The University of Chicago Cardiothoracic Surgery Resident Handbook

THE UNIVERSITY OF CHICAGO PRITZKER SCHOOL OF MEDICINE

I have received and reviewed the University of Chicago Cardiothoracic Residency Handbook for AY 18-19.

Name: _____

Signature: _____

Date: _____

Mission Statements

The University of Chicago Medical Center

Our mission is to provide superior health care in a compassionate manner, ever mindful of each patient's dignity and individuality. To accomplish our mission, we call upon the skills and expertise of all of our medical professionals, who work together in collegiality to advance biomedical innovation, serve the health needs of the community, and further the knowledge of medical students, physicians, and others dedicated to caring.

The University of Chicago Biological Sciences Division

The mission of the Biological Sciences Division at the University of Chicago is to discover and create new knowledge of living systems, to preserve and communicate knowledge through education, and to nurture and sustain a community of scholars. These scholars pursue this mission through research; through education of basic scientists, physicians and others interested in living things; and through enlightened and compassionate care of patients in a humane, academic environment.

I. INTRODUCTION

The educational objective of the Sections of Cardiac and Thoracic Surgery at The University of Chicago Medical Center (UCMC) is to train cardiothoracic (CT) residents in the surgical treatment of disorders of the thorax. Cardiothoracic surgery requires attainment of an extensive body of knowledge in the anatomy, pathology, and function of thoracic organ systems. Also, it requires the acquisition of technical skills involving operative techniques for treatment of disorders of the lungs, esophagus, chest wall, blood vessels, and the heart. Finally, trainees are expected to refine and exhibit professionalism, appropriate interpersonal and communication skills, and to develop facility in systems-based practice and practice-based learning. In the pursuit of our educational objectives, both the residents and the attending staff must never lose sight of our primary mission, which is to provide the highest standard of surgical care to our patients. Our educational goals are best served when we provide optimal cardiothoracic surgical care with compassionate concern for the health and comfort of our patients.

Cardiothoracic surgery training at the University of Chicago Medical Center (UCMC) is a combination of clinical and educational activities. The CT residents must assume responsibility for their education jointly with the faculty in this teaching program if they are to optimize their learning experience. The educational and clinical responsibilities and opportunities that must be undertaken by CT residents are outlined below. The cardiothoracic surgery faculty is available at all times to advise and help the residents in their education and should be called upon any time a resident needs assistance.

II. FACULTY & TRAINING SITES

A. The University of Chicago Medical Center (UCMC)

- UCMC Address: 5841 S Maryland Ave, Chicago, IL 60637
- Faculty
    - Mark Ferguson, MD
        - Professor of Surgery
        - Program Director, Cardiothoracic Surgery Residency
    - Jessica Donington, MD
        - Professor of Surgery
        - Chief, Section of Thoracic Surgery
    - Tae Song, MD
        - Assistant Professor of Surgery
        - Assistant Program Director, Cardiothoracic Surgery Residency
        - Attending Physician, Cardiac Surgery
    - Valluvan Jeevanandam, MD
        - Professor of Surgery
        - Chief, Section of Cardiac Surgery
    - Takeyoshi Ota, MD, PhD
        - Associate Professor of Surgery
        - Attending Physician, Cardiac Surgery
    - Husam Balkhy, MD
        - Professor of Surgery
        - Attending Physician, Cardiac Surgery
    - Luca Vricella, MD
        - Professor of Surgery
        - Director, Pediatric Cardiac Surgery
    - David Onsager, MD
        - Attending Physician, Cardiac Surgery

B. NorthShore University Health (NUH) System

- Evanston Hospital Address: 2650 Ridge Ave, Evanston, IL 60201
- Highland Park Hospital Address: 777 Park Ave. West, Highland Park, IL 60035
- Faculty
    - Ki Wan Kim, MD
        - NUH Site Director, Cardiothoracic Surgery Residency
        - Attending Physician, Thoracic Surgery
    - Seth Krantz, MD
        - Attending Physician, Thoracic Surgery
    - Hyde Russell, MD
        - Attending Physician, Cardiac Surgery
    - Eugene Fernandes, MD
        - Attending Physician, Cardiac Surgery

C. Ann & Robert H. Lurie Children's Hospital of Chicago

- Address: 225 E Chicago Ave, Chicago, IL 60611
- Faculty
    - Carl Backer, MD
        - Lurie Children's Site Director, Cardiothoracic Surgery Residency
        - Division Head, Cardiovascular-Thoracic Surgery
    - Eltayeb Osama, MBBS, MD
        - Attending Physician, Cardiovascular-Thoracic Surgery
    - Michael Monge, MD
        - Attending Physician, Cardiovascular-Thoracic Surgery

III. COGNITIVE EDUCATIONAL ACTIVITIES, RESPONSIBILITIES, & OPPORTUNITIES

CT residents participate in a variety of educational endeavors, including didactic conferences, a self-education curriculum, clinical activities, scholarly activity, and teaching, to optimize their educational experience. Attendance at mandatory clinical and teaching conferences will be tracked using an online platform, MedHub. Many of the conferences will be held jointly with the faculty and resident at NorthShore.

A. Core Curriculum activities take place Tuesday and Thursday mornings. These activities include faculty lectures, fellow lectures, guest lecturers, focused case discussions, SESATS/Curriculum question reviews, and mock oral board exercises. Lectures are intended to be linked to the TSDA Curriculum. A Quality Improvement Conference (Morbidity and Mortality Conference) is typically held on the final Tuesday of each month.
   - Responsibilities associated with the Cardiothoracic Surgery Core Curriculum Conference are as follows:
     i. Each resident will present one or two weekly topics each month.
     ii. The residents will select topics jointly.
     iii. All residents are expected to do the weekly readings each week and be prepared to join in the discussions.
     iv. The presentation will last about 30 minutes maximum to leave plenty of time for discussion.
     v. The presentations are aimed at the level of a fellow or attending surgeon
     vi. The presentation will include goals that are structured primarily as bullet points of highlights that residents need to know for their boards.
     vii. The presentations should also include items within the topic that are unclear or controversial.
     viii. The presentations will be template formatted and saved for future reference in a shared location.

B. Clinical Conferences: In addition to the Core Curriculum activities, current or recent patient cases are presented for discussion and to make plans for evaluation or treatment during several regularly scheduled conferences. A complete list of all regularly scheduled conferences is below.

Name of Conference	Frequency	Mandatory or Elective	Individual(s) or Department Responsible for the Organization of Sessions
Core Curriculum Conference	3-4 times monthly	Mandatory	Program Director, Program Coordinator, Chief Resident
Quality Improvement (Thoracic Surgery)	Monthly	Mandatory*	Dr. Song
UCMC Adult Cardiac Conference	Weekly	Mandatory*	Chief of Adult Cardiology
UCMC Valve Conference	Weekly	Mandatory*	Chief of Cardiac Surgery
UCMC Critical Care Conference	Weekly	Mandatory*	Head, CT Critical Care

UCMC Heart Transplant Conference	Weekly	Mandatory*	Head, Heart Failure Clinic
UCMC VAD Conference	Weekly	Mandatory*	Head VAD Coordinator
UCMC Lung Transplant Conference	Weekly	Elective	Head, Lung Transplantation
UCMC Thoracic Malignancies Staging Conference	Weekly	Mandatory*	Director, Thoracic Medical Oncology
UCMC Thoracic Case Presentation Conference	Weekly	Mandatory*	Chief of Thoracic Surgery
UCMC Quality Assurance (Department of Surgery)	Quarterly	Mandatory*	Chairman, Department of Surgery
UCMC Cardiovascular and Thoracic Research Conference	Weekly	Elective	Director, Cardiac and Thoracic Research
Citywide Thoracic Surgery Journal Club	Quarterly	Mandatory	Program Director
UCMC Educational Session	Monthly	Mandatory*	Program Director
Evanston Hospital Cardiac Cath Conference	Weekly	Mandatory*	Chief of Cardiology
Evanston Hospital Cardiology – Cardiac Surgery Research Conference	Weekly	Elective	Chief of Cath Lab
Evanston Hospital Thoracic Oncology Conference	Weekly	Mandatory*	Site Director
Evanston Hospital M&M	Weekly	Mandatory*	Site Director

*Mandatory only during rotations on those services

C. Self-education: Self-education activities are a critical component of the CT surgery residency at the University of Chicago. It is expected that the resident will actively participate in this effort. This includes activities in these separate areas:
    - Self-Study Curriculum: The Thoracic Surgery Curriculum is an outline for cardiothoracic surgery education. This outline covers all major topics in the areas of adult cardiac surgery, pediatric heart surgery, and thoracic surgery. Each week separate topics are identified. Copies of useful texts are also provided to residents in their administrative office. Residents study the provided materials and do the supplemental reading as needed to educate themselves regarding that week's topic(s). Focused case discussion related to curriculum content: A designated faculty member will review a focused topic using a case discussion format, based on TSDA content, on a bi-weekly basis. Journal Subscriptions - CT residents are provided with a collective subscription to major journals of cardiothoracic surgery: the

Annals of Thoracic Surgery, The Journal of Thoracic and Cardiovascular Surgery, the European Journal of Cardio-Thoracic Surgery, and Thoracic Surgery Clinics. These journals provide the residents with access to information on evolving technology and practice in cardiothoracic surgery that may be unavailable in textbook form. Within each journal is a continuing medical education segment that permits the residents to read and be tested on 3 articles from each journal each month, one in each of the three major cardiothoracic disciplines. Residents are expected to perform these exercises. Directed reading – It is expected that residents will educate themselves regarding specific topics of clinical pertinence which arise outside of the above outlined scheduled curriculum (i.e., reviewing a surgical atlas or textbook as indicated the night before an operation they are unfamiliar with).In-service Training Exam (ITE) – each March the TSDA ITE is administered via computer to all CT residents. The test is useful in assessing the overall level of learning of a CT resident in comparison to his or her peers. The ITE is also used to help identify areas of weakness in a resident's medical knowledge. The program director will monitor performance and design remediation expectations and goals if a resident's performance is below par. Exceedingly low scores (less than 25th percentile) are a cause for concern for both the residents and faculty alike. Scores below the 10th percentile for year of training could be a reason for not advancing a resident to the next level of training if other important deficiencies also exist. The residents are expected to participate in a weekly SESATS based review with a designated faculty member. These reviews will take place at 6:45 a.m. on Thursdays and are meant to review and practice for the board exam and ITE.

