ARIZONA CENTER FOR ENDOSCOPIC SURGERY

Program Policy Manual
# Table of Contents

**Introduction** ............................................................................................................................ viii

**Section 1 – The Basics** .............................................................................................................. 2

- Office / Administrative ............................................................................................................. 2
- Office ........................................................................................................................................ 2
- Phone/Pager .............................................................................................................................. 2
- Email ......................................................................................................................................... 2
- Campus Mail/Inbox ................................................................................................................... 2
- Lockers and Scrubs ................................................................................................................... 2
- University of Arizona Identification Card ............................................................................... 3
- Banner – University Medical Center Photo ID Badge & Parking Permit ............................... 3
- Lab Coats .................................................................................................................................... 3
- Vacation / Sick Time ................................................................................................................ 3
- Holiday Schedule ..................................................................................................................... 4

**Section 2 – Program Overview** ................................................................................................. 6

- Program Purpose ..................................................................................................................... 6
- Fellow Selection Policy ............................................................................................................ 6
  - Purpose .................................................................................................................................. 6
  - Policy ...................................................................................................................................... 6
  - Eligibility Requirements ........................................................................................................ 7
  - Licensure Requirements and Information ............................................................................ 7
  - Fellow Selection .................................................................................................................... 7
  - Procedure .............................................................................................................................. 8
- Program Director / Teaching Staff / Support Personnel .............................................................. 8
  - Program Director .................................................................................................................... 8
  - Teaching Staff ....................................................................................................................... 9
  - Support Personnel ................................................................................................................ 9
- PREVIOUS Fellows ................................................................................................................... 10
- Educational Components ......................................................................................................... 11
  - General Competencies ......................................................................................................... 11
- Objectives .................................................................................................................................. 12
- Research and Scholarly Activity ............................................................................................... 12
  - Research & Publications ....................................................................................................... 13
  - Video Recording .................................................................................................................... 13
Data Collection .......................................................................................................................... 13
Teaching / Learning Activities ................................................................................................. 15
Didactics ................................................................................................................................... 15
MIS Indications Conference ....................................................................................................... 15
Morbidity and Mortality Conference (M&M) ......................................................................... 15
Surgery Grand Rounds ................................................................................................................ 15
Journal Club ............................................................................................................................... 16
Responsibilities of the Surgery R2 ......................................................................................... 16
Call Schedule ............................................................................................................................. 16
Didactic Educational Sessions Required .................................................................................. 16
Case Logs .................................................................................................................................. 16
Academic Conferences .............................................................................................................. 16
Evaluation Plan ......................................................................................................................... 17
Completion of Fellowship .......................................................................................................... 17
Protocols and IRBs ..................................................................................................................... 17
Human Subjects Training ........................................................................................................... 18
IACUC Training & Certification ................................................................................................. 18
Section 3 – Supplemental Certifications ................................................................................ 20
SAGES Certification of Fellowship Training .......................................................................... 20
ASMBS Certificate of Acknowledgement ................................................................................. 20
da Vinci© Residency & Fellowship Training Certificate ......................................................... 22
Section 4 – MIS Policies and Procedures ............................................................................... 25
General ...................................................................................................................................... 25
General Responsibilities for all Surgical Residents ............................................................... 25
Call Schedule ............................................................................................................................. 27
MIS Weekly Clinic and OR Schedule ....................................................................................... 27
Didactic Conferences ................................................................................................................ 28
MIS Indications Conference ..................................................................................................... 28
Mortality and Morbidity Conference ........................................................................................ 29
Responsibilities of the MIS Fellow .......................................................................................... 29
Responsibilities of the Surgery R2 ........................................................................................... 31
Teaching Responsibilities – All Residents .............................................................................. 32
Operating Room Responsibilities ............................................................................................. 33
Preoperative Evaluation ............................................................................................................. 33
Intraoperative/Postoperative Responsibilities ......................................................................... 33
Fellow ....................................................................................................................................... 33
All Residents ............................................................................................................................... 33
Surgery Outpatient Clinic ......................................................................................................... 34
Section 5 – MIS Activities ................................................................. 36

ACES Residency Training Course ............................................................................ 36

Program Overview ........................................................................................................ 36

Program Description ...................................................................................................... 36

Curriculum & Protocol ................................................................................................. 37

Laparoscopic Skills Training Program ....................................................................... 38

Program Overview ........................................................................................................ 38

Appendix 1 - The Fellowship Council Core Curriculum for Advanced GI Surgery .......... 40

Appendix 2 - The Fellowship Council Advanced GI Surgery Curriculum for Minimally Invasive Surgery ...... 46

Appendix 3 - MIS Didactic Lecture Topics ............................................................... 69

Appendix 4 – Fellowship Council Case Log System ................................................. 71

Bundled Cases .............................................................................................................. 71

Not Bundled ................................................................................................................ 71

Surgeon Role Guidelines ............................................................................................. 72

