and malignant diseases of the pancreas with patients and their families</p> <p>Collaborate effectively with pathology, radiology, internal medicine, oncology, critical care, infectious diseases, and behavioral sciences when necessary in the treatment of pancreatic diseases</p>

<p><i>Illustrate the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</i></p>	<p>Apply the following aspects to the management of metastatic pancreatic disease:</p> <ul style="list-style-type: none"> • Incidence of metastatic vs. primary pancreatic cancer • Routes of metastasis to the pancreas • Signs/symptoms, physical findings, differential diagnosis • Lab and diagnostic studies in evaluating. • Biopsy alternatives • Indications and contraindications to surgery <p>Educate patients and their families preoperatively of the possible risks and complications associated with pancreas surgery, informing them of alternative treatments when appropriate and discuss the possibility of care in an ICU setting</p> <p>Technical Perform pancreatic procedures related to complications of acute pancreatitis including necrosectomy and drainage procedures as well as pseudocyst drainage procedures</p> <p>Resect the tail of the pancreas; differentiate between concomitant splenectomy and splenic preservation</p>	
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<p><i>Technical</i> Perform any preoperative resuscitation and preparation that the patient may require prior to definitive therapy</p>		<p><i>Technical</i> Resect malignant and benign tumors or cysts of the pancreas</p> <p>Perform pancreatic procedures for chronic pancreatitis</p> <p>Resect the head of the pancreas (pancreaticoduodenectomy)</p> <p>Collaborate on the surgical management of non-resectable malignancies including diversions, decompressions and non-curative ablations</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons General Surgery Residency

Principal Surgical Areas:
Pediatric Surgery

Developed by:
Lilibeth Sanchez-Geswaldo, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

General surgeons in community hospitals frequently provide the surgical care of children. Caring for both the pediatric patient and the family extends the role of the surgeon. The surgeon works with a variety of specialists including neonatologists, pediatricians and family physicians to determine whether surgery is the best option for the child and to plan the pre- and postoperative care. The learning experiences in pediatric surgery provide a unique opportunity to practice holistic medicine and to integrate the osteopathic health concepts into surgical care.

This is the only document that combines each of the principal surgical areas for a specific population of patients: children from newborn to adolescent.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand growth and development (physical, physiologic and psychosocial) and the clinical application from gestation through adolescence
- Understand the influences of family, community, culture and society on children in health and disease
- Be able to perform a physical examination of the newborn infant, noting key physical finding and using special methods involved in performing a newborn physical examination (e.g., hip dysplasia assessment, eye exam, cranial structural exam)
- Be able to manage abrasions, bites, burns, contusions, fractures, lacerations, near drowning, and sprains including tetanus prevention
- Treat minor wounds and burns, stabilize orthopedic trauma, and recognize and initially manage shock and coma

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Stabilize, conduct the preoperative diagnosis, and prepare the sick neonate or child for surgery
- Understand the anatomic and physiologic principles which guide successful operative repair of neonatal and pediatric diseases
- Evaluate surgical conditions in pediatric patients through a comprehensive history, physical examination, and appropriate diagnostic studies
- Perform or assist in simple, emergent and complex surgical procedures
- Manage the routine pre- and postoperative care and postoperative critical care with clear delineation of strategies in working with children versus adults
- Understand the role of osteopathic medicine in the care of neonates and children
- Understand the psychological and social issues confronting pediatric trauma/postoperative patients and families
- Use communication skills that facilitate the clinical interaction with children, adolescents and their families and thus ensure that complete, accurate data is obtained

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p style="text-align: center;">Cognitive</p> <p>Understand the unique anatomic, pathophysiologic and genetic conditions that affect the fetus, neonate, child and adolescent</p> <p>Understand how new techniques, such as fetal surgery, may offer alternatives for treatment of certain neonatal diseases</p> <p>Identify therapeutic osteopathic techniques that aid in the care of the pre- and postoperative child</p> <p>Perform or refer for treatment using osteopathic manipulative techniques that enhance the pre- and postoperative period (e.g., myofascial, lymphatic pump, rib raising)</p> <p>Recognize that emotions of guilt and anxiety that may be present in the parent, caregiver or child at the time of trauma or surgical treatment</p> <p>Identify the technical aspects of the following procedures:</p> <ul style="list-style-type: none"> • Excision of skin and subcutaneous lesions • Incision and drainage of abscesses • Lymph node biopsy • Chest tube placement • Oral intubation • Herniorrhaphy in older children <p>Use communication skills with pediatric</p>	<p style="text-align: center;">Cognitive</p> <p>Describe the technical principles involved and manage the pre- and post- operative care of infants and children undergoing gastrostomy, colostomy, circumcision, central venous access, as well as inguinal and umbilical herniorrhaphy</p>	<p style="text-align: center;">Cognitive</p> <p>Describe the pathophysiology of complex pediatric conditions in the evaluation of:</p> <ul style="list-style-type: none"> • Respiratory distress • Cyanosis • Gastroesophageal reflux • Jaundice • Bilious emesis • Abdominal distention • Bloody diarrhea • Body wall defects <p>Plan the immediate care, operative correction, and postoperative management of life-threatening anomalies:</p> <ul style="list-style-type: none"> • Congenital diaphragmatic hernia • Midgut volvulus • Necrotizing enterocolitis • Gastroschisis • Prune-belly syndrome <p>Diagnose, provide perioperative care, surgical therapy and postoperative follow-up for more complex surgical procedures for infants and children such as:</p> <ul style="list-style-type: none"> • Large skin grafts and musculocutaneous flaps • Thoracotomy for pulmonary resection and vascular cardiac repair • Flexible endoscopy • Antireflux procedure • Bowel resection • Repair of hepatic, biliary, and pancreatic injury • Splenectomy and splenorrhaphy

<p>patients and their caregivers to ensure complete and accurate history and physical exam findings</p> <p>Neonatal Identify the cardiac, pulmonary, blood volume, and gastrointestinal changes of post-partum transitional physiology</p> <p>Illustrate relevant mechanisms (conductive, convective, evaporative, and radiant) of neonatal thermoregulation</p> <p>Illustrate how neonatal renal function (decreased concentrating ability) affects the pharmacokinetics of commonly used drugs and antibiotics</p> <p>Identify factors influencing neonatal immunologic immaturity and how this increases susceptibility to common neonatal pathogens</p> <p>Perform a comprehensive evaluation of a neonate with suspected surgically correctable conditions</p> <p>Participate in the perioperative care of the neonate by recording appropriate assessments and treatment plans in daily progress notes, including:</p> <ul style="list-style-type: none"> • Ventilator management • Fluid, electrolyte, and nutritional management • Antibiotic use <p>Manage the appropriate fluid and electrolyte</p>	<p>Neonatal Describe the embryology of neonatal organ systems and their common congenital anomalies, including:</p> <ul style="list-style-type: none"> • Craniocervical: dermoid cysts, branchial cleft cysts, and fistulas • Foregut: esophageal atresia/tracheoesophageal fistula, duodenal atresia • Respiratory: cystic adenomatoid malformation, congenital diaphragmatic hernia • Cardiac: common cyanotic and acyanotic cardiac malformations • Midgut: intestinal atresia, malrotation, meconium ileus • Hindgut: Hirschsprung's disease, imperforate anus, meconium plug syndrome, small left colon syndrome • Body wall defects: gastroschisis, omphalocele, umbilical and inguinal hernias • Renal: ureteral obstruction, vesicoureteral reflux • Lower Genito-urinary (GU) tract: urethral valves, hypospadias <p>Describe the diagnosis, preoperative evaluation, and management of the common congenital anomalies listed above</p>	<ul style="list-style-type: none"> • Management of the seriously injured patient <p>Evaluate pediatric patients for problems requiring more complex surgical intervention Use communication skills and facilitate work relationships among the healthcare providers on the pediatric intensive care team</p> <p>Neonatal Describe the capabilities and limitations of various diagnostic modalities used in neonatal care</p> <p>Manage the fluids and electrolytes of the premature neonate</p> <p>Analyze the nutritional requirements of premature neonates, and calculate appropriate enteral and parenteral nutritional support</p> <p>Formulate a care plan for neonates with problems such as respiratory distress, cyanosis, gastroesophageal reflux, jaundice, bilious emesis, abdominal distention, bloody diarrhea, and body wall defects</p> <p>Illustrate the embryology of complex congenital anomalies, including:</p> <ul style="list-style-type: none"> • Craniocervical: choanal atresia, cleft lip and palate • Foregut: laryngotracheal cleft, duodenal web and duplication, annular pancreas, preduodenal portal vein, biliary atresia • Respiratory: congenital lobar emphysema and sequestrations • Cardiac: complex cyanotic and acyanotic cardiac malformations
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<p>balance of the full-term neonate</p> <p>Analyze the nutritional requirements of the full-term neonate, and calculate appropriate enteral and parenteral nutritional support</p> <p>Growth and Development Analyze the development of children in terms of weight, length, and head size, nutritional requirements, renal function, hormonal influences, and response to stress and infection</p> <p>Cardiovascular Describe the arterial and venous anatomy of the neonate, infant, child, and adolescent</p> <p>GI Summarize the basic approach to the</p>	<p>Manage the perioperative care of neonates, including:</p> <ul style="list-style-type: none"> • Basic ventilator management • Fluid, electrolyte, and nutritional management • Correction of coagulopathies • Indications for transfusion • Diagnosis of sepsis and antibiotic use <p>Classify congenital malformations of the newborn by type, origin, and the need for surgical intervention:</p> <ul style="list-style-type: none"> • Head and neck: thyroglossal duct cyst, lymphadenopathy, cystic hygroma • Gastrointestinal: pyloric stenosis, appendicitis • Respiratory: tracheal lesions • Abdominal wall defects: omphalomesenteric and urachal malformations • Genitourinary: polycystic kidneys, undescended testis, torsion of the testis • Inborn and genetic errors: trisomy 13, trisomy 18, Down's syndrome • Orthopedic anomalies which commonly occur with other malformations 	<ul style="list-style-type: none"> • Midgut: intestinal duplication, volvulus, meconium peritonitis • Hindgut: neuronal intestinal dysplasia, total colonic and ultrashort Hirschsprung's disease, cloacal exstrophy • Body wall defects: pentalogy of Cantrell, Jeune's thoracic dystrophy • Renal: renal agenesis, fusion and ectopia; bladder exstrophy, prune-belly syndrome • Lower GU tract: ambiguous genitalia, urogenital sinus abnormalities <p>Conduct the diagnosis, preoperative evaluation, operative management, and postoperative care of the congenital anomalies listed above</p> <p>Plan the respiratory support of the neonate, including high frequency ventilation and extracorporeal membrane oxygenation</p> <p>Evaluate neonatal nutritional assessment and supervise long-term nutritional support for neonates with short-gut syndrome</p> <p>Analyze the indications for and technical aspects of endoscopic evaluation of the neonate</p> <p>Analyze the indications for and technical aspects of intubation, tube thoracostomy, and percutaneous central venous access in the neonate</p> <p>Conduct comprehensive preoperative evaluation and postoperative management for all critically ill neonates, and direct junior residents in the management of routine surgical problems</p>
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<p>diagnosis and management of more common surgical problems of infancy and childhood, such as pyloric stenosis, perforated appendicitis, and intussusception</p> <p>Understand the principles of diagnosis and treatment for common causes of gastrointestinal hemorrhage in the neonate, infant, child, and adolescent</p> <p>Infectious Disease Explain the pathophysiology of necrotizing enterocolitis</p> <p>Technical Establish percutaneous venous and arterial access in neonates over 2 kilograms (kg)</p>	<p style="text-align: center;">Technical</p> <p>Assist or perform under supervision:</p> <ul style="list-style-type: none"> • Peripheral venous and arterial cutdown access • Placement of umbilical catheters • Placement of central venous access • Tube thoracostomy • Incision and drainage of cysts and abscesses • Hernia reduction <p>Participate in the management of simple surgical problems in the pediatric population, including integument, head and neck, thoracic, cardiovascular, gastrointestinal, genitourinary, and musculoskeletal:</p> <ul style="list-style-type: none"> • Excise skin and subcutaneous lesions • Perform incision and drainage of abscesses • Excise dermoid cysts and small skin lesions 	<p>management of routine surgical problems</p> <p>GI Analyze the pathophysiology, diagnosis, and management options in the treatment of short-gut syndrome</p> <p>Infectious Disease Understand the complications of necrotizing enterocolitis and plan appropriate treatment</p> <p style="text-align: center;">Technical</p> <p>Perform emergent surgical procedures of the neonate and child, including: vascular access, orotracheal intubation, tube thoracostomy, and exploratory laparotomy and thoracotomy</p> <p>Perform or assist in all major surgical procedures performed on the pediatric surgical service</p> <p>Participate in pre-, operative, and postoperative care of complex problems in pediatric surgery:</p> <ul style="list-style-type: none"> • Integument: pedicle graft, large skin grafts, burns, subcutaneous mastectomy, craniocervical, branchial cleft and thyroglossal duct cysts, cystic hygroma • Thoracic: laryngoscopy, bronchoscopy, esophagoscopy, tracheostomy, thoracotomy for biopsy, lung resection, diaphragm repair
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	<ul style="list-style-type: none"> • Perform lymph node biopsy • Place chest tube • Place central venous catheter placement • Perform venous cutdown • Place arterial line • Perform pyloromyotomy, appendectomy, • Perform herniorrhaphy, both (umbilical and inguinal in patients 2 years and up) • Perform circumcision • Perform orchiopexy • Perform simple oophorectomy • Perform vaginoscopy for foreign body or biopsy • Excise ganglion cyst • Excise supernumerary digit • Perform muscle biopsy 	<ul style="list-style-type: none"> • Cardiovascular: resection of small vascular cutaneous lesions such as arterial-venous malformation, hemangioma, or lymphangioma; repair of patent ductus arteriosus; repair of aortic anomaly/injury; support of a child with extracorporeal membrane oxygenation (ECMO) • Gastrointestinal: flexible endoscopy; antireflux procedure; bowel resection for inflammatory bowel disease, intussusception, intestinal duplications; Hodgkin's staging; biopsy of tumor (open, laparoscopic or endoscopic); laparotomy for trauma; splenectomy (laparoscopic or open), splenorrhaphy; repair of hepatic injury, renal and/or bladder injury; cholecystectomy (open or laparoscopic); omphalomesenteric duct and urachal anomalies • Oncologic: neuroblastoma, Wilms' tumor, rhabdomyosarcoma, teratomas, germ cell tumors, hepatoblastoma, sarcomas, Hodgkin's and non-Hodgkin's lymphomas, acute lymphocytic leukemia • Genitourinary: polycystic kidney, ambiguous genitalia • Musculoskeletal: torticollis
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

