

The University of Toledo
College of Medicine
Anesthesiology Residency
Program Manual

2018



THE UNIVERSITY OF
TOLEDO
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Welcome and Introduction

General Information

Welcome to the Anesthesiology Residency at the University of Toledo College of Medicine. Clinical activities of the program are located at UTMC, ProMedica Toledo Hospital, ProMedica Flower Hospital, Mott Children's Hospital at the University of Michigan, and Detroit Children's Hospital at Detroit Medical Center.

University of Toledo Medical Center

A 250-bed tertiary care facility and a Level I trauma center. Approximately 8,000 anesthetics are performed each year, including general, orthopedic, neurological, vascular, cardiothoracic surgery, and transplants. There are 12 main OR's including a hybrid operating room. The George Isaac Minimally Invasive Surgery Center comprises four operating rooms, and an endoscopy suite. Anesthetics are also performed for CT scans, MRIs, and percutaneous procedures in cardiac and neurologic interventions in the Catheterization Laboratory. The Department of Anesthesiology office (Hospital, Room 2195) and operating rooms are located on the second floor of the main hospital building.

ProMedica Healthcare System

"ProMedica is a mission-based, not-for-profit integrated healthcare organization headquartered in Toledo, Ohio. It serves communities in 30 states. The organization offers acute and ambulatory care, an insurance company with a dental plan, and post-acute and academic business lines. The organization has more than 70,000 employees, 13 hospitals, 2,700 physicians and advanced practice providers with privileges, 900+ healthcare providers employed by ProMedica Physicians, a health plan, and 450 assisted living facilities, skilled nursing and rehabilitation centers, memory care communities, outpatient rehabilitation clinics, and hospice and home health care agencies." (<https://www.promedica.org/pages/about-us/default.aspx>) Their insurance company, Paramount Insurance, covers more than 320,000 patients in Northwest Ohio and Southeast Michigan. In 2015 ProMedica entered into a 50 year financial and academic affiliation with The University of Toledo College of Medicine and Life Sciences to promote health care and medical education in the region. The nature of this affiliation will, over time, increase the number and range of the rotations in which anesthesia residents participate at ProMedica facilities.

ProMedica Toledo Hospital

A 722-bed hospital, ProMedica Toledo Hospital (PTH) is the flagship hospital of ProMedica Healthcare. A level I trauma center, it is the largest acute care hospital in Northwest Ohio. ProMedica Healthcare has entered into a 50 year affiliation with the University of Toledo College of Medicine with the goal of producing a world-class academic medical center at PTH. Anesthesiology residents gain experience in OB anesthesia, Critical Care, TEE, Neurologic, and Vascular anesthesia during rotations at PTH,

Flower Hospital

Flower Hospital is a 267 bed community hospital located in Sylvania, Ohio. It is a level III trauma center. Flower Hospital is operated by ProMedica Healthcare System. Emergency Medicine rotations are completed during the PGY-1 year at this location, which treats nearly 30,000 patients each year. They have an emergency center that features 25 private rooms and two radiology suites

University of Michigan Hospitals and Detroit Children's Hospital

Pediatric anesthesia experience is bolstered by rotations done at Mott's Children's Hospital on the University of Michigan campus or at the Detroit Children's Hospital on the campus of Detroit Medical Center. Two months of pediatric anesthesia are done at one of these centers during the CA 2 year.

Contact Information:

UTMC Department of Anesthesiology:

Residency Coordinator	419-383-3514
Department Main Phone	419-383-3556
Department Fax	419-383-3550

Mission Statement

“The mission of The University of Toledo College of Medicine and Life Sciences is to improve health in the communities and region we serve. We do this by educating excellent clinicians and scientists, by providing patient centered and high-quality care and by producing nationally recognized research in focused area.”

The Department of Anesthesiology at The University of Toledo has been dedicated to training physicians to become both consultants in Anesthesiology as well as diplomates of the American Board of Anesthesiology. The residency program offers a wide array of routine and challenging clinical cases. In addition, opportunities in clinical and basic science research are available.

The academic staff is comprised of anesthesiologists whose subspecialty training includes fellowships or expertise in obstetric, cardiovascular, pediatric, and neurosurgical anesthesiology, pain management and critical care medicine. Twenty-four hour in-hospital coverage is provided by the faculty.

Each year over 16,000 surgical procedures and more than 3,500 obstetrical procedures are performed at UTMC and affiliated hospitals. In addition to the routine surgical caseload, the Anesthesiology Residency offers excellent experience in the management of various subspecialty surgical procedures. These include adult open-heart cases, neonatal and complicated pediatric cases, kidney transplantation and neurosurgery. In addition, ample experience is provided in such diverse areas as critical care medicine, acute and chronic pain management, and high-risk obstetrics.

Varying pathways lead to the development of a consultant anesthesiologist, and the information found throughout this manual, represents our efforts and dedication to this outcome.

Overall Program Goals

Anesthesiology is a major specialty in the practice of medicine. The need for well-trained anesthesiologists has greatly increased during the past several years and is expected to do so in the foreseeable future. The scope of the specialty practice has dramatically expanded over the past several decades as well. The overall goals of the Residency Program at the University of Toledo are 1) to produce physicians competent in the field of anesthesiology capable of safely caring for any patient they encounter in their practice, 2) to provide a didactic base which when coupled with self-study will enable the graduate to successfully complete the board certification process, and 3) to increase the available fund of knowledge in the field of anesthesiology by research, publication, and presentation on a local, regional, and national scale. Achievement of these goals will create anesthesiologists who will meet the requirements of the American Board of Anesthesiology's certification process, will be proficient in either an academic or private practice setting, and will perform a significant role in improving the quality of health care in our nation. The curriculum is structured so that residents receive training and evaluation in each of the six General Competencies defined by the ACGME: Patient Care, Medical Knowledge, Practice-based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, Systems-based Practice. Their progress is monitored according to the milestones set by the ACGME utilizing data submitted from a variety of sources including faculty, peers, students, patients, and staff.

University of Toledo Department of Anesthesiology Educational Goals for the Clinical Base Year

The goals of education for the preliminary year in internal medicine are based upon the core competencies mandated by the Outcome Project of the Accreditation Council for Graduate Medical Education.

The duration will be twelve calendar months, including appropriate periods for vacation and exceptional individual circumstances as approved by the program director. Rotations will be in medical subspecialties that will provide important clinical background and have direct relevance to the continuing, everyday practice of anesthesiology (e.g. - cardiology, intensive care, and pulmonary medicine, as opposed to dermatology clinic). Rotations will include at least one month each of critical care and emergency medicine (ACGME requirements). Additionally, up to one month may be spent in a clinical anesthesiology rotation. Participating sites include the University Medical Center, The Toledo Hospital and Promedica Flower Hospital.

Medical Knowledge

- Interpretation of key admission findings (history and physical exam, laboratory findings)
- Justify choice of medical management
- Evaluate major pharmacologic effects of drugs used in patient care
- Demonstrate an investigatory and analytic thinking approach to clinical situations
- Integrate and apply the basic and clinically supportive sciences appropriate to the clinical case

Patient Care

- Diagnose medical disease in patients with supervision
- Manage medical disease in patients with supervision
- Assess and manage complications of disease states and of medical management with supervision

Practice-based learning and Improvement

- Utilize information technology to manage information care and to support own education
- Integrate current medical outcomes research to identify appropriate/indicated laboratory tests and modalities of treatment for individual patient care
- Evaluate and critique own patient care, utilizing case discussions, information from didactic lectures, quality assurance conferences, medical literature and faculty monitoring

Interpersonal Skills

- Communicate effectively with patients
- Communicate effectively with other physicians, nurses and other health care professionals
- Perform concise, organized case presentations, including management concerns to faculty

Professionalism

- Maintain and demonstrate respect, compassion and integrity
- Demonstrate responsiveness to patient and societal needs
- Practice accountability to patients, society and to the profession of medicine
- Maintain a commitment to ethical principles regarding provision or withholding of medical care
- Maintain patient confidentiality
- Demonstrate sensitivity and responsiveness to individual patient's culture, age, sex and disabilities

Systems-based Practice

- Learn and understand how different types of clinical practice and delivery systems
- Practice cost-effective health care and resource allocation
- Participate in medical department quality assessment conferences
- Evaluate and justify how their patient care and other practices affect other health care professionals, the delivery system and society, and how these in return affect their own practice

University of Toledo Department of Anesthesiology Residency Goals for the Clinical Anesthesiology Years

The goals of residency education in the department are based upon the six core competencies mandated by the Outcome Project of the Accreditation Council for Graduate Medical Education. These general competencies are

- Patient care
- Medical knowledge
- Practice-based learning and improvement
- Interpersonal and communication skills
- Professionalism
- Systems-based practice

Educational Goals for the CA-1 Year (0-6 months)

Medical Knowledge

- Basics of the anesthesia machine and routine monitors
- **Must score at least in the 30th percentile on the AKT-1 post-test** (Metrics Associates Inc., Chelmsford, Mass.)
- Basics of neuromuscular blockade
- Routine use of vasoactive medications
- Indications for the use of routinely used anesthetic drugs
- Major cardiovascular and respiratory effects of routinely used anesthetic drugs
- Key preoperative evaluation (patient history, physical exam, laboratory results)
- Understand universal precautions
- ACLS certification
- Identify area of interest for Scholarly Project

Patient Care

Cognitive objectives:

- Manage ASA 1 patients for uncomplicated cases with minimal assistance (induction, maintenance, emergence, and initiation of PACU stay)
- Reliably and competently perform postoperative visits and demonstrate the proper assessment and management of common anesthetic complications
- Estimate and administration of fluid requirements (blood, colloid, crystalloid) in routine cases
- Identify and treat with faculty assistance basic intraoperative complications (e.g.- hypoxemia, hypotension, hypertension, arrhythmias, anuria)

- Identify indications/contraindications and key physical landmarks for SAB, epidural placement, and regional nerve blocks. Become familiar with the use of ultrasound guidance techniques with faculty assistance.
- Identify indications/contraindications and key physical landmarks for the placement of invasive intravascular cannulation for monitoring purposes (arterial pressure monitoring, CVP, PA catheter, TEE) with faculty assistance
- Formulate anesthetic management plans for ASA 1-3 patients for moderately complex surgeries.

Technical skills:

- Set up and check equipment for a routine case in a reasonable amount of time
- Perform mask ventilation and routine tracheal intubation in straight forward airways
- Perform peripheral and central intravenous cannulation and arterial lines with minimal assistance
- Operate basic technical monitors and pressure transducers; check for malfunctions
- Maintain legible, accurate and concise preoperative, intra-operative and post-operative records

Interpersonal and Communication Skills

- Communicate effectively with patients
- Communicate effectively with surgeons, nurses, and other healthcare professionals to provide patient-focused care
- Present concise, organized case presentation, including management concerns, to faculty
- Communicate formulated anesthetic management plans for ASA 1-3 patients for moderately complex surgery to attendings, colleagues, patients and family.

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity

- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

Educational Goals for the CA-1 Year (6-12 months).

In addition to the above, the following are expected:

Medical Knowledge

- Diagnose and assess significant cardiovascular events (e.g. - caval compression by surgeons, hypovolemia, pulmonary embolization, ischemia, myocardial depression et al.)
- Describe basic aspects of neuroanesthesia (effect of anesthetic drugs, management of increased ICP, etc.), cardiovascular anesthesia (effect of aortic cross-clamping, pharmacologic management, etc.), and orthopedic anesthesia (patient positioning, peripheral nerve blocks for post-op pain management, etc.)
- Describe basics of obstetric anesthesia (physiology of pregnancy, patient positioning, techniques for elective C-section, etc.)
- Interpret and apply data from pulmonary artery catheterization, discuss indications for and complications of use
- Pass USMLE Step 3 by the end of the CA-1 year
- Pass ABA/ASA In-training Exam with a minimum percentile = 30, residents failing to do so will be placed on academic warning/probation.
- Must pass ABA Basic Exam

Overview of ABA Basic Examination

The staged examinations for American Board of Anesthesiologists (ABA) primary certification in anesthesiology apply to individuals who began a four-year CA training residency in July 2012 or after, and are scheduled to complete residency training on or after June 30, 2016. Residents are automatically enrolled in the staged examination process when their anesthesiology residency program submits a resident enrollment form. Residents must then register for each examination when they meet the registration eligibility criteria for that examination. The ABA staged examination process is divided into four segments. The written portions of the exam are given in two separate computer-based segments: the Basic Exam, which is taken during residency, and the Advanced Exam which is taken after completion of residency training. Passing scores on each of these segments must be achieved in order to participate in the 2-part Applied exam. The Applied exam consists of a Standardized Oral Exam, and an Objective Structured Clinical Exam. Passing scores on both segments are necessary for board certification. Failure of one segment of the Applied Exam will require the retaking of only that segment.

- A. The Basic Examination, which will be administered at the beginning of a resident's CA-2 year, focuses on the scientific basis of clinical anesthetic practice including content areas such as pharmacology, physiology, anatomy, anesthesia equipment and monitoring. The content outline, available at www.theABA.org, provides a detailed description of the covered topics. The first examination was administered in July 2014. It is offered in July and November of each year. Residents must pass the Basic Examination to qualify for the Advanced Examination.
 - Residents who fail to pass the Basic Examination on their first attempt must retake the examination on the next, earliest possible date it is offered. If a second attempt at the Basic Examination is unsuccessful, the resident will not be able to advance within the program and their contract will not be renewed.
 - Please refer to the ABA website for information regarding eligibility requirements and information regarding the Staged Examination process.

Patient Care

Cognitive objectives:

- Manage difficult airways with close supervision for elective surgery
- Perform emergency airway management utilizing a rapid sequence induction in the OR, ICU, and emergency department with supervision
- Manage ASA 3 patients for uncomplicated surgery with staff assistance
- Initiate management of trauma (airway management, intravascular access, monitoring) and other emergency cases with staff assistance
- Manage massive blood transfusion and identify and manage complications
- Manage PACU cases with supervision, including admission assessment, diagnosis and management of airway, ventilatory, and hemodynamic problems, and discharge assessment.

Technical skills

- Assemble and balance transducers without assistance
- Perform central and arterial cannulation with supervision and occasional assistance
- Perform spinal and epidural anesthesia and peripheral nerve blocks with supervision or occasional assistance in most patients
- Perform intubation in patients with difficult airways utilizing a fiberoptic bronchoscope, McGrath laryngoscope and other specialized instruments

Interpersonal and Communication Skills

- Cogently discuss management of ASA 3 patients with anesthesiology faculty and with surgeons
- Defend choice of monitoring techniques
- Defend selection of anesthetic technique and drugs, and discuss options
- Work with and teach medical students

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity
- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control

- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

Educational Goals for the CA-2 Year.

In addition to the above, the following are expected:

Medical Knowledge

- Identify pathophysiology and anesthetic concerns associated with basic and complex adult and pediatric cases
- Discriminate between specific obstetric syndromes and their anesthetic implications and management
- Define the requirements for routine open heart surgical procedures and the implications of cardiopulmonary bypass
- Demonstrate indications for and benefits of individual vasoactive and anesthetic drugs
- ACLS recertification, if required
- Complete ASA/ABA In-training Exam with minimum percentile rank of 30th
- Residents failing to score in the 30th percentile will be placed on academic warning/probation

Patient Care

Cognitive Objectives:

- Manage medical diseases in surgical patients (pulmonary, cardiovascular, endocrine, renal)
- Manage routine pediatric, vascular, thoracic, and neurosurgical cases with minimal faculty assistance

Technical skills:

- Perform spinal, lumbar epidural and thoracic anesthesia in patients with extremes of body habitus
- Insert peripheral IV's in pediatric patients greater than 2 years of age
- Perform peripheral nerve blocks with minimal faculty assistance
- Insert central venous and pulmonary artery catheters with supervision and occasional assistance
- Manage acute post-operative pain

Interpersonal and Communication Skills

- Cogently discuss management plan with faculty, surgeon and consultants of patients
- Review the literature and provide leadership in discussions with junior residents and at journal club
- Analyze critical events and describe management reasonably well on practice oral board exam
- Organize and present lectures to faculty and residents at teaching conferences
- Actively teach medical students

Professionalism

Residents will demonstrate:

- Commitment to undertaking and performing professional responsibilities
- Respect, compassion, and integrity
- Responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

Educational Goals for the CA-3 Year.

In addition to the above, the following are expected:

Medical Knowledge

- Demonstrate principles of all major subspecialties in depth
- Recognize and discuss important articles in recent medical literature
- Complete ASA/ABA In-training Exam with minimum percentile rank of 30th
- Residents failing to score in the 30th percentile will be placed on academic warning/probation, and may have their graduation delayed and residency extended.
- By this year the resident will have completed an academic project per ACGME requirements and with faculty consultation
-

Resident Academic Project

It is the goal of our department to graduate well rounded physicians, who have achieved a high level of academic and clinical acumen. To this point, it will be expected that every resident within the program participate in at least one scholarly activity during their matriculation period.

During the first 6 months of the CA-1 year, each resident will be responsible for identifying an area of interest for their scholarly activity. It is preferable that the resident work with a faculty member, of their choosing, who will serve as an advisor and mentor during the process of completing their scholarly activity. It will be expected that at the completion of the CA-1 year, the resident has begun significant work on their project.

During the CA-2 year, the resident will be expected to present either an up-to-date overview of their project, or, if the project allows, a completed presentation of their scholarly activity. It is the goal of the department that the resident be able to present their project at either a local, regional or national conference, upon its completion. Each resident is expected to present at least once during their CA years at the Midwest Anesthesia Residents' Conference (MARC).

The resident will not be limited in the number or type of scholarly activities they may participate in, provided the resident is in good academic standing and performing at a level commensurate with their stage of training.

Time allowed off for presenting at a conference, as well as funding for travel expenses, will be limited and may not be allowed for each scholarly activity in which the resident participates. The dates, locations, stipend, and other details must be submitted in writing, well in advance to the Chief Resident, the Program Director, Associate Program Director(s), Dawn Zavala, and Valerie Koss.

Patient Care

Cognitive Objectives:

- Manage independently, with faculty availability and administrative presence, ASA 4 patients for complex elective and emergency surgery
- Manage patients with acute and chronic pain
- Perform complex PACU care with faculty availability
- Manage complex medical problems in the OR and ICU with faculty availability
- Be able to supervise junior residents or mid-level providers in the conduct of anesthesia practice

Technical skills:

- Perform uncomplicated transesophageal echocardiography monitoring with minimal supervision
- Perform all previously mentioned procedures with clinical independence and administrative supervision only

Interpersonal and Communication Skills

- Meet ABA criteria for a consultant in anesthesiology
 - Organize information and communicate effectively with other physicians, health care workers, administrators and patients
 - Demonstrate sound judgment in decision-making and application
 - Synthesize and apply basic scientific principles to clinical problems
 - Demonstrate adaptability to rapidly changing clinical situations
- Supervise and mentor medical students
- Actively teach fellow residents
- Supervise junior residents who are on call, along with faculty

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity
- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

Progress through residency will be monitored and reported to the resident and ACGME with the use of the milestones generated by that organization. The details of the milestones as they apply to the anesthesiology resident's progress in the six core competencies can be found at the following website:

<http://www.acgme.org/Portals/0/PDFs/Milestones/AnesthesiologyMilestones.pdf>

The Curriculum

The program, as required by the American Board of Anesthesiology (ABA), consists of three years of training after the first post-graduate year (PGY-1). The first year of Clinical Anesthesia (CA) training (PGY-2) emphasizes technical skills necessary for clinical practice and includes subspecialty rotations in pain management, critical care, neuroanesthesia and vascular anesthesia. The second CA year (PGY-3) emphasizes subspecialty training as well as a more independent role in the management of routine cases. Subspecialty anesthesia rotations included in the PGY-3 year are cardiovascular, thoracic, neurosurgical, regional, obstetrics, pain, pediatrics, and critical care. During the CA3 year (PGY-4), residents are given the opportunity to pursue their individual areas of interest within the field of anesthesiology according to ABA guidelines.

An intense one-month introductory lecture and simulation series begins the resident's educational experience at the end of the PGY-1 year for categorical residents. For the advanced resident a more informal introduction to the specialty is held. Mock oral examinations for PGY-2 and 3 residents, grand rounds, lectures by staff and visiting professors, journal club, and morbidity and mortality conferences highlight the didactic series. A robust simulation experience at the state of the art Interprofessional Immersive Simulation Center is broad reaching, and progressive as the resident advances through the Clinical Anesthesia years.

Educational resources within the department include current subscriptions to most anesthesia periodicals, computers, a departmental library with extensive anesthesiology related texts and online use of AccessAnesthesiology. The preferred textbook for the residency program is Morgan and Mikhail's Clinical Anesthesiology, 6th edition – this textbook, and many others, is available to the resident on AccessAnesthesiology. Subscriptions to AccessAnesthesiology are provided to all residents allowing access to all of McGraw Hill's anesthesia texts, videos and question series. Virtually all published journal articles can be obtained through the University of Toledo Library on OhioLINK..

Clinical Education

Residents are involved in the administration of anesthetics and the perioperative care of patients undergoing diverse surgical procedures. The surgical specialty procedures include: oral, orthopedics, cardiothoracic, neurosurgery, ENT, ophthalmology, obstetrics, pediatric, gynecology, and urology (including renal transplantation), plastics and major vascular surgery. Out-of-OR services also include endoscopy, MRI, Special Procedures, Cath Lab, and CT scan. The residents gain experience in the administration of anesthesia to patients in the outpatient setting including procedures such as plastics, endoscopy, and orthopedics

Faculty members offer 24 hour supervision and support. Responsibility and independence are increased at the judgment of the faculty, the Clinical Competency Committee, and the program director as the resident's experience and competence allow and demand.

Clinical Skills and Simulation Center Goals and Objectives

In 2013 the University of Toledo Medical Center opened a state-of-the-art clinical skills and simulation center. It contains both clinical skills labs and human patient simulation labs. The department of anesthesiology has initiated several programs at the center that help fulfill Level 1 and possibly 2 of the ACGME and ABA Anesthesiology Milestones Project that give incoming residents hands-on experience before their first day in the operating room. Emphasis is placed on the core competencies of the ABA. Programs to practice/help credential skills in Transesophageal Echocardiography and in Adult and Pediatric Anesthesiology will be developed.