D. Journal Club: Once every three months the CT residents and faculty from the Chicago area meet for an encounter that is both a social and educational program. A CT resident from each program selects a topic-specific article that they review and then discuss at these meetings. The residents summarize the results, the scientific method, and discuss how the paper might affect clinical practices in cardiothoracic surgery. Constructive criticism and corrective comments are offered by the faculty for each presentation.

E. Simulation: Regular participation in simulation exercises is mandatory. A minimum number of hours of simulation training is required and will be specified as guidelines are developed. The simulation curriculum will include a variety of scenarios:
   - Vascular anastomosis using a tissue model
   - Aortic valve and root replacement using a tissue model
   - Mitral valve repair/replacement
   - Endoscopy
   - Minimally invasive surgical techniques (self-study using a trainer)
   - Robotic techniques (self-study using a trainer)
   - Bronchoscopy
   - Upper endoscopy
   - Mechanical support devices

F. Scholarly Activity: CT residents are encouraged to participate in academic activities during their three-year residency.
   - Conference Presentations: Each CT resident will present one or more of the weekly topics for the Cardiothoracic Core Lecture conference each quarter. The topic and timing are agreed upon in advance by the resident and program director. Both cognitive (article/textbook selection) and practical (PowerPoint instruction etc.) assistance are available to the residents. Additionally, CT residents are encouraged to participate in

national committees or educational organizations and present at international, national or regional meetings.

- Independent Research and authorship: While it is not required, residents are encouraged to participate either in their own academic projects and/or those of the faculty. This might include clinical research, authoring review articles, and authoring book chapters.
- Teaching: The CT residents participate in the education of junior surgical residents and medical students. Through these efforts, the residents reinforce their own knowledge of the topics discussed and practice their communication and interpersonal skills. When observing such teaching sessions, the faculty can assess several of the competencies of the resident including medical knowledge, professionalism, and communication skills.

G. Quality Improvement Efforts: All CT Residents are encouraged to participate in inter-professional quality improvement initiatives that help provide the highest level of clinical care with continuous focus on the safety and individual needs of patients, aimed at reducing healthcare disparities. The monthly M&M conferences led by CT Residents provide a platform to identify diagnoses and abnormalities of the cardiovascular system, formulate a treatment plan based on available medical and surgical therapeutic options and to provide a cross-specialty/multidisciplinary educational approach to play role in patient management. The Graduate Medical Education Office also organizes Quality Improvement/Patient Safety focused programs year-round that CT Residents can attend.

H. Resident Wellness Programs: All CT Residents are encouraged to participate in wellness programs aimed to manage fatigue and burnout, prevent self-harm, and foster work-life integration. The Annual GME Resilience Week Lecture Series is tailored to resident and fellow wellness needs.

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III. CLINICAL EDUCATIONAL RESPONSIBILITIES / OPPORTUNITIES

On each of the clinical rotations, CT residents are required to acquire education in multiple different clinical settings. When not actually physically present, the cardiothoracic surgery faculty will be available at all times to guide, advise, and instruct the residents in their education and should be called upon any time the residents need assistance.

A. Preoperative care – CT residents participate in the preoperative care of patients on all rotations. They perform in-house consultations following which they present the patient to the faculty and suggest appropriate further evaluation and/or treatment. Similarly, in the outpatient clinic (regularly attended by the resident on each rotation), the resident sees new patients and consults with the attending physician in the planning of further evaluation and/or discusses and suggests treatment modalities. Initially, all patients are seen in conjunction with the attending faculty, and the clinical decision-making is performed jointly. As the resident progresses and becomes more experienced in this preoperative outpatient setting, the CT residents will be given increasing responsibility and independence with the attending faculty participating more in an advisory role. The resident learns from the example set by the attending physician and eventually is asked to take the lead in this setting so that their medical knowledge and communication skills can be critically assessed.

B. Operative care – CT residents must read in preparation for their participation in an operation. The initial experience for the resident in the operating room is usually one of first assisting the attending physician in the performance of an operation. As the resident becomes more experienced, there will be the provision of greater responsibility in the operating room. As the resident's technical skills and experience increase, the CT resident performs greater portions of operations until he eventually performs the entire procedure on a routine basis.

C. To enable CT residents to be able to claim credit for performing an operation, they are required to satisfy three criteria: 1) perform a preoperative assessment of the patient (including review of relevant history, performance of a focused physical examination, and review of preoperative studies); 2) perform the technical portions of the operations that constitute the essential parts of the operation; and 3) be involved in the postoperative care of the patient.

D. Postoperative care (ICU / floor) – CT residents provide postoperative care both in the Intensive Care Units and on the floor. They lead a team of general surgery residents, physician assistants, advanced nurse practitioners, and medical students on daily rounds. Initially, these rounds are made in conjunction with the attending faculty, and the clinical decision-making is performed jointly. As the resident progresses and becomes more experienced in postoperative care, the resident makes routine management decisions with the attending faculty participating more in an advisory role. At all times, the faculty is available to the residents to advise and guide them in this endeavor.

E. Outpatient preoperative and postoperative care – CT residents regularly participate weekly in outpatient clinics, where they see and evaluate new patients and provide routine postoperative care for recently operated patients. In addition, the CT resident will help assess patients who are followed long-term by the faculty for their problems. Initially, all patients are seen in conjunction with the attending faculty, and the clinical decision-making is performed jointly. As the resident progresses and becomes more experienced in this postoperative outpatient setting, the CT residents are given increasing responsibility and independence with the attending faculty participating more in an advisory role. Residents' benefit both from viewing the attending physician as an exemplar and by being given the opportunity to act as the treating physician under the watchful eye of the attending surgeon who provides constructive criticism and feedback.

F. Ancillary skills – There are a number of educational activities that CT residents participate outside the cardiothoracic surgery subspecialty. These related activities include skills such as critical care, cardiac catheterization, echocardiography, pulmonary function testing, esophageal function testing, endoscopic ultrasonography, cardiopulmonary perfusion, endovascular stenting, etc. While there are no dedicated rotations in these areas, during the last two years of the residency, the faculty makes provisions for the residents to spend time during their normal rotations in the pursuit of these educational objectives.

G. Case logs —- it is vital that logs of <u>all cases, consults, new clinic patients, all procedures you participate in that are on other subspecialty experiences, etc.</u>, be maintained accurately and kept up to date. Most will be uploaded to the ACGME website; it is suggested that this be updated at least weekly. For procedures not available for logging on the ACGME system, please tabulate using Excel or other means and maintain this list throughout your training and for purposes of board examinations.

   Normally only one specific procedure can be counted during a patient's visit to the OR. There are exceptions to this, permitting double counting of cases for purposes of case requirements for board certification. Examples are:

   - Re-do sternotomy can be double counted with any cardiac procedure
   - Tricuspid valve procedures performed with CABG can be double-counted
   - Saphenous or radial conduit dissection and preparation can be double-counted with CABG
   - Aortic Procedures: Can be double-counted with CABG/Valve Procedures
   - TEVAR can be double-counted as an aortic procedure and interventional skills
   - Arrhythmia surgery can be double-counted with CABG/valve procedures

- Any combination of IABP, ECMO, VAD or cardiac transplant can be double counted with another operation
- One pneumonectomy can be double-counted for a bilateral lung transplant.
- Extrapleural pneumonectomy can be double-counted as Pleura and Lung procedures
- Chest wall and diaphragm procedures can be double counted with pulmonary resection
- Sleeve lobectomy and carinal pneumonectomy can be double counted as airway and pulmonary operations
- Lung transplant is counted as either airway or lung operation
- Minor procedures: ALL may be double-counted (this includes mediastinal assessment, bronchoscopy, upper endoscopy, etc.)

H. Procedural feedback - Procedural feedback will be provided in person and/or using a smart phone application. Feedback will be summarized periodically and reviewed to assess progress.

IV. SUBSPECIALTY ROTATIONS AND GUIDELINES

The following table outlines the quarterly rotations for the three-year training period. During each quarter, it is expected that the resident's primary responsibility is to the rotation they are on. It is to the benefit of the resident (for education) and the patients (for optimal care) to maintain some flexibility in scheduling clinical activities, particularly when some subspecialty services are busy and/or understaffed relative to other CT services.