**American College of Osteopathic Surgeons
General Surgery Residency**

**Principal Surgical Areas:
Skin and Soft Tissue**

Developed by:
Michael H. Whitworth, D.O., FACOS;
Stephen E. Small, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

As humans we live in an environment that is by nature hostile to our survival. The skin is our primary protector against these surrounding dangers. Our skin shields us from most external trauma, solar irradiation, harsh chemicals, temperature extremes and conditions of excess wetness or dryness, thereby protecting fragile cells and mechanisms within the body. The skin is vital for internal thermoregulation of the body by conserving or dissipating heat to maintain a tightly controlled internal temperature. The skin also plays a role in the body's immune system. Surgical incisions, burns and trauma are part of our everyday work experience as surgeons. This reminds us of a most critical function of skin, namely, to provide protection from the abundant microorganisms that surround us and even thrive on the surface of this remarkable organ. The skin has different adaptations and thicknesses at various sites on the body. Depending on the area of the body covered, subtle lines of tension are generated in the skin, which usually dictate how we plan and make surgical incisions. Sensory nerve supply to the skin is abundant and highly adapted in different regions to aid in our interaction with the environment. Disease in visceral organs can frequently be reflected in somatic changes detected in the skin and soft tissues. As osteopathic surgeons we are taught to be aware of the meaning of these conditions to aid in the overall approach to diagnosis and treatment.

Every surgeon has an intimate association with the skin and soft tissues. Learning how to make incisions in the skin/soft tissues and techniques of closure to minimize scarring and maximize function and cosmesis is one of the most basic elements of surgery. Although it is not always correct, the patient will often judge the quality of surgical care by the appearance of the surgical scar. Factors affecting scarring are not always under the control of the surgeon, but there are things we can and must do to decrease the morbidity associated with incisions, facilitate normal healing and positively impact the final appearance of the surgical wound. The appearance of our skin is very important in determining how others perceive us. Deforming scars and diseases of the skin and soft tissues can be a psychological burden, emphasizing the importance of our role as surgeons to work as cosmetically as possible. The billions of dollars spent annually in maintaining, beautifying and protecting the skin testifies to the importance of this organ in projecting a more positive outward image to others. The general surgeon constantly considers the key elements of skin and soft tissues and the mechanisms of wound healing, abnormal wound healing, and acute and chronic wound care.

When considering skin and soft tissue as a principal surgical area for the general surgeon, the immediate focus is on skin cancers. Skin cancers are increasing at an alarming rate in the United States. They are the most common cancers afflicting persons, comprising approximately 40% of all malignancies in our country. The incidence of melanoma is increasing faster than any other cancer.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the basic functions of the skin and soft tissue
- Understand hormonal effects on the skin in growth and development
- Understand the embryological development of skin and its appendages
- Recognize the layers of the skin and the unique makeup of each layer
- Identify the supporting organs and systems and the blood supply
- Describe normal and abnormal variations of the skin and soft tissue
- Understand the effects of ultraviolet irradiation on skin and the normal aging processes of skin
- Identify the signs and symptoms of diseases of the skin and soft tissue, including benign and malignant tumors
- Understand the basic laboratory tests and diagnostic modalities used in diagnosing skin and soft tissue diseases and trauma, and when to utilize each
- Recognize Langer's lines and how they relates to surgical incisions

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the etiology, pathophysiology, presenting signs and symptoms of skin and soft tissue diseases as well the differential diagnosis and treatment options
- Diagnose abnormal skin and soft tissue disorders by physical and visual examination, biopsy and radiologic diagnostic procedures
- Understand the role of pre-, post- and nonoperative management of skin and soft tissue disease, wounds and trauma
- Understand the basic osteopathic principles of somatic dysfunction that can accompany diseases of the viscera and how this might be reflected in the skin and soft tissues of the body
- Coordinate multidisciplinary operative and non-operative care for diseases and trauma of the skin and soft tissue
- Perform therapeutic, diagnostic and reconstructive surgical procedures on the skin and soft tissues
- Counsel patients and their families in all aspects concerning the diagnosis and surgical treatment of diseases of the skin and soft tissue

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Describe the three layers of the skin: their primary cells, specialized structures, and chemical makeup, as well as the function of these cells chemicals and structures</p> <p>Describe the adnexal structures of the skin, their makeup and function, and the most common diseases affecting those areas</p> <p>Describe the mechanisms of scarring and wound healing</p> <p>Recognize infections of the skin and soft tissues</p> <p>Prevent, manage and treat decubitus ulcers at each stage</p> <p>Plan treatment strategies for Hydranitis Suppurative</p> <p>Diagnose and treat benign cysts and tumors of the skin and subcutaneous tissues</p> <p>Discuss nevi, their differential diagnosis, malignant potential and treatment: dysplastic or atypical nevus and dysplastic nevus syndrome (atypical nevus syndrome)</p> <p>Differentiate folliculits, furuncles and carbuncles based on their etiology, causative organisms and treatment</p> <p>Differentiate and plan treatment for verruca</p>	<p>Cognitive Differentiate atrophic scars, hypertrophic scars and keloids and plan prevention strategies and treatments</p> <p>Select skin grafts appropriately</p> <p>Manage the care of a patient with pilonidal sinus disease</p> <p>Diagnose and treat the following disease of the skin and soft tissue with attention to etiology:</p> <ul style="list-style-type: none"> • Pilonidal disease • Vascular tumors (capillary and cavernous hemangiomas) • Vascular malformations (arteriovenous malformations, port-wine stains, glomus tumors) • Soft tissue tumors (Dermatofibromas, lipomas). • Neural tumors (Neurofibroma, neurilemoma, granular cell tumor) • Necrotizing infections of the skin and soft tissues. • Venous stasis ulcers and diabetic ulcerations of the skin and soft tissues • Pyoderma Gangrenosum <p>Diagnose and stage cancers of the skin and soft tissues</p> <p>Understand Xeroderma pigmentosum and its malignant potential</p>	<p>Cognitive Utilize appropriate laboratory and radiographic tests and procedures to evaluate diseases of the skin and soft tissues</p> <p>Understand the malignant tumors of soft tissues and skin, their metastatic potential and prognosis, proper biopsy and treatment techniques, frequency, distribution (by age, sex, race), predisposing factors (genetic, radiation exposure, lymphedema, trauma, chemical), tendency for recurrence, and prognostic factors</p> <ul style="list-style-type: none"> • Liposarcoma • Fibrosarcoma • Leiomyosarcoma • Malignant fibrous histiocytoma • Synovial sarcoma • Malignant pripheral nerve tumor (MPNT) • Rhabdomyosarcoma • Cutaneous angiosarcoma • Kaposi's sarcoma • Dermatofibrosarcoma protuberans <p>Plan the utilization of lymphoscintigraphy and sentinel lymph node biopsy in skin cancer and melanoma</p> <p>Collaborate with plastic and reconstructive, dermatology, oncology, radiology and ancillary services regarding workup, treatment and referral of complex cases, including those with psychosocial issues</p>

<p>vulgaris, verruca plana, verruca plantaris and condylomata acuminata based on etiology</p> <p>Analyze which human papilloma virus (HPV) subtypes are associated with cancer</p> <p>Analyze cutaneous problems associated with HIV and AIDS including Kaposi's Sarcoma</p> <p>Explain ABDCE signs for suspicious skin lesions of melanoma diagnosis</p> <p>Discuss and differentiate the various forms of keratosis with surgical treatments (Seborrheic keratosis, actinic keratosis, keratoacanthomas, cutaneous horns, Bowen's Disease)</p> <p>Understand anesthesia needs when performing procedures on the skin and soft tissues</p> <p>Recognize skin lesions amenable to excision</p> <p>Explain what types of cases have been shown to benefit from antibiotic prophylaxis</p> <p>Identify infections of the nail, fingertip and hand, referring appropriately for treatment</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p>Perform or refer patients for osteopathic diagnostic and treatment techniques that can be utilized on the skin and soft tissues in</p>	<p>Discuss nevi, their differential diagnosis, malignant potential and treatment:</p> <ul style="list-style-type: none"> • Sporadic and familial • Congenital nevus and giant congenital nevus • Acquired nevus (compound nevus, junctional nevus, dermal nevus) • Spitz Nevus • Lentigo maligna (Hutchinson's freckle) • Blue nevus <p>Understand the following skin cancers, their etiology, precursor lesions and genetic predispositions, relative frequency (age, race, sex and other risk factors), methods of diagnosis and treatment, the metastatic potential and prognosis:</p> <ul style="list-style-type: none"> • Basal cell carcinoma (and subtypes with significance of each), also Basal Cell • Nevus Syndrome • Squamous cell carcinoma • Melanoma (different subtypes with significance of each, staging and prognostic factors. Breslow and Clark classifications) • Merkel cell carcinoma • Verrucous carcinoma • Carcinomas of the adnexa • Extramammary Paget's Disease 	
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<p>treating problems of the viscera</p> <p>Identify the somatic reflexes involved with visceral disease and their possible manifestation in the skin and soft tissues</p> <p>Technical Repair simple lacerations</p> <p>Anesthetize, excise, biopsy and repair skin lesions (benign, malignant and subcutaneous)</p> <p>Properly orient and handle soft tissue as well as surgical specimens and correctly describe dermal and soft tissue lesions</p> <p>Incise and drain abscesses</p> <p>Utilize the vacuum-assisted closure device for wound care</p>	<p>Technical Repair complex lacerations</p> <p>Remove the nail bed of an ingrown toenail</p> <p>Perform reconstructive flap surgery</p> <p>Manage Acute and Chronic Wounds/Cutaneous fistulas</p> <p>Perform full thickness and split thickness skin grafts</p> <p>Perform extensive debridement procedures of skin and subcutaneous tissues</p> <p>Excise and marsupialize pilonidal cysts</p>	<p>Technical Excise complex skin cancers with proper borders and closure techniques</p> <p>Perform sentinel lymph node biopsy and know its application to the treatment of melanoma</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons
General Surgery Residency

Principal Surgical Areas:

Spleen

Developed by: Michael H. Whitworth, D.O., FACOS; Lana G. Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

The spleen is the largest mass of lymphoid tissue in the body. Endowed with a generous blood supply and covered with a thin vulnerable capsule, it maintains its position in the left upper abdomen by suspensory ligaments. The relationship of these ligaments to adjacent organs causes the spleen to be susceptible to iatrogenic injuries when performing other abdominal surgery, which are potentially very detrimental and should prompt caution and careful dissection.

The spleen is a solid organ and is the most commonly injured organ in blunt abdominal trauma. Its location makes it a frequent site of injury in penetrating abdominal trauma as well.

The spleen functions as a center for hematopoiesis during fetal life, in removal of defective or aged red blood cells, as a center for maturation of reticulocytes, in the production of IgM antibodies and several opsonins. It also removes Howell-Jolly bodies, Heinz bodies and Pappenheimer bodies from red blood cells, bacteria, and other foreign debris. The spleen is a source of immune response and aids in eliminating certain bacteria and abnormal cells. After the spleen is removed, the absence of this function can predispose a person to overwhelming septicemia. Proper immunization against infectious diseases is important in cases of splenectomy. There are other disease states where splenectomy can be beneficial such as hereditary, autoimmune, metabolic and neoplastic conditions where the response to splenectomy may vary from minimal benefit to very beneficial.