Goals and Objective for PGY-1 Anesthesiology Rotation Simulation Lab Experience:

The Anesthesiology Machine (Patient Care, Systems-based Practice)

1. Familiarize ones-self with the different anesthesiology machines currently used by the department.
2. Learn the basics of the standardized patient monitoring system common to all machines in the department.
3. Learn the basic manual machine checkout protocol.
4. Learn the basic equipment setup.
5. Learn the layout of the basic drug tray and its contents.
6. Learn the basic pharmacology and uses of the drugs in the drug tray (group sessions).
7. Learn how to set up pressure transducers and the various drug infusion devices utilized in the department.
8. Perform 1-7 to a degree of expertize that fulfills at least Level 1 of the ACGME/ABA Milestone when evaluated by an anesthesiology faculty member.

Preoperative Anesthesiology Assessment (PAE) Patient Care, Medical Knowledge, Problem-bases Learning and Improvement, Interpersonal & Communication Skills, Professionalism, Systems-based Practice)

1. Learn strategies for promoting effective communication with patients during the in a group setting.
2. Participate in simulated PAEs with volunteer patients, incorporating feedback from both the volunteer patients and anesthesiology faculty observer.
3. Become familiar with the Clinical Portal so that patient information can be retrieved for incorporation into the PAE and plan of anesthetic management.
4. Perform 1-3 to a degree of expertize that fulfills at least Level 1 of the ACGME/ABA Milestones when evaluated by an anesthesiology faculty member.

Vascular Access (Patient case, Systems-based Practice)

1. Learn the sterile set-up for invasive central venous and arterial access.

2. Obtain ultrasound-guided access in the internal jugular, subclavian, and femoral veins using a human manikin, following strict sterile protocol.
3. Obtain ultrasound-guided access of the radial, brachial and femoral arteries in a human manikin.
4. Demonstrate proper sterile technique in applying a dressing upon completion of vascular access.
5. Perform 1-3 to a degree of expertise that fulfills at least Level 1 of the ACGME/ABA Milestone when evaluated by an anesthesiology faculty member.

Airway Management (Medical Knowledge, Patient Care, Problem-based Learning and Improvement)

1. Learn basic airway assessment in a group setting.
2. Familiarize ones-self with the ASA Difficult Airway Algorithm (group setting).
3. Learn the basics of mask ventilation utilizing a human manikin.
4. Familiarize ones-self with the variety of commonly used curved and straight blades utilizing a human manikin.
5. Learn the basics of the fiberoptic airway scopes available in the department including the Glidescope, McGrath scope, King Vision, AirTraq, LMA, intubating LMA, light wand, and fiberoptic bronchoscope utilizing the human manikin.
6. Perform 1-5 to a degree of expertise that fulfills at least Level 1 of the ACGME/ABA Milestone when evaluated by an anesthesiology faculty member.

Ultrasound Guided Peripheral Nerve Blocks (Patient Care, Medical Knowledge)

1. Learn sterile setup and performance of ultrasound probe use by staff supervised practice on each other (group session) to visualize the brachial plexus (interscalene, supraclavicular, and axillary approaches), femoral, popliteal, and saphenous nerves.
2. Perform 1 to a degree of expertise that fulfills at least Level 1 of the ACGME/ABA Milestone when evaluated by an anesthesiology faculty member.

Spinal and Lumbar Epidural Anesthesia (Patient Care, medical Knowledge)

1. Learn sterile setup and technique for lumbar spinal anesthesia utilizing a human manikin.
2. Become familiar with several techniques of epidural space identification, including loss of resistance with water or air, and the hanging drop technique.
3. Learn how to place the epidural catheter and apply a sterile dressing.
4. Practice epidural space identification in the lumbar and thoracic spine areas utilizing a human manikin and learn the anatomic peculiarities of both spinal areas.
5. Perform 1-4 to a degree of expertise that fulfills at least Level 1 of the ACGME/ABA Milestone when evaluated by an anesthesiology faculty member.

Education Policy and Role of Associate Program Director

The residents are expected to acquire knowledge actively on their own. Attendance at formal lectures, while required, is supplementary to self-study. Discussions in sessions and with individual faculty members are strongly encouraged. The residents are also encouraged to contact the Associate Program Director for clarification of concepts and to resolve problems in learning.

New residents will be accepted into the Program under the condition that they agree to this policy.

An assigned faculty member shall serve as facilitator for each educational session. Each resident must provide the reasons to the Associate Program Director (or his designee) for his or her absence from a session. The residents and Associate Program Director evaluate the presentations and the Associate Program Director discusses the results of the evaluations with the presenters. Residents are expected to be on time. Tardiness to sessions will constitute an unexcused absence.

The goal of active learning will be accomplished as follows:

1. The Departmental Faculty will select a textbook to be mastered during two academic years for the residents at the CAI and CAII levels. The current textbook is Clinical Anesthesiology by Morgan and Mikhail which is available on Access Anesthesiology. The Associate Program Director will subdivide the material and provide a timetable to check the monthly progress of learning. The Associate Program Director will be available to briefly discuss assigned topics with the involved resident, clarify the new concepts, and keep the pertinent records.
2. Thursday is the designated educational day. All residents who can attend lectures without violating ACGME duty hour restrictions are required to attend assigned educational experiences. Exceptions will be made for residents currently on out-of-town assignments; residents assigned to rare, unusual, complex, or otherwise educational cases; and residents on rotations with their own didactic schedule such as the Critical Care rotation.
3. The residents are encouraged to discuss the daily clinical questions with the attending anesthesiologist assigned to the case(s). The Associate Program Director is the principal resource person outside the operating suite. One of the responsibilities of the Associate Program Director is to be readily available to the residents and to address all requests for help in learning. The Associate Program Director may refer the resident to another Faculty member for additional discussions.
3. Senior residents will be offered opportunities for mock oral examinations beyond the regularly scheduled program. The examiners will be the faculty members with experience in administering oral board examinations. The faculty includes two members who administer the ABA oral board exams. They serve as a resource for the residents regarding these exams.

4. The residents will document their progress in learning by presenting Grand Rounds and presenting at Journal Club. Each resident is expected to report at least once in an academic year on an article from current literature. The forum is the Journal Club. The goal of these presentations is the transmission of factual information as well as the demonstration of the oral communication skills of the residents. To this end, the Associate Program Director or designee will evaluate each presentation and in a private discussion suggest methods for improvement where applicable.
4. The Grand Rounds and M&M conferences are a forum for clinical discussions as well as for formal education. Based on a case presentation, one or more selected topics should be elaborated, background information provided, and the appropriate clinical interventions suggested. The presenters may be a resident, a faculty member, or both together. The first Wednesday of the month is a true M&M for the previous month. All faculty and residents are expected to attend and present appropriate cases for discussion.
5. Faculty, peer, and midlevel provider evaluations of the grand rounds and Journal Club presentations will be recorded on the CARATS website. Participation in constructive criticism of presentations is mandatory for all residents. It is your responsibility to help your fellow residents improve their presentation skills.
6. The Department Chairman or Program Director will invite nationally recognized anesthesiologists and other physicians and educators to serve as Visiting Professors in the Department. The purpose is to provide new, different, and challenging views to the residents. During the visits, the Visiting Professor is expected to present one lecture, to conduct discussions with small groups of residents, to observe and critique residents' clinical conduct, and to suggest ways to improve our educational efforts.
7. The Department will provide resources for simulated instruction. At times convenient to each resident, the residents should use this approach to improve their clinical skills. After adequate experience in the use of this modality is acquired, residents will be tested for their skills in mastering simulated clinical situations.
8. The Anesthesia Knowledge Test (AKT) will be used to assess the initial progress of the new residents joining the program. Residents are also required to take the In-Training Examination given each year. A percentile ranking of 30th or above is required on these tests.

Presentations at Journal Club

Journal Club meetings will be scheduled by the Associate Program Director. These are mandatory sessions. Let's make Journal Club meetings an enjoyable and worthwhile gathering! Following are a few suggestions for the preparation of presentations:

1. An article will be assigned to you to present.
2. If you have an interesting article you wish to present, Drs. Rooney or Casabianca will review it and determine if it is appropriate for presentation. If you are scheduled to present later in the year, please contact Drs. Rooney or Casabianca to “reserve” the article or to present it at an earlier date.
3. Plan on doing a formal presentation. Power Point or Prezi should be used, and should be clearly seen from the back row of the lecture room. Time your presentation to take a total of 20 minutes; 10 for presentation of the article, and 10 minutes for discussion. More time should be spent on the validity and impact of findings than on materials and methods. A concise summary of materials and methods is more appropriate than a cookbook recitation of what was done.
4. Be prepared to critique the article and defend the concepts involved, including:
 - Methods
 - Hypothesis, population, sample size, statistical power
 - Assignment
 - Process- observation, randomization, etc.
 - Confounding variables
 - Masking/blinding
 - Assessment
 - Appropriate measurement
 - Accurate and precise
 - Complete and unaffected by observation
 - Results
 - Magnitude or strength of the association
 - What statistical methods
 - Adjustments for differences and how they would affect results
 - Interpretation
 - Contributory cause or efficacy
 - Harms and interactions
 - subgroups
 - Extrapolation
 - To similar individuals, groups, or populations
 - Beyond the data
 - To other populations
 - Impact on clinical practice

Anesthesiology Grand Rounds Goals and Objectives

Morbidity and Mortality case presentations are a key component of hospital-based learning and continuing professional development. The goal is to provide doctors and paramedical providers with opportunity to review and discuss aspects of case in patients who have unusual medical presentation or where the outcome(s) was not anticipated or as intended.

Goal:

Each Grand Rounds conference is a CME presentation and falls under the auspices of the accreditation council for continuing medical education (ACCME). Therefore:

1. All presentations must be in response to needs-based education to improve knowledge, competence and performance in the optimum provision of health care.
2. Incorporate quality improvement and patient safety issues into practice.
3. Use the evaluation tool to assess resident progress through milestones in the Core Competencies

Objectives:

1. Provide patient care that is appropriate, compassionate, evidence-based and effective for patients undergoing anesthesia, intensive care treatment, or pain management.
2. Demonstrate application of scientific methodology to clinical situations.
3. Know and apply the basic sciences which are appropriate to clinical management.
4. Demonstrate effective communication skills with patients, families, and professional associates.
5. Identify patient safety issues and participate in quality improvement techniques involving self and advanced team techniques.
6. Prioritize multiple patient care activities
7. Demonstrate individual educational advancement and serve as a learning resource to others

State the rationale for the presentation – statement of the patient/management problem(s)

The presentation should be based upon a clinical case in one or more of the following formats (not exhaustive):

1. A patient presents with a complicated medical history: discuss the clinical situation in detail, how it influences anesthetic management using evidence-based practice, present the management of the case and its course (complications, treatment, outcome, etc.)
2. Presentation of a case, interjecting current evidence-based practice into the course of the discussion in chronologic order (PAE, disease state(s), monitoring, induction, intra-op management, unusual pitfalls and caveats, post-op management, etc.)
3. Present several related cases, emphasizing the important medical/anesthetic management aspects of each, and discuss their outcomes
4. Discuss a patient with an unusual or particularly complicated disease, discussing pre-op preparation, anesthetic management and the outcome, emphasizing current evidence-

based and best practice recommendations.

List the learning goals/objectives (these should be turned in advance of the presentation to the Clerkship Coordinator)

The resident should fully prepare the presentation, consulting the staff/faculty anesthesiologist for his/her input on the management of the case. Pertinent HPI/PMH/meds, the reason for the surgery, technical and physiological details related to outcome, and follow-up should be presented. Important management decisions and rationales must be presented. How and when a complication(s) was recognized and managed should be detailed. The faculty serves as backup and should not be involved in the presentation, except to correct any errors in the presentation.

When certain events in the conduct of the case arise that involve a differential diagnosis and /or a different course of management, you can ask residents in the audience what they would do. This is not the time for faculty, other than the one involved with the case, to respond. They will have time to do so during the discussion after the presentation.

Do not read your slides. You should know the case/topic well enough to use slides as supplement to your presentation rather than as props.

Present literature relevant to the patient's pathology and complications.

After the case presentation:

1. Discuss the important features of the patient's pathophysiology in general
2. Discuss alternative methods of management, including pros and cons of each
3. Discuss "best practice" and/or ASA recommendations, if any
4. Open discussion

Grand Rounds presentations will be evaluated by the audience utilizing the CARATs website discussed elsewhere in this manual.

The CARATS Website

The CARATS website was developed by the department to allow confidential peer-to-peer and faculty evaluation and constructive criticism of those conferences presented by residents e.g. Journal Club, and Grand Rounds. The information gleaned by this website is utilized by the CCC in determining progress of the resident in the milestones related to education and communication. Feedback from these reports supplied to the resident's mentor may help the resident become more organized and polished when presenting to groups.

The following instructions are to be used to access the CARATS site when evaluating a presentation:

1. Go to <https://www.utcarats.org>
2. Login with username (email address without the @utoledo.edu e.g. Jane.Doe2)
3. Default password is UTM1234 (can be changed after login)
4. Click on "Evaluation" at the top and select "Presentation Evaluation" from the dropdown menu
5. Fill out the form and submit.

Mock Oral Examination

The purpose of the Mock Oral Examination is to assist in your preparation for the oral board examination the final step to becoming a consultant in anesthesiology. It will also be a formative tool to evaluate your progress during the residency.

The oral examination tests qualities which are fundamental to a consultant-anesthesiologist. Not only are you required to have adequate knowledge, but unlike the written board examination, you are required to verbalize your thoughts. In practice you will be doing that when you communicate with surgeons, colleagues, patients and their families.

You will be given a stem question and a few minutes to think about it. The stem question may contain the patient's age, sex, disease process, proposed surgery, relevant physical findings, vital signs and labs, etc. The patient management discussion will be approached systematically, dividing it into preoperative, intraoperative and postoperative periods, with discussions including but not limited to:

1. Preoperative Assessment and Optimization
History and physical
Impact of coexisting diseases
Is patient in optimal condition for elective surgery?
How/when to proceed in emergency situations

Pre-existing medications/implications; need for additional medications

Airway

Does patient need further evaluation (labs, x-rays, cardiac work-up, etc.)?

Define your anesthetic goals/choice of anesthetic technique.

2. Intraoperative Management

Monitors

Induction of anesthesia/airway management

Anesthetic/operative course: diagnosis and management of complications

Emergence from anesthesia

3. Postoperative Period

Diagnosis and treatment of complications

Postoperative pain management

You will be assessed on the following 10 points, and you will be graded as follows: definite pass, probable pass, probable fail, or definite fail.

1. Knowledge of co-existing diseases and preoperative assessment

Be prepared to describe pathophysiology, what additional tests you would like and why, and anesthetic goals. Do not forget the patient's medications as there is always a concern about drug interactions.

2. Intraoperative management

Always discuss airway evaluation before induction

Choose monitors

Describe your anesthetic plan (N.B. - "your" plan "I will do this", not "I could do this, this or this.")

Have a back-up plan

Be prepared to manage intraoperative problems. (They will definitely occur, so be ready to discuss hypoxemia, hypercarbia, hypotension, hypertension, bradycardia, tachycardia, arrhythmias, bronchospasm, etc.).

3. Postoperative Management

Think of possible postoperative complications and how you will treat them. Particular emphasis will be on pain management and cardiopulmonary complications.

4. Communication / Clarity

You must clearly describe/justify why you would choose a particular monitor or anesthetic technique. Effective communication is self-explanatory. Practice with your colleagues or ask an attending to give you a mock oral exam if you both have free time.

5. Adaptability

Patient presentation may change and you may have to change patient management to fit the scenario. Do not stubbornly hold the course if the ship is sinking; on the other hand, do not be lured into changing your technique when it is not necessary.

6. Poise

If you choose a particular technique or monitor, you should be able to defend it.

7. Judgment

8. Application of Knowledge

9. Eye Contact

Lean forward and keep eye contact with the examiner. If you are interrupted by the examiner, immediately stop. Listen to the question carefully. "I do not know" may be a good answer, instead of "fishing" for an answer you cannot defend or explain.

10. Defend your approach, but do not argue. "This is the way I practice" is also not a smart answer.

Do's and Don'ts for the Oral Board Examination

DO

- Listen carefully
- Lean forward
- Maintain eye contact
- Be calm and composed
- Imagine yourself in the O.R.
- Expect complications
- When in trouble go to basics like the "ABCs" of CPR, and always assess monitors to assess changes and provide information to help diagnose any change in patient status:
 - BP
 - SaO₂
 - EtCO₂, etc.

DON'T

- Argue
- Interrupt examiners
- Ask too many questions
- Uhm...Aah...you know!

New Innovations

New Innovations Inc.'s Residency Management Suite is a tool that allows us to unify data into a centralized data warehouse and to complete tasks, historically performed using multiple, individual programs. Our program utilizes New Innovations to perform tasks such as scheduling; procedure logging; evaluating residents, faculty, rotations and program; monitoring conference attendance, logging duty hours and general personnel tracking.

Most of the information necessary to track resident performance and advancement over time is recorded using this program by residents and faculty. The residents are required to track their duty hours on a weekly basis on this site. Residents are able to view their evaluations by faculty on this site at the end of rotations, and to complete evaluations on faculty and rotation sites quarterly.

Residents will be given a User Name and a Password to access the program (see below). After the initial log-in you will be able to change the password. Initial passwords are always in lower case. Log-in information is case sensitive. New Innovations is a web based program and can be accessed from work, home or anywhere you have computer access. The web address is: www.new-innov.com

At the Client Login Page - <type> **utoledo (lower case)**

Next page enter

User Name – (1st initial & last name [lower case])

Password – (1st initial & last name [lower case])
(password can be changed after initial log in)

Once log-in is complete the resident will be able to enter data to the program.

Resident Evaluation and Counseling

Residents will have a formative evaluation every 3 months as well as rotation specific subspecialty evaluations on the completion of these one or two month rotations. Occasionally, more frequent evaluations are deemed necessary by the faculty for individual cases. A summative evaluation is completed every 6 months in conjunction with reporting milestones to the ACGME, and training credit to the ABA. These evaluations will specifically address the resident's knowledge, clinical competence, skills specific to anesthesiology management and overall performance, including the development of professional attitudes consistent with being a physician/consultant. The resident evaluation forms used in new innovations were designed by our department based on criteria of the American Board of Anesthesiology, that details required areas of competence be demonstrated during residency training to advance through the board certification process as well as the milestones for anesthesia as determined by the ACGME. Faculty comments and recommendations are an important part of these evaluations.

Objective summative criteria used to evaluate resident performances are primarily academic tests, especially the In Training Exam (ITE) given to all residents each February. A series of standardized exams, the Anesthesia Knowledge Test (AKT), which uses similar format to the ITE, is also utilized. The initial AKT is given to CA-1 residents during the first week of training to assess basic medical knowledge. Approximately 30 days later, after one month of clinical training and introductory lectures on topics specific to the practice of anesthesiology, CA-1 residents take a second national AKT exam. Further exams in the AKT format are taken upon completion of six months (middle of CA-1 year) and after 24 months (end of CA-2 year) of training. The minimum requirement is a score that places the resident in or above the 30th percentile nationally for the latter two AKT and the CA1 through 3 In-training exams. Additionally, formative mock oral boards are given periodically, which are then discussed with the residents.

Formative evaluation of residents performance, especially in the areas of professionalism and interpersonal and communication skills, will be accomplished utilizing videotaping of resident interactions during a mock preoperative evaluation of a professional patient surrogate. The observations and opinions of both the faculty viewing the videotape and of the professional patient surrogate will be utilized to provide constructive feedback to the resident. Additionally, formative feedback in all core competencies is obtained from a questionnaire that is given to paramedical personnel in the OR and PACU regarding resident performance in all six areas.

Procedural specific skills are included in the evaluation process. Numbers of procedures as well as information on faculty observation during performance of procedures, including invasive vascular procedures, airway management, as well as neuraxial and peripheral nerve blocks are subject to evaluation. This information is used in the credentialing process for level of resident supervision for the performance of procedures.

The clinical competency committee meets on a quarterly basis to evaluate the progress of all residents. Results of all evaluation tools are considered. Every six months the decision, based on all information available, is made to grant or not grant credit for the preceding six months. Residents always have complete access to their files where all records are kept. They are

encouraged to review them regularly. In addition residents are assigned a faculty advisor whom they should meet with on a quarterly basis to discuss their progress.

Inadequate Resident Performance and Due Process

If there is significant concern about a resident's progress, he or she may be found to be academically deficient. The decision for academic deficiency will be a consensus opinion of the clinical competency committee. The resident will be advised in writing in a timely manner and the form used for notification will be signed and dated by the resident and Program Director. A written plan identifying the problems and addressing how they can be corrected will be communicated to the resident and this will be placed in the resident's individual file. In addition a specified time-frame will be established for remediation. These documents will be kept in the resident's individual notebook.

Any such decision of inadequate performance, notification, or appeal by the resident will conform with GME policy number: **3364-86-008-00 Inadequate Resident Performance and Due Process**. A resident given notice of inadequate performance may appeal this decision as allowed by, and by the mechanism stipulated within, this policy.

Final Written Evaluation

A written final evaluation will be completed for each resident when they complete the program. This evaluation will include a review of the resident's performance during the final training period and should verify that the resident has demonstrated sufficient professional ability to practice completely and independently. This final evaluation will become part of the resident's permanent record maintained by the institution. This evaluation will be shared with the resident at the completion of the residency program.

Faculty and Institutional Evaluations by Residents

Residents have the opportunity to evaluate the faculty at least twice a year. This is done in a confidential manner in which the residents do not sign the evaluation unless they so choose. Copies are then made of these evaluations and they are reviewed by the Program Director and Chairman, and then distributed to the faculty for their own information. The residents are advised of the importance of these evaluations for critiquing the faculty in an open and honest manner, which can only lead to improvement in the quality of resident education.

Institutional evaluations are discussed biannually by residents at meetings held with the chief resident and the Program Director in attendance. These meetings are held in the absence of other faculty members in order to obtain additional information that may not have been given to the Program Director in his communication with the Chief Resident. These meetings are frank

discussions about any concerns regarding the program. Anonymous evaluations of the program as a whole are conducted via the New Innovations tool annually.