There are a number of required additional skills that CT residents must acquire during their training. Residents cannot be assigned to a non-surgical service during the chief year. With this in mind, time must be identified jointly by the resident and the faculty for obtaining training in cardiac catheterization (adult and pediatric), cardiac imaging, CPB (perfusion), advanced endoscopic techniques, endovascular stenting, pulmonary function, and esophageal function.

It is important that your experiences in these subspecialty areas be recorded by observation/participation, date, and patient name/MRN.

Example rotations for the standard resident for AY2018-2019 are:

	Year 1			
Period	8/1/18 – 10/31/18	11/1/18 – 1/31/19	2/1/19 – 4/30/19	5/1/19 – 7/30/19
Location	UC	NS	UC	NS
Service	UCThor	NSCard/NSThor	CC/UCCard	NSCard/NSThor
Exposure	Pulmonary function; robotic basics	Cardiopulmonary bypass	Heart catheterization Echocardiography	

	Year 2			
Period	8/1/18 – 10/31/18	11/1/18 – 1/31/19	2/1/19 – 4/30/19	5/1/19 – 7/30/19
Location	NS	UC	NS	UC
Service	NSCard/NSThor	UCCard	NSCard/NSThor	UCThor
Exposure		Pacemaker		Advanced EGD Advanced bronchoscopy Esophageal function

	Year 3			
Period	8/1/18 – 10/31/18	11/1/18 – 1/31/19	2/1/19 – 4/30/19	5/1/19 – 7/30/19
Location	UC	UC	UC	UC/Lurie
Service	UCCard	UCCard	UCThor	UCCard
Exposure				Endovascular stenting, congenital

Rotations for the thoracic track resident for AY2017-2018 are:

	Year 1			
Period	8/1/18 – 10/31/18	11/1/18 – 1/31/19	2/1/19 – 4/30/19	5/1/19 – 7/30/19

Location	UC	NS	UC	NS
Service	UCThor	NSCard/NSThor	UCCard/CC	NSCard/NSThor
Exposure	Pulmonary function	Cardiopulmonary bypass	Heart catheterization Echocardiography Pacemaker	

	Year 2			
Period	8/1/18 – 10/31/18	11/1/18 – 1/31/19	2/1/19 – 4/30/19	5/1/19 – 7/30/19
Location	NS	UC	NS	UC
Service	NSCard/NSThor	UCThor	NSCard/NSThor	UCThor
Exposure		Esophageal function		Advanced EGD Advanced bronchoscopy

	Year 3			
Period	8/1/18 – 10/31/18	11/1/18 – 1/31/19	2/1/19 – 4/30/19	5/1/19 – 7/30/19
Location	UC	UC	UC	UC/Lurie
Service	UCCard	UCThor	UCThor	UCCard
Exposure				Endovascular graft, congenital

V. SUPPORT SERVICES

A. The UCMC has a dedicated Office of Housestaff Affairs (2-6760; AMB B126) which coordinates many of the administrative needs of residents throughout the institution. The UCMC has a Graduate Medical Education Committee, which meets on a regular basis to review programs and address any issues with the sponsored training programs, both accredited and non-accredited. UCMC supports the resident stipends and benefits, such as health insurance and other standard benefits.
http://www.uchospitals.edu/professionals/gme/resources.html
http://www.uchospitals.edu/pdf/uch_008665.pdf

B. The UCMC provides the Housestaff Help Line (4-3627), a dedicated service set up through the Call Center to assist housestaff in reaching needed services (e.g., linen, food service, transportation, etc.) that are otherwise not responding to calls. The operator has the authority to contact the Hospital Administrator on Call if the resolution of the issue is not facilitated promptly.

C. The UCMC helps maintain a 24/7 Housestaff Duty Hours Resource Hotline (1-877-440-5480), which is a toll-free, anonymous way for housestaff to ask a question or report a concern about the ACGME resident duty hours requirement.

D. The UCMC Office of Housestaff Affairs coordinates the "Make It Easier Committee," a forum for hospital administration and housestaff to come together, discuss, and resolve issues relating to the training programs.

E. The UCMC provides counseling and psychological support services through Perspectives, a program established to assist individuals experiencing personal problems that may require professional help such as marital, family, financial, legal problems and/or addiction to alcohol or drugs. The program is free, confidential, and open to residents. The program offers assessment, referral, and follow-up support. In addition, the Physician's Assistance Committee (773-702-6302; Dr. Gottlieb, Committee Chair) and Perspectives (1-800-456-6327) are available to assist physicians, including residents, whose ability to practice medicine is impaired due to alcohol and/or drug abuse or psychiatric disability The Committee will assist the impaired physician to enter into treatment voluntarily without legal recourse and help the physician to return to active patient care. To access online, contact Work Life Online at www.perspectivesltd.com. The username is UCH001 and the password is perspectives. . The residents can also email Resident Health Initiative at resident.health@uchospitals.edu for healthcare appointments. There is also a chaplain on campus, Rev. Marsha Summer, M.Div., BCC (773-702-3467). If you are in need of an ombudsperson, you can reach out to Diane Altkorn, MD (daltkorn@medicine.bsd.uchicago.edu) or Steven Zagan, MD (szangan@radiology.bsd.uchicago.edu).
Other resources:

- ACGME's Wellbeing Portal : http://ACGME.org/What-We-Do/Initiatives/Physician-Well-Being/Resources
- Burnout Indicator Quiz: https://www.stepsforward.org/modules/physician-burnout-survey

F. The UCMC offers eight Lactation Lounges throughout the facility that are relaxing and tastefully designed, especially for our nursing mothers. These lounges also have the convenience to store milk up to 24 hours in a cooler bag with ice pack. Pump pieces/parts are also sold in Lori's gift shop in Mitchell Lobby. Learn more at https://goo.gl/y6uZFa

G. We have established procedures for handling residents' complaints and grievances that are in keeping with requirements of the ACGME. The UCMC has a formal Housestaff Grievance Procedure, which is detailed in the Housestaff Handbook distributed to all housestaff members on an annual basis.

H. The UCMC also supports programs by conducting periodic internal program reviews and providing formal feedback to the Program Directors. The UCMC and University work closely regarding the appointment of teaching faculty, and each faculty member's clinical privileges are reviewed and evaluated on a recurring schedule.

I. Resident Forum: The Resident Forum is a forum for hospital administration and residents/fellows to discuss and resolve issues of patient care and the physical environment related to patient care. The meetings are open to all residents/fellows and are held bimonthly on Tuesday at 5:00 PM in J-103. A calendar of dates is available in the GME office (J-141).

VI. WORK HOURS AND VACATION

The following guidelines, consistent with the ACGME's Common Program Requirements, delineate the policy that the University of Chicago Cardiothoracic Surgery Residency Training Program adheres to, effective July 1, 2010. The Program Director, faculty, and trainees will make every effort to maintain strict compliance with these guidelines. This policy is disseminated yearly to all program faculty and staff.

Please note that these guidelines are not intended to supersede or replace any existing UCMC absence policy or applicable state and federal laws. Refer to the UCMC GME Handbook for guidelines regarding **personal leave of absences, paid medical leave, FMLA, bereavement leave,** and **civil leave**.

A. Work Hours - Cardiothoracic Surgery is a demanding specialty and requires long hours of hard work. However, the University of Chicago Cardiothoracic Surgery Residency Program is committed to and does adhere to the ACGME resident work hours rules. Residents spend up to an average of 80 hours per week in the provision of clinical duties within the hospital. No in-house call is required, but it is understood that residents will occasionally stay late to care for critically ill patients or participate in operations. There is a 30-hour limit on continuous duty allowed for each resident. The residents should inform the faculty of their hour limitations, and they will be excused from further duty. The resident must go home and have at least an 8-hour period of rest off-call from the hospital.

   While it is desirable that residents in their final years of education have eight hours free of duty between scheduled duty periods, there may be circumstances when these residents must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty. Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by residents in their final years of education must be monitored by the program director. Such circumstances are defined as: required continuity of care for a severely ill or unstable patient, or a complex patient with whom the resident has been involved; events of exceptional educational value; or, humanistic attention to the needs of a patient or family.

   Residents are given one (24 hrs) day off (with no duty requirements) per 7 days of work, averaged over a four-week period. If at any time the resident feels overly stressed or is unable to perform the assigned duties, he is encouraged to contact the program director who will take appropriate measures. Residents are required to post their hours of clinical activity weekly on an on-line internet-based site, MedHub, for periodic review.

B. Vacation – CT residents are allowed 20 working days of paid vacation each contract year per GME guidelines. Working days do not include Saturdays, Sundays, or public legal holidays. Fellow vacation requests reviewed and considered for approval by the program director using a variety of factors, including but not limited to service coverage, holiday schedules, and conflicts with program activities. Only one fellow is allowed on vacation at any given time. Time away for interviews, time over the allotted time away for scholarly activities, etc. are considered vacation time, and as such, follow the same procedures for requesting time away. Vacation time not used during a given contract year cannot be carried over to the following year. Vacation time does not accrue during a leave of absence.
   a. Procedures: All vacation requests must be submitted in advance via the MedHub platform and in writing (via email) to the program director and program coordinator.

C. Sick Leave – CT residents are allotted up to five calendar days of paid sick leave available to fellows who are absent from work and unable to perform their assigned duties due to personal illness each contract year per GME guidelines. Sick leave may not be used for vacation time. Sick time not used during a given contract year cannot be carried over to the following year. Sick leave does not accrue during a leave of absence.
    a. Procedures: All absences due to sickness or injury must be reported promptly to the program director, appropriate members of the care team, and recorded online via the MedHub platform.