Laparoscopic splenectomy has added a new dimension in surgically treating the diseases of this organ. Surgery of the spleen can be very challenging, but should be manageable by most general surgeons. As a surgeon it is important to collaborate with other medical services in diagnosing splenic diseases and make recommendations for treatment. With this vital understanding of the clinical sciences and surgical treatments, the general surgeon provides appropriate recommendations to patients and their families.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the basic functions of the spleen, its anatomy and the unique aspects of its blood supply
- Identify the supporting ligaments, the adjacent organs and the significance of these relationships
- Evaluate the normal size of the spleen and what constitutes splenomegaly and massive splenomegaly
- Identify the signs and symptoms associated with splenic diseases, splenomegaly and splenic trauma
- Understand the basic lab tests and diagnostic modalities used in diagnosing splenic diseases and splenic trauma and when to utilize each

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the etiology, pathophysiology and presenting signs and symptoms of splenic diseases, as well as the differential diagnosis and treatment options
- Manage the operative and non-operative treatment of splenic trauma
- Avoid iatrogenic splenic injury, yet know how to treat such an injury should it occur
- Utilize appropriate diagnostic and treatment modalities for splenic diseases and splenic trauma
- Evaluate the consequences of splenectomy and the postoperative complications that can occur and how they should be treated
- Plan and administer appropriate immunizations to patients who have had splenectomy
- Coordinate multidisciplinary operative and non-operative care for diseases and trauma of the spleen
- Counsel patients and their families in all aspects concerning the diagnosis and surgical treatment of diseases of the spleen
- Perform or refer Osteopathic Manipulative Treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevent postoperative complications
- Perform splenectomy and salvage procedures on the spleen

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Describe the anatomy of the spleen, the unique aspects of its blood supply, contiguous organs and supporting ligamentous attachments</p> <p>Differentiate between the white pulp and the red pulp of the spleen and the significance in splenomegaly and platelet sequestration</p> <p>Identify osteopathic specific indicators of splenic pathology</p> <p>Describe trigger points and palpable anomalies associated with different splenic conditions</p> <p>Differentiate among normal spleen size, splenomegaly, and massive splenomegaly</p> <p>Differentiate splenomegaly and hypersplenism and evaluate the consequences to the patient</p> <p>Evaluate the immunologic consequences of asplenia to the patient</p> <p>Analyze the incidence of splenic trauma and the frequency of associated organ injury in blunt and penetrating injuries of the spleen; assess risk criteria for observation of splenic trauma (age, severity of injury, absence of hypotension, practice setting)</p> <p>Predict the morbidity and mortality associated with these types of injuries</p>	<p>Cognitive Understand anatomy, physiology and surgical approaches to the spleen, in addition to the different surgical instruments that can be utilized in splenic surgery</p> <p>Describe splenectomy in terms of neoplastic disease, hereditary, and autoimmune and metabolic disorders</p> <p>Understand techniques of splenic mobilization and removal, both open and laparoscopic</p> <p>Plan incisions for splenectomy in trauma, elective open, laparoscopy (port placement)</p> <p>Prepare the patient for elective and emergent splenectomy</p> <p>Understand the indications for platelet transfusion and timing of transfusion in relationship to surgery</p> <p>Select techniques for splenorrhaphy (splenic salvage) based on an understanding of the segmental blood supply of the spleen</p> <p>Predict the presence of an accessory spleen following a splenectomy, based on an understanding of incidence, locations, and significance</p>	<p>Cognitive Understand the principles of filtration of blood components by the spleen and pharmacological means of interfering with these processes</p> <p>Understand the pathophysiology of sinistral portal hypertension including diagnostic and management issues</p> <p>Compare primary vs. secondary hypersplenism and give the etiologies of secondary hypersplenism</p> <p>Diagnose secondary hypersplenism in congestive, neoplastic, inflammatory, acute infections, chronic infections, storage diseases, chronic hemolytic and myeloproliferative disorders</p> <p>Describe splenectomy in terms of neoplastic disease as well as hereditary, autoimmune and metabolic disorders</p> <p>Differentiate idiopathic thrombocytopenic purpura (ITP) from thrombotic thrombocytopenic pupura (TTP) and other platelet sequestering disorders</p> <p>Differentiate the various hereditary anemias</p> <p>Predict the response following splenectomy for the various medical conditions of the spleen</p>

<p>Classify splenic trauma by stage</p> <p>Plan treatment postsplenectomy based on the hematological findings</p> <p>Understand the postoperative problems of splenectomy and management complications</p> <p>Manage the non-operative treatment of splenic trauma, using the indications and the appropriate manner of monitoring these injuries with follow-up CT exams and return to activity recommendations</p> <p>Manage post-splenectomy sepsis, based on an understanding of the organisms involved, immunization recommendations and the proper timing of vaccinations</p> <p>Interpret sonographic findings of a wandering spleen, noting dominance of occurrence in women especially after childbirth</p> <p>Manage the postoperative care of patients undergoing splenic surgery</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p>Use osteopathic diagnostic techniques to evaluate viscerosomatic reflexes to identify somatic dysfunction</p>	<p>Understand splenosis and its significance</p> <p>Understand auto-transplantation of the splenic substance, its indications and how to avoid it</p> <p>Understand significance and treatment of the ectopic spleen</p> <p>Identify inflammatory pseudotumor of the spleen as part of the differential diagnosis of splenic space-occupying lesions</p> <p>Diagnose and treat delayed rupture of the spleen, the “latency period of Baudet” based on an understanding of when rupture most often occurs</p> <p>Evaluate spontaneous rupture of the spleen with an understanding of the infectious agents associated with this condition</p> <p>Use proper laboratory and diagnostic procedures in evaluating and treating surgical problems of the spleen</p> <p>Diagnose and analyze indications for the treatment of splenic cysts: primary, parasitic and post-traumatic</p> <p>Diagnose and plan operative and non-operative treatment of splenic abscesses</p> <p>Describe the common primary tumors of the spleen</p> <p>Manage the postoperative complications of</p>	<p>Understand hyposplenism, associated diseases and anticipated disease sequelae</p> <p>Understand the role of splenectomy as part of a staging procedure for malignancy</p> <p>Understand splenic artery aneurysms, the most common etiology, and the significance of pregnancy</p> <p>Understand splenic vein thrombosis, most common etiology, signs and symptoms and the role of splenectomy</p> <p>Counsel patients and their families regarding all aspects of surgical management of splenic disease and trauma</p> <p>Collaborate with hematology, pathology, medical oncology, radiology, and other services as needed</p> <p>Provide leadership in a multidisciplinary team of healthcare providers and maintain communication with the primary care physician</p>
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<p>Technical Use appropriate drains following splenectomy based on an understanding of the type of drains to be utilized and problems associated with drains in the post-splenectomy patient</p> <p>Assist in taking down splenic attachments, and demonstrate proper care when assisting and dissecting around contiguous organs</p> <p>Perform proper incision for open and laparoscopic splenectomy</p>	<p>splenectomy</p> <p>Technical Mobilize the spleen; achieve hemostasis for capsular or superficial tears.</p> <p>Perform different techniques for achieving hemostasis</p> <p>Evaluate for accessory spleens and excise them</p>	<p>Technical Perform open and/or laparoscopic splenectomy</p> <p>Perform splenectomy for trauma and for elective medical indications, with special attention to patients who have hereditary bleeding disorders</p> <p>Perform good mobilization of the spleen and perform splenic salvage procedures</p> <p>Perform splenorrhaphy, distal pancreatectomy with preservation of the spleen and en bloc resection of the spleen with an associated organ</p> <p>Perform a staging laparotomy with removal of the spleen</p> <p>Perform laparoscopic decapsulization of congenital splenic cysts found frequently in children</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons

General Surgery Residency

Principal Surgical Areas: Surgical Critical Care

Developed by:

Michael L. Thornton, D.O.; Maurizio Miglietta, D.O.; Marc Rosen, D.O.; Lana G. Nelson, D.O.; Harold Schreiber, D.O., FACOFP; James E. Hoogeboom, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

General surgical residents will care for many patients with a variety of complex surgical and/or life-threatening conditions. Although most general surgery residents will not ultimately specialize in critical care, it is imperative to gain an understanding of the evaluation and management of critically ill patients. Management of these patients by the general surgery resident allows for an in-depth understanding of disease processes and physiological states. This contributes to the skills and knowledge necessary to care for patients in the perioperative state as well as recognize severe illness. Ultimately, patient outcomes will be improved through early recognition and appropriate management of acute life-threatening injuries or critical conditions.

Prerequisites

Prior to entering a general surgical residency, the resident should:

- Understand the physiology of the cardiovascular, pulmonary, digestive, renal, endocrine, central nervous system, hematologic and obstetrical systems
- Understand the common infectious organisms and treatment regimens
- Understand environmental hazards and drug overdose scenarios
- Understand general principles of invasive and noninvasive monitoring of biomechanical functions
- Understand general principles of bioethics
- Understand general principles of pharmacology

Learning Outcomes

Upon completion of the general surgical residency, the resident will:

- Understand the etiology, pathophysiology, diagnostic modalities and treatment options of key areas in surgical critical care: cardiovascular, pulmonary, renal, central nervous system, endocrine, gastrointestinal, genitourinary, hematology, oncology, trauma and environmental hazard
- Plan nutritional support and preventative measures against infectious disease while in surgical critical care
- Determine the indications, dosages, contraindications and methods of administration of the commonly used critical care medications
- Perform specialized techniques related to surgical critical care
- Make ethical decisions related to patient care
- Provide leadership in the administration and organization of the surgical care service
- Achieve provider and/or instructor status in Advanced Cardiac Life Support (ACLS), Advanced Trauma Life Support (ATLS)

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Cardiovascular Physiology and Therapy Identify and differentiate among various forms of shock including hypovolemic, cardiogenic, septic, and neurogenic</p> <p>Describe cardiac function parameters: preload, afterload and myocardial contractility</p> <p>Identify cardiac arrhythmias and the relevant management</p> <p>Describe cardiac tamponade</p> <p>Plan thrombolytic and anticoagulant therapy</p>	<p>Cognitive Cardiovascular Physiology and Therapy Identify acute coronary syndromes and management of acute myocardial infarction</p> <p>Identify indications for placement and types of pacemakers</p> <p>Describe the acute complications of cardiomyopathies and myocarditis</p> <p>Compare the pharmacology of vasopressors and inotropic therapy</p> <p>Explain the principles of oxygen transport, delivery, uptake, and utilization</p> <p>Understand principles of end-points of resuscitation</p> <p>Manage patients perioperatively who are undergoing cardiovascular and noncardiovascular surgery</p>	<p>Cognitive Cardiovascular Physiology and Therapy Diagnose acute and chronic life-threatening valvular disorders</p> <p>Diagnose the complications of angioplasty</p> <p>Evaluate and manage patients with acute hypertensive urgencies and emergencies</p> <p>Manage patients undergoing invasive methods of cardiac output utilizing a pulmonary artery catheter and diagnose complicated shock syndromes</p>
<p>Pulmonary Physiology and Therapy Understand acute lung injury (ALI) and acute respiratory distress syndrome (ARDS)</p> <p>Identify blunt chest trauma (e.g., flail chest, pulmonary contusion, rib fractures)</p> <p>Describe pulmonary mechanics, gas</p>	<p>Pulmonary Physiology and Therapy Manage patients with acute and chronic hypoxemic and/or hypercapnic respiratory failure</p> <p>Manage patients with acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) and pulmonary embolism</p>	<p>Pulmonary Physiology and Therapy Diagnose and manage patients with bronchopulmonary infections including nosocomial-acquired and ventilator-associated pneumonia</p> <p>Manage patients with emergent airway</p>