Appendix 5 – Contact Information and Resources ..................................................... 74

Contacts ....................................................................................................................... 74

Tucson Campus Map .................................................................................................. 75

South Campus Map ...................................................................................................... 76

Cat Tran Shuttle Map .................................................................................................. 77

Request for Time Off .................................................................................................. 78

Travel Authorization ................................................................................................... 79
INTRODUCTION

Welcome to the Arizona Center for Endoscopic Surgery (ACES) Clinical Fellowship Program in Advanced GI/MIS at The University of Arizona, College of Medicine. The following guidelines, policies, and basic information have been compiled to help familiarize you with the Division of General Surgery / Minimally Invasive & Robotic Surgery (MIS) and The University of Arizona as a whole.

Section 1 will provide an overview of the basic information you will need before you start your program and serve as a reference for any administrative questions that may arise during your fellowship. While we have tried to include as much information as possible, you may still have questions. Feel free to ask the members of your team if anything should come up.

Section 2 offers a comprehensive description of the ACES Clinical Fellowship Program and the activities and expectations that you will encounter during your fellowship.

Section 3 will provide you with information on the supplemental certificates offered at during and at the conclusion of your fellowship training.

Section 4 will detail the MIS Service Policies & Procedures which establishes our expectations of your participation while on this service including your responsibilities as a fellow and your weekly schedule.

Section 5 will go into further detail about two of the activities within the Section of MIS: the ACES Residency Training Course and the Laparoscopic Skills Training Program which is conducted once per week in the Arizona Simulation Training & Education Center (ASTEC).

The Appendices will provide additional detailed information about the curriculum, lecture topics, logging cases and contact information you may find useful during your fellowship.

Faculty

Iman Ghaderi, MD, MSc, FRCSC, FACS
Assistant Professor of Surgery
Program Director, ACES Clinical Fellowship

Lilah Morris-Wiseman, MD
Assistant Professor of Surgery
Associate Program Director, ACES Clinical Fellowship

Program Manager
Melissa M. Carton
Division Manager, General Surgery
SECTION 1

The Basics
SECTION 1 – THE BASICS

OFFICE / ADMINISTRATIVE

Office
The Section of Minimally Invasive & Robotic Surgery (MIS) is located within the Department of Surgery, College of Medicine at the University of Arizona. The physical address is 1501 N. Campbell Avenue, Tucson, AZ 85724. Our offices are currently located on the 4th floor of the College of Medicine:

- Room 4334E: Dr. Iman Ghaderi, Program Director
- Room 4327: Dr. Lilah Morris-Wiseman, Associate Program Director
- Room 4402: Melissa Carton, Program Manager
- Room 4402K: Postdoctoral Research Fellow
- Room 4402K: Clinical Fellow

Phone/Pager
The MIS Clinical Fellow will receive the outgoing fellow's pager while on service (pager number 4076). New batteries may be obtained from the MIS administrative office. The office phone number for the clinical fellow is (520) 626-8006.

Email
The College of Medicine will be notified in advance of any new employee and will assign a department email address to you. Your Program Manager will let you know when the account has been established and what the correct address will be.

Campus Mail/Inbox
Your primary campus mailing address is:

University of Arizona College of Medicine
Division of General Surgery / Minimally Invasive & Robotic Surgery
1501 N. Campbell Avenue
PO Box 245066
Tucson, AZ 85724-5066

Lockers and Scrubs
A request for your locker in the OR will be submitted by your Program Manager prior to your arrival. You will need to fill out a form for scrub access which can be completed and submitted to your Program Manager prior to your arrival.
University of Arizona Identification Card

Upon your arrival at the University of Arizona and after your New Hire paperwork has been entered into the system, you may obtain a CatCard. Your CatCard identifies you as a student, staff, or faculty member on the University of Arizona campus. To obtain a CatCard, visit the CatCard office located in the Student Union Building on Main Campus. You will need to bring a government or state issued photo identification card such as a driver’s license with you. Faculty and staff are issued their first CatCard free of charge; however, there is a $25 replacement fee for lost or stolen cards.

Address
UA CatCard Office
Student Union Room 142
1303 E. University Blvd
Tucson, AZ  85721
(520) 626-9162

Office Hours
Monday, Tuesday, Thursday, Friday: 8 am – 5 pm
Wednesday: 9 am – 5 pm
Closed Saturday & Sunday

Banner – University Medical Center Photo ID Badge & Parking Permit

New faculty members must have Medical Staff privileges at Banner – University Medical Center before they can obtain a badge and parking permit. After Security has been notified about the new faculty member, they will take their ID to BUMC Security; photo is taken for BUMC security badge; badge provides access to BUMC parking garage, Operating room, and other areas as designated by new attending.

Lab Coats
Lab coats will be ordered for you through the department prior to your arrival. Your Program Manager will contact you to confirm the correct size and name as it should appear on your lab coat.