All evaluations are completed on the online program New Innovations. Residents and faculty will be notified by e-mail informing them that it is time to complete the evaluations, along with a deadline for completion.

Resident Responsibilities at University of Toledo Medical Center

Duties at UTMC require the resident to arrive early enough to set-up for the day's cases, prior to any morning conference. If your patient is in the hospital, the patient should have been seen by you or a higher call resident the day before. After chart review, patient interview, and patient exam, the resident should contact the attending anesthesiologist assigned to the case to discuss pertinent findings, additional testing and anesthetic plan. If the attending assigned to the case is unavailable the night before any issues can be discussed with the attending on call. In the morning before the case, please be proactive in contacting the attending, do not wait for the attending to find you.

If your patient has not been admitted by the time you are ready to leave at the end of the day, or the assignments have not been made for the next day, the patient should be seen by a higher call resident, time permitting. Each resident should check to make sure that the next day's pre-ops have been seen before leaving, unless instructed otherwise by the anesthesiologist in-charge. Remember, the ultimate responsibility for knowing about and seeing your patient is yours.

If you have an in-house patient on Sunday for a Monday surgery, the on-call team will see your patient and contact the attending anesthesiologist. This is also true for any add-on cases during the week. If you are post-call, a system is in place where any in-house patients will be evaluated. However, once again, it is your responsibility to find out about the patient, have all appropriate pre-op testing, drugs, monitors and equipment available for your case. Residents who were on-call the night before should not leave in the morning unless all pre-ops for the day have been seen, or arrangements to see them have been made.

For open-heart cases, the on-call team on Sunday will set up for Monday cases or any add on hearts during the week, if possible. You will need to check the supplies/equipment yourself to ensure completeness. The ultimate responsibility for insuring that the room is properly and completely set-up lies with the resident actually involved with the case. Please arrive early enough to be able to carry out this responsibility.

Before you get started with your day, check the OR schedule to see if there have been any changes in your room. It is your responsibility to know if the patient has been seen, and to know about the patient's history. Any significant issues should be discussed with your attending.

O.R. Duties

1. Be present in the OR in sufficient time to see your patient and set up your case. This is usually between 6:00 - 6:30 a.m. For the sake of efficiency, seeing your patient before setting up the room is often prudent, as knowledge of plan and special circumstances will often guide your set-up.
2. Set up your room, check:
 - a. anesthesia machine/circuit and suction setup
 - b. monitoring devices (pulse oximeter, O₂ analyzer, EKG, NIBP, temperature device, nerve stimulator, end-tidal CO₂ monitor, TEE)
 - c. airway devices (laryngoscope handle/blade, ETT, oral airway, tongue depressor, stylet, mask)
 - d. Intravenous drugs: label properly with concentration expiration time and date (most drugs 24 hours, propofol 4 hours). It is against guidelines to pre-label syringes. All syringes should be labeled as the drug is drawn up.
Review drug concentrations: X% solution
example: 1% lidocaine
definition: X gram of drug in 100 ml of a solution
1% = 1 gram/100 cc = 1000 mg/100 ml
1% lidocaine = 10 mg/ml
Vasoactive drugs: ephedrine, atropine, phenylephrine
Induction drugs
Opioids (Accudose system: check out for each patient, waste after each case with attending, PACU staff, or other licensed provider.)
Muscle relaxants (have succinylcholine in the room at all times).
Remember: Regulatory law requires mg for mg accounting for all schedule II substances. Amount dispensed, given and wasted should be recorded in the proper place in the record and Accudose.
 - e. IV fluids (blood tubing for major surgery, extension tubing, blood warmer, tourniquet, 25-30 gauge needle for local anesthesia (lidocaine), alcohol swab, gauze, tape, flush all IV tubing free of air (particularly injection port).
3. Check patient's chart (anesthesia pre-op note, consent, lab work), see patient; discuss plan with your attending, and draw appropriate induction drugs/opioids/relaxants as per anesthesia plan.
4. Take the patient back to the OR with the circulating nurse, make sure your attending knows that you are moving your patient to the OR. Page your attending once all monitors (pulse oximeter, BP cuff, EKG with baseline strip) are in place.
5. Charting - see sample chart. Electronic charts are typically used except in remote cases/MRI.

6. Lunch breaks are given anytime between 1030 and 1330. Thirty minutes are allowed for lunch/dinner breaks. Coffee breaks (approximately 15 minutes) will also be offered once in the morning and once in the afternoon. You are not required to actually drink coffee during these breaks. Be cognizant of your fellow residents. Remember you all depend on each other for breaks,
7. All patients with acute pain consults (i.e. PCA or an epidural placed for post-op pain control) have to be registered in the pain book located in the PACU.
8. At the end of your OR day check with the attending in charge before you leave. See your next day in-house patient; discuss your case with the attending. Read up on your next day cases.

Any questions can probably be answered with common sense or by contacting your chief resident

On Call Duties

A General Overview

All level 1 trauma alerts and code C, code ECMO and code blue alerts are to be attended by the senior and junior resident at UTMC. Intubations are as per senior resident's discretion; however the junior resident may try first at the discretion of the attending anesthesiologist.

The intubation bag should be carried to codes on the floor or trauma alerts. This bag is located in the medicine room in the OR. A stocked intubation bag will have a tag seal on the zipper. If you use both bags on call when no anesthesia techs are working you will need to restock it yourself.

Resident On-Call Duties

1. Check pre-op anesthesia interviews, labs and consent.
2. Cover the PACU – you should know the OR cases which come in and be aware of potentially problematic ones, routine PACU medications (pain, antiemetics), sign out patients].
3. Check with the on-call attending for possible OR assignment.
4. Check schedule for the next day:
 - a. in-house patients of off duty residents..
 - b. check the OR schedule for any late add-on in-house patients.
 - c. call team will see all add-ons and set-ups for all add-on heart cases.
5. Make a post-op list and see all patients. Take note of any anesthetic complication (nausea/vomiting, airway trauma, etc.) and if present inform the resident/attending involved in the case also make sure it is recorded on a case data sheet for discussion in M&M..

Call Rooms

Two call rooms are located down the hall from the anesthesia office. Each room provides a bed and desk as well as adjacent bathroom facilities. Meal tickets are also provided up to the limits established by each institution.

Work Hours

Duty hours for resident physicians at UTMC begin at 6:00 a.m. and extend until relieved by assigned anesthesia personnel. Typically, an anesthesia resident not on call will be relieved from operating room assignments between 4:00 - 6:00 p.m. Final dismissal from further hospital responsibilities (i.e., preoperative and postoperative rounds) is at the discretion of the staff Anesthesiologist in charge. Work hours are to be recorded on the New Innovations website and will be in compliance with ACGME regulations See ACGME requirements for these limits.

Residents with the Department of Anesthesiology perform anesthesia under the direct supervision of a staff Anesthesiologist. It is the policy of the Department of Anesthesiology to provide a safe, instructive working environment free of verbal and physical harassment.

SALARY AND BENEFITS

Detailed benefit information such as salary and insurance can be found on the UTMC website at:

<http://www.utoledo.edu/med/gme/benefits.html>

A brief description of benefits is as follows:

Salary

Salaries are reviewed and generally adjusted every year in July. They are competitive with other residency training programs in the Northwest Ohio region.

Salaries (2018-2019)

PGY-1 - \$53,459 PGY-3 - \$57,219

PGY-2 - \$55,330 PGY-4 - \$58,700

Sick Policy

Although your hospital contract states that you are allowed 3 weeks (15 days) sick time per contract year. To be in compliance with the American Board of Anesthesiology requirements for entering the examination process you may not be away from the residency program for more than 60 days over the CA1-CA3 years. This includes vacation and sick time. The resident may be required to make up for any absences (vacation, sick leave, or other leave combined) that exceed the 60 allowed days. This may result in an extension of the residency training, postponing the anticipated graduation. Travel for education and presentations is not ordinarily considered time away from the residency program.

Vacation

PGY-1 residents are allotted 3 weeks (15 days) of vacation

All PGY-1 residents should make their vacation requests in writing to the department Residency Coordinator before the beginning of the PGY-1 year (the program coordinator will communicate the exact due date for these requests. Internal Medicine has their own written vacation policy; PGY-1 residents must adhere to the vacation policy of the department in which they are rotating.

PGY 2 allotted 4 weeks (20 days) of vacation

PGY 3-4 allotted 4 weeks (20 days) plus 1 week of conference time.

PGY 2-4 vacation requests are to be made to the Chief Resident, Valerie Koss, and Dawn Zavala. In order to facilitate timely distribution of the call schedule, vacation requests should be submitted at least 3 months in advance. Vacation time should not be scheduled for more than 2 consecutive weeks.

No vacation time may be taken during an ICU or OB rotations. No vacation time will be allowed during the first week of the Pediatric rotation; vacation time on this rotation will be limited to one (1) week only.

When more residents have requested the same time period off than is allowed due to call coverage or scheduling, the vacation request will be based on the following:

- a. Conference time takes priority over vacation time
- b. CA-3 residents get priority over CA-2 residents, who in turn get priority over CA-1 residents

The department will try to assign a Thursday call to residents scheduling time off clinical duties, in order to allow for a Friday post call day, prior to starting vacation. This is not a guarantee; it is recommended that travel plans be made with that in mind.

Holidays

There are 10 paid holidays per year.

Travel for Conferences

Each resident (CA-1, 2, 3) will receive a set amount of funds (currently \$800.00 per academic year) for educational purposes. The primary purpose is to defer expenses for travel to approved meetings and resident functions.

The department wishes to support resident participation and scholarly activity at the Midwest Anesthesia Residents Conference (MARC), as well as other regional and national meetings and conferences. For those residents who have an accepted poster/abstract and are presenting at this meeting, an additional \$500 will be available to help defer travel expenses. All other travel stipends will be at the discretion of the chairman/program director.

Prior to submitting a poster/abstract or any other scholarly activity for presentation at a conference, residents must first submit a request in writing, and get approval from, the Chief Resident and program Director (or Associate Program Director); additionally, a request in writing for time off should be made to Valerie Koss and Dawn Zavala. Failure to submit approval for travel time, prior to submission of your project, may prevent you from receiving time off and late changes to call scheduling will not be allowed.

Health Care/Dental Insurance

Residents are eligible to participate in comprehensive major medical and dental plans. A partial premium payment is required. Residents may choose between single or family coverage and contributions are payroll deducted. Optical and prescription plans are also available.

Life Insurance

\$10,000 Basic Life Insurance, \$10,000 Employee Basic Accidental Death and Dismemberment Insurance paid by The University of Toledo. Optional dependent life insurance is available and requires a minimum of monthly contributions.

Malpractice/Liability Insurance

Full coverage by UT as long as the resident is functioning within the scope of the residency program.

Retirement

Residents may participate in the Ohio Public Employee Retirement System (OPERS) retirement plan or the Alternate Retirement Plan. Employee contributions are "deducted" by the University from the employee's gross pay and paid directly to the retirement systems. The resident annual contribution is 10%, and the university contribution is 13-14%, depending on the type of plan.

Credit Union

The University of Toledo Federal Credit Union offers loans at favorable interest rates and dividends on savings.

Employee Assistance

The University of Toledo Employee Assistance Program provides confidential and professional assistance to employees and dependents. Services include counseling, legal advice, identity theft prevention and recovery, financial education and more.

Career Services for Spouses/Domestic Partners

The UT Center for Experiential Learning and Career Services assists spouses and domestic partners of residents in their job search through: exploring career and local employment opportunities; CV/resume and cover letter review and feedback; and practice mock interviews.

Bookstore

Medical books, paper supplies, special equipment for physicians and nurses, and a wide variety of miscellaneous items are available at the Barnes and Noble bookstore on the UT Main Campus.

<http://utoledo.bncollege.com>

Meals

Meals are charged at a discount rate in the cafeteria. Stipends for meals while on call at UTMC will be handled with Rocket Dollars. Meals while on call at the affiliated sites will be handled according to the individual hospital policies

Call Schedule and Requests

The call schedule is made out by the Chief Resident. Resident call assignments consist of a 1st call (senior resident), 2nd call (junior resident), and a 3rd call (senior or junior resident).

1. Both 1st and 2nd call residents are in-house (overnight) and the 3rd call resident is the last to leave during the week, but takes call from home on the weekend.
2. The 1st call resident reports for duty at 1500 the day of call during the week and at 0700 on the weekend (Saturday/Sunday) or Holidays.
3. The resident on 2nd and 3rd call report at 0700 daily during the week..
4. The resident on 2nd call reports for duty at 0700 on the weekends or holidays.
5. The 1st and 2nd call residents are relieved of all clinical duties (after completion of post-op visits) the next morning after call at 7:00 am.
6. On the day post 3rd call the resident may be allowed to report at 1000 (or later) if their duties were particularly late or onerous the night before - check with the on-call attending before leaving the night before. If available personnel allow and a resident is not assigned to a PACU rotation the 3rd call resident covers the PACU from 0700 – 1700 and covers the OR thereafter. On some days the 3rd call resident may be assigned to an OR room - they should report to the attending running the schedule when they arrive

All call requests must be submitted on Open Tempo AND in writing to the Chief Resident by the 1st of the month prior to call. All requests submitted for both weekends and weekdays will be reviewed and, if possible, honored. It will not be necessary to request a Thursday call if you are starting vacation the following Monday. Priority for Thursday call will be given to those residents going on vacation, conference, or interviews.

Holiday calls will be tracked so that the holiday assignments are equitable. Due to rotations at affiliated institutions, there is no guarantee that these can always be taken into account in making holiday calls equitable. All residents will be required to work at least two weekends per month.

Call requests are your responsibility; if they are submitted after the deadline then it will be your responsibility to arrange switches with the Chairman or Chief Resident's approval. You must also notify the switchboard and operating room front scheduling desk of your changes. Each resident takes an average of 6 first or second calls per month.

Educational Meetings/Travel

Each resident (CA-1, CA-2, CA-3) will receive a set amount of funds (currently \$800 per academic year) for educational purposes. The time allowed for meetings is 7 days. After deciding on which meeting to attend the resident is responsible for getting approval for the time away from campus and pre-approval of travel expenses. The residency coordinator can arrange for registration as well as necessary fees if there is enough time to secure a check from the accounting department (4-6 weeks). Travel arrangements and hotel accommodations should be completed by the resident.

All **original** receipts must be kept and turned into the residency and curriculum coordinator for reimbursement.

Books and Memberships

All residents receive a subscription to Access Anesthesiology. Through this portal they have access to all of McGraw Hill's anesthesiology titles including the departmental approved text Clinical Anesthesiology by Morgan and Mikhail.

The department also pays for membership in the American Society of Anesthesiology (ASA). The ASA dues will be paid by the department yearly during residency. The resident should turn the dues invoice in to the residency coordinator.

AccessAnesthesiology®

The University of Toledo Department of Anesthesiology (through The University of Toledo Libraries) offers each resident a subscription to McGraw Hill's interactive website AccessAnesthesiology. This website offers all of McGraw Hill's anesthesiology and related currently available text books; as well as question banks, multimedia case files, videos, practice guidelines and drug databases. Once the resident has created a personal MyAccess sign-on and profile, all or part of every textbook can be downloaded, and/or printed. Every picture, diagram, or table can be downloaded as a PowerPoint slide for unlimited use in presentations. The department's officially selected text-book, Morgan & Mikhail's Clinical Anesthesiology, is

available in its entirety on this site. With their MyAccess sign-on the residents may access this material from anywhere using computer, lap top, tablet or smart phone. The department encourages the residents to make liberal use of this invaluable resource. Were the residents to purchase this resource on their own, each subscription would cost \$999.00 per year.

Obtaining Access to AccessAnesthesiology

To obtain a sign-on to visit the website: <https://accessanesthesiology.mhmedical.com/> from a computer on The University of Toledo Health Sciences Campus (this is necessary to connect through the university library system). In the upper right hand corner left click on the Sign In icon and select the “Sign In or Create a Free MyAccess Profile” option from the drop-down list. In the pop-up window click on the “Create a Free My Access Profile.” Follow instructions, fill-out the form, and click on “Create Profile.” Once you have created your profile, you will be able to access all of the features on the website from anywhere. If you have any questions or problems with this process, contact the residency program coordinator.

The following information was copied from the AccessAnesthesiology Website.

About AccessAnesthesiology

AccessAnesthesiology from McGraw-Hill Medical offers a new approach to anesthesiology reference, research, and curricular instruction – all in one place. Updated regularly, this comprehensive online anesthesiology resource covers the entire spectrum of anesthesiology from the basics to specialty-specific content — optimized for viewing on any device.

Authoritative, trusted, and comprehensive, AccessAnesthesiology is the field’s leading website guided by an esteemed Advisory Board that includes three distinguished physician-educators, Mark Dershwitz, MD, PHD, David E. Longnecker, MD, FRCA, and Brian D. Sites, MD.

AccessAnesthesiology can help **students** excel in their clerkship; assist **residents** in strengthening their skills with instant access to procedural videos, self-assessment, and leading anesthesiology textbooks that will establish a solid base for learning; allow practicing **anesthesiologists** to reinforce their medical knowledge for recertification; and provide **CRNAs** with an important foundation in their career.

Why is AccessAnesthesiology unique?

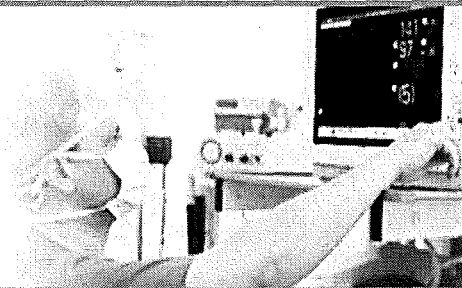
AccessAnesthesiology provides unique benefits that deliver indispensable support in resident education and certification/recertification in pain management, critical care, and perioperative medicine – through these exclusive interactive features:

- Leading anesthesiology textbooks – The definitive collection of anesthesiology texts including the comprehensive reference, *Anesthesiology* -- along with the world's best-selling anesthesiology book, *Morgan & Mikhail's Clinical Anesthesiology*.
- Multimedia – A robust library of animations, lectures, and procedural videos designed to guide students, residents, faculty, and practicing anesthesiologists through basic and advanced skills including exclusive ultrasound, regional anesthesia, and advanced monitoring videos.
- Interactive Self-Assessment – More than 3,800 Q&A designed to help residents prepare for their in-service exams and boards, and clinicians for recertification or specialty exams such as TEE and Pain Medicine. Take a practice test: accessanesthesiology.mhmedical.com/qa
- Practice Guidelines – Concise tables and algorithms summarize the latest protocols to distill essential information for easy access - anytime, anywhere.
- Integrated Drug Database – Look up dosing, indications, and adverse reactions quickly for generic and brand-name drugs, and print out patient handouts available in both English and Spanish.
- Cases – More than 100 patient cases from *Case Files* and *Morgan & Mikhail's Clinical Anesthesiology* help students better understand and explore possible patient scenarios in the clinical setting.

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ACCESS Anesthesiology

Pain Management, Critical Care, & Perioperative Medicine



AccessAnesthesiology is now available to all students, residents, and faculty

AccessAnesthesiology™ from McGraw-Hill leads the way with a new generation of anesthesiology reference tools, merging a compendium of renowned medical resources with exclusive procedural videos, Custom Curriculum, and powerful search functions, along with tables and charts designed for quick reference.

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More than 10 leading textbooks, including the most current Longnecker's *Anesthesiology*, Hadzic's *Textbook of Regional Anesthesia and Acute Pain Management*, and Morgan's & Mikhail's *Clinical Anesthesiology* and updates.

Watch Multimedia to See Medicine in Action

Hundreds of videos and animations provide interactive demonstrations of medical topics.

Search for Drugs and Patient Handouts

Integrated drug database provides critical information as well as patient handouts.

Test Yourself on Key Concepts and Prepare for the Boards

More than 1,800 Q&A to help you ace the boards.

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Treatment answers are available for rapid access!

Search the Latest Guidelines in the Field

Features practice guidelines with easy-to-use summary tables.

AccessAnesthesiology Resource Center

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Visit the AccessAnesthesiology Resource Center to find:

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Custom Curriculum

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Custom Curriculum on AccessAnesthesiology:

The Custom Curriculum tool enables program directors and faculty to create and manage their residency curricula, creating interactive learning modules for their learners to meet the unique needs of their programs, making it a perfect tool for education and remediation.

- Create and populate assignments, including textbooks, videos, and case files
- Include Q&A tests, either drawing from the existing question bank or by authoring their own questions
- Assign specific learners to each assignment and report on their progress and quiz scores



To utilize this free feature, Custom Curriculum instructor needs to be activated on your My Access account. To have instructor privileges added to your My Access account, please email us at customcurriculum@mhprofessional.com.