<p>Central Nervous System Physiology and Therapy Identify the various forms of coma to include: metabolic, traumatic, infectious, mass lesions, vascular-anoxic, ischemic and drug induced</p> <p>Identify psychiatric emergencies including alcohol and drug withdrawal</p> <p>Identify causes and treatment options for delirium in the intensive care unit</p> <p>Understand the pathophysiology of primary and secondary brain injury, including hyperthermia, hyperglycemia, ischemia, hemorrhagic, and shock Discuss the components of intracranial pressure</p> <p>Correlate findings on a neurological exam with pathologic processes</p> <p>Endocrine Physiology and Nutritional Support and Therapy Understand the disorders of thyroid dysfunction including thyroid storm, myxedema coma, and euthyroid sick syndrome</p> <p>Understand the pathophysiology and treatment of pheochromocytoma, adrenal cortical excess and deficiency, and hypo/hyperparathyroidism</p> <p>Identify specialty formulations and</p>	<p>Compare and summarize the disorders of respiratory failure induced neuromuscular diseases including Guillian-Barre, amyotrophic lateral sclerosis, myasthenia gravis, myopathies, and neuropathy of critical illness</p> <p>Endocrine Physiology and Nutritional Support and Therapy Summarize and differentiate the disorders of antidiuretic hormone metabolism including syndrome of inappropriate antidiuretic hormone secretion (SIADH) and diabetes insipidus (DI)</p> <p>Compare and identify the advantages and disadvantages between enteral and parenteral nutritional support</p> <p>Understand indirect calorimetry as it relates to overfeeding/underfeeding syndromes and respiratory quotient differentiation</p> <p>Infectious Disease Physiology and Therapy</p>	<p>traumatic brain injury and elevated intracranial pressure including subarachnoid, intracerebral, epidural, subdural and diffuse axonal injury</p> <p>Diagnose and manage a patient with status epilepticus Manage patients undergoing conscious sedation and/or neuromuscular blockade</p> <p>Counsel patients and families regarding neurological processes</p> <p>Endocrine Physiology and Nutritional Support and Therapy Explain, diagnose and manage a patient with adrenal insufficiency, failure, and crisis</p> <p>Diagnose and manage a patient with diabetes mellitus including acute stress hyperglycemia, ketotic, and nonketotic hyperosmolar dysfunctions</p> <p>Create and maintain a plan for appropriate nutritional support</p>
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<p>immunonutrition</p> <p>Manage disorders of calcium, magnesium, and phosphorous metabolism</p> <p>Understand the role of intensive glyemic control on mortality</p> <p>Infectious Disease Physiology and Therapy</p> <p>Understand the pharmacology of antibacterial and antifungal agents</p> <p>Identify the most common infectious pathogens as seen in surgical critical care</p> <p>Practice infection control for surgical critical care units based on an understanding of the development of antibiotic resistance, universal precautions, and isolation and restriction</p> <p>Identify systemic inflammatory response syndrome</p> <p>Compare hospital-acquired and opportunistic infections as seen in surgical critical care</p> <p>Identify the adverse reactions to antimicrobials</p> <p>Describe culture and isolation techniques for various agents</p>	<p>Explain and differentiate sepsis, severe sepsis, septic shock, multiple organ dysfunction syndromes, and multiple organ failure syndromes</p> <p>Understand the management of tetanus as it relates to traumatic and surgical wounds</p> <p>Plan the support of immunosuppression as it relates to acquired immunodeficiency syndrome, transplant and oncologic patients</p> <p>Describe the biological modifiers of sepsis including activated protein C and tissue factor Manage the patient with fever as it relates to surgical critical care</p> <p>Hematologic and Oncologic Physiology and Therapy</p> <p>Identify the acute defects in hemostasis including thrombocytopenia and disseminated intravascular coagulation</p> <p>Understand blood component therapy including transfusions of packed red blood cells, platelets, fresh frozen plasma, and cryoprecipitate</p> <p>Understand the pharmacologic modification of hematologic dysfunctions including aminocaproic acid, aprotinin, erythropoietin and Factor VII</p> <p>Gastrointestinal and Genitourinary Physiology and Therapy</p>	<p>including daily management of parenteral nutrition</p> <p>Infectious Disease Physiology and Therapy</p> <p>Hematologic and Oncologic Physiology and Therapy</p> <p>Choose among the various forms of prophylaxis against thromboembolic disease including the indications for venal cava interruption devices</p>
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<p>shunt (TIPS)</p> <p>Trauma and Environmental Hazards Therapy</p> <p>Understand the pathophysiology of blunt and penetrating trauma</p> <p>Carry out patient stabilization, transport, and physician-to-physician communication in emergency situations</p> <p>Describe the basic techniques of evaluation and resuscitation of trauma patients using ATLS protocols</p> <p>Describe the factors associated with rehabilitation as they apply to initial and early intensive care</p> <p>Provide leadership in disaster management, including patient triage</p> <p>Understand institutional disaster plans as they relate to the intensive care unit (ICU)</p> <p>Understand and manage temperature-related injuries including hyperthermia, heat shock, hypothermia, and frostbite</p> <p>Understand acute decompression sickness and hyperbaric oxygenation therapy</p> <p>Understand the principles and protocols of organ donation,</p>	<p>Monitoring, Bioengineering, Biostatistics, Ethics, and Administration</p> <p>Make decisions based on prognostic indexes, severity, and therapeutic intervention scores</p> <p>Counsel patients and families on decisions related to end-of-life, terminal care, outcome and futility, and organ procurement</p> <p>Utilize office practices that demonstrate excellence in documentation, compliance, and billing</p> <p>Provide leadership in conflict resolution in the context of the ICU</p>	<p>management of multisystem trauma-related injuries including initial approach to multisystem trauma, brain and spinal cord, skeletal trauma, blunt and penetrating chest trauma, blunt and penetrating abdominal trauma, crush injuries, burns, and electrical injury</p> <p>Monitoring, Bioengineering, Biostatistics, Ethics, and Administration</p>
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<p>procurement, preservation, transportation, allocation, implantation, and the local and national organization of transplantation services</p> <p>Monitoring, Bioengineering, Biostatistics, Ethics, and Administration</p> <p>Understand common monitoring systems and troubleshooting of devices in intensive care</p> <p>Counsel patients and families on the informed consent protocol</p> <p>Implement models of team building; patient triage; and physician, nurse, and ancillary staff organization</p> <p>Maintain patient safety</p> <p style="text-align: center;">Technical</p> <p>Perform endotracheal intubation</p> <p>Provide maintenance of an open airway in the non-intubated patient</p> <p>Provide ventilation by bag mask</p> <p>Place a chest tube or an arterial catheter</p> <p>Insert a central venous catheter</p> <p>Perform electrocardiogram interpretation</p> <p>Perform cardioversion and defibrillation</p>	<p>Technical</p> <p>Perform a cricothyroidotomy</p> <p>Perform tracheal intubation using both percutaneous and open techniques</p> <p>Insert a pulmonary artery catheter</p> <p>Perform pericardiocentesis in acute tamponade</p> <p>Insert a transcutaneous pacing device</p>	<p>Technical</p> <p>Perform flexible endoscopy including sigmoidoscopy and esophago-gastroscopy</p> <p>Perform flexible diagnostic bronchoscopy</p>
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<p>Perform a thoracentesis and a paracentesis. Apply and manage a vacuum assisted closure for wound care</p> <p>Perform ultrasound guided imaging of vascular anatomy and fluid collections</p>		
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons
General Surgery Residency

Principal Surgical Areas:

Thoracic

Developed by:

India Broyles, EdD;, Cynthia Cartwright,
MT, RN, MSEd; Adam Smith, D.O.,
FACOS; Lana G. Nelson, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and
Improvement
Systems-Based Practice

Rationale

General thoracic surgery includes the diagnosis and management of diseases of the lung, pleura, and mediastinum. Thoracic surgery focuses on general respiratory disorders, including pulmonary malignant tumors, especially lung cancer, infectious lung diseases, irreversible progressive diffuse lung diseases, and mediastinal tumors. General surgeons deal with the management of complex multisystem problems.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the anatomy and physiology of the normal chest cavity
- Understand the pathophysiology of thoracic diseases
- Understand the signs, symptoms and physical findings in thoracic disease
- Identify basic pulmonary function tests and imaging used to evaluate lung function
- Be able to evaluate the risk factors for the development of thoracic cancer

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the etiology, pathophysiology, presenting symptoms, differential diagnosis and treatment options of thoracic diseases of surgical importance
- Evaluate the treatment options of benign diseases of the thorax and inflammatory diseases of the lung
- Manage the patient with blunt or penetrating chest trauma including resuscitation, non-operative management, and chest tube management
- Perform or refer Osteopathic Manipulative Treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevent postoperative complications
- Diagnose, perform surgeries, and manage the most common surgical diseases of the lung
- Coordinate multidisciplinary care for benign and malignant thoracic conditions both operatively and non-operatively
- Counsel patients and families on all aspects of thoracic diagnosis, surgery and treatment

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive</p> <p>Identify superior vena cava syndrome and physical signs of empyema, pneumonia and pneumothorax</p> <p>Interpret chest X-ray and CT scan evidence of lung cancer, pneumonia, atelectasis, pneumothorax, mediastinal shift, pleural effusion, and pulmonary contusion</p> <p>Recognize a flail chest</p> <p>Diagnose and treat respiratory insufficiency</p> <p>Diagnose and treat pneumothorax</p> <p>Describe the role of both diagnostic and therapeutic bronchoscopy</p> <p>Diagnose and manage parapneumonic effusion, complex pleural effusion, and pleural empyema</p> <p>Understand the rationale for combined modality treatment of locally advanced lung cancer</p> <p>Describe the differential diagnosis of mediastinal, subcutaneous and cervical emphysema</p> <p>Describe risk factors for recurrent spontaneous pneumothorax and understand indications for thoracotomy</p>	<p>Cognitive</p> <p>Recognize atypical presentation of general thoracic disease</p> <p>Understand the statistical basis for acute and long-term outcomes of surgical intervention of general thoracic disease</p> <p>Explain preoperative risk assessment in the thoracic surgical patient including evaluation of pulmonary function tests and their importance in determining safety of resection</p> <p>Diagnose and manage patients with chest wall tumors including recurrent breast cancer</p> <p>Diagnose and manage patients with bronchial carcinoma, metastatic carcinoma (single and multiple), spontaneous pneumothorax, undiagnosed pulmonary masses</p> <p>Diagnose and manage patients with mediastinal masses including thymoma and lymphoma</p> <p>Manage a prolonged air leak following pulmonary resection</p> <p>Manage the critical and inpatient care of patients with blunt and penetrating chest trauma</p>	<p>Cognitive</p> <p>Evaluate literature related to the therapy of tracheal lesions</p> <p>Evaluate the preoperative and intra-operative staging maneuvers that are necessary to decide for which patient a combined modality treatment may be appropriate</p> <p>Collaborate with pulmonologists, pathologists, oncologists, radiation oncologists, pain management specialists, allergists, and behavioral scientists in the care of patients with thoracic disease</p>

<p>Understand the role of OMT for patients with impaired pulmonary function undergoing thoracic and abdominal surgical procedures</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p>Technical Perform thoracentesis</p> <p>Insert and remove chest tubes</p> <p>Perform exposure of the trachea for mediastinoscopy and/or tracheostomy</p> <p>Perform chest tube pleurodesis</p>	<p>Technical Manage the initial resuscitation and evaluation of patients with chest trauma</p> <p>Perform emergency thoracotomy for control of hemorrhage</p> <p>Perform diagnostic and therapeutic bronchoscopy</p> <p>Perform thoracotomy and pleurodesis</p>	<p>Technical Perform mediastinoscopy and pulmonary resection including wedge resection, pneumonectomy and lobectomy</p> <p>Perform median sternotomy, mediastinal exploration and mediastinal closure</p> <p>Perform diagnostic thoracoscopy and video-assisted thoracoscopic pleurodesis and wedge resection</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons
General Surgery Residency

Principal Surgical Areas:
Trauma & Emergency

Developed by:
India Broyles EdD; Cynthia Cartwright,
MT, RN, MEd; Marc Rosen, D.O.;
Casey Thomas, D.O.

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Surgeons are part of a crisis management team. Working from a holistic approach, the surgeon needs to be an advocate for the understanding that trauma is a preventable disease. When patients with trauma and emergencies arrive at the hospital, departments of general surgery, emergency medicine and orthopedic surgery work in partnership to provide care and trauma surgery. Surgeons are recognized for their expertise in treating patients with unexplained medical emergencies and critical illnesses. They are also experts in the treatment of patients with acute injuries (e.g., those acquired in auto crashes and industrial incidents), thermal injuries (from heat, cold, chemical or electrical incidents), and those requiring emergency surgery.

General surgical residents have specific rotations in emergency services, which provide an experience in trauma, evaluation of abdominal pain, suturing, treatment of severe medical problems, cardio-pulmonary resuscitation, and general resuscitation. Further, trauma and emergency surgery rotations give experience in triage, nutritional and metabolic management, and direct participation in critical care.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand the anatomy, physiology and pathology of all body systems as they are affected by trauma, including the initial functional evaluation of the central nervous system, cardiovascular system, genitourinary system, pulmonary system, gastrointestinal system, extremity function, nutritional status
- Understand the etiology and pathophysiology of each type of shock and the associated clinical presentation and hemodynamic parameters
- Understand the principles of prevention and management of infection
- Value health promotion and accident prevention beliefs and strategies
- Understand trauma scoring systems
- Maintain certification in Advanced Cardiac Life Support (ACLS)

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the basic science concepts of injury mechanisms, metabolic responses to injury, organization of trauma systems, and applications of technology sufficient to adapt to changes in the practice of trauma management and surgical care
- Perform the assessment, resuscitation, operative management, and postoperative care of injured patients and those with other critical illnesses within the scope of general surgery
- Coordinate multidisciplinary operative and non-operative care for the trauma patient
- Counsel patient's family regarding advanced directives and do not resuscitate (DNR) orders
- Serve as an advocate for health promotion and accident prevention
- Maintain Advanced Trauma Life Support (ATLS) certification

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive With non-trauma/emergency patients, conduct a history with additional focus on social history as possible risk factors for trauma and/or emergency</p> <p>Map the heart and great vessels</p> <p>Recognize signs, symptoms and treatment of simple pneumothorax, tension pneumothorax, hemothorax, flail chest, rib fracture, pulmonary contusion and tracheobronchial injury</p> <p>Differentiate between the specific patterns of injury associated with various trauma mechanisms (e.g., blunt versus penetrating abdominal trauma)</p> <p>Understand the concepts of burn injury and its pathophysiology</p> <p>Evaluate percentage of burn, calculate fluid resuscitation, and assess nutritional status</p> <p>Perform focused abdominal sonography for trauma (FAST) exam</p> <p>Recognize the indications for exploratory laparotomy and emergency thoracotomy</p> <p>Recognize signs, symptoms, and treatment of cardiac tamponade, blunt myocardial injury and blunt aortic injury</p>	<p>Cognitive Understand the mechanic/ballistics associated with various weapons</p> <p>Manage a trauma patient who has associated medical conditions such as diabetes and chronic obstructive pulmonary disease, pregnancy and/or coronary artery disease</p> <p>Manage age-related peculiarities of geriatric and pediatric trauma</p> <p>Counsel the family using approved protocol and meeting legal conditions for organ procurement and transplantation</p> <p>Identify complications of alcohol and drug use in trauma patients</p> <p>Understand the rights and responsibilities related to sexual assault, child abuse, suicide, and homicide</p> <p>Perform primary survey, secondary survey, and resuscitation</p> <p>Establish definitive treatment by carrying out the following:</p> <ul style="list-style-type: none"> • Establish and exercise priorities for workups beginning with the most threatening diagnosis and progressing to the most likely diagnosis 	<p>Cognitive Manage systemic complications following trauma</p> <p>Understand the economic impact of vocational rehabilitation, nursing home care, and insurance</p> <p>Participate in quality management of a trauma unit</p> <p>Choose topical agents for wound care</p> <p>Plan grafting procedures with appropriate materials</p> <p>Recognize and treat inhalation injury</p> <p>Understand the principles of treatment of chemical and electrical burns</p> <p>Collaborate with first responders, emergency physicians and specialists from radiology, orthopedics, cardio/thoracic and critical care services</p> <p>Teach junior residents, paramedics and nurses concepts and skills related to patients who have undergone trauma and are critically ill</p>