VACATION / SICK TIME

All requests for time off must be submitted in writing at least 2 weeks before your anticipated day off (if possible). Requests are submitted to your Program Director for approval.

Time away for attendance at conferences does not count towards vacation time.
The following are University of Arizona Holiday Closure dates. Please note that these dates do not always reflect closure dates for BUMC clinics. The dates in **bold** indicate campus-wide (both University and Hospital) closures.

**ACADEMIC YEAR 2017 – 2018**

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence Day</td>
<td>Tuesday, July 4, 2017</td>
</tr>
<tr>
<td>Labor day</td>
<td>Monday, September 4, 2017</td>
</tr>
<tr>
<td>Veterans Day</td>
<td>Friday, November 10, 2017</td>
</tr>
<tr>
<td>Thanksgiving</td>
<td>Thursday, November 23, 2017 (only)</td>
</tr>
<tr>
<td></td>
<td>Friday, November 24, 2017</td>
</tr>
<tr>
<td>Christmas</td>
<td>Monday, December 25, 2017</td>
</tr>
<tr>
<td></td>
<td><strong>Tuesday, December 26, 2017 (only)</strong></td>
</tr>
<tr>
<td>University Closure*</td>
<td>December 27-29, 2017 (3 days)</td>
</tr>
<tr>
<td>New Year’s Day</td>
<td>Monday, January 1, 2018</td>
</tr>
<tr>
<td>Dr. Martin Luther King, Jr. Day</td>
<td>Monday, January 15, 2018</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>Monday, May 28, 2018</td>
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</tbody>
</table>
SECTION 2

Program Overview
SECTION 2 – PROGRAM OVERVIEW

PROGRAM PURPOSE

As part of a major academic medical center, the Arizona Center for Endoscopic Surgery (ACES) excels in training, research and clinical programs. Our dual purpose is to train those who will provide top quality patient care and academic leadership in minimally invasive and robotic surgery. Applicants must have an interest in developing advanced skills in minimally invasive, robotic and flexible endoscopy, as well as acquiring experience in management of morbid obesity and foregut diseases.

The overall purpose of this program is to train surgeons interested in an academic career in minimally invasive and bariatric surgery. This program is expected to dramatically improve the quality of education to surgical residents and medical students, to improve the efficiency of teaching laparoscopic surgical skills, to decrease the time it takes to conduct simple laparoscopic operations at Banner – University Medical Center Tucson Campus and Banner – University Medical Center South Campus, to reduce the cost of laparoscopic surgery, and to develop a new structured curriculum for training surgical-residents in a laboratory setting.

FELLOW SELECTION POLICY

Purpose

To outline eligibility and selection criteria for the University of Arizona, Arizona Center for Endoscopic Surgery (ACES) Advanced Gastrointestinal (GI)/Minimally Invasive Surgery (MIS) Clinical Fellowship.

Policy

Fellows will be selected in a fair and nondiscriminatory manner in accordance with the Equal Opportunities Act. The selection process may vary according to institution. Each program must make the details of the process known to applicants. During the selection process, applicants should be made familiar with the faculty’s experience, ongoing research, publications, and potential conflicts of interest (as defined by ACGME standards). It is essential that applicants have the opportunity to meet and question current fellows in the absence of the program director, faculty, and staff. If requested, a list of previous fellows with their current positions and contact information should be made available to applicants. Ultimately, selection of a fellow by an institution (and vice versa) will be done with use of a computerized matching program with logic identical to that of the National Resident Matching Program used by the Association of American Medical Colleges. The Communications Committee will oversee this matching program. (Fellowship Council Program Guidelines: Section II. Program Requirements for Fellowships in Surgery, Part G. Selection Process)

This program is for any individual who has completed 5 years in a general surgery residency (United States or Canada). Applicants must have an interest in developing advanced skills in minimally invasive, robotic and bariatric surgical techniques, as well as acquiring experience in the medical management of morbid obesity. Applicants must be proficient in written and spoken English.

Candidates must have also graduated from a Liaison Committee on Medical Education (LCME) accredited medical school, a Commission on Osteopathic College Accreditation (COCA) accredited medical school or possess certification from the Educational Commission for Foreign Medical Graduates (ECFMG).
ACES currently offers one Fellowship position, which is matched through the Fellowship Council Match System. Applications are submitted and reviewed on the Council’s website at www.fellowshipcouncil.org. Applicants that meet the following criteria will be considered.