D. Educational and Scholarly Time Away – Fellows are allotted up to ten working days (including working travel days) each contract year for **both educational time away and scholarly time away**. Time away for attendance at the TSDA boot camp is excluded from the educational and scholarly activity time away limit.
    a. Educational Time Away is defined as an annual meeting, conference, or industry-sponsored educational activity at which the fellow is not a presenting author of scholarly activity.
    b. Scholarly Time Away is defined as a fellow presenting original research (e.g., poster presentation, scholarly article presentation) at an eligible annual meeting or conference. The primary purpose of scholarly time away is to present your work. If you intend to stay for the entire duration of the meeting, please note that in your request. Eligible meetings and annual conferences include:
        i. AATS - American Association for Thoracic Surgery
        ii. AACP - American College of Chest Physicians
        iii. ACS – American College of Surgeons
        iv. AHA – American Heart Association
        v. ASCO - American Society of Clinical Oncology
        vi. ATS - American Thoracic Society
        vii. GTSC - General Thoracic Surgical Club
        viii. IASLC - International Association for the Study of Lung Cancer (when in North America)
        ix. ISHLT – International Society for Heart and Lung Transplantation (when in North America)
        x. ISMICS - Innovation, Technologies, and Techniques in Cardiothoracic and Cardiovascular/Vascular Surgery (when in North America)
        xi. STS – Society of Thoracic Surgeons
        xii. STSA - Southern Thoracic Surgical Association
        xiii. WTSA - Western Thoracic Surgical Association
    c. Additions to the eligible meetings and annual conference list for scholarly time away may be made to the eligible list at the program director's discretion. Under unusual circumstances only, exceptions may be granted to add additional approved time away for educational or scholarly activity at the program director's discretion.
    d. Procedure: All educational and scholarly time away requests must be submitted in advance via the MedHub platform and in writing (via email) to the program director and program coordinator.

VII. EVALUATION PROCESS

The CT resident is involved in two separate evaluation processes. These include the evaluation of the resident (an evaluation of the resident's performance with regards to the six ACGME competencies) and the resident's evaluation of the University of Chicago Cardiothoracic Residency training experience. Evaluations are performed on line using MedHub. Notification of the need for evaluations will be made via e-mail. All evaluation forms are available for review on the Shared Drive.

A. CT resident evaluation – The cardiothoracic residency at the University of Chicago has incorporated the ACGME six competencies and Milestones into its evaluation process. At the end of this handout is an outline of the six ACGME competencies and how they are assessed (see below). We feel it is critical to educate residents regarding these six competencies, which will be the foundation for the maintenance certification throughout the rest of their professional carriers. An evaluation form (see appendix A) is completed quarterly by attending surgeons on the CT resident's rotation for that quarter. Additional evaluations are performed by physician extenders and other individuals the residents interact with frequently, including other trainees and patients. At the end of each quarter, the Program Director and Program Coordinator review all of the evaluations with the resident. At the end of each academic year a more formal review of each resident is performed and reviewed with the resident. When appropriate, corrective counseling and/or a remedial plan of study are provided. The individual and consensus evaluations are available for review by the resident at any time.

B. Program evaluation – The program director informally solicits recommendations and critiques from the residents on a regular basis regarding their training experience and, when appropriate, tries to correct problems or deficiencies. Each resident is asked to fill out a formal evaluation of the cardiothoracic surgery residency program and the faculty members quarterly using an online internet-based system, MedHub, which preserves the confidentiality of the information and the anonymity of the CT resident (see below). These are reviewed annually by the faculty and assessments and recommendations are made. Periodically a faculty member not associated with the CT training program will solicit feedback from CT residents to ensure that they have an opportunity to provide anonymous commentary. This information is anonymized before being shared with the Program Director.

   In addition, the ACGME surveys residents annually regarding their institution and programs, and residents are required to participate in these surveys. The results of these surveys are not available to the program because of the small size of the program. Instead, they are combined with data from all other programs prior to being made available.

VIII. PROMOTION/GRADUATION OF THORACIC RESIDENTS

The Program Director will meet with the residents at least once every three months to review their performance during that time period. The CT faculty will have individually evaluated the resident with respect to the six competencies (as defined by the ACGME) and their progress towards milestones. The Clinical Competency Committee (CCC) will evaluate resident's progress and current status and report these findings and their recommendations for advancement/remediation to the Program Director annually. The evaluations and recommendations will be summarized for the resident by the Program Director. All evaluations are made available to the CT residents.

When the results are available, the Program Director will provide feedback to the CT resident regarding their performance on the In-Training Exam (ITE).

Promotion to the next year of training without the need for a remedial program will require:

1. Satisfactory evaluations in the six ACGME competencies (grade 3 or above).
2. Satisfactory progress towards Milestones
3. Acquisition of technical proficiency in the tasks outlined in "Objectives & Goals" as judged by a consensus of the CT faculty.

AND

4. ITE scores above the 25th percentile in both Cardiac and Thoracic sections

Failure to achieve these benchmarks will result in a below average evaluation and trigger an educational intervention. This may vary from simple corrective counseling for a mild deficiency to a formal warning with a remedial educational program for a severe deficiency.

Graduation is contingent upon similar criteria:

1. Satisfactory evaluations in the six ACGME competencies (grade 3 or above)
2. Satisfactory achievement of Milestones
3. Acquisition of technical proficiency in the tasks outlined in "Objectives & Goals" as judged by a consensus of the CT faculty
4. Satisfactory completion of any remedial program

AND

5. Judgment by the faculty and Program Director that the resident has the ability to practice cardiothoracic surgery competently and independently.

Failure to meet these benchmarks at the conclusion of residency training will result in the recommendation that the resident not sit for the Thoracic Surgery Board examination and will likely be encouraged to seek additional training.

IX. SUPERVISORY LINES OF RESPONSIBILITY

It is important that the CT residents understand the appropriate chain of command. The hierarchy is as follows:

Chair of Surgery (UCMC) - provides administrative and fiscal supervision to all UCMC surgical sections including the Section of Cardiac and Thoracic Surgery.

Chiefs of the Sections of Cardiac and Thoracic Surgery (UCMC) - administrative and fiscal supervision for all UCMC CT faculty and programs. They report to the UCMC Chair of Surgery.

Chair of Surgery (NUH) - provides administrative and fiscal supervision to all NUH surgical services including the Cardiothoracic Surgery Service.

CT Service Chief (NUH) - administrative and fiscal supervision for all NUH CT faculty and programs. Reports to the NUH Chair of Surgery.

Program Director: Oversees educational aspects of the Cardiothoracic Surgery Residency. Reports to the UCMC Associate Dean for Graduate Medical Education.

Cardiothoracic Residents - responsible for running the specific clinical service on which they are rotating. They will supervise surgical residents, non-physician providers, and nurses in the provision of care to patients on the CT services. The CT resident will also see new consults in the hospital as well as new outpatients and postoperative follow-up patients in the outpatient clinic. The CT resident is supervised in all clinical care arenas by the appropriate subspecialty faculty. They are also responsible for attending/participating in assigned lectures and conferences as well as the self-education curriculum that has been provided to them. Each CT resident is encouraged to participate in clinical research as allowed by their duty schedule. Reports to the Faculty and the Program Director.

General Surgery Resident - responsible for providing care under the direct supervision of the CT resident and Faculty. They will perform simple tasks and be responsible for writing orders and patient notes as directed. They may also supervise and assist medical students in these tasks. Reports to the CT resident, Faculty, and Program Director.

Non-Physician Practitioners (PA, ANP, CNS) - although these personnel are employees of the hospital, they work directly with the CT residents and are supervised by the faculty. They provide direct care and will assist the Ct residents and General Surgery residents in the provision of care on the floor, in the operating room, and in the ICU. The NPPs may also supervise junior residents and medical students in the performance of simple healthcare tasks.

Medical students - are responsible primarily for becoming educated regarding CT surgery. They have no supervisory responsibility.

X. GENERAL GUIDELINES AND INFORMATION

1. The CT resident is responsible for making rounds with the attending surgeons and to coordinate the time and frequency of these clinical rounds.

2. Decisions for admission and discharge of patients may be initiated by the CT resident, who should obtain the consent of the attending physician prior to actual admission or discharge. No resident should refuse any admission, transfer, or consultation without first discussing it with the attending physician and obtaining his/her agreement.

3. Elective surgical cases are scheduled by each attending surgeon’s staff, including NPPs and clerical staff.

4. Residents are expected to make two formal rounds every weekday and at least one set of rounds each Saturday and Sunday. These rounds are conducted by the most senior resident on the service, who should take the opportunity to teach other residents and students when appropriate. Critical patients should be seen more than twice daily and according to their needs.

5. Operative notes are dictated immediately after surgery by the attending surgeon.

6. Residents should have completed rounds and be in the operating room by 7:30 AM (8:30 AM Wednesdays at UCMC) for scheduled surgery.

7. All patients must have a daily progress note in the chart written by a resident or a physician extender. Medical student notes are not legal substitutes for resident notes.

8. Consultations are seen by the CTs residents or their designee on the day they are received, and the information is presented to the attending physician in a timely fashion.