<p>Evaluate X-rays of the cervical spine, chest, and pelvis</p> <p>Evaluate CT scans of the head, cervical spine, chest, abdomen, and pelvis</p> <p>Assess the indications and potential complications for transfusion, auto-transfusion, and blood substitutes</p> <p>Plan elements of initial and early patient care with attention to rehabilitation</p> <p>Analyze the pharmacological support for patients with traumas, burns, and emergencies</p> <p>Understand legal issues related to trauma situations</p> <p>Evaluate controversies in recent trauma care literature</p> <p>Write the orders for postoperative care of the patient</p> <p>Manage the follow-up care of patients after discharge</p> <p>Understand the zones of the neck and retroperitoneum</p>	<ul style="list-style-type: none"> • Administer necessary treatments during the evaluation process • Administer wound care to include tetanus prophylaxis, wound preparation, surgical repair appropriate dressing and follow-up instruction • Plan and assist in the care of patients including ordering and interpreting electrocardiogram, radiographs and laboratory tests <p>Evaluate and treat geriatric and pediatric trauma</p> <p>Manage trauma patients with the following injuries: liver, spleen, small bowel, colon, duodenum, pancreas, diaphragm, esophagus, stomach, kidney, bladder, rectum and spinal cord</p> <p>Manage head injuries including hematomas, increased intracranial pressure and shear injury</p> <p>Manage vascular injuries</p> <p>Manage extremity injuries with attention to assessing fractures, neurologic status, vascular status and abdominal compartment syndrome</p>	
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<p><i>Technical</i></p> <p>Perform thoracentesis and paracentesis</p> <p>Draw blood for laboratory testing</p> <p>Perform peripheral venous access, venous cutdown, arterial line and central line placement</p> <p>Perform naso-/orogastric tube insertion and endotracheal intubation</p> <p>Insert a Foley catheter</p> <p>Perform diagnostic peritoneal lavage, pericardiocentesis and closed tube thoracostomy</p>	<p>Technical</p> <p>Perform trauma laparotomy</p> <p>Perform burn escharotomy</p> <p>Perform faciotomy</p> <p>Perform diagnostic and therapeutic laparoscopy</p> <p>Perform surgical airway techniques and cricothyroidotomy</p>	<p>Technical</p> <p>Perform burn excision and grafting</p> <p>Perform tracheostomy, jejunostomy tube placement, and gastrostomy tube placement</p> <p>Perform bronchoscopy</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

American College of Osteopathic Surgeons
General Surgery Residency

Principal Surgical Areas:

Vascular

Developed by:

India Broyles EdD; Cynthia Cartwright, MT, RN, MEd; Harold Schreiber, D.O., FACOFP; Lori Chapleskie, D.O.; Lana G. Nelson, D.O.; Marc Rosen, D.O.; Michael H. Whitworth, D.O., FACOS

Resident Competencies

Osteopathic Principles and Practices
Medical Knowledge Patient Care
Interpersonal and Communication Skills
Professionalism
Practice-Based Learning and Improvement
Systems-Based Practice

Rationale

Acute and chronic disease states of the arterial and venous system constitute a large percentage of inpatient and outpatient surgical care and thus represent a significant part of a surgical resident training program. Atherosclerosis is the most common cause of morbidity and mortality in the United States (U.S.). Although the risk factors are similar for both men and women, they manifest clinical complications at different ages and often in different modes. Cerebrovascular disease is the leading cause of serious disability and the third leading cause of death in the US. Surgeons manage a wide array of associated problems such as stroke, cardiac disease, renal failure, dialysis access, diabetes, wound care and rehabilitation related to this group of patients. Vascular conditions and diseases provide a wide variety of surgical challenges essential to the training of a competent general surgeon. In addition to disease, penetrating injuries are the most common mechanism of trauma to the vascular system requiring surgery.

Prerequisites

Prior to entering a surgical residency, the resident should:

- Understand normal arterial, venous and lymphatic anatomy as well as common anomalous malformations
- Understand the scope and underlying pathogenesis of atherosclerotic vascular disease
- Understand risk factors for the development of atherosclerotic vascular disease
- Understand venous insufficiency, thrombosis and chronic venous ulcers of the lower extremities

Learning Outcomes

Upon completion of the general surgery residency, the resident will:

- Understand the anatomy and physiology of the vascular and lymphatic system
- Recognize the presentation of acute and chronic vascular and lymphatic pathology
- Manage the non-operative aspects of vascular and lymphatic disease
- Perform surgical procedures used to treat vascular and lymphatic disorders including correct operative timing and choice of procedure
- Perform or refer Osteopathic Manipulative Treatment (OMT) in the pre- and postoperative period to facilitate early return to normal function and prevent postoperative complications
- Coordinate multidisciplinary operative and non-operative care of vascular diseases and injuries
- Assess the risk/benefit ratio of surgical care in patients with vascular disease
- Appreciate and understand new technologies in the approach to treatment of patients with vascular problems e.g., endovascular therapy

Phase I: Performance Indicators	Phase II: Performance Indicators	Phase III: Performance Indicators
<p>Cognitive Interpret non-invasive imaging studies</p> <p>Understand the clinical significance of basic pathologic processes such as atherosclerosis, aneurysm, thrombosis and ischemia</p> <p>Understand the etiology and therapeutic options within categories of vascular disease: venous, lymphatic, arterial and peripheral vascular</p> <p>Compare the methods of treatment of vascular conditions: pharmacologic, endovascular surgery and surgery</p> <p>Perform an appropriate preoperative evaluation</p> <p>Understand the unique aspects of the postoperative management of vascular surgical patients</p> <p>Manage coagulant and anti-coagulant therapy</p> <p>Determine a plan for assessing operative risk: cardiac, pulmonary, renal, metabolic and anesthetic risks</p> <p>Understand the benefits of pre- and postoperative OMT in normalizing tissues, removing restriction and normalizing function</p> <p>Understand the requirements for appropriate discharge from the hospital and rehabilitation</p>	<p>Cognitive Interpret invasive imaging studies with regard to vascular abnormalities</p> <p>Understand arterial and venous pathology and their presentations: transient ischemic attacks (TIAs), stroke, claudication, rest pain, ischemic tissue loss, deep vein thrombosis (DVT), chronic venous insufficiency, acute arterial occlusion (embolic or thrombotic), aneurysm, diabetic neuropathy and arterial trauma</p> <p>Identify the indications for and selection of operative options in patients with arterial, venous and lymphatic diseases</p> <p>Understand the mechanisms of action and the therapeutic role of pharmacologic agents: vasopressors, vasodilators, adrenergic blocking agents, anticoagulants, antiplatelet agents, thrombolytics</p> <p>Evaluate and prepare patients for angiography and vascular surgery</p> <p>Evaluate the impact of the following on atherosclerotic vascular disease: diabetes mellitus, hypertension, renal failure, congestive heart failure, hyperlipidemia, obesity and smoking</p> <p>Recognize vascular emergencies and determine appropriate treatment options</p>	<p>Cognitive Analyze the surgically correctable causes of hypertension</p> <p>Determine a plan for assessing operative risk: cardiac, pulmonary, renal, metabolic and anesthetic</p> <p>Evaluate patients for complications of vascular and endovascular surgery including graft infection, pseudoaneurysm and endoleak</p> <p>Understand the use of adjunctive measures in the management of vascular disease, including antibiotics, anticoagulants, thrombolytic agents</p> <p>Assess the costs associated with providing surgical care to patients with vascular disorders</p> <p>Evaluate choices in pharmacology such as angiotensin inhibitors, beta blockers and statins in reducing late cardiac events after surgery</p> <p>Recognize gender and age differences in setting the threshold for operative repair</p> <p>Technical Assist in routine vascular reconstruction procedures including peripheral vascular reconstruction, carotid endarterectomy,</p>

		<p>aortoriliac endarterectomy, aortic resection and graft and aortofemoral bypass graft</p> <p>Assist in endovascular procedures</p> <p>Manage complications of common major vascular procedures</p>
<p>Performance Indicators: Arterial Disease</p>		
<p>Cognitive Discuss congenital anomalies of the aortic arch and its branches</p> <p>Understand coarctation of the aorta</p> <p>Identify the clinical presentation of diseases of the aorta</p> <p>Understand the role of inflammation and proteases in the pathogenesis of aneurysm</p> <p>Understand the medical therapy of aneurysms of the aorta</p> <p>Technical Insert central venous lines; central venous access; catheters and ports; arterial catheter; insert Swann-Ganz central catheter</p> <p>Perform intra-operative evaluation of acute mesenteric ischemia</p>	<p>Cognitive Discuss thoracic and abdominal aortic aneurysms: classification, etiology, incidence and pathogenesis</p> <p>Classify and understand surgical approaches to aortic dissection</p> <p>Perform initial evaluation of a patient with mesenteric ischemia including diagnosis and treatment options</p> <p>Identify surgical morbidity and mortality rates</p> <p>Minimize neurological complications</p> <p>Recognize pseudoaneurysms, inflammatory aneurysms and mycotic and HIV related aneurysms</p> <p>Technical Place arteriovenous shunts (fistulas) for hemodialysis</p> <p>Perform thromboembolectomy</p> <p>Perform vascular exposure and arterial repair</p>	<p>Cognitive Evaluate and manage preoperatively the patient with a ruptured abdominal aortic aneurysm</p> <p>Discuss extensive aortic aneurysm and repair techniques “Elephant Trunk Technique”</p> <p>Know endovascular repair techniques</p> <p>Compare visceral aneurysm and aneurysm of extremities</p> <p>Understand the basics of abdominal aortic aneurysm repair</p> <p>Technical Perform aortic bifemoral bypass graft</p> <p>Perform femoral-popliteal bypass graft</p> <p>Perform venous ligation and stripping</p> <p>Perform carotid endarterectomy</p>

	Dissect the carotid and femoral arteries and abdominal aorta providing correct surgical exposure	Assist in the repair of a thoraco-abdominal aneurysm Assist in mesenteric vascular reconstruction
Performance Indicators: Venous Disease		
<p>Cognitive Understand indications for central venous catheters and ports</p> <p>Identify avenues of access and complications of venous catheters and ports</p> <p>Understand venous anatomy and physiology</p> <p>Understand the pathophysiology, diagnosis and treatment of varicose veins and deep vein thrombosis</p> <p>Recognize, diagnose and treat venous thrombosis; provide advice on prophylaxis when appropriate</p> <p>Select appropriate prophylaxis for venous thromboembolism</p> <p>Technical Place central venous catheters including Swann-Ganz catheter</p> <p>Place central venous catheters</p> <p>Select the appropriate level of amputation for a non-salvageable</p>	<p>Cognitive Recognize indications for vena caval filter placement and select appropriate type</p> <p>Select patients for screening of concurrent vascular disease</p> <p>Differentiate between synthetic, biologic, cadaveric and autologous graft and selection for use in vascular surgery</p> <p>Differentiate between a septic foot with and without ischemia</p> <p>Evaluate patients for vena cava filter placement and assess patients for pulmonary embolism including diagnosis and treatment options</p> <p>Understand the principles of care for ischemic limbs</p> <p>Evaluate patients with venous insufficiency, varicosities and deep venous thrombosis and formulate a treatment plan</p> <p>Technical Perform stab avulsion phlebotomy</p> <p>Perform vascular access for hemodialysis</p>	<p>Cognitive Understand surgical treatment for venous disorders including:</p> <ul style="list-style-type: none"> • Vein stripping/phlebectomy • Sclerotherapy of greater saphenous vein for coronary bypass surgery (CABC) and arterio-venous grafts • Fistulas <p>Diagnose and manage prosthetic graft infections including selection of alternate routes for revascularization</p> <p>Evaluate indications and contraindications of thrombolysis</p> <p>Evaluate patients with chronic venous ulceration for venous duplex imaging and surgery plus compression</p> <p>Develop strategies for prevention of atrial fibrillation and formation of clots in patients who have undergone on-pump coronary artery bypass grafting</p> <p>Technical Perform stripping of greater saphenous vein</p> <p>Place vena caval filter</p>