**Eligibility Requirements**

<table>
<thead>
<tr>
<th>Citizenship and Visa Requirements</th>
<th>Medical School Requirements</th>
<th>Examinations and Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Citizens</td>
<td>We ONLY accept graduates of U.S. or Canadian Medical Schools</td>
<td>Applicants <strong>must</strong> have passed the USMLE/COMLEX Step 1, 2, &amp; 3 exams</td>
</tr>
<tr>
<td>US Permanent Residents (Green Card)</td>
<td></td>
<td>Applicants <strong>must</strong> have passed the USMLE/COMLEX Step 1 &amp; 2 exams or the Medical Council of Canada Evaluation Exam (MCCEE)</td>
</tr>
<tr>
<td>Canadian Citizens</td>
<td></td>
<td>Applicants <strong>must</strong> have had 2 years of prior training in an ACGME accredited residency or fellowship (or Canadian equivalent)</td>
</tr>
<tr>
<td>Canadian Permanent Residents</td>
<td></td>
<td>Applicants who are ABS or Canadian Board Eligible or Certified</td>
</tr>
</tbody>
</table>

**Licensure Requirements and Information**

One fellow will be appointed each year as a Clinical Instructor in the Department of Surgery, College of Medicine. Privileges as an Attending Surgeon must be obtained at Banner – University Medical Center once an Arizona medical license is obtained. Fellows must be eligible and receive an Arizona unrestricted medical license prior to the intended start date. For more information about the Arizona Medical Board, please visit their website at http://www.azmd.gov

Fellow Selection

The University of Arizona and ACES Advanced GI/MIS Clinical Fellowship program is an equal opportunity employer which considers applicants without regard to sex, race, religion, age, disability, national origin, ethnicity, or veteran status.

The Program Director and Associate Program Director of the ACES Clinical Fellowship rank each applicant based on the following:

- The eligibility requirements as set forth above.
- The applicant’s performance on the ABSITEs
- Letters of recommendation
- Publications and Research
- The applicant’s interviews with assessment of medical knowledge, interpersonal and communication skills, motivation, integrity, and fit to the program.

Non-eligible graduates will not be considered for the fellowship program.
Procedure
The ACES program requires the following documentation for application to the fellowship:

- Completed electronic application on the Fellowship Council website
- Curriculum Vitae and Personal Statement
- USMLE scores, Steps 1 & 2 (CK & CS) and Step 3
- Transcripts (if available)
- Three letters of recommendation
- Evidence of research activity
- Medical School Diploma (copy)
- ECFMG Certificate (if applicable)

PROGRAM DIRECTOR / TEACHING STAFF / SUPPORT PERSONNEL

Program Director
A single program director must be responsible for the fellowship program.

Qualifications of the Program Director
The program director must be a surgeon who is qualified to supervise and to educate fellows in the broad field of the fellowship’s focus and must meet requirements similar to those required of program directors of ACGME-approved general surgery training programs. The director must be recognized nationally or regionally by his or her peers as a leader in some facet of the area of the program’s focus. Specifically, the program director must:

- Be certified by the American Board of Surgery (ABS) or have equivalent qualifications.
- Have an appointment in good standing to the medical staff of the institution sponsoring the fellowship program.
- Be licensed to practice medicine in the state in which the sponsoring institution is located.
- Maintain a cooperative working relationship with the director of the general surgery residency program (where one exists) and/or all other ACGME approved/ABMS- or Royal College of Physicians & Surgeons of Canada- recognized surgical training programs.
- Be a member in good standing of at least one of the constituent societies.
- Must have a minimum of two years’ experience, post training.
- Must have published in a peer reviewed journal or presented at a national or regional meeting.
- Demonstrated experience and/or expertise in teaching residents, fellows, or post graduate surgeons on a regional, national or international level.

Responsibilities of the Program Director
It is the responsibility of the program director to support the fellowship program by devoting his or her efforts to its management and administration. The director is also expected to be an active and recognized participant in the institution’s clinical and educational programs. This general responsibility includes the following specific activities:
• Preparation of a written statement: to include an outline of the goals of the fellowship program with respect to knowledge, skills, and other attributes, a narrative description of the fellowship, including details of fellows’ involvement in clinical, research, teaching, and administrative activities, and a description of the relationship between the fellowship and the general surgery residency program. This statement must be made available to fellows, general surgery residents, the director of the general surgery residency program, and members of the teaching staff.

• Selection of fellows for the program in accordance with institutional and departmental policies and procedures.

• Selection and supervision of the teaching staff and other program personnel at each institution participating in the program.

• Supervision of fellows through explicit written descriptions of supervisory lines of responsibility for the care of patients. Such guidelines must be communicated to all members of the fellowship program staff and to the general surgery staff and residents. Fellows must be provided with prompt, reliable systems for communicating and interacting with supervising physicians.

• Organization and supervision of the research activities of fellows.

• Organization and supervision of fellows’ participation in conferences and other educational activities, and oversight of implementation of the fellowship curriculum.

• Organization and supervision of fellows’ interaction with general surgery residents at the educational, research, administrative, and patient care levels.

• Implementation of fair procedures, as established by the sponsoring institution, regarding academic discipline complaints and grievances.