9. Consultations from the ER department are seen by the CT residents or their designee ASAP, and the information is presented to the attending physician in a timely fashion.

10. Each CT resident is responsible for completing their own monthly operative log using the Section of Cardiac and Thoracic Surgery database and for maintaining this in ABTS format available on the ACGME website. This must be kept up to date each month.

11. The CT residents are expected to maintain a time logs in accordance with the 80-hour work schedule, conference attendance logs, consult logs, outpatient clinic activity logs, and simulation training logs on a weekly basis using the online internet-based system MedHub so the Program Director can periodically review their status.

12. CT residents are not allowed to moonlight or take part-time work during clinical rotations. Moonlighting is permitted during vacations, as long as the Program Director is notified prior to the fact. Work hours for moonlighting must be logged and work hour restrictions apply.

13. Resident is responsible for keeping their pagers in good working order; any malfunction is to be reported to the Program Director's secretary.

14. Residents are required to obtain a license to practice medicine in Illinois. They are responsible for the renewal of any temporary license and for their state and federal drug licenses, both of which can be coordinated through the University of Chicago Medicine Office of Housestaff Affairs.

15. Residents are expected to contact the American Board of Thoracic Surgery (ABTS) at the beginning of each year informing the Board of their current address and residency level. They are also expected to write the ABTS within one month of the end of their residency and request an application for the examination process.

16. Senior residents are encouraged to discuss long-term plans for employment and/or training with the attending staff and to seek their assistance in preparation for the Boards.

17. White coats and laundry service are provided by the Section.

18. Residents are required to provide their own loupes for use in the operating room; without loupes, resident participation in the OR may be limited to assistant status only. Headlights are provided by the Department.

19. Internet Availability – In their administrative office and the hospitals, CT residents have computer access to educational sites on the Internet including general search engines, PubMed, and both the TSDA and CTSNet websites. This access is available 24 hours a day.

20. For the UC Cardiac Surgery Rotation

a. Fellows are expected to be prepared for the case that they will be scrubbing into. This includes recognition of the patient's issues (including a review of the chart and relevant data and imaging), knowledge of the relevant pathophysiology, understanding of potential operative strategies and the conduct of the operation, anticipation of potential perioperative complications, and planning of focused management of the patient post-operatively.

b. The fellow on the Cardiac Surgery rotation (Brian for this month) will decide/assign cases for all trainees (residents, fellows, advanced fellows) on the service the day before.

c. The fellow/resident assigned to the case will prepare as above and initiate contact with the attending surgeon. This can be in the form of an email or a phone call. This will be a standard expectation for trainees. The communication should consist of a brief outline of the patient's pertinent issues, and plans for the surgery "if I were to do it." This includes pre/peri-operative preparations, anesthesia/perfusion considerations, operative approach, cardiopulmonary bypass strategy, operative technique, and potential post-op issues.

d. If the communication is not initiated/performed by the trainee, there may be a reduction/limitation of the technical aspects of the procedure that the trainee is allowed to perform, given the uncertainty of preparation to provide optimal care for the patient.

21. For the UC Thoracic Rotation

a. A daily schedule will be circulated the day prior that indicates individual responsibilities for the trainees and PAs.

b. Any schedule changes should be discussed with relevant parties to ensure adequate coverage for workflow.

XII. ORGANIZATION OF RESIDENT REPRESENTATIVES OF THE AAMC STATEMENT OF PROFESSIONAL RESPONSIBILITIES

Graduate Medical Education is a particularly critical time in the professional development of physicians. During this period of training, resident physicians are responsible for providing care to patients, participating in the education of medical students and other residents, engaging in scholarly activities, and serving as stewards for their own education. In carrying out these varied responsibilities, residents must adhere to the tenets of medical professionalism. Since medical practice is changing in ways that challenge those fundamental tenets, there are calls from both within and outside the profession for a renewed focus on professionalism in medicine. In keeping with this spirit, this statement affirms the responsibilities that residents have in their varied roles as caregivers, teachers, learners, and colleagues. For each of these roles, resident physicians must be trustworthy and truthful throughout and demonstrate unfailing integrity.

Our primary obligation is to the care of patients. Resident physicians must be compassionate and empathetic in caring for patients, and act at all times with integrity, honesty, respect for patients' privacy and their personal dignity.

Residents must strive continually to gather knowledge and must always evidence intellectual honesty. We must share our knowledge of medicine freely, and provide clinical instruction with diligence, patience, and respect for those entrusted to us.

Resident physicians must recognize and accept the limitations in our knowledge of medicine and clinical skills and must be committed to continuous improvement through diligent study and life-long learning.

We must acknowledge and respect the roles of other health care professionals and staff working in the institutions in which we train, and be committed to working collaboratively with them. We must be dutiful in fulfilling our institutional obligations, as well as our contractual duties, as they impact patients and colleagues.

Important to the roles residents fulfill, we must be certain to attend to the following:

Caregivers

- Provide the best healthcare available with regard to prevention, diagnosis, and treatment.
- Serve as the primary advocate for our patients.
- Encourage patients to actively participate in their own care.
- Demonstrate awareness and sensitivity to patient diversity.
- Provide compassionate support to patients and their families.

Teachers

- Promote the intellectual progress of peers, junior residents, and medical students.
- Approach all available teaching opportunities enthusiastically and constructively.
- Assess self and others fairly and objectively.
- Educate patients to make informed medical decisions.
- Provide community education and leadership.

Learners

- Remain current with advances in medical knowledge.
- Develop lifelong learning skills.
- Appreciate the social, economic, and political factors impacting healthcare.
- Utilize a balanced array of educational resources.
- Cultivate an ability to critically assess the literature.

Colleagues

- Respect the unique roles and viewpoints of other healthcare professionals.
- Foster a supportive environment for fellow residents.
- Prevent personal conflicts from interfering with patient care.
- Recognize the impact of one's personal and professional behavior on colleagues.
- Identify colleagues in need of personal assistance.

(Adopted September 23, 1998)

XIII. ETHICAL CONSIDERATIONS REGARDING INTERACTIONS OF RESIDENTS WITH VENDORS AND REPRESENTATIVES FROM INDUSTRY

A physician must intend to serve the best interest of the patient. Application of this basic principle to achieve ethically sound conclusions and right actions requires careful thought, and this is certainly true in the matter of dealings with the pharmaceutical industry.

In formulating appropriate policies and procedures, the Section of Cardiac and Thoracic Surgery must take several authorities into account. First, we are bound by the **University of Chicago Medical Center** regulations concerning interactions with vendors (a category that includes pharmaceutical representatives). Of particular merit, the **AATS and STS** have jointly issued standards for ethical behavior with regards to interactions with industry.

Relations between cardiothoracic surgeons and industry.
Mack MJ, Sade RM; American Association for Thoracic Surgery Ethics Committee; Society of Thoracic Surgeons Standards and Ethics Committee.
J Thorac Cardiovasc Surg. 2009 May;137(5):1047-9

https://www.ncbi.nlm.nih.gov/pubmed/19379964?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSumhttp://www.ncbi.nlm.nih.gov/pubmed/19379964?ordinalpos=4&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Relations between cardiothoracic surgeons and industry.
Mack MJ, Sade RM; American Association for Thoracic Surgery Ethics Committee; Society of Thoracic Surgeons Standards and Ethics Committee.
Ann Thorac Surg. 2009 May;87(5):1334-6.

http://www.ncbi.nlm.nih.gov/pubmed/19379860?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSumhttp://www.ncbi.nlm.nih.gov/pubmed/19379860?ordinalpos=5&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum

Moreover, we are obligated to observe relevant principles of medical ethics, as formulated by the **Council on Ethical and Judicial Affairs of the American Medical Association**.

https://www.ama-assn.org/about-us/council-ethical-judicial-affairs-ceja

Finally, the **Office of the Inspector General** issued a lengthy advisory opinion in May 2003 entitled, “Compliance Program Guidance for Pharmaceutical Manufacturers” indicating its specific intention to scrutinize the potential for conflicts of interest in the interactions of physicians and pharmaceutical companies, with regard to anti-kickback statutes. This is available at the following website:

oig.hhs.gov/fraud/docs/complianceguidance/042803pharmacymfgnonfr.pdf

These four authorities (UCH, AATS/STS, AMA, and OIG) do not always provide a consistent guide, but they are a necessary starting point for any discussion. Several particular applications of the relevant ethical and regulatory guidelines are discussed in Section XVI.

XIV. ACGME OUTCOME PROJECT

GENERAL COMPETENCIES

Our program is designed to produce motivated, educated, and caring cardiothoracic surgeons who are clinically and technically skilled, and to imbue them with a desire for lifelong learning through self-education. The training program is carefully designed to provide to the CT residents graded operative and other clinical experiences that are appropriate to their level of training. Activity during first-year rotations focuses on common disease processes that form the bulk of cardiothoracic clinical practices and which require basic rather than advanced surgical judgment and skills. During subsequent rotations, the training focuses on the development of more advanced clinical judgment and surgical skills.