<p>amputation for a non-salvageable extremity and perform amputation</p> <p>Debride lower extremity ulcers associated with venous insufficiency and diabetes</p>		<p>Perform arterial-venous graft and arterial-venous fistula</p> <p>Construct arterial-venous fistula for dialysis access</p>
<p>Performance Indicators: Peripheral Vascular Disease</p>		
<p>Cognitive Use risk factors (increase CH, LDL/HDL ratios, diet, genetics, smoking, hypertension, diabetes mellitus, age, gender) to predict peripheral vascular disease</p> <p>Recognize end organ manifestations of peripheral vascular disease</p> <p>Understand arterial and venous occlusion and peripheral vascular replacement</p> <p>Evaluate a patient with acute limb ischemia recognizing signs and symptoms, performing a physical exam, and formulating an initial treatment plan</p> <p>Recognize clues on physical exam (Arcus Seniles, xanthalamos, decreased pulses, bruits)</p> <p>Identify the pathology and characteristics of plaque development</p> <p>Predict the location of bifurcations, bends</p> <p>Recognize the presentation of Buerger's Disease and complications of cigarette</p>	<p>Cognitive Understand the indications for MRA vers contrast angiography and contraindications of each</p> <p>Identify complication of compartment syndrome with acute arterial occlusion and ischemia with treatment and presenting symptoms (reperfusion injury)</p> <p>Treat complications of angiography including arterio-venous fistula, pseudo aneurysm, nephrotoxicity, epidural hematoma, trash foot syndrome</p> <p>Utilize anticoagulant and statin therapies based on relation to contraindications (recent stroke or major bleeding)</p> <p>Identify types and sources of embolizations and sites of embolization</p> <p>Differentially diagnose claudication</p> <p>Technical Interpret angiograms</p> <p>Surgically expose femoral veins</p>	<p>Cognitive Discuss indications for surgery based on size and location of peripheral aneurysms</p> <p>Technical Suture repair of femoral artery laceration</p>

<p>smoking</p> <p>Understand the surgical diagnosis and medical treatment of temporal arteritis Diagnose Raynaud's Disease</p> <p>Work up peripheral vascular disease including arterial/venous ratios, Doppler studies, Transcutaneous oxygen monitoring (TCOMs), normal values</p> <p>Technical: Perform central line/femoral vein access</p> <p>Start arterial lines</p>	<p>Surgically expose iliac vessels</p> <p>Perform peripheral vascular reconstruction</p> <p>Perform saphenous vein stripping and varicose vein removal</p>	<p>Perform femoropopliteal bypass</p> <p>Perform femoral endarterectomy</p> <p>Perform saphinous vein harvest</p>
Performance Indicators: Cerebrovascular Disease		
<p>Cognitive Understand risk factors for cerebrovascular disease, especially hypertension</p> <p>Recognize the clinical presentation of stroke versus transient ischemic attack</p> <p>Technical</p>	<p>Cognitive Understand the areas of atherosclerosis – carotid bifurcation, aortic arch (source of cerebral emboli), small penetrating brain arteries</p> <p>Technical</p>	<p>Cognitive Understand plaque destabilization with rupture and embolization</p> <p>Use imaging studies to diagnose suspected carotid disease:</p> <ul style="list-style-type: none"> • Duplex ultrasonography • CT/MRI • Contrast angiography <p>Technical</p>
Performance Indicators: Lymphatic Disease		
<p>Cognitive Understand the embryology, anatomy and function of the lymphatic system</p> <p>Understand lymphadema</p>	<p>Cognitive Diagnose and treat 1st, 2nd and 3rd stages of lymphadema</p> <p>Differentiate primary lymphadema from cardiac failure, renal failure, hypoproteinemia, venous</p>	<p>Cognitive Diagnose and treat chylothorax, chyloperitoneum and tumors of the lymphatics</p>

<p>Technical Excise lymph nodes</p> <p>Perform regional and inguinal lymphadenectomy</p>	<p>insufficiency and deep vein thrombosis</p> <p>Technical Perform excisional operations for lymphadema – Auchincloss/Homans procedure</p>	<p>Technical Perform reconstructive operations for lymphadema – Charles’ procedure</p> <p>Repair thoracic duct: chylothorax or chyloperitoneum</p> <p>Excise lymphatic tumors – lymphangioma or lymphangiosarcoma</p>
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Learning Experiences (list titles specific teaching conferences, procedure workshops, skills labs, etc.)

Resources

Resident Assessment

GS RPAC CURRICULUM --- OVERVIEW

YEAR	July	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
1	Orientation	Endocrine	Surgical Skills Lab	Vascular	Critical Care	Pediatric Surgery	Infectious Disease	Breast Disease	Rectal/Anus	Research Paper Day
2	Orientation	Trauma	Surgical Skills Lab	Transplant	Nutritional Support	Lower GI	Upper GI	Biliary Tree	Hernia	Research Paper Day
3	Orientation	Jurisprudence	Endocrine	Surgical Skills Lab	Trauma	Pancreas	Infectious Disease	Vascular	Breast	Research Paper Day
4	Orientation	Biliary	Surgical Skills Lab	Critical Care	Thoracic	Liver/Spleen	Gynecology	Upper GI	Lower GI	Research Paper Day

GSRPAC Year One Curriculum

**2005-
2006**

	July Orientation	August Endocrine	SEPTEMBER Surgical Skills	OCTOBER Vascular	NOVEMBER Critical Care	JANUARY Pediatric Surgery (ohiONE)	FEBRUARY Infectious Disease (ohiONE)	MARCH Breast Disease (ohiONE)	APRIL Rectal/Anus	MAY Research Paper
Topics:										
Moderator Directors Mtg	<i>Meshekow</i>	<i>Meshekow</i>	<i>Classen</i>	<i>Wehmann</i>		<i>Clarey</i>	<i>Galante</i>	<i>Classen</i>	<i>Meshekow</i>	<i>Kirkland</i>
Objectives	Research Information/ Time-tables Professional Development	Thyroid Parathyroid	Laposcopic Manual Dexterity Instrumentation Familiarization Hands-on Experience	Vascular testing Venous Disease	ARDS ICU Monitoring Etiology of Shock	Pyloric Stenosis Inguinal Hernias Hirschprungs Disease GI Disorders	Antibiotic Pharmacology Soft Tissue Infection Intra-abdominal Sepsis HIV & Surgery	New diagnosis /current trends/tech in breast surgery Controversies in breast care management Onc/Rad for Breast Cancer Benign breast	Hemorrhoids Fissures Anal carcinoma Anatomy of the Anus	Presentation of Senior Resident Papers IRB Timeline Choosing a topic for a Research Paper
Basic Science Focus			Gross Anatomy of the Abdominal Wall	General Surgery on the Internet	Physiology of Shock	Embryological Anatomy of the Gastrointestinal Tract	Antibiotics: A Bacterial Perspective	Cancer Genetics: Testing for Breast Cancer Risk		Professional Writing: Common Sense Recommendations That May Surprise You
Presenter:										
OPP Integration					Improvement of Respiratory Effectiveness	Specific Techniques for Pediatrics	Techniques to Improve Fluid Motion and Drainage	Techniques to Improve Axillary Drainage		OPP Research
Presenter:					<i>TBA</i>	<i>TBA</i>	<i>TBA</i>	<i>TBA</i>	<i>TBA</i>	<i>TBA</i>

GS RPAC Year Two Curriculum

**2006-
2007**

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
Topics:	Orientation	Trauma	Surgical Skills Lab	Transplant	Nutritional Support	Lower GI	Upper GI	Biliary Tree	Hernia	Research Paper
Moderator	<i>Meshekow</i>	<i>Clarey</i>	<i>Classen</i>	<i>Galante</i>	<i>Cashen</i>	<i>Wehmann</i>	<i>Meshekow</i>	<i>Classen</i>	<i>Clarey</i>	<i>Kirkland</i>
Directors Mtg	<i>Live</i>	<i>Live</i>	<i>Videoconf</i>	<i>Live</i>	<i>Live</i>	<i>Videoconf</i>	<i>Videoconf</i>	<i>Videoconf</i>	<i>Live</i>	<i>Live</i>
Objectives	Research Information/ Time-tables Professional Development	Assessment Treatment Resuscitation Blunt/Penetrating Trauma	Laser	Liver/Kidney Harvesting	Assessment Complications Treatment: TPN Enteral Feedings	Bleeding Diverticular Disease Cancer Proctology	Bleeding Ulcer: H. pylori Gastric Malignancy	Ascending Cholangitis Biliary Jaundice Acute/Chronic chole	Mesh Repair Incisional Herniorrhaphy Uncommon Hernias	Presentation of Senior Resident Papers IRB Timeline Choosing a topic for a Research Paper
Basic Science Focus		Septic Shock	None	Pharmacology Immunosuppressive Drugs	Aspects of Peri-operative nutrition & its assessment	Topics in Large Bowel Physiology	Gross Anatomy & Histological Anatomy of the Upper GI System	Bile Metabolism	Pharmacodynamic Principles	
Presenter:										
OPP Integration Presenter:										

GS RPAC Year Three Curriculum

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
Topics:	Orientation	Jurisprudence	#REF!	Endocrine	Trauma	Pancreas	Infectious Disease	Vascular	Breast	Research Paper
Moderator	<i>TBA</i>	<i>Clarey</i>	<i>Galante</i>	<i>Classen</i>	<i>Classen</i>	<i>Meshekow</i>	<i>Wehmann</i>	<i>Clarey</i>	<i>Clarey</i>	<i>Kirkland</i>
Directors Mtg	<i>Live 10a-4p</i>	<i>Video 4p-5p</i>	<i>Live 10a-4p</i>	<i>No Meeting</i>	<i>Video 4p-5p</i>	<i>Video 4p-5p</i>	<i>Video 4p-5p</i>	<i>Live 10a-4p</i>	<i>Live 10a-4p</i>	<i>Live 10a-4p</i>
Objectives	Research Information / Time-tables Professional Development	Risk Management Documentation	Stapling Technique Junior/Senior Levels	Adrenal Pancreas	Differential Diagnosis of Shock	Benign v. malignant pancreatic disease	AIDS Interventional Techniques	Arterial Disease	Imaging: Ultrasound Nuclear Medicine Fibrocystic Disease	Presentation Resident IRB Tin Choosing a Researcher
Basic Science Focus		HIV in 1999: An Update	Oxygen Masks	Gross Anatomy & Embryology of Thyroid & Adrenal Glands	Physiology of Shock	Cranial Nerves	Pharmacology; antibiotics	Hemodynamics of arterial/ vascular disease	Gross Anatomy & Histology of the Breast & Thoracic Wall	
Presenter:										

GS RPAC Year Four Curriculum

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY
Topics:	Orientation	Biliary	Surgical Skills Lab	Trauma	Thoracic	Liver/Spleen	Gynecology	Upper GI	Lower GI	Research Paper Day
Moderator	<i>Classen</i>	<i>Classen</i>	<i>Classen</i>	<i>Clarey</i>	<i>Galante</i>	<i>Classen</i>	<i>Galante</i>	<i>Clarey</i>	<i>Wehmann</i>	<i>Kirkland</i>
Directors Mtg	<i>Live</i>	<i>Live</i>	<i>Cleveland</i>	<i>Videoconf</i>	<i>Live</i>	<i>Videoconf</i>	<i>Videoconf</i>	<i>Videoconf</i>	<i>Live</i>	<i>Live</i>
Objectives	Research / Information Time-tables Professional / Development	Complications of Biliary Surgery Strictures Schlerosis	New laparoscopic techniques	Assessment, treatment and resuscitation: Blunt v penetrating trauma	Ihoracoscopy Lung cancer Benign pulmonary nodules	Primary Hypersplenism Treatment of Metastatic Disease to Liver Portal Hypertension	Ovarian masses Dysfunctional bleeding Endometrial carcinoma	Small bowel tumors Bowel obstruction	Bleeding: diverticular disease Malignancy Proctology	Presentation of Sen Resident Papers IRB Timeline Choosing a topic for Research Paper
Basic Science Focus				Hemorrhagic shock	Respiratory physiology		Endocrinology of dysfunctional uterine bleeding	Carcinoid tumor	Pathology of colon cancer	
Presenter:										
OPP Integration Presenter:										

Appendix "B"

**Evaluation of Resident
Performance**

EVALUATION OF INTERN/RESIDENT PERFORMANCE

Evaluator:

Subject:

Rotation:

Employer:

Please indicate the level of competency with consideration to level of training.

A rating of 1 must be accompanied by an action plan or recommendation for remediation.