• Monitoring of fellows’ stress level, including monitoring for mental and emotional conditions inhibiting job performance and for drug- or alcohol-related dysfunction. The program director and teaching staff should be sensitive to the need, where applicable, for timely provision of confidential counseling and psychological support services to fellows. Training situations that consistently produce undesirable stress on fellows must be evaluated and modified.

• Oversight of accurate tabulation and recording of operative logs by surgical fellows in the Fellowship Council case log system.

• Notification in writing to the Membership and Accreditation Committees if there is change in Program Director and/or a significant change in the faculty complement for the fellowship. Programs must submit a formal letter to the Fellowship Council office.

**Teaching Staff**
Other than the program director, additional teaching staff with documented qualifications and a commitment to instruct and supervise fellows must be available.

**Support Personnel**
The fellowship program is provided with the professional, technical, and clerical personnel needed for it to function smoothly and effectively.
PREVIOUS FELLOWS

2016 - 2017

SHAWN FU, MD
Residency: University of Massachusetts
Fellowship: University of Arizona

2015 - 2016

MATTHEW E. APEL, MD
Residency: University of Arizona
Fellowship: University of Arizona
Current Position: Blossom Medical Group, Las Vegas, Nevada

2014 - 2015

HANY M. TAKLA, MD
Residency: University of Massachusetts
Fellowship: University of Arizona
Current Position: Tufts University, Boston, Massachusetts

2013 - 2014

NEENA K. SINGH, MD
Residency: Cooper University Hospital
Fellowship: University of Arizona
Current Position: Pottstown Medical Center, Pottstown, Pennsylvania

2012 - 2013

WANDA M. GOOD, DO
Residency: UMDNJ
Fellowship: University of Arizona
Current Position: Yakima Regional Medical and Cardiac Center, Yakima, Washington

2011 - 2012

AMIT KAUL, MD, MS
Residency: Johns Hopkins University School of Medicine
Fellowship: University of Arizona
Current Position: Head Bariatric Surgeon, NMC Hospital Group, Dubai
EDUCATIONAL COMPONENTS

General Competencies
Fellows must become competent in the following six areas at the level expected of a surgery practitioner. Training programs must define the specific knowledge, skills, and attitudes required and provide the educational experience for fellows to demonstrate:

Patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Specifically, fellows must:
- Demonstrate manual dexterity appropriate for their training level.
- Be able to develop and execute patient care plans

Knowledge about established and evolving issues in biomedical and clinical sciences and application of this knowledge to patient care.

Specifically, fellows are expected to:
- Critically evaluate and demonstrate knowledge of pertinent scientific information.

Practice-based learning and improvement that involve investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.

Specifically, fellows are expected to:
- Critique personal practice outcomes.
- Demonstrate recognition of the importance of lifelong learning in surgical practice.

Interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.

Specifically, fellows are expected to:
- Communicate effectively with other health professionals.
- Counsel and educate patients and families.
- Effectively document practice activities.

Professionalism, as manifested by a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

Specifically, fellows are expected to:
- Maintain high standards of ethical behavior.
- Demonstrate a commitment to continuity of patient care.
- Demonstrate sensitivity to age, race, gender, and culture of patients and other health care professionals.

Systems-based practice as manifested by actions that demonstrate an awareness of and response to the larger context and system of health care and effectively call on system resources to provide optimal care.
Specifically, fellows are expected to:

- Practice high-quality, cost-effective patient care.
- Demonstrate knowledge of risk-benefit analysis.
- Demonstrate an understanding of the role of different specialists and other health care professionals in overall patient management.

**OBJECTIVES**

This fellowship program has three main objectives: 1) To develop proficiency in operative skills in the area of advanced laparoscopic and robotic surgery, 2) To obtain ability to teach laparoscopic operative skills to surgical residents and 3) To develop research skills in the area of upper GI surgery.

Graduates of this program are expected to be able to carry out advanced laparoscopic operations independently, to develop and manage a center of minimally invasive and bariatric surgery, and to teach the fundamental and advanced laparoscopic skills. Fellows are also expected to graduate as a certified robotic surgeon.

The curriculum is designed to provide the fellow with the opportunity to attain proficiency in patient selection, pre and postoperative care, operative skills, and perioperative care of patients undergoing minimally invasive procedures.

The fellow’s training experience will be spent primarily in general, upper GI and bariatric surgery procedures such as paraesophageal hernia repair and fundoplication, revisional foregut surgery, Heller myotomy, primary bariatric (gastric bypass, sleeve gastrectomy) and revisional procedures, inguinal hernia, complex ventral hernia, solid organ surgery, and diagnostic and therapeutic flexible endoscopy.

The fellow will also be taught basic and advanced robotic surgical skills in a stepwise fashion in order to master its application in general surgery cases such as incisional and inguinal hernia. In addition, the fellow will be exposed to the fundamentals of esophageal physiology, high resolution manometry 24 hour pH/impedance monitoring and Bravo pH.