Training objectives are listed by service and year of training, and are labeled according to ACGME competencies using the following abbreviations:
PC - patient care
MK – medical knowledge
PBLI – practice-based learning and improvement
ICS – interpersonal communication skills
P – professionalism
SBP – systems-based practice

Adult Cardiac Surgery
Year 1 objectives:

- Learn to appropriately interpret echocardiograms, electrocardiograms, and angiograms performed for adult cardiovascular diseases (MK).
- Demonstrate the ability to cannulate adult patients for cardiopulmonary bypass in a standard manner, institute cardiopulmonary bypass, and wean patients from bypass; understand the mechanisms and physiology of perfusion in adult patients (MK, ICS).
- Manage adult patients postoperatively including the use of ventilators, cardiovascular drugs, and intraaortic balloon pump (PC, P, SBP).
- Learn techniques of organ harvest and preservation for heart transplantation (MK).
- Understand techniques of adult cardiac catheterization (MK, PBLI).
- Work effectively with physician extenders, perfusionists, and other professional personnel (ICS).
- Communicate effectively with consulting and referring physicians (ICS, SBP).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

Year 2 objectives:

- Learn to perform valve replacement and annuloplasty operations (MK).
- Learn techniques of adult heart transplantation (MK, PC).
- Perform coronary artery bypass operations on previously unoperated patients using a variety of conduits including vein grafts, internal mammary artery, and radial artery (MK, PBLI).
- Demonstrate the ability to insert and manage support devices such as pacemakers and defibrillators (MK, PC).
-
- Work effectively with physician extenders, perfusionists, and other professional personnel (ICS).
- Understand cost-effective practices (SBP).

- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

Year 3 objectives:
- Demonstrate knowledge of valve repair techniques (MK, PBLI).
- Perform coronary artery bypass operations on previously operated patients using a variety of conduits including vein grafts, internal mammary artery, and radial artery (MK, PBLI).
- Demonstrate knowledge of insertion techniques and management of ventricular assist devices (MK, PBLI, PC).
- Exhibit the ability to manage disorders of the aorta including dissection and aneurysm (MK, PC, PBLI).
- Learn techniques of off-pump bypass operations (MK, PC).
- Work effectively with physician extenders, perfusionists, and other professional personnel (ICS).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Function as a chief resident with the attendant administrative duties of this role (PBLI, ICS, P).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

<u>Pediatric Cardiac Surgery</u>
Year 2 and 3 objectives:
- Learn to appropriately interpret echocardiograms, electrocardiograms, angiograms, CT/MRI performed for pediatric cardiovascular diseases (MK, PBLI, PC).
- Demonstrate the ability to cannulate pediatric patients for cardiopulmonary bypass in a standard manner, institute cardiopulmonary bypass, and wean patients from bypass (MK, PBLI, ICS).
- Understand the mechanisms and physiology of perfusion in pediatric patients (MK).
- Perform ASD closure, uncomplicated VSD closure, and PDA ligation (MK, PBLI, PC).
- Demonstrate ability to insert and manage support devices such as pacemakers (MK, PBLI, PC).
- Understand techniques of pediatric cardiac catheterization (MK, PBLI).
- Work effectively with physician extenders, perfusionists, and other professional personnel (ICS).
- Communicate effectively with consulting and referring physicians (ICS, SBP).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).
- Learn techniques for insertion and management of ECMO devices (MK, PBLI, PC).
- Demonstrate knowledge of staged management of disorders requiring PA banding and shunting (MK, PBLI).
- Manage aortic coarctation (MK, PC, PBLI).
- Learn physiology and techniques for managing tetralogy of Fallot and other defects of intermediate complexity (MK, PBLI, PC).
- Demonstrate ability to manage complex congenital disorders such as transposition (MK, PBLI, PC).
- Participate in decision making for operative and non-operative strategies for treatment of the

full range of cardiac abnormalities in neonates, infants and children (MK, PC, PBLI).

Thoracic Surgery

Year 1 objectives

- Learn to interpret CT scans, PET scans, and chest MRI (MK, PBLI, PC).
- Learn to interpret pulmonary function test results and their relationship to surgical risk (MK, PBLI).
- Perform basic thoracoscopic operations (MK, PC).
- Demonstrate knowledge of staging systems and staging techniques for thoracic malignancies (MK, PBLI).
- Perform diagnostic bronchoscopy, esophagoscopy, and mediastinoscopy (MK, PC).
- Demonstrate knowledge of a variety of thoracotomy approaches to Intrathoracic disease (MK, PBLI, PC).
- Manage postoperative issues including thoracostomy tubes, ventilators, and analgesic techniques (MK, PC).
- Demonstrate the ability to manage pleural space problems such as effusion and empyema (MK, PC, PBLI).
- Work effectively with physician extenders and other professional personnel (ICS).
- Communicate effectively with consulting and referring physicians (ICS, SBP).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

Year 2 objectives:

- Perform therapeutic bronchoscopy and esophagoscopy for obstruction and bleeding including placement of stents and use of lasers (MK, PBLI, PC).
- Perform standard major lung resections (MK, PC, PBLI).
- Perform standard operations for benign esophageal disease including fundoplication and myotomy (MK, PC, PBLI).
- Demonstrate the ability to manage mediastinal diseases including thymoma, cysts, and other masses (MK, PBLI, PC).
- Perform transthoracic and transhiatal esophagectomy accompanied by standard reconstructive techniques (MK, PC, PBLI).
- Work effectively with physician extenders and other professional personnel (ICS).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

Year 3 objectives:

- Ability to perform complex lung resection procedures including bronchoplasty, arterioplasty, management of superior sulcus tumors, and en bloc chest wall resection and reconstruction (MK, PC, PBLI).
- Demonstrate knowledge of techniques for lung resection after induction chemotherapy and radiation therapy and management of residual space problems (MK, PBLI).
- Understanding of complex esophageal reconstructive techniques (MK, PC).
- Work effectively with physician extenders and other professional personnel (ICS).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).

- Function as a chief resident with the attendant administrative duties of this role (PBLI, ICS, P).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

Transplantation

Year 1 objectives:

- Learn to identify appropriate transplant recipients (MK, PBLI).
- Learn to evaluate potential donors for transplantation (MK, PBLI).
- Learn to manage immunosuppression for transplant recipients (MK, PBLI, PC).
- Learn to interpret signs of acute and chronic organ rejection (MK, PBLI, PC).
- Learn techniques of organ harvest and preservation for transplantation (MK, PBLI).
- Work effectively with physician extenders, perfusionists, and other professional personnel (ICS).
- Communicate effectively with consulting and referring physicians (ICS, SBP).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

Year 2 and 3 objectives:

- Perform donor organ harvest (MK).
- Perform organ transplantation (MK, PC).
- Learn techniques for pediatric organ harvest, preservation, and transplantation (MK, PBLI).
- Work effectively with physician extenders, perfusionists, and other professional personnel (ICS).
- Understand cost-effective practices (SBP).
- Critique personal performance with the goal of constant improvement (PBLI, P, SBP).
- Demonstrate respect for all patients regardless of age, gender, culture, race, ethnicity, or sexual preference (P).
- Demonstrate respect for patients' privacy needs (P).

Simulation objectives (years 1-3):

Robotic training: including introductory course

- Develop foundational knowledge of Da Vinci surgery systems. (MK)
- Understand set up & positioning demands for operative procedures with above. (PC, MK, SBP, ICS)
- Application of minimally invasive surgical skills to robotic-assisted systems. (PC, MK)
- Initial console skills and instrument integration knowledge (PC)
- Discuss case selection, risk assessment and limitations of robotic-assisted systems (MK, SBP, PBLI)

Bronchoscopy/interventional bronchoscopy & advanced Per-Op Airway Management

- Develop a routine for flexible bronchoscopic assessment in surgical patients (PC, MK)
- Review anatomical variations and pitfalls in bronchoscopy (MK, PBLI)
- Discuss principles, risks, and benefits of interventional modalities (MK, PBLI)
- Critically appraise airway management during thoracic resections (MK, PC, SBP, ICS)
- Practice double lumen tube and blocker placement and ventilation (PC, MK)

Cardiac surgical simulation essentials for <u>all trainees</u>

- Review principles and practice skills for vascular anastomoses (PC)
- Perform proximal and distal coronary anastomosis (Lab setting) (PC)
- Discuss and practice Aortic Valve Replacement in Wet Lab (Pig Heart Model) (PC, MK, PBLI, ICS)
- Discuss and practice Mitral Valve Replacement in Wet Lab (Pig Heart Model) (PC, MK, PBLI, ICS)

Hemodynamic modules for <u>all trainees</u>

- Understand principles and practical aspects of Intra Aortic Balloon Counterpulsation (IABP). (PC, MK, SBP, ICS)
- Understand principles and practical aspects of Extra Corporeal Membrane Oxygenation (ECMO). (PC, MK, SBP, ICS)

Complex Heart Failure Surgery Modules for <u>all trainees</u>

- Review indications and options for Ventricular Assist Devices (LVAD, RVAD and Biventricular systems) (MK, SBP)
- Understand surgical basics of implant, management, and troubleshooting. (PC, MK, SBP, PBLI, ICS)

<u>Specialty experiences</u> objectives (various years)

Cardiopulmonary bypass

- Understand basic pump set up and function (PC, MK)
- Understand how to troubleshoot problems (MK, PBLI, ICS)
- Develop skill in communicating with the surgeon and other personnel (ICS, PBLI, SBP)
- Understand physiologic monitoring (MK)
- Gain knowledge of potential complications (MK, PBLI, SBP)

Pulmonary function

- Understand indications and contraindications (MK)
- Understand the basic equipment and its function (PC, MK)
- Understand the utility of different types of testing (MK)
- Understand the interpretation of results and their clinical application (PC, MK, SBP)