My Access Account

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- Gain **remote access to your subscribed site(s)** using just your My Access account credentials. No extra log-ins or VPNs required!
- Access **Self-Assessment** to create and save practice tests
- Use the **Cases** to evaluate real-world patient scenarios
- View evidence-based **Guidelines** for primary care
- Set up alerts for new book content
- Save and download images
- Print full chapters
- Access **Custom Curriculum** (if it's being used by your program)



Medical

Access Anesthesiology: Currently Available Titles

Author	Title	Copyright
Rose	Anesthesia Equipment Simplified	2014
Atchabahian	The Anesthesia Guide	2013
Longnecker	Anesthesiology, 3e	2018
Dershwitz	Anesthesiology: Examination & Board Review, 7e	2014
Freeman	Anesthesiology Core Review: Part One Basic Exam	2014

Freeman	Anesthesiology Core Review: Part Two Advanced Exam	2016
Gadsden	Anesthesiology Oral Board Flash Cards	2010
Gadsden	Anesthesiology Self-Assessment and Board Review: BASIC Exam	2017
Diwan	Atlas of Pain Medicine Procedures	2015
Karmakar	Atlas of Sonoanatomy for Regional Anesthesia and Pain Medicine	2018
Patel	The Basics of Anesthesiology	2016
Morton	The Big Picture: Gross Anatomy	2011
Wasnick	Cardiac Anesthesia and Transesophageal Echocardiography	2011
Conlay	Case Files® Anesthesiology	2010
Toy	Case Files®: Critical Care, 2e	2018
Burns	Certification Review for Nurse Anesthesia	2015
Mathew	Clinical Manual and Review of Transesophageal Echocardiography, 2e	2010
Johnson	Clinical Pharmacology for Anesthesiology	2015
Ryan	Continuous Learning Questions	NA
Oropello	Critical Care	2017
Levitov	Critical Care Ultrasonography, 2e	2014
Minter	CURRENT Procedures: Surgery	2010
Hess	Essentials of Mechanical Ventilation, 3e	2014
Brunton	Goodman & Gilman's The Pharmacological Basis of Therapeutics, 13e	2018
Hadzic	Hadzic's Peripheral Nerve Blocks and Anatomy for Ultrasound-Guided Regional Anesthesia, 2e	2012
Hadzic	Hadzic's Textbook of Regional Anesthesia and Acute Pain, 2e	2017
Carmody	Handbook of Critical Care and Emergency Ultrasound	2011
Houck	Handbook of Pediatric Anesthesia	2015
Hung	Hung's Difficult and Failed Airway Management, 3e	2018
Hung	Hung's Difficult and Failed Airway Management, 3e (Review Questions)	2018
Gadsden	Interactive Cases for the Oral Boards	NA
Ruffle	Medically Challenging Cases	2012
Butterworth	Morgan & Mikhail's Clinical Anesthesiology, 5e	2013
Butterworth	Morgan & Mikhail's Clinical Anesthesiology, 6e	2018
Butterworth	Morgan & Mikhail's Clinical Anesthesiology, 6e	2018
Santos	Obstetric Anesthesia	2015
Abdi	Pain Medicine Board Review	2009
Glantz	Primer of Biostatistics, 7e	2012
Tobin	Principles and Practice of Mechanical Ventilation, 3e	2013
Bajwa	Principles and Practice of Pain Medicine, 3e	2017
Hall	Principles of Critical Care, 4e	2015
Hanson III	Procedures in Critical Care	2009
Bissonnette	Syndromes: Rapid Recognition and Perioperative Implications	2006
Barbeito	Thoracic Anesthesia	2012
	Various Virtual Cases	NA

Uniforms

Two lab coats are provided at the beginning of residency training. Scrubs are supplied from the machines located immediately outside of the Anesthesiology department. You will be assigned a locker by the Residency Coordinator on your first day of Residency Training. All locks are provided by the Anesthesiology department and SHOULD NOT be removed.

Pagers

Pagers are assigned the first day of your residency and you are responsible for this beeper during your entire residency. The batteries should be changed on a regular basis. New batteries can be obtained from the department staff, the O.R. technicians or the Switchboard Operators.

Depending on their assigned call, residents will also carry the junior or senior call pagers and ASCOM phones. Residents will also carry the Pain Medicine pager during specified off-hour times.

Trainee Duty Hours

O.R. and call duties will vary from hospital to hospital. Please familiarize yourself with each institution's policies.

Residents are responsible for regularly and promptly recording their duty hours on the New Innovations web site. Do not fall behind in this task.

Our residency strictly follows the ACGME duty hour guidelines as listed in the program requirements on the ACGME website. Please familiarize yourself with these rules. Keep in mind that these rules are for the most part averaged over a 4-week time period.

Substance Abuse

Physicians who practice anesthesiology are at high risk for developing substance abuse disorders. Residents should be particularly wary of this dysfunctional coping mechanism. All residents should familiarize themselves with the signs and symptoms of substance abuse. Any evidence of substance abuse disorder in colleagues should be brought to the Chairman, program director, or associate program director. The Departmental Substance Abuse Policy and re-entry policy can be found in the Appendix of this manual labeled department policies.

Goals and Objectives for Subspecialty Rotations in Anesthesiology

Advanced Clinical Track Rotation

Goals:

This rotation can be 2 – 12 months in the CA3 Year. The goal of the ACT rotation is to provide the resident with opportunity to develop the skills and expertise beyond the core curriculum of the CA1 and CA2 Years in any of all of the available specialty rotations. The CA3 resident will be assigned to the most complicated patients, assume supervision of junior residents, and be expected to develop autonomy in the care of moderate to severe acuity cases.

Objectives

I. Patient Care

- A. Cognitive Skills – At the conclusion of this rotation, the resident should be able to describe:
 - 1. the anesthetic plan, including preoperative preparation for advanced cases
 - 2. techniques of supervision for junior residents;
 - 3. options for post-operative management for critical patients

- B. Technical Skills – At the conclusion of this rotation, the resident should be able to:
 - 1. Conduct most general, regional and MAC anesthetics with virtually no assistance.
 - 2. Conduct the most complicated anesthetic cases with minimal supervision

II. Medical Knowledge

At the conclusion of this rotation, the resident should understand:

- 1. Principles of anesthesiology consultation;
- 2. Control of the OR environment.

III. Interpersonal & Communication Skills

At the conclusion of this rotation, the resident will:

- 1. Demonstrate an ability to assess the severity of complex cases and communicate with staff;
- 2. Develop an anesthetic plan for the most difficult cases, and communicate relevant issues to staff, surgeon and the OR nursing team, if needed.

IV. Professionalism

At the conclusion of this rotation, the resident must:

1. Recognize when consultation beyond the standard preoperative evaluation is needed
2. Appropriately supervise junior residents for anesthetic management, invasive monitoring and regional anesthesia
3. Develop the learning skills necessary for a lifelong career in the specialty

V. Practice Based Learning and Improvement

At the conclusion of this rotation the resident will demonstrate:

1. Significant independence in the management of patients who either have a high level of co-morbidity or the surgery is highly complex, or both. In a fraction of the cases, the ACT resident will be assigned to moderate acuity cases with a faculty member who focuses on allowing the ACT resident as much autonomy as safely possible.
2. Apply evolving best practice strategies from the medical literature to independently manage patients.

VI. Systems Based Practice

At the conclusion of this rotation the resident will demonstrate:

1. Awareness and responsiveness to the larger context and system of healthcare, and the ability to effectively call on resources to provide patient care that is of optimal value.
2. Cost-effective healthcare and resource allocation that does not compromise quality of patient care.
3. Advocacy for quality patient care
4. How to partner with health care providers to assess, coordinate and improve healthcare

Anesthesia for Ambulatory Surgery for CA-1 and CA-2 Residents

I. Define Rotation:

Anesthesia for Ambulatory Surgery is a four-week rotation for CA-1 and CA 2 residents.

II. Goals and Primary Area of Knowledge:

The overall goal of this rotation is to introduce the CA-1 and/or CA-2 resident to the concept of anesthesia for ambulatory surgery, and to make the resident aware of the differences in management and challenges within this particular area of anesthesia. These primarily will involve rapid preoperative assessment, different ambulatory anesthesia techniques, and appropriate discharge to home on the same day of surgery. In addition to the basic core competencies for each year of training, the following apply:

Medical Knowledge:

- Pharmacology- Review and understand the basic pharmacology of the following classes of drugs:
 - Opiates and opiate anesthetics
 - Potent inhalational anesthetics
 - Benzodiazepines and their antagonists
 - Sedative/hypnotic agents (barbiturate, propofol, and related drugs)
 - Dissociative anesthetics (ketamine, neuroleptanesthesia)
 - Butyrophenones (haloperidol, droperidol)
 - NSAIDs (nonspecific and COX2 inhibitors)
 - Muscle relaxants
 - Anticholinesterases (neostigmine and edrophonium)
 - Vagolytic drugs (atropine, glycopyrrolate, and scopolamine)
 - Antiemetics

Physiology and Pathophysiology

- normal physiology and stress response of cardiovascular, respiratory, central nervous, and renal systems
- regulation of temperature homeostasis
- fluid, electrolyte, and acid-base balance

Anatomy

- Airway: emphasis on preparations for awake intubation
- Upper extremity: brachial plexus anatomy and innervation (diagnosis of postoperative parathesias)
- Innervation of the thorax, abdomen, lower extremities, and genitalia (assessment of patients with neuraxial anesthetic)

Practice-based Learning and Improvement:

The resident will be able to:

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient

care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment

- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences
- Identify the main aspects of history and physical examination of relevance to patients undergoing surgery in the ambulatory setting.
- Determine appropriate laboratory tests using evidence-based practice.
- Select patients for ambulatory anesthesia. There is a need to assess the severity of common diseases such as diabetes, bronchospastic disease, morbidly obese patients, geriatric patients, ex-premature babies, children with previous upper respiratory tract infections, family history of malignant hyperthermia, sickle cell disease, mentally handicapped patients, congenital diseases, children with malignancy, and patients with uncommon diseases.
- Discuss preoperative preparation including:
 - N.P.O. status and difference between adults and children;
 - Use of antacids and H₂ receptor antagonists;
 - Use of antiemetics;
 - Use of anxiolytics, sedatives, and opioids;

Patient Care

Cognitive objectives

Preoperative

1. List and defend appropriate intraoperative monitoring for patients in the ambulatory setting;
2. Identify the pharmacokinetic properties which make short-acting agents appropriate and compare intravenous agents to inhalational agents;
3. Explain the rationale for mask induction with children and discuss choices.
4. Discuss muscle relaxants to be used in an outpatient setting including advantages and disadvantages.
5. List the pros and cons of mask ventilation vs. endotracheal ventilation vs. laryngeal mask airways.
6. Explain the indication and use of an axillary block, Bier block, and lower extremity blocks such as ankle blocks;
7. Discuss the appropriate use and drugs used for central neural blocks such as spinal, caudal, epidural.

Monitored Anesthesia Care (MAC) Sedation

1. Explain the need and appropriate conduction of psychological preparation for monitored anesthesia care.
2. Discuss the pharmacokinetics and appropriateness of bolus IV techniques (such as midazolam, fentanyl).
3. Discuss the appropriate use of continuous IV techniques (such as propofol, alfentanil).

Postoperative Management

1. Describe appropriate postoperative management of a patient during Phase I recovery (PACU) including:
 - a) Monitoring in the PACU
 - b) Pain management
 - c) Emesis management
 - d) Possible complications
2. Discuss pertinent issues during Phase II recovery including:
 - a) Discharge criteria for ambulatory surgical patients
 - b) The use of teaching instructions in the facility
 - c) Possible complications
3. Describe how patients are followed-up postoperatively in the ambulatory setting.

Technical objectives

Preoperative Evaluation

1. Perform a rapid preoperative evaluation on primarily healthy ASA I and ASA II class patients, but differentiate when the patient is not appropriate for the ambulatory anesthesia setting.

General Anesthesia

1. Perform inhalational anesthesia with short-acting agents and awaken the patient quickly and comfortably.
2. Perform total intravenous anesthesia with Propofol and short-acting narcotics.
3. Manage inhalation induction in children.
4. Administer short-acting muscle relaxants including appropriate reversal.
5. Provide safe airway management, including mask ventilation, endotracheal intubation, and laryngeal mask airway.

Regional Anesthesia

1. Perform spinal, caudal, and epidural blocks.
2. Perform peripheral blocks such as supraclavicular, popliteal and femoral et al.

Monitored Anesthesia Care Sedation Techniques

1. Perform MAC with appropriate intravenous agents administered intermittently.
2. Perform MAC with appropriate intravenous agents administered via continuous infusion.

Postoperative Management

1. Manage patients in the PACU and treat postoperative pain, emesis and any other complications.
2. Discharge patients from facility *via* Phase II recovery.

Systems-based Practice

- Understand and utilize ASA standards for ambulatory anesthesia
- Apply systems-based data in the allocation of resources for OR and PACU care
- Understand and utilize criteria for selection of patients for ambulatory surgery
- Understand discharge criteria (e.g.- Aldrete Scale, et al.) and special requirements for safety in the ambulatory setting
 - discharge home
 - emergency admission to hospital

Interpersonal and Communication Skills

- Communicate effectively with patients in the ambulatory setting
- Communicate effectively with nurses and paramedical personnel
- Present concise patient presentations regarding specific technical problems, assessment, and management of patient problems in the ambulatory setting

Professionalism

- Maintain compassion for and the dignity of patients recovering from anesthesia
- Demonstrate accountability to patients and their families during the recovery period
- Demonstrate commitment to performance of professional responsibilities
- Confidentiality of patient information, informed consent
- Sensitivity and responsiveness to individual patient's requirements

Ambulatory Surgery for CA-3 Residents

1. Define Rotation:

Anesthesia for Ambulatory Surgery for one or more months is an elective for ACT CA-3 residents.

2. Goals:

In addition to the general core competencies expected for all residents, during this rotation the CA-3 resident will perform the following:

Practice-based Learning and Improvement: The resident will be able to:

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences
- Identify the main aspects of history and physical examination of relevance to patients undergoing surgery in the ambulatory setting.
- determine appropriate laboratory tests using evidence-based practice
- Select patients for ambulatory anesthesia. There is a need to assess the severity of common diseases such as diabetes, bronchospastic disease, morbidly obese patients, geriatric patients, ex-premature babies, children with previous upper respiratory tract infections, family history of malignant hyperthermia, sickle cell disease, mentally handicapped patients, congenital diseases, children with malignancy, and patients with uncommon diseases.
- discuss preoperative preparation including:

- N.P.O. status and difference between adults and children;
- Use of antacids and H2 receptor antagonists;
- Use of antiemetics;
- Use of anxiolytics, sedatives, and opioids;

Systems-based practice:

In addition to the above goals for CA 1-2 residents,

- Supervise junior residents and/or CRNAs-AAs, perform independent case management, manage daily case flow throughout the entire outpatient suite, participate as directed in research projects and lecture at in-service conferences, participate in decisions for unexpected admissions
- Discuss the utilization of the outpatient surgery department compared to the in-patient department and explain the cost benefits realized by the outpatient department

Patient Care

- Manage postoperative issues raised by postoperative nurses in PACU.
- Manage patient flow for all outpatient operating rooms (appropriate for CA-3 residents who elect longer durations of training).

Medical Knowledge:

In addition to the items for CA- and CA-2 residents listed above

- Review the Journal of Clinical Anesthesia.
- Review abstracts for the Society for Ambulatory Anesthesia (SAMBA).
- Prepare articles which may be included in the outpatient teaching files (appropriate for CA-3 residents who elect longer durations of training).

Interpersonal and Communication Skills

- Communicate effectively with patients in the ambulatory setting
- Communicate effectively with nurses and paramedical personnel and junior residents
- Present concise patient presentations regarding specific technical problems, assessment, and management of patient problems in the ambulatory setting

Professionalism

- Maintain compassion for and the dignity of patients recovering from anesthesia
- Demonstrate accountability to patients and their families during the recovery period
- Demonstrate commitment to performance of professional responsibilities
- Confidentiality of patient information, informed consent
- Sensitivity and responsiveness to individual patient's requirements

Critical Care Rotation (SICU) for CA1 and CA2 Residents

Patient Care

1. Weaning parameters and protocols for extubation.
2. Diagnosis and management of septic patients according to the Surviving Sepsis Guidelines. Understand and implement goal-directed therapy.
3. Diagnosis, treatment and prevention of ventilator associated pneumonia.
4. Diagnosis of ARDS and learn lung protective strategies.
5. Management of Shock in post-operative surgical and trauma patients.
6. Management of patients with traumatic brain injury and learn methods of controlling increased intracranial pressure.
7. Appropriate use of inotropic agents.
8. Management of crush injury and rhabdomyolysis.
9. Provide technical expertise as an anesthesiology resident as needed to services such as:
 - a. Pain control
 - b. Central venous and arterial cannulation
 - c. Airway management
 - d. Placement of naso-gastric and feeding tubes
 - e. Use of fiber-optic scope for diagnostic and therapeutic purposes
10. Refine the ability to interpret chest X-rays and EKG's
11. Evaluate and triage patients in PACU, ER and floors for possible admission to the ICU.

Medical Knowledge

Residents are expected to discuss and describe:

1. Describe and treat disorders that lead to respiratory failure in ICU.
2. Acute Kidney Injury: Causes, Prevention, Diagnosis and Treatment.
3. Acid-base disorders and interpretation of arterial blood gases
4. Principle of management of patient with head injury and spinal cord injury.
5. Bleeding disorders and thrombo-embolic phenomena in the ICU
6. Nutrition in the critically ill.
7. Care of patients with blunt and penetrating trauma
8. Care of patients with severe burns.
9. Assess the nutritional status of patient and understand principles of enteral and parenteral nutrition.
10. Arrhythmias: Causes, diagnosis and treatment.

Practice-Based Learning and Improvement:

Residents are expected to:

1. Develop interpersonal interactions and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of the health care team
2. Demonstrate effective consultation to other physicians and health care professionals
3. Interact with consultants and referring physicians in a respectful, appropriate manner
4. Maintain comprehensive, timely, and legible medical records
5. Complete formal evaluations of the attending physicians, staff, and rotation

Professionalism:

Residents are expected to:

1. Develop the skills to address end of life issues
2. Demonstrate respect, compassion, integrity, and kindness in relationships with patients, families, and colleagues.
3. Demonstrate sensitivity and responsiveness to gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behaviors and disabilities
4. Demonstrate knowledge of regulations regarding patient confidentiality and informed consent.
5. Demonstrate integrity, admit and disclose mistakes and errors of judgment.
6. Notify the primary team of major changes in patient status, unexpected or adverse events.
7. Practical application of six values of medical ethics i.e. Autonomy, Dignity, Honesty, Justice, Beneficence and Non-maleficence.

Systems-Based Practice:

Residents are expected to:

1. Present patient's history, clinical status, acute events, problems and therapy based on the organ systems during rounds.
2. Follow-up on all the lab and radiology.
3. Implement clinical plans under supervision and seek assistance when necessary.
4. Receive and give a formal and effective sign-out for all admissions and transfers.
5. Develop their ability to utilize system resources to produce good outcomes for their patients.
6. Collaborate with other members of the health care team (social workers, physical therapists, occupational therapists, etc.) to assist patients and their families in dealing effectively with the health care system and to improve
7. Understand and address the concerns of nurses, respiratory therapists, pharmacists and nutritionists.

Anesthesia for Cardiothoracic Surgery for CA-1 and CA-2 Residents

What follows is a list of the objective criteria that the resident and attending anesthesiologists can use to judge progress during the CT rotation. These objectives are grouped according to residency level. Some of the objectives listed for each level are achievable before the resident reaches the indicated level. This is especially true of those listed for the CA-2 level. They are, however, necessary for successful completion of this rotation. (Linkage to the ACGME milestones in anesthesiology is provided after each objective in parentheses).

In addition to the general goals and objectives for all CA-1 and CA-2 resident, the resident rotating in Cardiothoracic Anesthesia should be able to achieve the following:

Patient Care

Cognitive Objectives

Residents in their initial rotation in CT anesthesia should be able to:

- Perform a complete evaluation of the surgical patient to include: **(PC-1)**
 - Routine anesthetic evaluation
 - Cardiac status evaluation of
 - Atherosclerotic vascular disease
 - Where and how extensive myocardial damage is
 - Angina, arrhythmias, CHF
 - CHF compensated? On or off meds?
 - Cath report
 - Which vessels?
 - LVEDP
 - Ejection fraction
 - Valvular abnormalities
 - Wall abnormalities
 - Pulmonary hypertension
 - Echocardiogram
 - Ejection Fraction
 - Chamber size
 - LVH
 - Valvular disease:
 - Stenosis
 - Regurgitation
 - prolapse
 - Diastolic dysfunction
 - Pericardial effusions
 - Pacemaker/AICD
 - Valvular Heart Disease: Onset? Provocation of symptoms. Medications
 - Congenital Heart Disease: Symptoms? Feeding, growth, and

- development? Associated Defects? Prior palliative or corrective surgery?
 - On or off meds?
 - Anti-platelet or other anticoagulant medications and the timing of their last dose
 - Physical exam to include:
 - Detailed examination of the cardiovascular/pulmonary system.
 - Evaluation of vascular access.
 - Available labs and tests which may include: ABG, CXR, PFTs, EKG, Cath, Echo, Chemical Stress Test, Dobutamine Echo, and Coagulation profile.
- Appropriately order preoperative meds, cognizant of the reasons for continuing or discontinuing meds. Provide anxiolysis, analgesia, and amnesia for pre-induction procedures. (PC-2)
- Formulate and discuss with the attending staff an anesthetic plan that considers the patient's disease, associated medical problems, proposed surgery, and post-op requirements.
- Prepare routine and resuscitative drugs, the OR, and monitoring equipment. (PC-2)
- Induce and conduct a cardiac anesthetic under close supervision of an attending. (PC-2)
- Manage anesthesia for patient undergoing coronary artery bypass surgery (PC-2)
- Manage anesthesia for patients undergoing the various types of cardiac valve surgery (PC-2)
- Manage anesthesia for patients undergoing non-cardiac intrathoracic procedures (PC-2)
- Prepare for and initiate management for cardiopulmonary bypass (PC-2)
- Recognize and manage patient requirements to help the perfusionist terminate bypass. (PC-2)
- Under the supervision of an attending, wean the patient from CPB, interpreting the data from observation of the heart, and that derived from invasive and noninvasive monitors to optimize cardiac function through the use of pharmacologic and intravascular volume manipulations. (PC-2)
- Stabilize a patient post bypass optimizing cardiovascular, pulmonary, coagulation, renal, and electrolytes systems; appropriately administer anesthetics in keeping with the post-operative goals of fast-tracking; appropriately manage arrhythmias and pacemakers; and to monitor function of ventricular assist device (PC-2)
- Prepare patients for, and transfer them to the appropriate unit – institute ventilator support, continue hemodynamic support, and give appropriate report (PC-2)
- Transport the patient to CVU in a safe and efficient manner, providing all necessary en route monitoring and drugs. (PC-2)
- Reestablish all monitors in SICU. (PC-9)
- Manage the initial medical care for cardiothoracic patients upon transfer to the ICU (PC-2)
- Appropriately formulate an anesthetic plan utilizing one lung anesthesia for intrathoracic surgery. (PC-2)
- Appropriately prepare the operating room for an intrathoracic surgery making allowances for whether it is a thoracotomy, thoracoscopy or robotic surgery. (PC-2)
- Appropriately manage ventilation during one lung anesthesia including: (PC-2)
 - Ventilatory parameters
 - PEEP