**RESEARCH AND SCHOLARLY ACTIVITY**

Scholarly activity will include at least some of the following:

- Active participation of the teaching staff in regular clinical rounds, and conferences in a manner that promotes inquiry and scholarship. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal conditions and the application of current knowledge, techniques and technology to clinical practice.
- A leadership role in journal clubs and research rounds/conferences with an emphasis on the fellowship’s area of focus.
- Active participation in regional and national professional and scientific societies, particularly through presentations at the organizations’ meetings and publication in their journals.
- Active participation in basic science and/or clinical investigations, particularly in projects with peer reviewed funding and those that result in presentation and publication at regional and national scientific meetings.

*See Appendix 1: The Fellowship Council Core Curriculum for Advanced GI Surgery

**See Appendix 2: The Fellowship Council Advanced GI Surgery Curriculum for Minimally Invasive Surgery
- Provision of guidance and technical support as needed (for example, research design and statistical analysis) to students, residents, and fellows involved in research and other scholarly activities.

- Provision of the opportunity for fellows to become involved in scientific or clinical investigations so that they may become familiar with the design, implementation, and interpretation of research studies.

- Maintaining a thorough knowledge of current and evolving surgical techniques and technologies relative to the area of the fellowship.

- Active involvement in medical student and resident teaching rounds (if applicable).

- Designated as a lead investigator in at least one research study.

- Active supervision of the fellow in the OR, on the wards and in the clinics.

**Research & Publications**
The fellow will be involved in clinical and investigational research and will receive mentoring on study design and analysis, manuscript preparation, and research presentation. *The fellow will be required to submit at least one manuscript for publication in a peer-reviewed journal.* The manuscript does not necessarily need to be accepted for publication in the journal to which it was submitted.

**Video Recording**
The clinical fellow will be responsible for recording movies of previously assigned surgical procedures *immediately* following the conclusion of surgery. The procedures will be recorded on a hard drive provided by the research fellow. The movies will then be downloaded by the research fellow on a weekly basis.

**Data Collection**
The fellow will be responsible for collection of data for use in research studies related to minimally invasive and bariatric surgery and will spend one day a week conducting research in surgical education and minimally invasive surgery. The clinical fellow and postdoctoral research fellow will work in collaboration on MIS and bariatric research projects and publications.

**Index Cards**
For every surgical procedure performed by the MIS section, an index card (detailed description below) with patient information will be completed by the clinical fellow and given to the research fellow on a weekly basis.

The basic information required for every procedure will be:

- Name
- Medical Record Number (MRN)
- Date of Birth (DOB)
- Age
- Sex
- Date of Surgery (DOS)
- Diagnosis
- Preoperative Studies
- Procedure performed
- Height (please specify which scale is being used)
- Weight (please specify which scale is being used)
- BMI
- Operative Time (OT)
- Estimated Blood Loss (EBL)
- Length of Hospital Stay (LOS)
- Comments (i.e. conversions, intraoperative complications, use of unusual supplies or materials)
Databases

The research fellow is responsible for maintaining the MIS Surgical Databases; however, in order to do so, he/she will need the assistance of the clinical fellow who will provide additional information, depending on the type of procedure. The additional information could also be written on the index cards as previously discussed. Listed below are typical procedures with specific information that is required for each in order to maintain the databases.

**Single-incision Cholecystectomy**
- Type of single port access
- Conversion
- Cause of Conversion
- Number and types of ports used to convert
- Length of hospital stay (hours)
- Pain scale
- Postoperative complications

**Revisional Bariatric Surgery**
- Primary procedure
- Initial weight
- Year of primary procedure
- Cause of revision
- Diagnostic studies
- Surgical plan
- Findings

**Esophageal Manometries**
- Cause of indication
- Pre- study symptoms
- Duration of symptoms
- Medication
- Past medical history
- Past surgical history
- Study results
- Diagnosis
- Recommendation

**Paraesophageal Hernia Repair**
- Preoperative symptoms (heartburn, regurgitation, chest pain, dysphagia, atypical symptoms)
- Preoperative studies results (pH, manometry, UGI, barium swallow)
- Type of hernia (I, II, II, IV)
- Approach (Laparoscopic, Robotic)
- Bougie size
- Additional procedures
- Perioperative complications
- Postoperative studies results
- Follow-up

**EGD**
- Indication
- Pre-study symptoms
- Duration of symptoms
- Medication
- Past medical history
- Past surgical history
- Study results
- Diagnosis
- Recommendation
TEACHING / LEARNING ACTIVITIES

The fellow will learn advanced laparoscopic operative techniques in the laboratory under the direct tutelage of expert minimally invasive and laparoscopic surgeons. The fellow will also learn how to safely carry out advanced laparoscopic operations by first assisting and then as the primary surgeon being assisted by one of our attending surgeons. The fellow will be taught bariatric operative techniques and how to safely carry out gastric bypass surgery, laparoscopic gastric banding, sleeve gastrectomy, and revisions or conversion operations for patients who had undergone previous bariatric surgery. The fellow will learn principles of medical supervised weight loss in the context of a multi-disciplinary clinic that includes nutrition, physical therapy, and psychiatry. The fellow will also learn how to design and implement new curricula for teaching minimally invasive surgery as well as how to test for and assess competency of learning new technical skills. Interacting with faculty in both the Department of Surgery and Department of Graduate Medical Education as we develop the new teaching curriculum will learn the latter skills.