Patient Care: compassionate, appropriate and effective for the promotion of health, prevention & treatment of illness, and end of life

1. Gathered accurate, essential information from all sources: interviews, physical examinations, records, procedures	Unsatisfactory/ Needs Attention	Competent/ Meets Expectations	Skilled	Exceeds Expectations	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

Remaining Characters: 5000

2. Made informed recommendations about preventive, diagnostic, and therapeutic interventions based on clinical judgment, evidence, and patient preference.	Unsatisfactory/ Needs Attention	Competent/ Meets Expectations	Skilled	Exceeds Expectations	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

Remaining Characters: 5000

3. Performed competently the diagnostic and therapeutic procedures considered essential to the practice of medicine	Unsatisfactory/ Needs Attention <input type="checkbox"/>	Competent/ Meets Expectations <input type="checkbox"/>	Skilled <input type="checkbox"/>	Exceeds Expectations <input type="checkbox"/>	N/A <input type="checkbox"/>
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Comments

Remaining Characters: 5000

REQUIRED DOCUMENTATION (Strengths / Areas of Improvement, Supporting comments) FOR THIS COMPETENCY

Comments

Remaining Characters: 5000

Medical Knowledge: demonstrate knowledge of established and evolving biomedical, clinical, and social sciences

1. Applied open-minded, analytical approach to acquiring new knowledge

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

2. Developed applicable knowledge of basic and clinical sciences

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

3. Applied knowledge to clinical problem-solving, decision-making, and critical thinking

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

REQUIRED DOCUMENTATION (Strengths / Areas of Improvement, Supporting comments) FOR THIS COMPETENCY

Comments

Remaining Characters: 5000

Practice-Based Learning: use scientific evidence and methods to investigate, evaluate, and improve patient care practices

1. Implemented strategies to enhance knowledge, skills, attitudes and processes of care

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

2. Developed and maintained willingness to learn from errors and improve system or processes of care.

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

3. Used information technology or other available methodologies to access and manage information, support patient care decisions, and enhance both patient and physician education.	Unsatisfactory/ Needs Attention	Competent/ Meets Expectations	Skilled	Exceeds Expectations	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

Remaining Characters: 5000

REQUIRED DOCUMENTATION (Strengths / Areas of Improvement, Supporting comments) FOR THIS COMPETENCY

Comments

Remaining Characters: 5000

Interpersonal & Communication Skills: demonstrate interpersonal & communication skills to establish professional relationships

1. Provided effective and professional consultation to other physicians and health care professionals

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

2. Used effective listening, questioning and narrative skills to communicate with patients and families.

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

3. Sustained ethically sound professional relationships with patients, families and colleagues.

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

REQUIRED DOCUMENTATION (Strengths / Areas of Improvement, Supporting comments) FOR THIS COMPETENCY

Comments

Remaining Characters: 5000

Professionalism: behaviors reflect continuous professional development, ethical practice, sensitivity to diversity, and responsible attitude toward patients, profession, and society

1. Demonstrated respect, compassion, and integrity in relationships with patients, families, and colleagues

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

2. Adhered to policies and guidelines for professional appearance and appropriateness of uniforms

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

**REQUIRED DOCUMENTATION
(Strengths / Areas of Improvement,
Supporting comments) FOR THIS
COMPETENCY**

Comments

Remaining Characters: 5000

Systems Based Practice: demonstrate an understanding of the contexts and systems in which health care is provided

1. Demonstrated cost effective health care and resource allocation without compromising quality of care	Unsatisfactory/ Needs Attention	Competent/ Meets Expectations	Skilled	Exceeds Expectations	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

Remaining Characters: 5000

2. Advocate for quality patient care: assisted patients in dealing with system complexities	Unsatisfactory/ Needs Attention	Competent/ Meets Expectations	Skilled	Exceeds Expectations	N/A
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

Remaining Characters: 5000

3. Partnered with health care managers and providers to assess, coordinate, and improve health care

Unsatisfactory/
Needs
Attention



Competent/
Meets
Expectations



Skilled



Exceeds
Expectations



N/A



Comments

Remaining Characters: 5000

REQUIRED DOCUMENTATION (Strengths / Areas of Improvement, Supporting comments) FOR THIS COMPETENCY

Comments

Remaining Characters: 5000

Osteopathic Principles & Practice: demonstrate an understanding and awareness of the appropriateness of OMM

1. Demonstrated knowledge of osteopathic principles; can formulate treatment plan

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

2. Demonstrated clinical thinking which incorporates structure/function interrelation

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A



Comments

Remaining Characters: 5000

3. Actively pursued the application of Osteopathic Manipulative Medicine to clinical cases

Unsatisfactory/
Needs
Attention

Competent/
Meets
Expectations

Skilled

Exceeds
Expectations

N/A

Comments

Remaining Characters: 5000

REQUIRED DOCUMENTATION (Strengths / Areas of Improvement, Supporting comments) FOR THIS COMPETENCY

Comments

Remaining Characters: 5000

OVERALL EVALUATION

Recommend advancement in the training program

Yes No

Recommend remediation of this rotation

Yes No

Did the requirements of this rotation violate the 80 hour work policy? Yes No

Appendix "C"

Policy on Moonlighting

**GRANDVIEW MEDICAL CENTER
MEDICAL EDUCATION**

POLICY: ME – 04

RESPONSIBILITY: Program Directors, DME, Post-Doctoral
Education Committee

ORIGINAL ISSUE: 03/03

REVISIONS:

DEPARTMENTS AFFECTED: **Medical Education, Human Resources**

APPROVAL _____

Director of Medical Education

REVIEW & APPROVED BY POSTDOCTORAL EDUCATION: 3/26/03

SUBJECT: Policy on Resident Moonlighting

PURPOSE: The primary purpose of the Grandview residency programs is to provide medical education of the highest quality, patient care, experience in teaching, and the opportunity to conduct research. Residents (the term “resident” is used to apply to interns, residents and fellows, equally) are required to comply with standards of their residency program, those of the Department of Medical Education, and those of the hospital.

The purpose of this policy is to define those standards as they relate to “moonlighting.” **Residents who violate this policy threaten the accreditation of the residency program and may also be in violation of Ohio law. As such, residents found to be in violation of this policy may be subject to immediate disciplinary action, including dismissal from the residency program.**

Moonlighting is defined as any paid activity performed in a physician or non-physician capacity which falls outside the normal scope of the resident’s specific training program. Moonlighting activities are only permitted within the guidelines of this policy.

Volunteer activity is defined as any unpaid activity performed in a physician or non-physician capacity which falls outside the normal scope of the resident’s specific training program. Volunteerism and community service are cornerstones of the osteopathic profession, and are generally encouraged throughout the physician’s professional career. Volunteer activities during residency are permitted to the extent they do not interfere with the resident’s performance in the training program and contribute to the resident’s personal and professional development. It is recommended that they too be discussed with the Program Director in advance.

The *institutional Policy on Resident Work Hours (ME-03)* should be considered jointly with this policy on resident moonlighting, to ensure full compliance with all AOA and institutional regulations on issues regarding work hours. The American Osteopathic Association (AOA) has prescribed very specific rules regarding resident work hours and moonlighting activities in order to preserve the integrity and priority of patient care and resident education, and to protect both patients and residents from the potentially harmful effects of fatigue due to excess activity.

MOONLIGHTING POLICY GUIDELINES:

- a) ***Moonlighting is a privilege granted by the Department of Medical Education and the Residency Program.*** Moonlighting can not be required by any program in the course of residency training, and programs must first comply with the guidelines of this policy and the institutional work hours policy (Policy ME-03) in their entirety. Beyond that, each program may set its own specific additional requirements and procedures regarding moonlighting, including maximum number of moonlighting hours permitted for a given period. Any such additional requirements must be published in the program's training manual. Moonlighting may also be prohibited by any program providing a rationale as to why it is in conflict with the goals of the residency program. Failure of an individual resident to demonstrate proper professional growth within the residency program, as manifested by in-service examination scores, Program Director observations, and other measures of performance, will justify the Program Director's reduction or withdrawal of permission for moonlighting activities.
- b) ***Moonlighting may only be conducted with the permission of the Department of Medical Education.*** The resident must request this permission in writing (*per section (e) below*), and the request must be approved or disapproved by the Program Director and DME and filed in the resident's file. All approved hours are included in the total allowed work hours under AOA policy. It is the continuing responsibility of both the Program Director and the resident to monitor total allowed work hours--- including moonlighting--- to ensure they remain in compliance with AOA policy. ***Failure to request and receive prior approval for moonlighting from the Department of Medical Education may be grounds for immediate termination of a resident's contract.***
- c) ***Any paid activity outside of the scope of the residency training program, whether it takes place within or outside of the institution, is considered moonlighting,*** even if the work is supervised by attending physicians and even if it is identical to activities that are part of your residency program.
- d) The moonlighting resident ***must have a permanent Ohio license on file*** in the Medical Education office for any paid activity performed in the capacity of a physician.
- e) The resident ***must submit a written letter of request for moonlighting*** to the Program Director which includes a listing of the institutions (place and address) to be involved in moonlighting activities, the physician in charge, the credentialing requirements, the scope of the proposed activities and the maximum number of hours (per week and per month) of proposed moonlighting.
- Please refer to the sample template of this request, included as an attachment to this policy.**
- It is the responsibility of the moonlighting resident to update this letter*** (and have it signed again by the Program Director) when necessary to reflect proposed changes to the number of hours spent in moonlighting activities and/or the sites where moonlighting occurs. ***It is the responsibility of the Program Director to ensure that a copy of this letter is kept in the resident's file.***
- f) The resident ***must provide the Program Director with a schedule demonstrating that they will remain in compliance*** with AOA and institutional requirements prohibiting residents from working more than 80 hours per week on average, including the requested moonlighting.
- g) The resident ***must produce documentation that the employer for the moonlighting activity will provide professional liability (malpractice) insurance*** that is satisfactory to the Program Director and the Director of Medical Education. Professional liability insurance provided to the resident in the

course of residency training does not cover residents for activities and professional services outside of the residency program.

- h) The resident **must acknowledge in writing that fiscal arrangements, professional liability coverage, fringe benefits, and personal liability arising from moonlighting activities are the sole responsibility of the resident** and the moonlighting employer. *(Please refer to section (e) above and the sample template letter attached to this document.)* Furthermore, any **subsidiary obligations** resulting from moonlighting activities, such as court appearances, which require the presence of the resident during normal duty hours will be charged to vacation time or taken as unpaid Leave of Absence.
- i) The resident **must not have a J-1 Visa status**; as such residents are prohibited by the federal government from moonlighting.
- j) The resident **must acknowledge that their training experience and responsibilities must have highest priority** at all times. The resident must be available, alert, fully responsive and responsible for all of their clinical and training activities at the hospital(s); no activities outside the scope of the training program should interfere with these learning opportunities and their attendant service responsibilities.
- k) **Moonlighting may not interfere with any educational activities of the resident**, including evening educational events, and must not interfere with the ability of the resident to achieve the goals and objectives of their GME program. No moonlighting activities may be undertaken during the weekday hours of 8:00 a.m. to 6:00 p.m. (except during vacation periods) without the express written permission of the Program Director. No moonlighting is allowed during regular rotation hours or while on call. Excessive moonlighting that results in fatigue and affects residents' well being and patient care is not allowed. Leaving a rotation to moonlight is grounds for immediate dismissal from the program.

ATTACHMENT: SAMPLE TEMPLATE TO REQUEST MOONLIGHTING PRIVILEGES

Date: _____

Dear Dr. _____ (Program Director):

I request permission to engage in professional activities outside the scope of my residency training program ("moonlighting," as defined by Grandview Medical Center Policy ME-04).

Specifically, I request permission to work in a physician non-physician capacity.

I have a permanent Ohio license on file in the Medical Education office for any paid activity performed in the capacity of a physician.

I am providing the institution (place and address) of the moonlighting activities:

The physician in charge is: _____

I have attached the moonlighting credentialing requirements and meet them.

The scope of the moonlighting activity is: _____

The maximum number of hours (per week / per month) is: _____/ _____

I have attached a schedule demonstrating that I will remain in compliance with AOA and institutional requirements prohibiting residents from working more than 80 hours per week on average, including the requested moonlighting.

I have attached documentation that the employer for the moonlighting activity will provide professional liability (malpractice) insurance satisfactory to the Program Director and the Director of Medical Education. I understand that professional liability insurance provided to me in the course of residency training does not cover me for activities and professional services outside the residency program.

I acknowledge that fiscal arrangements, professional liability coverage, fringe benefits, and personal liability arising from these moonlighting activities are the sole responsibility of myself and the moonlighting employer. I understand that any subsidiary obligations resulting from moonlighting activities, such as court appearances, which require the

presence of the resident during normal duty hours will be charged to vacation time or taken as unpaid Leave of Absence.

- r I do not have a J-1 Visa status; as such residents are prohibited by the federal government from moonlighting.
- r I acknowledge that my training experience and responsibilities must have highest priority at all times. I will be available, alert, fully responsive and responsible for all clinical and training activities at the hospital(s); no activities outside the scope of the training program will interfere with these learning opportunities and their attendant service responsibilities, including evening educational events.
- r I have read, understood and complied with the Grandview Medical Center Policies on Resident Work Hours (ME-03) and Resident Moonlighting (ME-04), and I understand that failure to comply is grounds for immediate disciplinary action including dismissal from the program.

Sincerely,

(Signed by Resident)

Approved by: _____ (Program Director)

Approved by: _____ (Director of Medical Education)

Date of Final Approval: _____

Appendix "D"

**Policy on Resident Performance,
Remedial Action, Grievance & Appeal**

**GRANDVIEW MEDICAL CENTER
MEDICAL EDUCATION**

POLICY: ME – 01

RESPONSIBILITY: Program Directors, DME, Post-Doctoral
Education Committee

ORIGINAL ISSUE: 07/01

REVISIONS: 03/03, 01/06

DEPARTMENTS AFFECTED: Medical Education, Human Resources

APPROVAL _____

Director of Medical Education

REVIEW & APPROVED BY POSTDOCTORAL EDUCATION: 9/19/01

**REVISION APPROVED BY POSTDOCTORAL EDUCATION COMMITTEE:
03/26/03**

REVISION APPROVED BY POSTDOCTORAL EDUCATION COMMITTEE:

SUBJECT: Policy on Resident Performance, Remedial Action, Grievance & Appeal

The primary purpose of the Grandview residency programs is to provide medical education of the highest quality, patient care, experience in teaching, and the opportunity to conduct research. Residents (the term “resident” is used to apply to interns, residents and fellows, equally) are required to comply with standards of their residency program, those of the Department of Medical Education, and those of the hospital.