Cardiac catheterization

- Understand indications and contraindications (MK)
- Understand equipment and techniques (MK, PC)
- Understand the utility of different components of evaluation (MK)
- Understand interpretation of findings and their utility in patient management (MK, SBP)
- Understand methods of intervention (MK, PC)
- Understand complications and their management (MK, PBLI, SBP, P)
- Understand the role of PCI in the overall management of CAD (PC, SBP)

Echocardiography

- Understand indications and contraindications (MK)
- Understand equipment and techniques (MK, PC)
- Understand the utility of different components of evaluation (MK)
- Understand complications and their management (MK, PBLI, SBP, P)
- Understand interpretation of findings and their utility in patient management (MK, SBP)

Advanced bronchoscopy and EBUS

- Understand indications and contraindications (MK)
- Understand equipment and techniques (MK, PC)
- Understand the utility of different components of evaluation (MK)
- Understand interpretation of findings and their utility in patient management (MK, SBP)
- Understand methods of intervention (PC, MK)
- Understand complications and their management (MK, PBLI, SBP, P)

Advanced upper endoscopy and EUS
- Understand indications and contraindications (MK)
- Understand equipment and techniques (MK, PC)
- Understand the utility of different components of evaluation (MK)
- Understand interpretation of findings and their utility in patient management (MK, SBP)
- Understand methods of intervention (PC, MK)
- Understand complications and their management (MK, PBLI, SBP, P)

Esophageal function
- Understand indications and contraindications (MK)
- Understand equipment and techniques (MK, PC)
- Understand the utility of different components of evaluation (MK)
- Understand interpretation of findings and their utility in patient management (MK, SBP)

Endovascular grafting
- Understand indications and contraindications (MK)
- Understand equipment and techniques (MK, PC)
- Understand complications and their management (MK, PBLI, SBP, P)
- Understand the role of endovascular grafting in the overall management of vascular disease (MK, SBP, ICS)

XVII. Sections of Cardiac and Thoracic Surgery Policies and Procedures

The following policies and procedures are developed to be consistent with and supplement existing University of Chicago Medical Center policies and procedures. In case of conflict, the UCMC policies and procedures supersede the policies and procedures herein.

Policy 1. Resident duty hours

Policy: 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 relative to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled activities such as conferences. Duty hours do not include reading and preparation time spent away from the duty site.

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

Residents must be provided with 1 day in 7 free from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, educational, and administrative activities.

Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.

Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. In-house call must occur no more frequently than every third night, averaged over a 30-day period.

Residents may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care. No new patients may be accepted after 24 hours of continuous duty.

The frequency of at-home call is not subject to the every third-night limitation. However, at home call must not be so frequent as to preclude rest and reasonable personal time for each resident.

Residents taking at-home call must be provided with 1 day in 7 completely free from all educational and clinical responsibilities, averaged over a 4-week period. When residents are called into the hospital from home, the hours residents spend in-house are counted toward the 80-hour limit.

Procedure: It is the responsibility of the resident, the attending staff, and the Program Director to individually and collectively monitor duty hours of the resident and ensure that these duty hour restrictions are met. The program director and the faculty must monitor the demands of at-home call in their programs and make scheduling adjustments as necessary to mitigate excessive service demands and/or fatigue. The resident and Program Director must attest in writing on a monthly basis that the duty hour restrictions have been met.

Policy 2. Resident Supervision

Policy: The attending surgeon (or in his/her absence his/her designee) is the primary responsible party for the care of the patient and has both ethical and legal responsibility for such care. Every patient is assigned an attending surgeon, and each resident is participating in the care of that patient is under the direct supervision of the attending surgeon. Residents are under the direct supervision of attending surgeons throughout the duration of their training. Decisions for surgical patient care are based on a hierarchical construct of the resident team. Junior residents check

their decision making with CT residents and CT residents check their decision making with attending surgeons. Any resident, regardless of the level of training, may at any time and is encouraged to seek the advice of the attending surgeon. Residents must be supervised in such a way that leads to their assuming progressively increased responsibility for patient care according to their level of training, ability, and experience. Their level of responsibility is determined by the attending surgeon.

Procedure: Supervision may consist of observation, consultation or personal assistance. Supervision may occur in person by the responsible attending surgeon or, in certain instances, directly via other forms of communication. The attending surgeon must be readily available at all times. On-call schedules for residents and attending staff must be structured to ensure that supervision is readily available to residents while on duty and is regularly published and accessible. Supervision of residents performing procedures or other patient care must be documented. Residents are supervised during the critical components of all operative procedures. The physical presence of the attending surgeon still allows for progressive and independent function by the CT resident. In the event an emergency situation arises in which immediate care including appropriate invasive intervention are necessary to either preserve life or prevent significant deterioration of the patient's condition, any resident shall be permitted to perform such care or interventions deemed medically necessary and within the scope of his/her capability. The attending surgeon should be contacted as soon as is feasible and the resident will document the care provided and that the attending surgeon was notified.

The program recognizes and supports the concept and importance of graded and progressive responsibility based on demonstrated knowledge and competence. The policy reflects ACGME Common and Program Requirements for Cardiothoracic Surgery as well as applicable Joint Commission standards and institutional GMEC policy.

Policy

Program staff and residents will receive written descriptions of supervisory lines of responsibility for the care of patients.

Levels of supervision will be designated according to the following classifications:

- Direct Supervision: A supervising physician is physically present with the resident and patient and is prepared to provide patient care if/as needed;

- Indirect Supervision with Direct Supervision Immediately Available: A supervising physician is physically within the hospital or another site of patient care, and is immediately available to provide Direct Supervision;

- Indirect Supervision with Direct Supervision Available: A supervising physician is not physically present within the hospital or another site of patient care, but is immediately available via telephone or other electronic modalities and is available to ensure that Direct Supervision is provided if/as needed;

- Oversight: A supervising physician is available to provide a review of procedures/encounters with feedback provided after care is delivered.

Residents will be authorized by the Program Director to provide clinical care after careful observation and determination of the ability to perform technical and interpretive procedures and to manage patients.

Determination will be based upon objective assessment in all competency domains. In addition, the level of autonomy for a resident is determined in a graded manner to provide for gradually increased levels of responsibility.

At a minimum, residents are expected to communicate in a timely manner with their supervising faculty regarding the following clinical situations:

Inpatient setting

1) A significant change in clinical status of a patient (ex. physiologic changes requiring substantial change in patient's prognosis or plan of care)
2) Any change in the patient's service assignment or level of care (e.g. transfer to the ICU)
3) Upon the patient's death
4) Any patient request (or family request) to speak to the supervising attending
5) Any new admission
6) Any new inpatient consult
7) Any important change in an existing inpatient consult's condition that might affect management recommendations.

8) Any decision to remove a diagnostic or monitoring catheter or support device

Outpatient setting

1) Any request for transfer of a patient from an outside facility
2) Substantial patient complaints
3) Unruly patient or family member
4) Any decision to remove an indwelling drainage tube

Surgical setting

1) Surgical site discrepancies
2) Consent form discrepancies
3) Preoperative patient's questions about procedure/operative plan
4) Surgical equipment malfunction
5) Intraoperative allergic/anaphylactic reaction
6) Retained instrument/sponge
7) Intraoperative anesthetic complication

Setting/ Location	Activity/ Procedure	Direct	Indirect (Direct Available Immediately)	Indirect (Direct Available)	Oversight
OR/Procedure Rooms	Diagnostic bronchoscopy/esophagoscopy		X		
	Insertion of central line / arterial line		X		
	Insertion of chest tube		X		
	Insertion of femoral artery / vein guidewire		X		
Special Units (ex: ICU)	Emergency bronchoscopy/ esophagoscopy			X	
	Thoracentesis			X	
	Insertion of mini-tracheostomy			X	
	Insertion of chest tube			X	
	Dressing change (wound VAC)				X
	Insertion of IABP			X	
	Emergency sternotomy/thoracotomy			X	
	Chest tube/Pleurx/G tube/J tube removal			X	

	ECMO cannulation		X		
	Percutaneous tracheostomy			X	
	Pericardiocentesis			X	
	Temporary transvenous pacemaker			X	
	Emergency cricothyroidotomy/tracheostomy			X	
	Central line/arterial line			X	
Emergency Dept.	Insertion of chest tube			X	
	Central line/arterial line			X	
	Thoracentesis			X	
	Emergent thoracotomy			X	
	Bronchoscopy/esophagoscopy			X	
	Temporary transvenous pacemaker			X	
	Emergency cricothyroidotomy/ tracheostomy			X	
Inpatient Unit(s)	Insertion of chest tube			X	
	Thoracentesis			X	
	Dressing change (wound VAC)				X
	Chest tube/Pleurx/G tube/J tube removal				X
Ambulatory Clinic(s)	Thoracentesis			X	
	Dressing change (wound VAC)				X
	Chest tube/Pleurx/G tube/J tube removal				X

Policy 3. Resident Participation in Operative Procedures

Policy: Residents must have the opportunity to: provide preoperative management, including the selection and timing of operative intervention; select appropriate operative procedures; perform essential parts of a patient's operation; provide postoperative management of thoracic and cardiovascular patients.