- CPAP
- Lung isolation

Technical objectives

In the resident's first rotation in CT anesthesia the resident should be able to:

- Perform setup of all specialized monitoring equipment for a cardiothoracic case including TEE, CCO monitor, transducer, and Cerebral Oximeter. (PC-9)
- Start/insert all invasive and noninvasive monitors as indicated (PC-9)
- Create a cardiovascular induction of anesthesia as appropriate for the patient (PC-9)
- Insert and check the position of a DLT, both by auscultation and fiberoptic bronchoscopy (PC-8)
- Insert and check the position of a bronchial blocker, both by auscultation and fiberoptic bronchoscopy. (PC-8)
- Set up the TEE machine, including turning it on, attaching the probe, and entering the patient's data. (PC-9)
- Utilize the TEE as a wall motion monitor
- Transport the patient to CVU in a safe and efficient manner, providing all necessary en route monitoring and drugs. (PC-2)
- Reestablish all monitors in SICU. (PC-9)

Additionally, in the resident's second rotation in Cardiothoracic Anesthesia the resident should be able to:

- Display the basic TEE views with the probe including four chamber, five chamber, two chamber, bicaval, aortic valve short axis, aortic route, transgastric midventricle short axis, transgastric long axis, and aorta. (PC-9)

Medical Knowledge

- For each of these Studies – ABG, CXR, PTRs, EKG, Cath, Echo, Chemical Stress Test, Dobutamine Echo, and Coagulation profile – the resident should be able to state: (MK-1)
 - The rationale for ordering
 - The limitations of the test
 - How to interpret data
 - How the result affects pre-op, intra-op, and post-op course.
- Be aware of interaction of pre-op meds and anesthetic agents. (MK-1)
- Demonstrate working knowledge of defibrillators, fibrillators, pacemakers (both temporary and permanent), AICDs, EKGs, pressure monitors, cardiac output computers, PA catheters, ACT, and TEG, and functional platelet count. (MK-1)
- Discuss basic cardiac physiology and the Starling relationship. (MD-1)
- Demonstrate in-depth knowledge of the pressure/flow relationship of BP and CO. (MK-1)
- Describe the factors that determine myocardial oxygen demand and how they can be manipulated to the advantage of the patient. (MK-1)

- Describe and explain the advantages and disadvantages of the various strategies for blood conservation and scavenging. (MK-1)
- Describe reversal of Heparin with Protamine – dosage, mechanism of action, and adverse reactions and their treatment. (MK-1)
- Describe the diagnosis and treatment of coagulopathies. (MK-1)
- State the indications for blood components. (MK-1)
- Discuss PFTs, the diseases they describe, and their prognostic ability. (MK-1)
- Analyze ABGs and formulate treatment when indicated. (MK-1)
- Describe alternative methods of lung isolation for thoracic surgery. (MK-1)
- Know the indications, contraindications, and complications of DLTs, bronchial blockers and unilateral lung ventilation. (MK-1)
- Describe physiologic changes induced by anesthesia, assumption of lateral position, positive pressure ventilation, and unilateral ventilation as it pertains to the pulmonary system. (MK-1)
- Describe hypoxic pulmonary vasoconstriction and effect of anesthetics and other drugs on HPV. (MK-1)

Additionally, in the resident's second rotation in Cardiothoracic Anesthesia the resident should be able to:

- Explain the mechanics of bypass equipment: (MK-1)
 - Calculation and formulation of bypass pump prime
 - Pump heads and lines
 - Heparin bonded circuits
 - Membrane oxygenators
 - Heat exchangers
 - Function and position of monitors (O₂ Sat. pressure. Air detectors)
- Discuss the following conditions on bypass: (MK-1)
 - High and low pressures and the controversies regarding limits.
 - Low blood flow.
 - Pulsatile vs. non-pulsatile flow.
 - Assessment of perfusion pressure and blood flow by SVO₂ data.
 - Low urine output
 - ABG abnormalities.
 - Continued assessment of coagulation status.
 - Electrolyte disturbances.
 - Neurological and Hormonal changes.
 - Effect of bypass on coagulation.
 - Hemodilution
 - Drug levels.
 - Diaphragmatic contraction.
- Understand the changes in physiology and pharmacokinetics with hypothermia. (MK-1)
- Discuss the controversy regarding the correction of pH/pCO₂ for temperature in ABGs. (MK-1)
- Discuss the concepts involved in profound hypothermia with circulatory arrest. (MK-1)

- State the maneuvers utilized to remove air from the cardiac chambers. (MI-1)
- Differentiate actions of various inotropes and justify their use. (MK-1)
- Discuss the diagnosis and treatment of coronary spasm/coronary air emboli in the post bypass period. (MK-1)
- Describe the principles of myocardial protection, cardioplegia, and left heart drainage. (MK-1)
- Understand the indications, function, and complication of mechanical assist devices. (MD-1)
- Recognize the salient features of regurgitant and stenotic valvular lesions on TEE. (MK-1)
- Describe the different types of prosthetic heart valves and their specific properties. (MK-1)

Systems-Based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control. (SBP-1)
- Apply systems-based data in resource allocation for patient assessment and management. (SBP-1)
- Practice cost-effective healthcare and resource allocation without compromise of patient care. (SBP-1)
- Participate in department quality assessment conferences. (SBP-2)
- Understand how patient care in one specialty and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice (SBP-1)
- Actively participate in the monthly cardiac quality improvement conference. (SBP-2)

Practice-based Learning and Improvement

- Appropriately counsel the patient and his family (PBL-1)
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment. (PBL-2)
- Use information technology to manage information, access on-line information, and support their own education. (PBL-3)
- Actively teach medical students. (PBL-4)

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities. (P-1)
- Maintain and demonstrate respect, compassion, and integrity. (P-1)
- Demonstrate responsiveness to the needs of patients and society. (P-1)
- Demonstrate accountability to patients, society and the profession. (P-1)

- Demonstrate commitment to ethical principles regarding provision or withholding of clinical care. (P-2)
- Obtain/insure informed consent. (P-1)
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities. (P-1)

Interpersonal and Communication Skills

- Cogently discuss management plan with faculty, surgeon and consultants. (ICS-2)
- Cogently discuss management plan with patients and family. (ICS-2)
- Review the literature and provide leadership in discussions with other residents, medical students, and at journal club. (ICS-3)
- Analyze critical events and describe management reasonably well on practice oral board exam. (ICS-2)
- Organize and present lectures to faculty and residents at teaching conferences. (ICS-2)
- Appropriately hand-off patient to other residents, and nursing staff. (ICS-2)

The CA3 Resident in Cardiothoracic Anesthesia

In addition to the objectives listed for the CA1 and CA2 the resident should be able to:

Medical Knowledge

- 1) Have an in depth knowledge of all hemodynamic data derived from the invasive monitoring, be able to interpret such data and make the proper clinical decisions based upon that data.
- 2) Be able to describe the hormonal and electroencephalographic changes produced by different anesthetic agents and depths of anesthesia.
- 3) Recognize evidence of ischemia on the EKG, PA pressure waveforms, and TEE.
- 4) Discuss the indications for use, and physiologic benefits of the Intra-aortic Balloon Pump.
- 5) Recognize IABP augment wave forms
 - a. Differentiate properly timed augment from improper.
 - b. Suggest appropriate changes in IABP timing to produce proper augment
- 6) Discuss Heparin Induced Thrombocytopenia
 - a. Diagnosis of
 - b. Therapy for
 - c. Alternatives to Heparin for CPB
- 7) Discuss the strategies used to prevent the complications of initiation of CPB.
- 8) Discuss the changes in physiology and pharmacokinetics occasioned by hypothermia.
- 9) Discuss the difference in alpha stat vs. pH stat when monitoring ABGs
 - a. The difference between the two strategies for monitoring
 - b. When each is considered appropriate
- 10) Discuss the pertinent aspects of deep hypothermic circulatory arrest
- 11) Describe the principles of myocardial protection, cardioplegia, and left heart drainage.
- 12) Discuss the mechanics of CPB equipment
 - a. Bypass pump prime formulation
 - b. Pump heads and lines
 - c. Heparin bonded circuits
 - d. Membrane oxygenators
 - e. Heat exchangers
 - f. Pump monitors
 - i. Mixed venous saturation
 - ii. Pressure monitors
 - iii. Air detectors
 - iv. Fluid level detectors
- 13) Discuss the indications, functions, and complications of mechanical assist devices.
- 14) Discuss the positioning goals of an OPCAB procedure
- 15) Discuss the different types of prosthetic valves and their specific properties.
- 16) Discuss the goals of induction and anesthesia for regurgitant and stenotic valvular lesions

Patient Care

- 1) Formulate an anesthetic plan, induce, and conduct a cardiac anesthetic with the need for minimal input from the attending anesthesiologist.

- 2) Be able to anticipate surgical manipulations and their resultant physiologic consequences in the pre-bypass period.
- 3) Minimize the hemodynamic effect of surgical manipulations by the appropriate use of anesthetics and other agents.
 - a. .
- 4) Initiate Cardiopulmonary Bypass successfully
 - a. Assure adequate heparinization
 - b. Recognize heparin resistance
 - c. Recognize when CPB is initiated and terminated by use of monitors and visual inspection
 - d. Recognize adequate oxygenation by the CPB pump
- 5) Diagnose special problems with the initiation of CPB
 - a. Aortic Dissection
 - b. SVC obstruction
 - c. Reversal of flow
 - d. Arterial embolization
 - e. Venous airlock
- 6) Understand, appropriately diagnose, and treat (when necessary) the following aspects of bypass
 - a. High and low arterial pressures (including understanding appropriate limits and their rationale).
 - b. Low perfusion states
 - c. Pulsatile vs. nonpulsatile flow
 - d. Assessment of perfusion pressure and blood flow by use of mixed venous and cerebral oximetry
 - e. Low urine output
 - f. ABG abnormalities
 - g. Coagulation status on CPB
 - i. Continuing heparinization
 - ii. Effect of CPB on coagulation
 - h. Electrolyte disturbances
 - i. Neurological and hormonal
 - j. Hemodilution
 - k. Drug dilution
 - l. Diaphragmatic contraction
- 7) Participate in cardiac chamber de-airing maneuvers
- 8) Under the supervision of an attending, wean a patient from CPB, interpreting the data from observation of the heart visually and with TEE, as well as that derived from invasive and noninvasive monitors to optimize cardiac function through the use of pharmacologic and intravascular volume manipulations.
- 9) Choose appropriate inotropes and justify their use.
- 10) Diagnose and treat coronary spasm and coronary air embolism.
- 11) Stabilize a patient post CPB with minimal input from the attending anesthesiologist
 - a. Optimize function
 - i. Cardiovascular
 - ii. Pulmonary

- iii. Renal
 - iv. Coagulation
 - v. Electrolytes
- b. Appropriately administer anesthetics, analgesics and muscle relaxants in keeping with the goals of fast-tracking
 - c. Appropriately manage arrhythmias and pacemakers
 - d. Monitor ventricular assist devices when present
- 12) Manage the goals of an Off Pump Coronary Artery Bypass from a fluid and anesthetic point of view with minimal input from the attending anesthesiologist.
 - 13) Utilize the TEE as a ventricular function and ischemia detection monitor
 - 14) Recognize the salient features of regurgitant and stenotic valvular lesions on TEE
 - 15) Find the basic TEE view with the TEE probe, including four chamber, two chamber, long axis, bicaval, aortic valve short axis, aortic root, transgastric midpapillary short axis, transgastric long axis, and the descending aorta.

Anesthesia for Neurosurgery

In addition to the core competencies expected of all CA-1 and CA-2 residents, the following are expected:

Medical Knowledge

CNS Anatomy/Basic Neurological Exam

- Nerves
- Cerebral circulation
- Meninges
- Spinal cord

Cerebral physiology

- Cerebral Blood Flow, including factors influencing autoregulation etc
- Factors affecting intracranial pressure
- Cerebrospinal fluid dynamics, pathophysiology

Neuropathology

- Traumatic Brain Injury
- Hydrocephalus
- Intracranial mass
- Intracranial/Subarachnoid Hemorrhage
- Ischemic Cerebrovascular Disease
- Spinal Cord Lesions
- Myasthenia Gravis/Eaton Lambert Syndrome
- Hypo/hyperpituitary
- Autonomic hyperreflexia

Patient Care:

Management of patients for the following

Cognitive aspects

- Demonstrate ability to manage the following operative conditions:
 - Transphenoidal Resections
 - Aneurysm
 - ECT
 - Patient positioning in general
 - Sitting position
 - prone position
 - park bench position
 - Methods of Cerebral Protection
 - Evaluating the C-spine for intubation
 - Anesthesia for Neuroradiology

- Venous Air Embolism (Dx and Management)
- Head Trauma
- Formulate an anesthetic management plan for
 - spinal surgery
 - craniotomies for resection of
 - brain tumors, with and without increased ICP
 - vascular malformations
 - intractable seizures
 - transphenoidal resection of pituitary tumor
 - CSF shunting procedures
 - Trigeminal neuralgia
 - Neuroradiology procedures
 - stereotactic biopsy
 - interventional angiography
 - aneurysm
 - AVM
 - ECT

Technical aspects

- Wake up Test
- SSEPs/Motors/EMG
- EEG
- BAER
- ECG-guided placement of CVP Catheter

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity

- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

Interpersonal and Communication Skills

- Communicate effectively with patients
- Communicate effectively with surgeons, nurses, and other healthcare professionals to provide patient-focused care
- Present concise, organized case presentation, including management concerns, to faculty
- Formulate and discuss anesthetic management for all ASA class patients for routine and complex surgery

CA-1 and CA-2 Residents in Anesthesia for Obstetrics

I. Define Rotation:

Obstetrical Anesthesia (8 weeks) is a required rotation for late CA-1 and CA-2 anesthesia residents. It may also be selected as a one month or more elective rotation for CA-3 residents. In addition to the core competencies expected for the CA-1 and CA-2 years, the following goals apply:

II. Primary Area of Knowledge and Goals:

All residents rotating through the service will be expected to gain an understanding of the basic principles both clinical and cognitive of managing the perinatal anesthetic needs of the parturient including all segments of risk stratification within this group. Development of competence in pre-anesthetic assessment and planning, intra-anesthetic management, rational responses to and prevention of complications and post-anesthetic care appropriate to the management of the parturient in a community hospital will be expected. In addition, CA-3 residents will attain additional facility in these areas allowing them to assist in the training of junior residents and act with increasing autonomy in the area of normal and high risk parturients.

Medical Knowledge

- Describe the physiologic changes of normal pregnancy.
- Describe the pathophysiology of common clinical conditions producing high risk pregnancy (some are listed below).
- Recognize and list advantages and disadvantages of analgesic methods for labor including epidural, inhalational, pudendal and IV sedation.
- Discuss analgesia and anesthesia for cesarean section including epidural, spinal, general and emergency sections.
- Predict the pharmacodynamics of common non-anesthetic medications used in obstetrics and their interactions with anesthetics including Pitocin, ergot preparations, magnesium, terbutaline, Indocin, prostaglandins and steroids.
- Distinguish the pharmacokinetics and pharmacodynamics of different local anesthetics including toxicity issues and appropriate selection for the spectrum of clinical indications.
- List options for post-operative or post-delivery analgesia in the parturient and differentiate rational selection among the various modalities.
- Describe basic principles and rationale of fetal assessment including stress and non-stress tests, biophysical profile and fetal monitoring.
- Describe basic principles and sequencing of neonatal evaluation and resuscitation.
- Diagnose and describe the management of abnormal bleeding in the perinatal period.
- Recognize, and describe the pathophysiology and management of pregnancy induced hypertension.
- Describe diabetes in pregnancy, its effects on the parturient and the fetus, and appropriate management.

- Discuss the implications of obesity in pregnancy, including its pathophysiology, and the management of the parturient and the neonate.
- Identify and describe the management of the difficult airway in the parturient.
- Identify and describe the management of amniotic fluid embolus.
- Identify and describe the management of post dural puncture headache.
- Discuss the implications and describe the management of non-obstetric surgery in pregnancy.

Patient Care

- Manage all common forms of anesthesia and analgesia in the broad spectrum of parturients.
- Select and apply appropriate monitoring to the given clinical situation in the parturient.
- interact with allied health personnel as the leader of the anesthetic and resuscitative care team in the pre-anesthetic evaluation, intra-anesthetic care, and post-anesthetic management of the broad spectrum of parturients, and neonates when indicated and available, encountered in the community hospital setting.
- Function as a consultant to patients, families, colleagues in other specialties, and allied health personnel on issues pertaining to obstetric anesthesia.

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

Interpersonal and Communication Skills

- Communicate effectively with patients regarding special needs of the parturient
- Communicate effectively with surgeons, nurses, and other healthcare professionals to provide patient-focused care
- Present concise, organized case presentation, including management concerns, to faculty
- Formulate and discuss anesthetic management for all ASA class patients for routine and complex deliveries

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity
- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

The PACU Rotation for CA1 and CA2 Residents

The PACU rotation will be a weekly assignment and will occur at either the University of Toledo Medical Center or Promedica Toledo Hospital. The resident will be expected to spend at least two weeks in the PACU. The goal of the PACU experience for residents is to provide them with clinical experiences, educational materials, and direction for self-study related to recovery from anesthesia, out of operating room airway management, and care of the patient undergoing electroconvulsive therapy. By the completion of the residency, residents should be able to: recognize and manage complications which commonly occur in the PACU, appropriately manage acute pain in the PACU, evaluate and manage the airway of patients outside the operating room, and plan and deliver a rational anesthetic for ECT.

In addition to the core competencies expected for all residents, the following rotation-specific goals apply:

Medical Knowledge

Pharmacology

- Review and understand the basic pharmacology of the following classes of drugs:
- Opiates and opiate anesthetics
- Potent inhalational anesthetics
- Benzodiazepines and their antagonists
- Sedative/hypnotic agents (barbiturate, propofol, and related drugs)
- Dissociative anesthetics (ketamine, neuroleptanesthesia)
- Butyrophenones (haloperidol, droperidol)
- NSAIDs (nonspecific and COX2 inhibitors)
- Muscle relaxants
- Anticholinesterases (neostigmine and edrophonium)
- Vagolytic drugs (atropine, glycopyrrolate, and scopolamine)
- Antiemetics

Physiology and Pathophysiology

- normal physiology and stress response of cardiovascular, respiratory, central nervous, and renal systems
- regulation of temperature homeostasis
- fluid, electrolyte, and acid-base balance

Anatomy

- Airway: emphasis on preparations for awake intubation
- Upper extremity: brachial plexus anatomy and innervation (diagnosis of postoperative parathesias)
- Innervation of the thorax, abdomen, lower extremities, and genitalia (assessment of patients with neuraxial anesthetic)

Systems-based Practice

- Understand and utilize ASA standards for Post-Anesthesia Care
- Apply systems-based data in the allocation of resources for PACU care
- Understand and utilize admission criteria
- Understand discharge criteria (e.g.- Aldrete Scale, et al.)
 - discharge to a hospital room
 - discharge from phase I to phase II recovery (including fast-tracking)
 - discharge home

Patient Care

Cognitive and Technical Skills

- Delivery and receipt of a PACU admission report
- Evaluation and management of the following common PACU problems:
 - Pain
 - Hypoxemia
 - Inadequate ventilation
 - Airway obstruction
 - Nausea/vomiting
 - Agitation
 - Failure to awaken
 - Hypertension
 - Hypotension
 - Tachy/brady arrhythmias
 - Myocardial ischemia/infarction
 - Inadequate reversal of neuromuscular blockade
 - Renal/bladder dysfunction: oliguria, polyuria, hematuria, urinary retention
 - Extubation outside the operating room
 - Intubation outside the operating room
 - Basic ventilator management
 - Epidural catheter management
 - Bleeding and coagulopathy
 - Fluid, electrolyte, and transfusion management
 - ACLS skills

Professionalism

- Maintain compassion for and the dignity of patients recovering from anesthesia
- Demonstrate accountability to patients and their families during the recovery period

Interpersonal and Communication Skills

- Communicate effectively with patients in the PACU
- Communicate effectively with nurses and paramedical personnel in the PACU
- Present concise patient presentations regarding specific PACU problems, assessment, and management of patient problems in the PACU

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care in the PACU
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

The Post-Anesthesia Care Unit Promedica Toledo Hospital

Resident Guidelines and expectations

1. Transfer of Care

At the end of procedures requiring anesthesia services, the care for each patient must be transferred to an appropriate setting for immediate postoperative management. The transition of care from the anesthesia provider must include an assessment of the patient's readiness for transfer to a post anesthesia environment. Upon transfer, the anesthesia provider must provide a verbal report that includes

1. A description of the patient's preoperative medical history and physical exam
2. Intraoperative course including the surgical procedure and anesthetic management, and anticipated postoperative issues.

The report should be directly communicated to the personnel who will assume responsibility for the patient's care, including, but not limited to nursing and anesthesia providers.

Resident day will consist of care of PACU patients from 8am to 3pm. At 3pm the resident will discuss the patients in PACU with the attending on call that evening and be able relay any ongoing concerns or issues.

2. Anesthesiology Resident Participation in Postoperative Care

Most patients undergoing anesthesia and surgery will be transferred to Post Anesthesia Care Unit (PACU) for immediate postoperative management. In order to gain experience in the immediate postoperative care of surgical patients, each anesthesia resident should have a formal rotation in the PACU. During this rotation, anesthesiology residents will be assigned to the PACU and must directly manage postoperative patients, with emphasis on pain management, hemodynamic evaluation and management, airway emergencies that occur during the PACU stay and other clinical situations that arise in the immediate postoperative period. Whenever feasible, the anesthesia resident should be present at the time of arrival of the patient into the PACU, should receive a verbal report about the patient and should review relevant records, including the anesthesia record.

The PACU rotation should emphasize immediate post-anesthesia and postoperative care issues. Resident responsibilities may also include

1. Participation in emergency resuscitation and other emergency care within the hospital. This includes responding to Code Blue calls in the hospital and staff STAT calls in the OR.
2. These additional responsibilities should not compromise patient care within the PACU.

3. The resident should be able to predict and anticipate when patients may need additional attention in PACU by watching the daily intraoperative schedule and being familiar with the cases and staff.