The fellow will be expected to teach surgical residents, medical students and operating room staff fundamental techniques in laparoscopic surgery in the laboratory and in the operating room. There are several educational conferences within the Section of Minimally Invasive Surgery (MIS)/Bariatric Surgery which the fellow will attend, including a regular monthly Journal club, weekly Morbidity and Mortality Conference and Grand Rounds, and a weekly MIS Indications Conference. The fellow will also attend the bimonthly advanced laparoscopic surgery course for residents didactic lectures. Additional conferences within subspecialties, such as Endocrine and GI will be attended dependent on specific rotation assignments. The fellow will also have the opportunity to educate general surgical residents in a variety of situations including animal labs during the ACES Residency Training Course, simulation center (Laparoscopic Skills Training Program in the ASTEC lab), basic laparoscopic procedures, and didactic lectures.

DIDACTICS

MIS Indications Conference
The MIS Indications Conference is conducted every Monday morning from 7 – 8 am at the Tucson Campus. Every other week, there will be a lecture on an assigned topic†, coordinated by the clinical fellow and presented by the resident, fellow or medical student on service. Each lecture will last 20 minutes followed by the regularly scheduled conference. Additional information is provided in Section 4 – MIS Policies & Procedures.

Morbidity and Mortality Conference (M&M)
M&M is held on Wednesday mornings 6:30am to 7:30am. Deadline for submission of M&M forms will be the preceding Thursday at 3:00 pm. The resident/fellow who had the most involvement in the case will present the case discussion. The presentation is to be in a format that is concise and relevant. At the conclusion of the presentation, the presenting resident/fellow should be prepared to discuss the relevant issues with reference to the global surgical experience, including citing pertinent literature sources.

Surgery Grand Rounds
Grand Rounds are held weekly, immediately following M&M Conference, 7:30am to 8:30am. Relevant topics are presented by faculty, senior residents, visiting faculty, and guest faculty.

†See Appendix 3: MIS Didactic Lecture Topics
Journal Club
Journal club is held up to six times a year. Three to four articles pertinent to recent didactic topics are chosen by surgical specialists and assigned to a resident to present. The articles will be distributed to residents and faculty at least two weeks prior to the journal club meeting. Journal Club schedule and articles are distributed via email and also posted on New Innovations.

Didactic Educational Sessions Required
It is mandatory that all fellows and at least one mentor attend these sessions. The fellow must document that they participated in at least 80% of meetings. Additional information is provided in the section on MIS Policies & Procedures.

CASE LOGS
At the beginning of your training, you will receive a Username and Password for the Fellowship Council Case Log System. Upon first login, feel free to change your pre-assigned password. There is additional important information provided in the case log system about how to log your cases, which cases should be bundled and those that should not as well as guidelines for the surgeon’s role. Appendix 4 includes this documentation from the Fellowship Council. Operative cases are to be logged in a timely fashion (at the very least, on a weekly basis).

ACADEMIC CONFERENCES
There is funding available for the fellow to attend academic conferences. Attendance at the annual meeting of the Society of Gastrointestinal Endoscopic Surgeons (SAGES) is expected. If the fellow has submitted an abstract or video that has been accepted at a second conference and wishes to attend, the travel expenses will be covered by the MIS program.

The policy for attending educational meetings or presenting at a conference is as follows:

- All requests must first be approved by the Program Director at least 10 days in advance. No travel arrangements may be made prior to securing written approval.
- In order to be reimbursed, the research must have been conducted and completed during the fellowship training at The University of Arizona.
- Your Program Manager prepares the necessary Travel Authorization which includes all anticipated travel expenses (airfare, registration, hotel, meals, travel to/from the airport). Additionally, include the following information: date you are leaving Tucson, date you are returning to Tucson, method of travel, dates of conference and the abstract/paper acceptance notification. Travel Authorizations will not be prepared without this information.
- Fellows must submit original, itemized receipts for reimbursement no later than ten business days after travel has occurred. For air travel, proof of travel (boarding passes, email confirmation, itinerary) is required; this applies to electronic tickets as well. Conference brochures and/or certificates of attendance must be submitted to the Residency office for completion of the Travel Expense Report.
- The Travel Authorization must be submitted, approved and kept on file even if you seek no reimbursement.
- No travel advances will be given.
- UA Travel policy prohibits car rentals.
The policy of attending academic interviews is the same as above with the following:

- Interviewing time away from the program is counted toward your vacation time.
- Last minute requests must receive the approval from the Program Director before travel arrangements are made.