Continuation and/or Promotion in the Program:

Continuation and/or promotion in the Program are contingent upon satisfactory academic and professional performance by the Intern/Resident/Fellow. All programs have formal evaluation procedures consisting of any or all, but not limited to the following: formal written evaluations by medical staff/faculty physicians; scheduled written examinations;

scheduled oral examinations; practical examinations at the bedside; formal conference presentations; and professional and personal characteristic reports. In addition, each Intern/Resident/Fellow should expect to review his/her performance with the Program Director or designee at least once during the academic year or as dictated by AOA requirements. Any makeup time must be completed at the end of the contracted year and/or before promotion to the next level of training. An Intern/Resident/Fellow receiving an inadequate evaluation may be required to repeat the rotation/assignment to obtain approval for certification by the Program Director. Failure to achieve this standard is grounds for academic demotion, non-advancement, or termination.

Problems, Remedial Action, and Due Process:

The need for remedial action with a resident may be necessary during the course of employment and/or training. Problems, remedial action, and due process should be addressed in the following manner:

- a) Any problem involving a resident should be reported by the concerned party (physician, resident, nurse, or witness to inappropriate behavior) first to the Program Director of that residency program, if available, or to the Director of Medical Education.
- b) The **Program Director** is responsible for documenting the deficiency or problem, and taking appropriate action. This may take the form of verbal counseling with the resident for minor issues related to performance within the scope of the program, to a written remedial plan for more substantial matters. In either case, the problem, discussion and resolution will be documented and signed by both the Program Director and the resident, and forwarded to the Director of Medical Education.
- c) In cases of any **employee conduct issues** that violate the general employment policies of the hospital, the matter will be brought to the Director of Medical Education's attention for review and intervention with the Human Resource Department, as needed. Remedial actions for employee misconduct must comply with the hospital's employment policies. Examples of misconduct for which an individual may be subject to dismissal may include (but are not limited to): being under the influence of intoxicants or drugs; disorderly conduct, harassment of other employees (including sexual harassment), or the use of abusive language on the premises; fighting, encouraging a fight, or threatening, attempting, or causing injury to another person on the premises.
- d) Remedial actions for **performance and academic issues** within the scope of the training program may include counseling, remedial work, increased supervision of patient care, leave of absence, and probation. Termination may be considered after

other remedial action including probation has been taken and failed, or in cases where resident conduct is such that an immediate threat is posed to patients, the program, or the hospital's function.

- e) The Program Director or Director of Medical Education may invoke **emergency suspension** when, in their judgment, the resident's conduct may result in imminent danger or harm to a patient, or when the function of the program or the hospital is severely threatened. Emergency suspensions will be documented in writing, and will provide the resident with pay for a maximum of 60 days. At that time the suspension will be lifted, other remedial action will be taken in accordance with the general terms of this policy, or the resident will be terminated in those cases where the threat warranting the suspension continues.
- f) **Probation** of a resident will not take place unless and until a meeting is conducted between the Director of Graduate Medical Education and the Program Director, at which time the Program Director will show sufficient written documentation evidencing remedial problems which have already been discussed with the resident. Sufficient written documentation may consist of completed evaluations indicating deficiencies, which have been signed by the Program Director and discussed and acknowledged by the resident, or other written documentation of the type indicated in (b) above, indicating a previous discussion or written plan with the resident has already been documented. The Director of Medical Education may meet with the resident separately, or jointly with the Program Director, to determine the facts and actions to be taken. Probation will only be granted with the written approval of the Director of Medical Education.
- g) The **terms, conditions, and duration of probation** or other remedial action will be specified in writing and signed by the resident and the Program Director. Appropriate evaluations and feedback measures will be scheduled. A review of the resident's performance and compliance with the terms of remedial action will be made at the end of the specified remedial/probation period at which time the resident will be reinstated, continued on a remedial program, or terminated from the program should circumstances warrant. It is the responsibility of the specific program to document a warning period prior to dismissal or failure to reappoint an intern or resident and to demonstrate efforts for the provision of opportunities for remediation. It should be unusual to dismiss a resident without a probationary period except in instances of flagrant misconduct
- h) The resident will be fully informed of his/her status and the program's **intentions regarding renewal**, no less than one month prior to the end of the current contract date. The Program Director must notify the resident in writing of the program's

intention to demote, not advance, or not reappoint the resident. The written notice must include the program's intended action, and the right to appeal as described herein. Such action and notice should only be taken with the approval of the Director of Medical Education. After providing this notice, the Program Director will, if requested by the resident, meet with the resident to discuss the program's intended action and to attempt to resolve any disputed issues. It is recommended that the Director of Medical Education be notified and invited to attend this meeting.

- i) In the event that a resident is to be dismissed or his/her contract not renewed, he/she may initiate a formal grievance procedure. Within five (5) calendar days after receipt of the written notice provided by the Program Director, or within five (5) calendar days after formal conference with the Program Director, whichever is later, the resident may request in writing a review of the intended action. The grievance shall state the facts upon which the grievance is based and requested remedy sought. This review will not be granted if requested after the five-calendar-day period has expired. The request should be directed to the Director of Medical Education.
- j) After reviewing the grievance, and within 30 days after receipt of the resident's request for review, the Director of Medical Education must either resolve the grievance with the resident by agreement, or convene an **appeal hearing** to review the intended action. The **Appeals Committee** (a GMEC subset committee formed for this purpose and consisting of the Director of Medical Education, the Vice President for Medical Affairs, and two selected Program Directors, per section (k), below) serves as the appeals body for all residents in programs sponsored by the hospital through its OPTI, for dismissal or non-renewal.
- k) The **hearing procedure** will be coordinated by the Director of Medical Education, who will not be a voting participant. The hearing will be held before the three members of the chosen **Appeals Committee**. The resident may select one of the Program Directors to serve as a member of this Committee, and the Director of Medical Education will select the second member from the remaining Program Directors. The third member will be the Vice President of Medical Affairs. The Director of Medical Education will determine the time and site of the hearing in consultation with the resident and Program Director of the resident's program. The personal presence of the resident at the hearing is required, such that his/her absence without good cause shall be deemed a waiver of rights to the hearing, and acceptance of the program's decision on which the grievance was based..
- l) The Director of Medical Education or his/her designee will preside at **the hearing**. The hearing will begin with the assumption that the program's decision was correct. The purpose of the review is to determine if there was substantial evidence to support

the program's intended action. The information presented to the panel should be restricted to that which was available at the time the program's decision was made. The format of the hearing will include a presentation by the resident indicating the basis of his/her appeal; an opportunity for a presentation of equal length by a representative of the program; an opportunity for response by the resident, followed by a response of equal length by the program representative. This will be followed by a period of questioning by the *Appeals Committee* members present. The Director of Medical Education in consultation with the Program representatives and the resident will determine the duration of the presentations and the potential attendees at the hearing. The resident shall have a right to self-obtained legal counsel at his/her own expense; however retained counsel may not actively participate or speak before the hearing participants, nor perform cross-examination. The resident is entitled to be accompanied by a member of the medical staff in good standing and/or a member of the house staff in good standing. The resident will have a right to request documents for presentation at the hearing.

- m) At the end of the hearing, the *decision* to advance, not advance, demote, or not reappoint will be made as a written recommendation to the Director of Medical Education by a majority vote of the three member panel. The Director of Medical Education must, within fourteen (14) days of this hearing, either affirm or reverse the decision and make a final determination, and communicate such to the resident and the Vice President of Medical Affairs. The decision of the Director of Medical Education will be subject to final review and approval by majority vote of the Program Directors present at the next scheduled meeting of the Post Doctoral Committee. This represents the *final appeal* within the hospital, its affiliated hospitals/partners, and the OPTI.

In order to facilitate the potentially complicated process of dealing with a resident academic or performance deficiency, the following checklist has been devised to provide a common pathway for all program directors. It is intended to serve as a guideline and does not represent a legal document.

ACADEMIC/PERFORMANCE WARNING

An academic/performance warning should be considered when deficiencies have been perceived or reported over two consecutive quarters of the academic year. In some instances, at the discretion of the program director, the timeframe may be of a shorter duration. Deficiencies may be recognized by a program director, faculty members, housestaff, other hospital personnel or the office of medical education. In all cases, whether witnessed or reported, the program director is responsible for approaching the involved resident and determining the course of action. The office of medical education will offer support through this process and will be available for intervention if the program director perceives a conflict of interest.

Completion of this process is recommended to assist the resident with correcting the academic/performance deficiencies in order to avoid probation, a failure to progress or termination.

An academic/performance warning, once initiated, will remain as a part of the resident's file until the training program is successfully completed.

CHECKLIST

- ☐ Notify the medical education office (a "tickler file" will be initiated)
 - Request assistance if needed or if a conflict of interest perceived
- ☐ Begin the documentation process
 - Approached involved attending physicians/faculty for documentation
 - Document specific issues/avoid generalities if possible
- ☐ Complete required quarterly evaluation
 - Provide commendation if possible/appropriate
 - Document specific issues/deficiencies
- ☐ Provide recommendations based on the core competencies
 - Provide additional specifics for completeness if needed
- ☐ Include a timeframe for correction of the identified deficiencies
- ☐ Increase frequency of contact with program director
- ☐ Complete the resident academic/performance warning letter

- Copy to resident
- Copy to program
- Copy to medical education office
- ☐ Complete the resident academic/performance warning feedback form
 - Copy to resident
 - Copy to program
 - Copy to medical education office
- ☐ Offer assistance if a behavioral, psychological or learning problem is suspected
 - Contact medical education for assistance with this process
- ☐ Notify the medical education office of completion (the “tickler file” will be closed)
- ☐ Provide feedback to the medical education office for process improvement

ACADEMIC/PERFORMANCE WARNING

FEEDBACK – GVH _____ RESIDENCY PROGRAM

Resident Name _____ PGY _____ Date _____

Your progress has been reviewed for the period _____ and the following areas for improvement were identified:

Competency	Expected Outcome
Osteopathic Principles	<ul style="list-style-type: none"> ☐ Focused/accurate presentations ☐ Correct/accurate examination and documentation ☐ Correct/accurate application
Medical Knowledge	<ul style="list-style-type: none"> ☐ Improved knowledge base (see specifics) ☐ Translation of knowledge into patient care ☐ Completion of assigned reading and/or projects
Professionalism	<ul style="list-style-type: none"> ☐ Good work ethic ☐ Reliability ☐ Authorization of all time off by program director ☐ Sensitivity to cultural/gender/religious differences ☐ Demonstrate respect/compassion/empathy ☐ Improved teaching skills
Communication Skills	<ul style="list-style-type: none"> ☐ Clear communication with patients and families ☐ Clear and timely communication with hospital staff, fellow residents and physicians ☐ Communication in a polite tone/manner ☐ Resolution of disagreements
Practice-based Learning	<ul style="list-style-type: none"> ☐ Improved organization skills ☐ Acceptance of feedback ☐ Prioritization of duties

Systems-based Practice	<input type="checkbox"/> Improved time management skills <input type="checkbox"/> Good use of available resources <input type="checkbox"/> Ability to adapt to hospital/practice environments
Patient Care	<input type="checkbox"/> Focused/accurate presentations <input type="checkbox"/> Independent medical decision-making <input type="checkbox"/> Correct/accurate medical decisions

Narrative/Other:

Remediation recommended: _____ yes (see additional pages if needed) _____ no

Your progress will be monitored by:

evaluations from rotations feedback from faculty
 feedback from residents scheduled meetings with PD
 direct observation by _____
 other (see additional pages for details)

I will evaluate your progress and make another recommendation on _____ .

Possible actions at that time include:

probation failure to promote termination
 other (see additional pages for details)

(If the determined course of action progresses beyond an academic warning, you have the right to appeal following the GVH Due Process Policy, a copy of which is available through the medical education office or on the KMC intranet at <http://intranet.ketthealth.com/gv/meded/policies>)

Date
Name
Address

ACADEMIC/PERFORMANCE WARNING

Dear Dr. _____

The Grandview Hospital _____ residency training program reviews every resident’s performance on a regular basis. You were commended for the following at your last review:

However, some concerns exist about your current performance. Recommendations for improvement and expected outcomes are found on the attached page(s).

My role as the program director is to help you develop into a more competent and professional physician. All recommendations are made with that goal in mind. You are encouraged to discuss this further with me or the faculty members involved with your training.

Please sign below to indicate that the letter and attachment have been reviewed with you.

Sincerely,

_____, DO

Program Director, _____

I have received a copy of the letter and attachment.

Resident signature
(indicates receipt of, not necessarily agreement)

Date

with the content of the letter and attachment)

cc: Grandview Office of Medical Education

Appendix "E"

Abbreviations

ABBREVIATIONS

ACOS – American College of Osteopathic Surgeons

CMC - Children's Medical Center, Dayton, Ohio

ELE – Elective

GMC - Grant Medical Center, Columbus, Ohio

MVH - Miami Valley Hospital, Burn Unit, Dayton, Ohio

ONC - Medical Oncology, Dr. J. Sherman, Grandview Hospital

RESC – Resident Evaluation and Standards Committee

SVH - Southview Hospital