The PACU rotation should include

1. Didactic lectures or case discussions related to immediate postoperative care needs
2. Clinical assessment and patient management. Residents should gain an understanding about postoperative care needs and resource utilization, patient triage and bed allocation.
3. A presentation given to PACU staff based on a pertinent subject in the immediate PACU environment.

Appropriate supervision should be provided by faculty knowledgeable about postoperative management who are available for assistance and/or consultation at any time.

3. PACU Discharge

The anesthesiology resident, under appropriate supervision must determine if patients fulfill PACU discharge criteria and confirm that the transfer will be to a hospital unit with appropriate resources and staff to provide necessary postoperative care. At the time of discharge from PACU, the resident should communicate significant postoperative events and/or concerns to the providers assuming care for the patient.

4. Other Postoperative Care Experiences

The anesthesiology resident should participate in the transition of care from various anesthetizing locations to inpatient settings and home care. As part of the postoperative experience, all residents must develop the skills to assess patient needs, identify the most appropriate site for further postoperative care, and ensure safe and timely transfers of care to other providers. The resident should develop skills at communication of patient needs and coordination of care between the medical staff, nursing staff and other providers. Appropriate medical records shall be kept during the PACU period.

Adapted from ACGME guidelines on resident experience in the PACU

Paul Perring 2018

Regional Anesthesia for CA-1 and CA-2 Residents

Medical Knowledge

- Understand and explain the anatomy and external landmarks of the Brachial Plexus, Lumbosacral Plexus, Spine, and peripheral nerves.
- Discuss the structure, function, metabolism and mechanism of action of the various local anesthetics.
- Understand differences between different local anesthetics and specific indications; dosages and toxicities; physicochemical properties, e.g. pKa, lipid solubility.
- Understand basic nerve physiology including: nerve axon anatomy, e.g. neurolemma, axolemma, etc.; nerve injury e.g. neurotmesis, neuropraxis, etc.; sodium channel structure and function; Cm (minimal blocking concentration); mantel vs. core fibers; fiber types, e.g. A α C, A etc; and action potential generation.
- Discuss indications and contraindications to regional anesthesia.
- Understand potential complications.
- Understand function and use of equipment including: proper monitoring, nerve stimulator, needles and their design, ultrasound machine.

Patient Care

- Demonstrate knowledge of blocks including several approaches to brachial plexus and lumbar plexus block as well as epidural and spinal techniques.
- Administer sedation and analgesia for block performance.
- Administer the peripheral block utilizing different techniques, such as:
 - a. Identifying landmarks only
 - b. Peripheral nerve stimulator
 - c. Ultrasound guidance
- Demonstrate proper patient selection, informed consent, pre-op considerations, and proper procedures.
- Diagnose and manage complications including anticoagulants, tourniquets, fat embolism.

Interpersonal and Communication Skills

- Effectively communicate with patients the risks/benefits of nerve blocks
- Allay patient anxiety regarding needles

- Communicate effectively with surgeons and nurses to provide patient-focused anesthetic management for surgery and post-operative pain control using nerve blocks

Practice-based Learning and Improvement

- Use information technology to manage information, access new information, and support their own education and perform up-to-date patient care
- Evaluate and critique technical and patient care performance

Professionalism

- Maintain and demonstrate respect and compassion for patient fears, desires and choices regarding the selection or denial of regional anesthesia as an option for management
- Demonstrate responsiveness to the particular needs of patients undergoing neuron-axial blockade.

Systems-based Practice

- Apply systems-based data in the practice and utilization of neuron-axial blockade for cost-effective healthcare
- Implement measures to improve resource allocation related to institutional improvement

Regional Anesthesia for CA-3 Residents

In addition to the above the CA-3 resident will be able to:

- 1- Match specific patient and surgical procedure requirements to appropriate regional anesthesia selection
 - a. Understand the advantages/disadvantages of regional vs. general anesthesia for various procedures and patients in regard to patient recovery, patient outcome, and cost of care
- 2- Use evidence-based medicine to select local anesthetics and adjuncts for neural blockade
 - a. Discuss the pharmacokinetics of local anesthetics
 - b. Discuss the site and mechanism of action of local anesthetics
 - c. Discuss effective concentrations, toxic dosage, influence of site of injection, and vasoconstrictor use in regard to clinical practice
 - d. Discuss lipid solubility, protein binding, pKa and their influence on onset, potency, and duration of block
 - e. Describe signs, symptoms, and treatment of local anesthetic toxicity
- 3- Skillfully and efficiently describe and perform a wide variety of modern regional anesthesia techniques including single-shot and continuous peripheral nerve blocks, spinal and combined spinal-epidural anesthesia, thoracic epidural, lumbar plexus blocks, and nerve-stimulator and ultrasound-guided approaches
- 4- Under the supervision of an attending - perform anesthetic management of cases utilizing regional anesthesia as the sole or adjunct anesthetic technique in the role as if a sole anesthesia provider.
- 5- Under the supervision of an attending - supervise regional blocks and anesthetic management for anesthetics utilizing regional as sole or adjunct technique in cases involving junior residents or anesthesiologists.
- 6- Evaluate for post op complications and patient satisfaction all patients for whom the resident has performed or supervised a regional block. This information will be gathered after the block has resolved by bedside visit or by telephone in the case of out patients.

7- At the end of the rotation the resident will turn in a log cataloguing each technique on a case-by-case basis and including outcome and patient satisfaction.

PAIN ROTATION

Overall Goals and Objectives:

The Anesthesiology Department at University Of Toledo pain management program addresses the needs of our community in the treatment of Acute, Chronic and Cancer Pain. The program provides a significant educational experience to our Anesthesiology Residents during their rotation in Pain Management. The resident will participate in the care of a diverse chronic non-malignant and malignant pain population..

Goals and objectives of PGY-1/CA-1/2 Resident Pain Rotation:

Define rotation:

1. Two months rotation in pain management. The rotation will provide basic experience in acute, chronic and cancer pain.
2. The residents are fully committed to pain management during this rotation without any operating room anesthesia coverage.
3. The residents are responsible along with their CA-3 colleagues, to operate and provide 24 hour pain coverage under the supervision of the Pain Management Attending.

Medical Knowledge:

Cognitive Objectives:

To enable our Residents to reach the following goals:

- Describe the anatomy, physiology and pathophysiology of pain, e.g., nociceptors, pathways, mechanisms and spinal or central modulations. Understand the complex pathways and mechanisms in chronic pain patients.
- Evaluate and develop appropriate treatment plans for chronic pain patients as well as utilizing knowledge of the basic concepts of pain physiology and pharmacology.
- Understand the pharmacology and pharmacodynamics of oral, I.V., IM and spinal opiates.
- Understand the importance of post-operative and post-trauma pain management.
- Contrast the multiple acute pain management modalities, e.g., I.V. PCA, peripheral nerve blocks, neuro-axial blocks, the role of NSAID's and anticonvulsant drugs and psychotherapies.
- Understand the complex pathways and mechanisms in chronic pain patients.
- Understand the nature of neuropathic pain and the mechanisms, e.g., CRPS type I & II, diabetic neuropathy and post-herpetic neuralgia.
- Appraise the role of nerve blocks and the neuro-axial implants in the treatment of chronic pain such as spinal cord stimulators and intrathecal pumps.
- Recognize the physical findings of the pain problem(s), how to examine them, how to describe them, and how to measure changes in them.
- Identify the laboratory and radiological findings associated with the pain problem(s), the specificity and sensitivity of these tests, and how to use these tests.
- Distinguish the different therapeutic approaches used to treat these pain problem(s) and relative efficacy of these treatments
- Recognize the behavioral consequences of chronic pain and how they impact treatment.

Technical Objectives:

- Conduct a full history taking and physical examination including neurological exam.
- Perform peripheral or neuro-axial nerve blocks in accordance with their level of training with knowledge of the side effects of these treatments.
- Manage PCA, peripheral nerve and epidural pumps for chronic pain patients and for acute pain patients if requested on the floor and provide the necessary documentation.
- Assist and perform some chronic pain management therapies.
- Conduct Acute and Chronic Pain Management service rounds and respond to in-house consults.

Patient Care:

Residents must be able to provide care to chronic pain patient that is compassionate, appropriate, and effective for their pain. By completion of this rotation, CA-1/2 residents are expected to:

- Understand pain management procedures commonly performed in pain management clinic (e.g., lumbar and thoracic epidural injection techniques, selective nerve root blocks, trigger point injections, etc.).
- Able to understand basic steps in advanced pain management techniques and observe these techniques where practical (e.g., facet joint injections, Median branch blocks, radio frequency ablation techniques; Joint injection and become familiar with fluoroscopy in the injections).

Practice based learning and improvement:

Learning objectives include:

- Meet ABA standards for chronic pain procedures.
- Gain experience in evaluating patients and observe more advanced pain management techniques and observe these techniques where practical.
- Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.

Interpersonal and Communication Skills:

- Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange with patients, patients' families, and professional associates.
- Residents are expected to provide informed consent for blocks.
- Elicit a pain history.
- Describe treatment options.
- Engage in communication to ensure other services and clinics are equipped to provide excellent patient assessment and care.
- Complete accurate and concise documentation of patient assessment and care.
- Residents must be able to demonstrate interpersonal and communication skills that result

in effective information exchange and teaming with patients, their patients families, and professional associates.

Professionalism:

Residents are expected to:

- Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- Maintain sensitivity and responsiveness to patients' culture and care for all patients in a nonjudgmental fashion.
- Demonstrate a commitment to ethical practices, including patient confidentiality, informed consent, and equal treatment of all patients.

Systems-Based Practice:

Learning objectives include:

- To incorporate non-pharmacologic adjuncts into pain management.
- To coordinate a psychosocial evaluation of the chronic pain patient.
- To contribute to multimodal pain treatment plans.
- To gain knowledge of controlled substance prescription regulations.
- To investigate palliative care and hospice options.

Resident Assessment:

The final evaluation for the rotation is performed by Dr. Atallah. The competencies will be assessed by the following:

Formative evaluation of patient care, medical knowledge, interpersonal and communication skills, and professionalism will be assessed via faculty discussions with residents after observation of the resident providing clinical care to patients.

Conference and Literature Assignments:

1. Attendance at Anesthesiology daily lectures.
2. Attendance at Wednesday morning conference.
3. Attendance at the Journal Clubs.
4. Prepare and read about the procedures prior to performing them. Discuss cases with the attending.
5. Attend daily pain management open discussion about pain topics (listed below) at the end of the work day.

Goals and Objectives for CA-3 Resident Pain Rotation:

Define Rotation:

1. A one to six month rotation in pain management. The rotation will enhance their knowledge and skills in acute and chronic pain management.
2. The CA-3 resident has the same commitments and the responsibilities of the CA-2 resident, in addition the responsibility to be a leader and a teacher for CA-2 resident.

Medical Knowledge:

- Understand in depth the pain management modalities and their complications.
- Understand the indication and contraindications for each acute pain management modality.
- Understand the difference between tolerance, pseudo-addiction, and addiction to narcotics.
- Discuss the measurement and assessment of pain and function.
- Discuss the role of nerve blocks in pain management.
- Discuss the indications and contraindications of permanent implants.
- Discuss the indications and contraindications for radio-frequency therapy and IDET.
- Discuss the importance of a multidisciplinary approach to pain management, and the contributions of other specialties to the success of the treatment.

Patient Care:

Residents must be able to provide care to chronic pain patient that is compassionate, appropriate, and effective for their pain. Upon completion of this rotation,

CA-1/2 residents are expected to:

- Understand pain management procedures commonly performed in pain management clinic (e.g., lumbar and thoracic epidural injection techniques, selective nerve root blocks, trigger point injections, etc.).
- Perform advanced pain management techniques and observe these techniques where practical (e.g., facet joint injections, Median branch blocks, radio frequency ablation techniques; Joint injection and become familiar with fluoroscopy in the injections).
- Demonstrate mastery of all skill objectives of CA-2 residents.
- Perform thoracic epidurals and neuro-axial blocks.
- Perform a wide range of chronic pain blocks.
- Assist in the insertion of implantable therapies.
- Perform peripheral continuous nerve blocks.
- Perform a full history and physical examination and have a treatment plan.
- Assist in refill and management of the pumps and management of reprogramming of spinal cord stimulators.

Practice based learning and improvement:

- Meet ABA standards for chronic pain procedures.
- Gain experience in evaluating patients and observe more advanced pain management techniques and observe these techniques where practical.
- Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices.

Interpersonal and Communication Skills:

- Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange with patients, patients' families, and professional associates.
- Residents are expected to provide informed consent for blocks.
- Elicit a pain history.
- Describe treatment options.
- Engage in communication to ensure other services and clinics are equipped to provide excellent patient assessment and care.
- Complete accurate and concise documentation of patient assessment and care.
- Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates.

Professionalism:

- Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- Maintain sensitivity and responsiveness to patients' culture and care for all patients in a nonjudgmental fashion.
- Demonstrate a commitment to ethical practices, including patient confidentiality, informed consent, and equal treatment of all patients.

Systems-Based Practice:

- Incorporate non-pharmacologic adjuncts into pain management.
- Coordinate a psychosocial evaluation of the chronic pain patient
- Contribute to multimodal pain treatment plans.
- Demonstrate knowledge of controlled substance prescription regulations.
- Investigate palliative care and hospice options.

Resident Assessment:

The final evaluation for the rotation is performed by Dr. Atallah. The competencies will be assessed by the following:

Formative evaluation of patient care, medical knowledge, interpersonal and communication

skills, and professionalism will be assessed via attending discussions with residents after observation of the resident providing clinical care to patients.

Conference and Literature Assignments:

1. Attendance at Anesthesiology daily lectures.
2. Attendance at Wednesday morning conference.
3. Attendance at the Journal Clubs.
4. Prepare and read about the procedures prior to performing them. Discuss cases with the attending.
5. Read the entire pain management handout prior to the rotation. Make use of the pain reference textbooks and journals during the rotation.
6. Attend daily pain management open discussion about pain topics (listed below) at the end of the work day.

Lectures topics for the daily open discussion at the pain clinic:

- 1) Management of low back pain (diagnosis, treatment and long term plans)
- 2) Conversion of opioids from oral, IV, IM, epidural to intrathecal. Equivalent doses of oral opioids. Complication of intrathecal opioids.
- 3) Acute postoperative pain in opioids tolerant patients.
- 4) CRPS 1 and 2
- 5) Post herpetic neuralgia
- 6) Stellate ganglion block and Lumbar sympathetic block
- 7) Celiac plexus block and Hypogastric plexus block
- 8) Peripheral neuropathy
- 9) Epidural steroid injection
- 10) Implantable stimulators
- 11) Implantable pumps.
- 12) Thoracic epidural para-median approach (the easy way)
- 13) Complication of cervical blocks
- 14) Sacroiliac joint injections
- 15) Facet joint injections
- 16) Radiofrequency ablation
- 17) Piriformis syndrome
- 18) Joint injections and bursae injection
- 19) Cancer pain

Anesthesia for Pediatric Surgery for CA-1 and CA-2 Residents

- I. Define Rotation:
The pediatric anesthesia rotation for is for senior CA-1 or CA-2 Anesthesia residents at Mott Children's Hospital in Ann Arbor, Michigan.
- II. Goals and Area of Knowledge: In addition to the general core competencies, the goal of the pediatric surgery rotation is to produce anesthesiologists with special expertise in the preoperative preparation, intraoperative care and postoperative management of pediatric patients including neonates.

Medical Knowledge

Cognitive objectives:

- Identify pathophysiology and anesthetic concerns associated with basic and complex and pediatric cases
- Demonstrate indications for and benefits of individual vasoactive and anesthetic drugs
- Manage ASA 1 -3 patients for uncomplicated cases with minimal assistance (induction, maintenance, emergence, and initiation of PACU stay)
- Reliably and competently perform postoperative visits and demonstrate the proper assessment and management of common anesthetic complications
- Estimate and administration of fluid requirements (blood, colloid, crystalloid) in routine cases
- Identify and treat independently basic intraoperative complications (e.g.- hypoxemia, hypotension, hypertension, arrhythmias, anuria) and complex problems with faculty assistance
- Identify indications/contraindications and key physical landmarks for SAB, epidural placement, and regional nerve blocks. Become familiar with the use of ultrasound guidance techniques with faculty assistance.
- Identify indications/contraindications and key physical landmarks for the placement of invasive intravascular cannulation for monitoring purposes (arterial pressure monitoring, CVP, PA catheter, TEE) with faculty assistance

Technical skills:

- Set up and check equipment for a routine case in a reasonable amount of time
- Perform mask ventilation and tracheal intubation in pediatric airways
- Perform peripheral and central intravenous cannulation and arterial lines with minimal assistance
- Operate basic technical monitors and pressure transducers; check for malfunctions
- Maintain legible, accurate and concise preoperative, intra-operative and post-operative records

Patient Care

Cognitive objectives

1. The primary objectives of the Pediatric Anesthesiology Residency are to provide sound training and proficiency in the following:
 - a. General surgery
 - b. Cardiac surgery
 - c. Urologic surgery
 - d. Orthopedic surgery
 - e. Trauma surgery
 - f. Otolaryngology
 - g. Neurosurgery
 - h. Ophthalmology
 - i. Plastic surgery
 - j. Transplant surgery

Technical skills

2. Administration of anesthetics for pediatric patients in a variety of locations including:
 - a. Pediatric operating rooms
 - b. Diagnostic and interventional radiology suites
 - c. Diagnostic and interventional cardiology suites
 - d. Radiation oncology suites
 - e. Intensive care units
 - f. Diagnostic and interventional medical procedure units
3. Pain and sedation management of pediatric patients including:
 - a. Develop and execute plans for peri-procedural pain in pediatric surgical patients
 - b. Recognize when consultation with a pain management specialist is warranted
 - c. Manage peri-procedural pain in pediatric patients with chronic pain including sickle cell anemia and cancer pain
4. Consultations for medical and surgical services the following:
 - a. Preoperative preparation of pediatric patients
 - b. Pediatric difficult airway management
 - c. Pain management
5. Specific objectives of this residency include knowledge and clinical experience in:
 - a. Pediatric advanced life support
 - b. Normal and difficult pediatric airway management
 - c. Practical aspects of hemodynamic monitoring including central venous and arterial catheterization

- d. Regional anesthesia for children including epidurals, caudals, spinals and peripheral nerve blocks
- e. Intubating techniques for children including direct laryngoscopy, video laryngoscopy fiberoptic,, and nasal intubation
- f. Analysis of common perioperative laboratory tests including blood gases, electrolytes, blood cell counts, and clotting function
- g. Management of postoperative complications including airway, bleeding, and pain problems and management of nausea
- h. Management of mechanical ventilation in children
- i. Pharmacologic circulatory support in children
- j. Emergency transfer of children in the hospital
- k. Recognition and treatment of dysrhythmias
- l. Hemodilution and cell saver techniques
- m. Management of emergencies in pediatric anesthesia (e.g. laryngospasm, bradycardia, malignant hyperthermia)
- n. Identification of appropriated level of care for post-surgical pediatric patients

Practice-based Learning and Improvement

- 6. Pediatric anesthesia residents will be expected to supplement faculty daily didactic lectures with reading on the following topics:
 - a. Normal physical and physiologic development of children
 - b. Pharmacology of anesthetic agents in children and neonates
 - c. Fluid and electrolyte management in pediatric patients
 - d. Transitional cardiovascular physiology
 - e. Temperature homeostasis in children
 - f. Breathing circuits
 - g. Pediatric advanced life support
 - h. Pediatric airway management and complications
 - i. Pain management for children
 - j. Regional anesthesia in children
 - k. Prematurity
 - l. Cardiovascular and respiratory physiology and pathology
 - m. Neonatal anesthetic considerations
 - n. Congenital anomalies with anesthetic complications
 - o. Coagulation abnormalities and treatment
 - p. Burns in children
 - q. Emergency surgery in children
 - r. Anesthetic management for the critically ill child
 - s. Metabolic and endocrine effects of surgery
 - t. Infectious disease pathophysiology and therapy
 - u. Coagulopathies
 - v. Ethical considerations in children
- 7. In addition, the resident is expected to:
 - a. Attend all anesthesia conferences including visiting professor lectures,

- morbidity and mortality conferences, daily pediatric didactic lectures from the pediatric anesthesia faculty.
- b. Teach pediatric anesthesia to junior residents and medical students.
8. The resident is encouraged to:
- a. Prepare pediatric anesthesia lectures for residents and medical students under the supervision of faculty.
 - b. Become actively involved in a clinical research project with a faculty mentor.
 - c. Present the research at the Midwest Anesthesia Resident Conference (MARC).

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity to patients and their parents
- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Interpersonal and Communication Skills

- Cogently discuss management plan with faculty, surgeon and consultants of patients
- Review the literature and provide leadership in discussions with medical students and at journal club
- Analyze critical events and describe management reasonably well on practice oral board exam
- Organize and present lectures to faculty and residents at teaching conferences
- Actively teach medical students

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care

professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

Perioperative Medicine

Goals

Patient Care: To provide residents with clinical experience in a diverse patient population undergoing a variety of surgical and other procedures.

Medical Knowledge: To acquire and apply clinical knowledge relevant to the peri-operative management of patients.

Practice Based Learning: Research and evaluate one's own clinical care practices, increase fund of scientific knowledge to integrate it into one's practice and improve one's patient care.

Interpersonal and communication skills: Exchange information effectively and appropriately with colleagues, patients, surgeons and ancillary personnel.

Systems Based Medicine: Develop familiarity with the larger context of health care and the ability to call system resources to provide optimal, cost-effective care.