Procedure: To enable CT residents to be able to claim credit for performing an operation, they are required to satisfy four criteria:

1) perform a preoperative assessment of patients (including a review of relevant history, the performance of a focused physical examination, and review of preoperative studies) and write a preoperative note detailing the product of this work;

2) perform the technical portions of the operations that constitute the essential parts of the operation;
3) participate in the postoperative care of that patient; and
4) be supervised by the responsible attending staff.
5) residents must document and keep their case logs up to date on a monthly basis utilizing the tracking mechanism provided by the program director and following the case requirement list. (see attachments A and B)

Residents perform the technical manipulations that constitute the essential parts of operations according to the level of complexity of the operation and their own technical skill, as judged by the attending surgeon.

Policy 4. Transitions of Care

Purpose

The term "Transition of Care" addresses the transfer of information, authority, and responsibility to ensure continuity and safety for a patient. ACGME has charged both sponsoring institutions and individual programs with designing clinical assignments to minimize the number of transitions in patient care as well as to ensure that residents are competent in communicating with team members in the hand-over process. Language and processes described in this policy are intended:

(1) To ensure continuity of care and patient safety while minimizing the number of transitions;
(2) To describe the process by which (a) resident-to-resident transitions, (b) resident to other personnel transitions and (c) oversight by faculty will occur; and
(3) To facilitate effective communication among all individuals or teams with responsibility for patient care.

Policy

Clinical assignments will be designed to minimize the potential for errors and ineffective communication regarding an individual patient's current status and intended care delivery over the subsequent management period. Whenever possible, transitions will occur at a uniform daily time to minimize confusion.

A checklist developed to ensure appropriate communication of relevant information will be utilized to assure complete and accurate resident-to-resident patient transitions. At a minimum, elements of the checklist include:

- Patient name
- Age
- Room or another location number
- Patient ID number
- Name and contact number for responsible resident and attending physician
- Pertinent diagnoses
- Relevant allergies
- Pending critical laboratory and imaging studies
- Overnight (or next period) care issues with a 'to do' list including follow up on laboratory and imaging studies

- Resuscitation status
- Other items appropriate for the particular situation

A structured face-to-face, phone-to-phone, or secure intra-hospital electronic communication will occur for each patient care transition. At a minimum, this process will incorporate a process for interactive questions. All communication will be provided in a manner consistent with protecting patient confidentiality.

Faculty oversight of the transition process will occur directly or indirectly, depending upon resident level, experience and documented ability to conclude an effective transition.

The program will undertake a periodic assessment of transitions of care effectiveness. In addition, continuous monitoring of residents' knowledge, application, and effective communication while engaging in transition activities will occur.

Policy 5. Advancement to the subsequent year of training

Policy: A CT resident is not advanced to the next year of training until he/she demonstrates the satisfactory progression of scholarship and professional growth.

Procedure: A CT resident is not advanced to the next year of training until he achieves all of the following:

1) satisfactory evaluations in the six ACGME competencies (grade 3 or better) in his performance evaluation
2) a satisfactory score on the in-service training examination (>25th percentile)
3) acquisition of technical proficiency in the tasks outlined in learning objectives and goals as judged by a consensus of the CT faculty.

Failure to meet these goals will necessitate remedial education and training, as appropriate.

Policy 6: Completion of accredited training in good standing

Policy: Residents will be considered to have completed the training program successfully and in good standing when they have demonstrated sufficient professional ability to practice competently and independently.

Procedure: A CT resident is considered to have completed the training program successfully and in good standing when he demonstrates satisfactory scholarship and professional achievement as evidenced by all of the following:

1) satisfactory evaluations in the six ACGME competencies (grade 3 or above) in performance evaluations his final year of training (see below)
2) a satisfactory score on the in-service training examination (>25th percentile) taken during his final year of training
3) acquisition of technical proficiency in the tasks outlined in the learning objectives and goals as judged by a consensus of the CT faculty.
4) acquisition of satisfactory case numbers and distribution commensurate with expectations established by the Residency and Review Committee for Thoracic Surgery.

The program director provides a final evaluation for each resident who completes the program, which includes a review of the resident's performance during the final period of education. It should verify that the resident has demonstrated sufficient professional ability to practice competently and independently. The final evaluation will be part of the resident's permanent

record maintained by the University of Chicago Hospitals Graduate Medical Education Committee.

Skills and competencies for graduating residents

To qualify for graduation from the residency program and be recommended to sit for the Thoracic Surgery Boards, trainees must be capable of practicing cardiothoracic surgery independently and competently, in a safe and effective manner as judged by the Program Director and Core Faculty. They must also exhibit satisfactory evaluations in the six ACGME competencies listed below, and satisfactorily complete any remedial program that has been assigned.

Medical knowledge

- Understands anatomy and physiology, knows diagnostic tests and their interpretation, understands treatment options and their outcomes, and knows complications and their management for the following: ischemic heart disease; cardiopulmonary bypass, myocardial protection, mechanical circulatory support; valve disease; great vessel disease; congenital heart disease; end-stage cardiopulmonary disease; esophagus; lung and airway; chest wall, pleura, mediastinum; critical care.

Patient care and technical skills

- Establishes diagnostic and assessment plans selects treatment options, manages disease manifestations operatively, and manages postoperative complications for the following: ischemic heart disease; cardiopulmonary bypass, myocardial protection, mechanical circulatory support; valve disease; great vessel disease; esophagus; lung and airway; chest wall, pleura, mediastinum; critical care.

Professionalism

- Analyzes and manages ethical issues
- Develops care plans that are patient-centered
- Recognizes and manages physician impairment in self and colleagues
- Balances interests of self and others to optimize medical care

Interpersonal and communication skills

- Manages conflict and develops working relationships
- Organizes and leads team approaches to care
- Effectively and ethically uses multiple forms of communication regarding patients

Systems-based practice

- Analyzes performance to reduce errors and improve outcomes
- Leads team by promoting communication among members
- Conducts quality improvement conferences to improve patient safety
- Practices cost-effective care
- Understands resources and time frame needed to establish and conduct a practice

Practice-based learning and improvement

- Improves outcomes through self-assessment and database participation

- Exhibits ability for self-directed life-long learning
- Understands mechanism to pose and answer research questions
- Able to organize educational activities within the program

Policy 7. Moonlighting

Moonlighting is not permitted while assigned to active participation on a clinical service.

Moonlighting is permitted while residents are on personal vacation time. The Program Director must be notified of any planned moonlighting activities prior to the resident engaging in them. If moonlighting activity occurs, those hours must be logged and will be considered part of the 80 hour work week requirements.

Policy 8. Expense Policies and Procedures

Fellow Educational Funds

- **Policy**
  - Each fellow will be allocated a **$3,000 educational fund** each contract year for eligible educational expenditures.
  - These funds are intended for eligible expenditures* related to attendance at **one annual conference or meeting** (i.e., travel, registration, meals), **annual membership dues for professional associations**, and miscellaneous eligible expenses* that have exceeded industry-sponsored events/activities.
  - Educational funds not used during a given contract year cannot be carried over to the following year.
  - The Section will reimburse eligible expenses* related to attendance at TSDA Boot Camp and other any additional training required or approved by the program director and financial administrator.

Scholarly Activity Funds

- **Policy**
  - The Section encourages participation in scholarly activity, and as such, will reimburse for eligible expenses* related to these activities.
  - In addition to eligible expenses* as outlined below, the Section will reimburse fellows for two night's accommodation (one night prior to and the night of) a presentation at an annual conference or meeting.
  - Please note that for scholarly activity, the Section will reimburse only for eligible conferences or annual meetings as listed in the time away policy.
  - International travel will be reimbursed under rare circumstances only subject to approval by the program director and financial administrator.

*Reimbursement Eligible Expenses for Official Travel

- Conference/annual meeting registration fees
- Transportation to and from the destination for eligible official travel
  - Commercial air travel (coach fare only) and one standard checked bag. Fellows are expected to secure the lowest reasonable airfare possible.

    - Personal automobile travel when deemed the most economical and reasonable mode of transportation. Reimbursement will not exceed the total cost of round-trip coach airfare to and from the nearest commercial airport serving the destination. Mileage will be reimbursement will not include the normal distance to travel to the employee's worksite and will be reimbursed at the current IRS rate for the dates of travel. Reasonable parking expenses will be reimbursed if traveling using a personal automobile.
- Local transportation
    - Costs of public transportation, reasonable airport shuttles, taxis, and rideshare services (i.e., Uber or Lyft) are acceptable for service to and from the airport. Original receipts should be submitted with the travel expense report.
- Lodging
    - Hotel rooms (single-room only) must be booked using the discounted rate for conference/annual meeting attendees. Otherwise, the fellow may select a cheaper alternative for accommodations.
- Meals
    - Reimbursement for meals during official travel is limited to **$50 per day**. Legible, original **itemized receipts and a credit card signed receipt** should accompany the travel expense report.

Non-Reimbursable Expenses

- Rental cars
- Alcoholic beverages
- Incidental expenses of a personal nature (e.g., magazines, movies, spa fees, etc.).
- Early check-in or seat upgrades for flights

Procedures

- Expense reports must be **submitted to the program coordinator for reimbursement within thirty days** of occurring an eligible education expense or returning from a trip. Expenses received later than thirty days of expenditure may not be eligible for reimbursement.
- All expenses require an original itemized receipt. The Section does not reimburse on a per diem basis. Reimbursement is based on actual expenses incurred.
- Fellows may inquire with the program coordinator regarding the status of their education fund balance throughout the course of the contract year.