Educational Objectives

- Co-manage the preoperative care of patients scheduled for surgery with cardiac, pulmonary, neurologic, hepatic, hematologic, endocrine and other risk factors.
- Manage medications.
- Order and interpret testing.
- Practice in a cost-effective manner that does not compromise quality of care.
- Understand patient factors that increase anesthetic risks.
- Understand the value of patient's prior personal and familial anesthetic history.
- Become familiar with ACC/AHA guidelines for Perioperative Cardiology Consultation.
- Understand the indications for perioperative testing in light of the type and invasiveness of the surgery, the patient's history and his/her comorbidities.
- Understand the impact of comorbid conditions on risk and anesthetic management
- Develop anesthetic plans for different patients

- Use all available resources, guided by the attending to make informed decisions about interventions and testing.
- Appreciate the need for efficiency and timely care in preoperative testing
- Understand the limitation of preoperative testing
- Learn to listen carefully and effectively to patients, their families/friends, physicians and ancillary personnel
- Discuss with patients the alternatives available
- Be prepared to explain the need for testing
- Communicate effectively when stressed to allay patient anxiety
- Gain experience assisting patients dealing with system complexities
- Learn how to consult and work as a team member with health care managers and providers to coordinate and improve health care
- Appreciate the interactions between primary care teams, consulting services, surgeons and anesthesiologists in managing complex patients

Clinical Responsibilities/Activities

- The resident will report to the PEC to resolve issues identified by PEC staff.
- Be available to the OR manager to assess add-on and other cases and discuss them with the responsible attending
- Directed independent study, including, but not limited to the rotation's recommended reading list.
- Focused reading based on cases encountered during the rotation.
- Individual discussion with faculty and directed reading therefrom
- Periodic meetings with faculty responsible for overall perioperative medicine rotation
- Obtain feedback from the perioperative attending and individual anesthesiologists responsible for evaluated patients
- Review and discuss pre-operative guidelines and literature with the perioperative attending
- Faculty will model effective communication
- Discussion with perioperative attending and individual attendings

Professionalism

Residents must carry out professional responsibilities and adhere to ethical principles

Residents must adhere to institutional and departmental policies and standards. Show sensitivity to patients of different backgrounds in age, ethnicity, religion, language, culture and other categories. Show a commitment to continual professional development

Faculty will model professional behavior. Faculty will direct resident to sources and guidelines.

Preoperative Medicine for CA-1 and CA-2

Preoperative medicine is a weekly rotation for residents in the CA-1 or CA-2 years. The resident must complete at least 2 weeks of a preoperative medicine rotation as required by the ACGME requirements for Residency Programs in Anesthesiology, The preoperative medicine rotation will be completed at The University of Toledo Medical Center or ProMedica Toledo Hospital.

Goals

Patient Care: To provide residents with clinical experience in a diverse patient population undergoing a variety of surgical and other procedures.

Medical Knowledge: To acquire and apply clinical knowledge relevant to the preoperative management of patients.

Practice Based Learning: Research and evaluate one's own clinical care practices, increase fund of scientific knowledge to integrate it into one's practice and improve one's patient care.

Interpersonal and communication skills: Exchange information effectively and appropriately with colleagues, patients, surgeons and ancillary personnel.

Systems Based Medicine: Develop familiarity with the larger context of health care and the ability to call system resources to provide optimal, cost-effective care.

Educational Objectives

- Co-manage the preoperative care of patients scheduled for surgery with cardiac, pulmonary, neurologic, hepatic, hematologic, endocrine and other risk factors.
- Manage medications.
- Order and interpret testing.
- Practice in a cost-effective manner that does not compromise quality of care.
- Understand patient factors that increase anesthetic risks.
- Understand the value of patient's prior personal and familial anesthetic history.
- Become familiar with ACC/AHA guidelines for Preoperative Cardiology Consultation.
- Understand the indications for pre-operative testing in light of the type and invasiveness of the surgery, the patient's history and his/her comorbidities.
- Understand the impact of comorbid conditions on risk and anesthetic management
- Develop anesthetic plans for different patients
- Use all available resources, guided by the attending to make informed decisions about interventions and testing.
- Appreciate the need for efficiency and timely care in preoperative testing
- Understand the limitation of preoperative testing

- Learn to listen carefully and effectively to patients, their families/friends, physicians and ancillary personnel
- Discuss with patients the alternatives available
- Be prepared to explain the need for testing
- Communicate effectively when stressed to allay patient anxiety
- Gain experience assisting patients dealing with system complexities
- Learn how to consult and work as a team member with health care managers and providers to coordinate and improve health care
- Appreciate the interactions between primary care teams, consulting services, surgeons and anesthesiologists in managing complex patients

Clinical Responsibilities/Activities

- The resident will report to the PEC to resolve issues identified by PEC staff.
- Be available to the OR manager to assess add-on and other cases and discuss them with the responsible attending
- Directed independent study, including, but not limited to the rotation's recommended reading list.
- Focused reading based on cases encountered during the rotation.
- Individual discussion with faculty and directed reading therefrom
- Periodic meetings with faculty responsible for overall preoperative medicine rotation
- Obtain feedback from the preoperative attending and individual anesthesiologists responsible for evaluated patients
- Review and discuss pre-operative guidelines and literature with the preoperative attending
- Faculty will model effective communication
- Discussion with preoperative attending and individual attendings

Professionalism

Residents must carry out professional responsibilities and adhere to ethical principles

Residents must adhere to institutional and departmental policies and standards. Show sensitivity to patients of different backgrounds in age, ethnicity, religion, language, culture and other categories. Show a commitment to continual professional development

Faculty will model professional behavior. Faculty will direct resident to sources and guidelines.

Anesthesia for Vascular Surgery for CA-1 and CA-2 Residents

I. Define Rotation:

The vascular anesthesia rotation consists of two months during which time available vascular surgery cases are preferentially allocated to residents on the rotation.

II. General Goals and Area of Knowledge:

The resident should acquire the skills necessary to manage the elderly, high risk vascular surgical patient peri- and intraoperatively in a safe and logical manner. Since the vascular patient usually has multiple complex medical problems, the scope of knowledge should include related diseases, including hypertension, diabetes, cardiopulmonary, renal-vascular and cerebrovascular diseases. The degree of difficulty of the cases is graded to provide increasingly challenging cases as the level of training and skill progress. In addition to the core competencies expected of CA-1 and CA-2 residents, the following apply:

Medical Knowledge:

The resident will be able to:

- Describe the anatomy and discuss the physiology of the cardiovascular system.
- Explain and discuss invasive hemodynamic monitoring and make treatment decisions based upon the findings or derangements to maintain hemodynamic stability.
- Recognize ischemic cardiac episodes intraoperatively and effectively treat and manage them.
- Discuss the anesthetic implications for management of the patient with vascular disease.
- Discuss preoperative anesthesia assessment for vascular patients, present the assessment to the staff anesthesiologist in a logical and organized manner and develop a reasonable and safe anesthetic plan which takes into account those implications peculiar to this group of sick and elderly patients.
- Identify regional as well as general anesthetic options for a given vascular surgical procedure and discuss the risks and benefits.
- Compare frequently used vasoactive drugs, their pharmacology, pharmacokinetics and appropriate usage.
- Describe a 'routine' anesthetic plan for a given vascular surgical procedure.
- Formulate a postoperative pain control plan for the vascular surgical patient.
- Interpret blood gas analysis results and institute appropriate therapy.
- Recognize issues related to anticoagulation.

Patient Care:

The resident will be able to:

Cognitive objectives

- Manage anesthesia for a routine vascular case with reasonable independence.
- Recognize and treat intraoperative hemodynamic derangements and complications.

Technical objectives

- Set-up equipment expeditiously for a typical vascular surgery case.
- Execute simple vascular cannulations such as IV's and arterial lines without difficulty and perform central venous and pulmonary artery catheter insertions with guidance.
- Perform spinal and epidural regional anesthetics without difficulty.
- Manage pulmonary artery catheters, pacemakers, defibrillators, TEG equipment, and continuous infusion of vasoactive drugs.

Practice-based Learning and Improvement

- Meet ASA standards for monitoring and patient care
- Residents must be able to evaluate and critique their patient care practice appraise and assimilate scientific evidence to make informed decisions and to improve their patient care. Instruments include, but are not limited to, didactic lectures, textbooks, journal articles (including articles presented at monthly journal club), and faculty mentoring of clinical judgment
- Use information technology to manage information, access on-line information, and support their own education
- Participate in departmental quality assessment conferences

Interpersonal and Communication Skills

- Communicate effectively with patients
- Communicate effectively with surgeons, nurses, and other healthcare professionals to provide patient-focused care
- Present concise, organized case presentation, including management concerns, to faculty
- Formulate and discuss anesthetic management for all ASA class patients for routine and complex surgery

Professionalism

- Residents will demonstrate commitment to undertaking and performing professional responsibilities
- Maintain and demonstrate respect, compassion, and integrity
- Demonstrate responsiveness to the needs of patients and society
- Accountability to patients, society and the profession
- Commitment to ethical principles regarding provision or withholding of clinical care
- Confidentiality of patient information, informed consent
- Demonstrate sensitivity and responsiveness to patient's culture, age, sex, and disabilities

Systems-based Practice

- Learn and understand how types of medical practice and delivery systems differ from one another, including resource allocation and cost control
- Apply systems-based data in resource allocation for patient assessment and management
- Practice cost-effective healthcare and resource allocation without compromise of patient care
- Participate in department quality assessment conferences
- Understand how their patient care and other practices affect other health care professionals, the healthcare delivery system, and society at large, and how they in return affect their own practice

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 04/07

Subject: Supervision of residents and care of patients

Policy Number: 002

POLICY

Qualified faculty will provide appropriate supervision of residents in patient care activities.

PURPOSE

Qualified faculty will supervise residents' patient care experiences in order to:

- maximize the resident educational experience while maintaining a focus on patient safety and quality patient care
- maintain clear communication of which medical staff physician has supervisory responsibility, the nature of that responsibility, and contact information for anticipated circumstances
- ensure that criteria for determining the needed level of supervision for a given resident under a given set of circumstances are met

PROCEDURE

Surgical Anesthesia and Pain Medicine

Residents providing surgical anesthesia services will be supervised by qualified faculty. This supervision may be direct or indirect, depending on the qualifications of the resident, patient care needs, and other factors as determined by the supervising faculty. The anesthetic record or procedure note will clearly indicate which faculty member is responsible, as well as any transfer of care. The Clinical Competence Committee of the Department of Anesthesiology will review each resident's performance and make recommendations for changes in privileges considering progressive responsibility of the residents and these will be reflected in the credentialing files maintained by UTMC and each individual affiliated site for resident procedures. The faculty shall have discretion in determining the amount of direct supervision required for areas on which the credentialing files are silent, taking into account resident educational needs, patient safety, the level of training and skills of the resident, relevant regulatory issues, and progressive responsibility of the resident.

Care other than Surgical Anesthesia (including Critical Care and Fundamental Clinical Skills of Medicine training)

Residents will be supervised by qualified faculty who may be members of the Department of Anesthesiology or other affiliated departments. The attending physician will make clear who is responsible for care and how to be contacted, as well as ensuring that any transfers of care are communicated to the resident. The exact degree of supervision will be consistent with other residents of a similar degree of experience rotating on that service (Emergency Medicine, Internal Medicine, MICU, ICU, etc.), and will follow the policies of the sponsoring department, including assessing progressive responsibility for the resident.

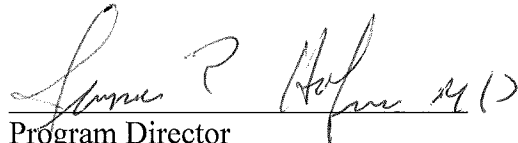
Emergency Care

Nothing in this policy should be construed as prohibiting the resident from rendering emergency care (responding to Code Blue calls, Trauma Team response, and similar situations.) to a patient to the extent s/he is qualified by training and experience, regardless of whether immediate supervision is available or not.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 4/5/2018

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 8/09

Subject: Evaluation Process Policy

Policy Number: 003

POLICY

The Department of Anesthesiology will evaluate residents, faculty and the program on a regular basis.

PURPOSE

To evaluate the residents compliance and knowledge over a set period of time, to evaluate effectiveness of departmental faculty members teaching skills and the effectiveness and quality of the Anesthesiology program.

PROCEDURE

Resident formative evaluations, dependent upon rotation are done monthly, bimonthly, or quarterly by the faculty on campus and at off campus sites to evaluate resident progress. These evaluations are then reviewed by the Clinical Competence Committee (CCC) on a quarterly basis. These evaluations are available confidentially to the residents through the New Innovations program. Feedback which may include remediation is given to the resident by the Program Director, the resident's faculty mentor, or both. Utilizing faculty evaluations, performance reports, standardized exam performance, and other pertinent data; summative evaluations are determined by the CCC in biannual closed door meetings held in December and June. During these meetings the residents' clinical performance and knowledge will be evaluated for compliance with standards for their level of training, and appropriate milestones assigned. An evaluation of satisfactory performance by the CCC on a semiannual basis is necessary for the resident to receive 6 months of training credit with the American Board of Anesthesiologist (ABA) towards meeting the requisite training for entering the ABA board certification exam process. Please see the ABA website and the ABA Staged Exam Policy Book for further information on eligibility to enter the exam process. Assigned milestones will be recorded in New Innovations, and on the ACGME website.

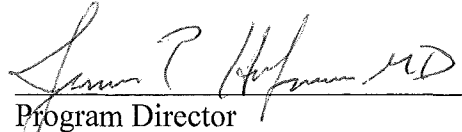
Anonymous faculty evaluations by the residents are done on a semi-annual basis through New Innovations to evaluate the faculty member's supervision skills, professionalism and teaching. The evaluations are then reviewed by the Program Director and Chairman as part of each faculty member's annual review. Evaluations completed by the residents, of the faculty, rotations, and programs are strictly confidential.

Program evaluations are completed through new innovations annually by the faculty and residents. Rotations are evaluated by residents on a biannual basis. These evaluations are reviewed by the Program Evaluation Committee at least annually to assess the effectiveness and quality of the program. Any problems are then addressed and a plan of action to correct the areas of concern will be formulated.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 4/5/2018

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 04/07

**Subject: Inadequate Performance
/Due Process Policy**

Policy Number: 004

POLICY

Proper procedures shall be in place for remedial or disciplinary action with regard to resident performance.

PURPOSE

To provide residents with clear guidance on fair remediation and disciplinary processes for Residents based on Academic and/or Non-Academic Deficiencies.

Academic Deficiency: Such deficiencies include: an insufficient fund of medical knowledge; an inability to use medical knowledge effectively in patient care; lack of judgment commensurate with level of training, lack of appropriate technical skills; or any other deficiency which bears on an individual's academic performance.

Non-Academic Deficiency: Such deficiencies include but are not limited to violation of professional responsibility, dishonesty, risks to patient care, lack of humanism, professionalism, or collegiality; or violation of institutional standards and rules, or law.

PROCEDURE

The Department will adhere to HSC-COM-3364-86-008-00.

Evaluations will be conducted in accordance with departmental policies.

Underperforming residents will be counseled by the Program Director or his designee, and documentation of this kept in the resident's academic file.

Academic Deficiency

"Warning" or "Probationary" Status will be instituted by decision of the Clinical Competency Committee with the agreement of the Program Director in accordance with HSC-COM-3364-86-008-00.

In the rare event that Dismissal or non-renewal of contract is warranted, all applicable University policies will be followed.

Remediation plans not rising to the level of "Warning" status will be developed, implemented, and reviewed by the Clinical Competence Committee of the Department with a report made in a timely manner to the Program Director.

Non-Academic Deficiency

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 04/07

**Subject: Inadequate Performance
/Due Process Policy**

Policy Number: 004

POLICY

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Academic Deficiency: Such deficiencies include: an insufficient fund of medical knowledge; an inability to use medical knowledge effectively in patient care; lack of judgment commensurate with level of training, lack of appropriate technical skills; or any other deficiency which bears on an individual's academic performance.

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PROCEDURE

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Non-Academic Deficiency

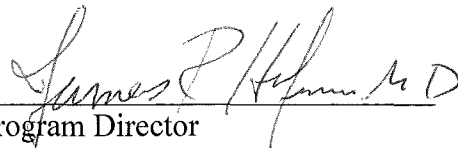
Actions resulting in a violation of professional responsibility, dishonesty, risks to patient care, or violation of institutional standards and rules, or law will result in disciplinary action in accordance with HSC-COM-3364-86-008-00.

Actions constituting a threat to the safety or well-being of faculty, staff, residents, or patients may result in immediate suspension from duties at the discretion of the Program Director, or in his absence, the Associate Program Director. This in no way inhibits the Associate Dean of GME or the Dean of the COM from instituting actions in compliance with University policies.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 4/5/2018

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 08/11

Subject: Resident Promotion and Graduation Policy

Policy Number: 005

POLICY

Residents are promoted and graduate based on explicit criteria in accordance with the Accreditation Council for Graduate Medical Education (ACGME) General Competencies and the Clinical Competence Committee-Anesthesiology Program Requirements. The residency program requires its residents to obtain competencies in the six areas below to the level expected of a new practitioner.

- a. **Patient Care** that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health
- b. **Medical Knowledge** about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care
- c. **Practice-Based Learning and Improvement** that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care
- d. **Interpersonal and Communication Skills** that result in effective information exchange and teaming with patients, their families, and other health professionals
- e. **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population
- f. **Systems-Based Practice**, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value

PURPOSE

To provide criteria for promotion of residents from CA-1 to CA-2 level, CA-2 to CA-3 level and for graduation from the program.

PROCEDURE

Clinical Anesthesia 1 (CA1): Residents will be promoted to the CA1 (PGY2) year upon acceptance into the residency program advanced track and documentation that they have satisfactorily completed a year of training in the Fundamental Clinical Skills of Medicine in an ACGME or AOA accredited training program. Residents entering the categorical program as PGY1 residents will be promoted after successfully completing their year of training in the Fundamental Clinical Skills of Medicine and review by the CCC. A passing score on the ABA Basic Exam is required in order for a resident to advance through the CA-2 year. A second attempt at passing is allowed. A second failure will result in dismissal from the program.

Clinical Anesthesia 2 (CA2): Residents will be promoted to the CA2 year upon satisfactory completion of the CA1 year as evidenced by the CCC recommending awarding credit for the 12 months of clinical anesthesia based on evaluations from faculty covering the six core

competencies and commensurate milestone achievement; obtaining a passing score on the USMLE Step 3 examination; satisfactory performance on the 6 month Anesthesia Knowledge Test (AKT).

Clinical Anesthesia 3 (CA3): Resident will be promoted to the CA3 year upon successful completion of the CA2 year as evidenced by the CCC recommending awarding credit for the previous 12 months of clinical anesthesia training (for a total of 24 months) based on evaluations from faculty covering the six core competencies and commensurate milestone achievement; satisfactory scores on the AKT24 and In-Training Exam (ITE).

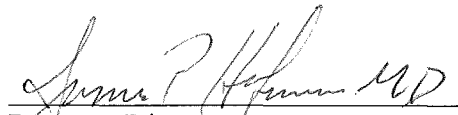
Satisfactory performance on the AKT and ITE exams will be considered a ranking of 30th percentile nationally compared to residents at the same level of training as determined by the individual exam norm table. Residents scoring less than the 30th percentile (except for the AKT0, AKT1, and ITE taken prior to the CA1 year) will be counseled and offered assistance in improving future exam performance. Residents scoring less than the 20th percentile will have a remediation plan developed and instituted. Residents scoring less than the 10th percentile will have a remediation plan developed and instituted, will be offered evaluation for special exam conditions, and may be placed on Academic Warning status. The scores on the AKT 0, AKT1, and ITE prior to the CA1 year are used as formative feedback only.

Completion of Training (“Graduation”): Residents will be deemed to have completed the requirements after: completing sufficient training in terms of months of training and case mix to be eligible to sit for the American Board of Anesthesiology Certification Exam for Anesthesiology (www.theaba.com); successful completion of the CA3 year as evidenced by the CCC recommending credit for the previous 12 months of clinical anesthesia training (for a total of 36 months) based on evaluations from faculty covering the six core competencies and commensurate milestone achievement; and completion of an approved scholarly project. While not a requirement for completion, the ABA requires a current unrestricted medical license to be eligible to sit for the Board Exam. Failure of a CA-3 resident to meet 30th percentile score in the ITE will result in remediation and may result in extension of the residency or the resident failing to graduate if sufficient evidence of improvement is not made.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 4/5/2018

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 08/11

Subject: Resident Duty Hours Policy

Policy Number: 006

POLICY

The Anesthesiology residency program will ensure that the program and residents comply with the rules for duty hours set forth by the ACGME, and the UTMC GME office policy.

PURPOSE

To ensure that the learning objectives for each resident are not compromised by excessive service obligations.

To assure that the duty hours and on-call time periods are not excessive but maintain focus on the needs of patients as well as continuity of care and educational needs of the residents.

Didactic and clinical education will take priority in the allotment of residents' time and energies.

To assure that ACGME standards are met in the department with regard to duty hours.

PROCEDURE

Duty Hours

Duty hours are limited to 80 hours per week, averaged over a four week period, inclusive of all in-house call activities and all moonlighting.

Residents shall have sufficient time for rest and personal activities. Duty periods of residents may be scheduled to a maximum of 24 hours of continuous duty in the hospital. Residents will not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty (this does not prohibit residents in unusual circumstances, on their own initiative, from remaining beyond their scheduled period of duty to continue to provide care to a single patient). Residents should have eight hours free of duty between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house.

Residents will be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period). Residents will not be scheduled for clinical duties the day after taking in-house call. This will not preclude completing post-operative rounds or Acute Pain rounds as part of continuity-of-care. Residents will have a minimum of 1 day in 7 scheduled free from all clinical duties (when averaged over four weeks).

Duty hours are defined as all clinical and academic activities related to the residency program, i.e., patient care (both inpatient and outpatient), administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled academic activities such as conferences. Duty hours do not include

reading and preparation time spent away from the duty site.

Resident Responsibilities for Logging Duty Hours

Residents will be expected to submit accurate duty hour logs into the New Innovations program on a weekly basis, with the expectation that all duty hours will be logged by the end of the month.


The residency coordinator will monitor duty hours weekly and submit a monthly report to the GME office. The GMEC will review the monthly duty hour log reports on a monthly basis. The following will occur if residents are not compliant in logging their duty hours for the month:

- a. **Warning Status:** A resident will be placed on Warning Status by the Associate Dean of Graduate Medical Education if all duty hours are not logged in for the month. The resident will remain on Warning Status for the month and will be removed from Warning Status the following month if all duty hours are logged.
- b. **Probation Status:** A resident will be placed on Probation Status by the Associate Dean of Graduate Medical Education if all duty hours are not logged in for two consecutive months. The resident will remain on Probationary Status for three months while their duty hours will be closely monitored. If the resident continues to be non-compliant with logging duty hours, additional adverse action may be taken against the resident, including, but not limited to, dismissal from the program based upon non-professional behavior.

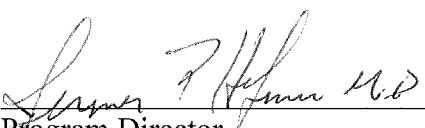
Residents are expected to adhere to the duty hour standards and are expected to speak to the Program Director if an exception of the duty hours standards has occurred or may occur. Residents should contact the Associate Dean for Graduate Medical Education if there is a persistent situation that will lead to a violation of duty hour standards that is not being addressed by the resident's program.

Residents may experience excessive fatigue after duty hour shifts. Residents who feel too fatigued to safely drive home after call should utilize the call rooms for rest until sufficiently recovered. Alternatively, they should arrange for transportation from friends, family, or the use of public transportation when appropriate. The Institution will bear the cost of transportation home for any resident too fatigued to safely drive home. Residents who at any time feel too fatigued to drive, or to safely and properly discharge their clinical duties should discuss the situation with the attending Anesthesiologist On-Call or running the schedule to explore options for relief and/or fatigue mitigation, including the use of available call rooms or the resident lounge.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 4/5/2018

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 08/11

Subject: Working Outside of Assigned Duties
("Moonlighting") Policy

Policy Number: 007

POLICY

Residents in the Anesthesiology residency program are not permitted to moonlight unless approved by the Program Director. If permission is granted, the resident must comply with the program, institution and ACGME requirements for moonlighting.

PURPOSE


Because residency education is a full-time endeavor, the Program Director must ensure that moonlighting does not interfere with the ability of the resident to achieve the goals and objectives of the program.

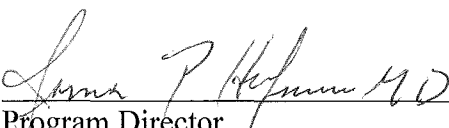
PROCEDURE

The following conditions must be met for a resident to engage in moonlighting.

- a. No moonlighting is allowed during PGY1 year or by residents with J1 visas.
- b. Maintenance of satisfactory performance in departmental activities including satisfactory quarterly evaluations by the Clinical Competence Committee, achieving departmental benchmark scores on all standardized exams, and satisfactory attendance at departmental educational conferences including Journal Club.
- c. Maintenance of an unrestricted medical license.
- d. Limitation of total work hours inclusive of moonlighting hours and those for anesthesiology training of no more than 80 hours per week - averaged over four weeks.
- e. Bi-weekly reporting of hours worked outside of the anesthesiology training program.
- f. Obtaining professional liability coverage for activities outside of the anesthesiology training program.
- g. Compliance with GME Policy 3364-86-018-00.
- h. Obtaining written approval from the Program Director.
- i. Exceptions to these requirements may be granted in unusual situations by the Program Director after consultation with the Clinical Competence Committee.

Approved by:


Chairman
Department of Anesthesiology


Program Director
Department of Anesthesiology

Review/Revision Date: 4/5/2018

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 08/07

Subject: Conference Attendance Policy

Policy Number: 008

POLICY

Residents in the Anesthesiology Training Program are expected to attend educational conferences and teaching sessions.

PURPOSE

To enhance resident's educational opportunities consistent with the ACGME core competencies of professionalism and medical knowledge.

PROCEDURE

All residents are required to attend the departmental educational conferences scheduled for their CA year during their CA-1 through CA-3 years.

Conference attendance is expected to be 85%, annually. (Calculated as the number attended plus the number excused, divided by the number of conferences)

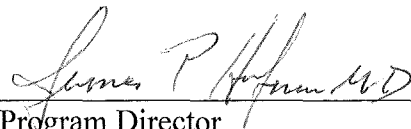
Residents may be excused from conferences at times. Excused absences include, but are not limited to, away rotations, post-call days and vacation days, participation in a high educational value case. Any other excused absences are to the discretion of the program director or associate program director.

Excused absences (other than away rotations, call days and vacation days) shall be reported to the residency coordinator by the resident within two business days.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 4/5/2018

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 05/08

Subject: Substance Abuse Policy

Policy Number: 009

POLICY

In order to insure the safety of patients and employees, and in order to provide the highest quality of medical care, The University of Toledo Department of Anesthesiology is committed to providing a drug-free environment. Because of this commitment, the Department will not tolerate the unlawful or unauthorized use, manufacture, possession, sale, or transfer of illegal or controlled substances, or the abuse or unauthorized use of alcohol. Clinical staff of the Department are prohibited from reporting to the clinical area under the influence of drugs or alcohol; those in violation of this policy are subject to immediate disciplinary action up to and including suspension, termination, and report to licensing boards and/or law enforcement authorities.

PURPOSE

To provide a safe, drug-free practice environment.

PROCEDURE

Nothing in this policy will supersede any policy of the University of Toledo or University of Toledo Medical Center, specifically, HSC-COM-09-006-01 Drug and Alcohol Testing and Chemical Dependency Treatment.

1. It is the responsibility of any Department member, resident or employee to report any suspicious activity concerned with substance abuse to the Chair, program Director, or Associate Program Director. Suspicious activity might consist of a sudden change in habits, a change in personality or suspicions about drug counts and handling.
2. It will be the responsibility of the Department Chair and Program Director (if applicable), in consultation with appropriate experts, to determine whether any department member, resident or employee is suffering from substance abuse.
3. Any Department member, resident or employee judged to be suffering from substance abuse shall be placed on an immediate leave of absence and be required, at their own expense, to enroll in an approved treatment and follow-up program.
4. Return to the Department must be approved by the Department Chair and Program Director/Associate Program Director (if applicable) and follow the Department's Guidelines for re-entry.

GUIDELINES FOR RE-ENTRY AFTER SUBSTANCE ABUSE

1. The Department of Anesthesiology is under no obligation to re-employ any member or employee on leave of absence because of substance abuse.
2. It is the responsibility of the Department Chair, in consultation with appropriate experts, to determine whether any Department member, resident or employee will be allowed to re-enter the Department or be asked to resign.

3. Any individual allowed to re-enter must:
- a. Supply the name of the treating physician/program and agree to allow free access by the Department Chair and Program Director/Associate Program Director (when applicable) to his/her records.
 - b. Agree to continue after care programs.
 - c. Agree to random urine and/or blood drug screens.
 - d. Pay all costs related to the treatment program after care program and drug screens.
 - e. Sign a letter admitting to his/her drug abuse problem, agreeing to permanent abstinence from addicting/offending drugs, and accepting that any relapse may result in immediate and permanent dismissal from the Department.
 - f. Resident must follow and abide by the Department of Anesthesiology Treatment and Recovery contract (example attached)

Approved by:



Chairman
Department of Anesthesiology

Review/Revision Date: 8/21/2014

5/20/2008

Treatment and Recovery Contract

I understand and accept that I have the problem of chemical dependency, and I hereby agree to the following treatment terms and conditions:

Completion of inpatient residential treatment, with documentation by treating physician that I am cleared for re-entry into clinical duties

Case management with Dr. Casabianca as my sponsor/mentor, (or his representative) weekly for 3 months, then monthly until completion of residency program;

A single primary care physician who will prescribe all medications, including those obtainable over the counter;

No mood altering chemicals, legal or illegal, in any form, except in cases of medical necessity, to be approved in advance if possible by Dr. Casabianca, or his representative; medications only as approved by Dr. Casabianca;

No alcohol consumption (zero tolerance);

Random drug and alcohol testing, to be arranged and/or approved by The University of Toledo Medical Center;

Attendance at Alcoholics Anonymous/Narcotics Anonymous meetings, at least 3 per week. All meetings and therapeutic contracts to be documented with signatures of meeting secretaries or therapists;

Random testing of returned syringes for drug content;

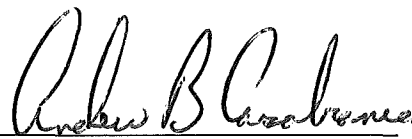
No access to Pyxis machine or narcotics for 3 months; access after that time period to be reassessed by Dr. Casabianca or his representative;

No night or weekend call for a period of 3 months;

One on one clinical supervision for a period of 3 months;

In the event that my University of Toledo Medical Center physicians believe that I have failed to comply with the terms of this agreement, I authorize The University of Toledo Medical Center and its physicians to release confidential information about my alcohol and/or drug abuse treatment to the appropriate licensing board, including copies of my medical record. I understand that failure to comply with the terms of this contract will be construed as my voluntary resignation from my employment and training at The University of Toledo Medical Center. This authorization will expire one year from the date of my last patient contact with The University of Toledo Medical Center.

Signed



Chairman Department of Anesthesiology

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 8/09

Subject: Resident Selection Criteria Policy

Policy Number: 010

POLICY

Applicants will be selected for interviews and for placement on the Match list using criteria established by the Department of Anesthesiology Resident Selection Committee, consistent with the general policies of the University of Toledo ("Resident Eligibility for Graduate Medical Education at The University of Toledo" policy HSC-COM-09-019-00).

PURPOSE

To provide fair and consistent criteria for the selection of residents into the Anesthesiology Training Program at the University of Toledo.

PROCEDURE

Criteria for Selection for Interviews

- Application must be within 5 years of graduation from medical school.
- Successful candidates should score 210 or higher on both Step 1 & 2 of USMLE (and/or equivalent scores on the COMLEX), on the first attempt.
- Dean's Letter and two letters of reference will be required.
- Valid ECFMG certificate (if applicable).
- Applicants should demonstrate excellent interpersonal skill and critical thinking skills during the interview process.
- Criteria may be waived by the Committee for good reason. For example, a candidate who has been in the active practice of medicine for six years since graduation might be considered.

Selection for Placement on Rank Order List

- Applicants will have a personal interview by members of the Selection Committee
- Interviewers will score the applicants on designated attributes
- Consensus about placement on the Rank Order List will be developed by discussion of the candidate's qualifications at meetings of the Selection Committee
- The Committee will make recommendations to the Program Director for the finalized Rank Order List

- The Program will ensure that all rules regarding the Match Program are followed

Selection of Residents outside the Match

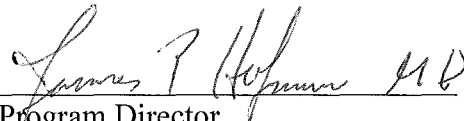
- The Anesthesiology Program will follow NRMP guidelines for the Match
- Unfilled Match positions will be filled in the "SOAP" if suitable candidates are identified.
- Such candidates should fulfill the requirements and process summarized above, including a personal interview (which may be conducted telephonically or electronically)
- Vacancies at off-cycle times are filled at the discretion of the Program Director with the advice of the Selection Committee

The University of Toledo Anesthesiology Department does not discriminate with regard to race, creed, color, ethnicity, national origin, religion, sex, sexual orientation, gender expression, age, physical or mental ability, veteran status, military obligations, or marital status.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 7/1/2017

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date:

02/10

Subject: USMLE STEP 3 POLICY

Policy Number: 011

POLICY

Residents in the Anesthesiology residency program will take the USMLE Step 3 or equivalent (i.e COMLEX 3) examination at completion of their PG-1 year of training. Within the first two years of residency training, the resident must pass USMLE Step 3 or equivalent examination.

PURPOSE

To ensure that all residents complete all 3 steps of the USMLE or equivalent examination sequence early in their post-graduate education. To allow the program to assess the general medical knowledge of their residents.

PROCEDURE

Prior to completion of the resident's PG-1 year, he/she will register for and take the USMLE Step 3 or equivalent examination. Residents who do not successfully pass USMLE Step 3 or equivalent examination by January of their second year of resident education will be placed on Academic Warning with the possibility of non-renewal of contract. Residents are expected to successfully pass USMLE or equivalent examination within the first two years after medical school graduation. The resident must submit a copy of the USMLE Step 3 or equivalent examination result to the program coordinator and the GME office. Residents who enter into the Anesthesiology residency program at The University of Toledo from another training program who have already successfully completed USMLE Step 3 or equivalent examination will be noted to have complied with this policy after the submission of documentation to the Anesthesiology program coordinator and the UT GME office.

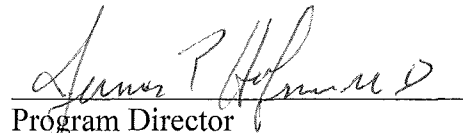
The resident will be allowed up to two (2) days off from the residency program to take the USMLE Step 3 or equivalent examination. The two (2) days off will not be considered vacation or sick time.

Note: Section 2.01 of the ABA Booklet of information states that a resident must: "Hold an unexpired license to practice medicine or osteopathy in at least one state or jurisdiction of the United States or province of Canada that is permanent, unconditional and unrestricted. Further, every United States and Canadian medical license the applicant holds must be free of restrictions."

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 7/1/2017

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective Date: 9/14

Subject: Social Media Policy

Policy Number: 012

POLICY

This policy is intended to guide members of The Department of Anesthesiology on the use of social media. The term social media should be broadly understood to include, but not be limited to, blogs, message boards, chat room, online forums, social network sites (including, but not limited to, Twitter, Facebook, Snap Chat, and Instagram) and other sites/services that allow dissemination of information in a contemporaneous fashion.

PURPOSE

The purpose of this policy is to provide a reference point, for the members of The Department of Anesthesiology, when making decisions regarding information sharing on social media sites.

PROCEDURE

SCOPE

This policy applies to all members of The Department of Anesthesiology. This includes faculty, staff, residents, students and residents rotating through the department, and any person employed by The Department of Anesthesiology.

PERSONAL USE OF SOCIAL MEDIA SITES

The use of social media websites for personal use is a privilege, not a right. The use of social media for personal use is subject to certain conditions and should not be abused nor overused. The use of social media for personal use must meet the following conditions:

1. Use must be minimal and take place substantially outside of normal working hours
2. Use must not interfere with business, office, work, or clinical commitments

3. If you identify your affiliation with The University of Toledo Medical Center (UTMC), your social media activities should fall within The University of Toledo Medical Center's standards of professional conduct.
4. Use must maintain patient privacy, not constitute a HIPAA violation, and fall within all policies of the University of Toledo and applicable law when involving clinical or research information

RULES FOR USE OF SOCIAL MEDIA

1. Personal opinions expressed on social media sites should be identified as such.
2. Write in the first person, making it clear that you are speaking for yourself and not UTMC or The Department of Anesthesiology. For example, the use of the phrase, "The views expressed on (name of social media site) are my own and do not reflect the views of my employer"
3. Be professional, use good judgment, and be accurate and honest in your communication. Do not post commentary, content, or images that would be considered defamatory, discriminatory, pornographic, harassing, libelous, or that may create a hostile work environment.
4. Never disclose any information that is considered confidential or not public. This includes information regarding other members of The Department of anesthesiology, employees, of UTMC, and current or former patients. If you are unsure about the confidentiality of information that you are going to publish, then you shouldn't do it. Always consider others' privacy.
5. The Department of Anesthesiology strongly discourages "friending" of patients on social media sites. Staff in patient care rolls should refrain from initiating or accepting friend request, except in unusual circumstances (such as an instance where an in-person friendship pre-dates the treatment relationship).
6. You are solely responsible for what you publish on social media sites.

MONITORING USE OF SOCIAL MEDIA

1. Any use of social media may be monitored, or come to the attention of UTMC and/or The Department of Anesthesiology.

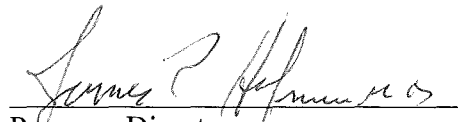
2. We reserve the right to restrict or prevent access to certain social media sites if we consider personal use to be too excessive
3. Misuse of social media websites *can*, in certain circumstances, give rise to legal liability against you and us.
4. Posting, uploading, or forwarding a link to any of the following types of material on social media websites (whether in a professional or personal capacity) will be considered gross misconduct:
 - a. Pornographic material
 - b. False or defamatory statements about any person or organization
 - c. Offensive, obscene, discriminatory, derogatory or information that may cause embarrassment to UTMC, the department of anesthesiology, our *staff*, or our patients
 - d. Confidential information about current or former patients, staff or colleagues
 - e. Any other information that is likely to create liability (whether criminal or civil, and whether for you, UTMC or the department of anesthesiology)

Evidence of misuse may result in a detailed investigation. Please report any breaches of policy.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 7/1/2017

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 05/13

Subject: Scholarly Activity Policy

Policy Number: 013

POLICY

Completion of Scholarly Activity for Residents in the Anesthesiology Program as required by ACGME.

PURPOSE

To ensure the residents complete their scholarly activity project/s before completion of their residency as required.

PROCEDURE

Each resident must complete an academic assignment. Academic projects may include: grand rounds presentations, preparation and publication of review articles, book chapters, manuals for teaching or clinical practice, or similar academic activities. Alternatively, a resident may elect to develop, perform or participate in one or more clinical or laboratory investigations; or prepare case reports or similar presentations at state, regional, or national meetings. A faculty supervisor must be in charge of each project and investigation.

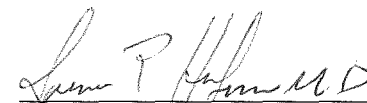
CA1 residents are expected to have a substantial idea of the nature and field of their academic project by the end of December of their CA1 year. This information should be reported to the residency coordinator as soon as it is available. By the end of the CA1 year the resident's mentor for this project should have been chosen by the resident, and substantial ground work should be laid. The mentor and specifics of the project should be relayed to the residency coordinator. Although timelines are frequently dependent on the project itself, it is the expectation that the academic project should be substantially complete by the beginning of the CA 3 year.

Residents should also attend regularly Departmental Journal Clubs to enhance their understanding of basic principles of how research is conducted, evaluated, and applied to patient care.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 7/1/2017

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: 09/14

Subject: Chief Resident

Policy Number: 014

POLICY

The Chief Resident will serve as an intermediary between the faculty and residents, as well as among the residents.

PURPOSE

The Chief Resident, following appointment by the Chairman/Program Director, will function as the point of contact for the residents. The Chief will serve to enhance communication and work flow between residents and faculty, as well as between the residents.

PROCEDURE

The Chief will be responsible for managing scheduling among the residents, coordinating leaves of absence (where appropriate), attending monthly Chief Resident meetings (when time allows), participating in the PEC (Program Evaluation Committee), holding periodic resident meetings and bringing residents' issues or concerns to the attention of the faculty.

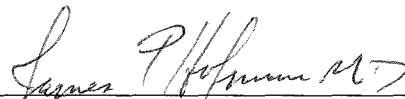
Due to the increased non-clinical time requirements of this position, the Chief Resident will be allowed 1 day free from clinical service per month to fulfill these duties. The purpose of the nonclinical day is to allow for completion of the resident call schedule, attend Chief Resident meeting, or other such work related issues. It is expected that the Chief be on campus for the non-clinical days. At times, due to staffing requirements, the Chief may not be able to have a full non-clinical day allotted each month.

When making the resident call schedule, assigning vacation days/travel days/interview days, it is necessary that the Chief clear all of the above with the department office manager. Due to staffing issues, as well as time and money restrictions for resident travel/conference time, the Chief should forward such requests made by residents to the department office manager, the program coordinator, and the Program Director/Associate Program Director.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 7/1/2017

THE UNIVERSITY OF TOLEDO

Department: Anesthesiology

Effective date: July 1, 2017

**Subject: Resident Procedural
Competency Credentialing**

Policy Number: 015

POLICY

Resident Procedural Competency Credentialing

PURPOSE

To conform with ACGME guidelines criteria must exist for the credentialing of residents for the performance of procedures. All procedures entail both a practical as well as an intellectual component. For that reason credentialing will consider both practical and intellectual competency.

PROCEDURE

This policy covers the credentialing of resident members of the department of anesthesiology rotating at the University of Toledo Medical Center (UTMC) and The Toledo Hospital (TTH) for the performance of procedures. The procedures covered by this policy are arterial line placement, central line placement, pulmonary artery catheter placement, ultrasound guided peripheral nerve block, and epidural catheter placement.

The levels of supervision required for residents in training for performance of these procedures are as follows:

- Level I:** **Direct Supervision** - The supervising, privileged physician* is physically present with the resident/fellow and patient.

- Level II:** **Indirect Supervision with direct supervision immediately available** - The supervising, privileged physician* is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

- Level III:** **Indirect Supervision with direct supervision available** - The supervising, privileged physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

- Level IV:** **Oversight**- the supervising, privileged physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

- *Level IV T:** **Oversight plus Delegated Teaching Role**: The resident/fellow may at the discretion and under ultimate authority and responsibility of the supervising,

privileged physician, be delegated to provide Levels I and II supervision/teaching to another resident/fellow for this particular care/procedure.

Should any hospital through which the residents rotate have an alternative numbering system the resident will be placed at the level which nearest approximates but does not diminish the level of supervision.

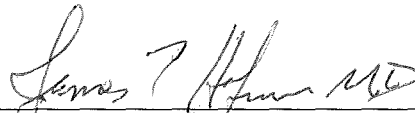
Advancement of residents will be accomplished according to the following procedure:

1. All residents in the department of Anesthesiology will start out requiring level I supervision for all procedures.
2. Advancement of the resident to level-2 or higher status will be a 2-step process.
 - a. The number of successful procedures the resident has performed will be monitored by the residency coordinator through the resident procedure logs on the New Innovations web site. Once a resident has performed a benchmark number of the specific procedure the resident is eligible for advancement to level-2 status. The bench mark numbers are 10 procedures for arterial line placement, central line placement, pulmonary artery catheter placement, and continuous epidural catheter placement, and 20 procedures for ultrasound guided peripheral nerve blocks. Having obtained the benchmark number of a procedure, the resident will be eligible for advancement above level 1
 - b. Once the resident has performed the benchmark number of a procedures the resident's supervision level will be advanced by the CCC and/or program director based upon the faculty evaluations of the resident on the New Innovations program cataloging the observations of faculty working directly with the resident. The appropriate supervision level will then be recorded at both UTMC and TTH by the program coordinator.

Approved by:



Chairman
Department of Anesthesiology



Program Director
Department of Anesthesiology

Review/Revision Date: 7/1/2017