Fellows are responsible for arranging for service coverage and notifying all involved parties.

**EVALUATION PLAN**

The goals and expectations of this fellowship are described in detail in the section on MIS Service Policies & Procedures. These criteria will be used as the basis for mandated quarterly evaluations performed by the Program’s Faculty through the Fellowship Council’s online assessments. In addition, the fellow will receive personal feedback weekly as part of the weekly teaching conference.

At the conclusion of the fellowship, the program director will prepare a summative letter, which outlines to what extent the fellow has mastered each component of clinical competence. This evaluation will become part of the fellow’s permanent record maintained by the University, and will be accessible for review by the fellow in accordance with University policy. Additionally, the summative evaluation should verify that the fellow has demonstrated sufficient competence to enter practice without direct supervision.

**COMPLETION OF FELLOWSHIP**

At completion of the fellowship, fellows will be required to review with the program director their complete Fellowship Council case log; lists describing their research experience, grants, and publications; and curriculum vitae. These documents will be maintained in the fellow's file for 10 years after its completion. On successful completion of fellowship, fellows will receive a certificate signed by the program director and department chair, where applicable, with the Fellowship Council seal affixed to the certificate.

In 2008 the Fellowship Council mandated that all Fellowship Council fellows should be FLS certified upon completion of the fellowship.

**PROTOCOLS AND IRBS**

The Section of MIS currently has both animal protocols through the University of Arizona Institutional Animal Care and Use Committee (IACUC) and IRBs through the Human Subjects Protection Program (HSPP). Both the Clinical and Postdoctoral Research fellow along with specific members of the MIS team are expected to be included on all protocols and IRBs. In order to be added to the protocols, each individual must complete specific modules of training through the Collaborative Institutional Training Initiative (CITI) program.

The online modules may be completed prior to the start of your fellowship (August 1st) or shortly thereafter but **no later than 1 month after your start date**.

To register for the online modules, visit the CITI website at: [https://www.citiprogram.org/default.asp](https://www.citiprogram.org/default.asp).

1) If you are not currently registered on the CITI website, you will have to create a new registration
2) Click on Create an Account – Register and follow the prompts
3) After you have created your account, you will be taken to the Main Menu where you can enroll in courses/modules. The following are the courses which are REQUIRED for you to be added to our protocols:

**Human Subjects Training**
- Biomedical Research Investigators, Basic Course
- Native American Research, Basic Course
*For more information on training, visit http://orcr.arizona.edu/hspp/training

**IACUC Training & Certification**
- Working with the IACUC-Investigators, Staff and Students, Basic Course
- Working with Swine in Research Settings, Basic Course
- Aseptic Surgery, Basic Course
*For more information on training, visit http://orcr.arizona.edu/iacuc/training

Once you have completed your online modules and received verification of your training, please submit the PDF of your Curriculum Completion Report to Melissa Carton via email at mcarton@surgery.arizona.edu. You can now be added to our IRBs and Protocols.
SECTION 3

Supplemental
Certifications
SECTION 3 – SUPPLEMENTAL CERTIFICATIONS

SAGES CERTIFICATION OF FELLOWSHIP TRAINING

At the conclusion of your fellowship training, graduates are encouraged to apply for the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Fellowship Certification (https://www.sages.org/fellowship-certification). The following items are required prior to applying for certification:

- Obtain full active membership in SAGES – please upgrade membership prior to application submission
- Your fellowship program director’s name and email address
- A recent download of your Fellowship Council Case Log in CSV/Excel format
- A copy of an abstract submitted to a major meeting during your fellowship
- A CME certificate or copy of a badge from a major meeting attended during your fellowship
- Copies of FLS (required)/FES (required for 2015 graduates)/FUSE (optional) certificates.

ASMBS CERTIFICATE OF ACKNOWLEDGEMENT

Beginning in July 2014, the ACES Clinical Fellowship Program began implementing the necessary requirements for the ASMBS Certificate of Acknowledgement of Satisfactory Training in Metabolic and Bariatric Surgery for Fellows. In 2011, ASMBS announced the first Fellowship Certificate Program. The program serves to acknowledge surgeons who have completed their training in an accredited fellowship program and who have met the educational and training requirements needed to practice safe and effective bariatric surgery (according to fellowship training standards established by the ASMBS.) The objective is for these certificates to add value to surgeons beginning their careers in the field by emphasizing their ability to adequately perform metabolic and bariatric surgery. This process has been endorsed by the Executive Council of the American Society of Metabolic and Bariatric Surgery.

CORE CURRICULUM

**Cognitive Experience**

In addition to the clinical and technical experience, it is expected that the fellow will also participate in non-clinical educational endeavors. These activities must be documented and validated by the Program Director.

**Didactic Educational Sessions Required**

It is mandatory that all fellows and at least one mentor attend these sessions. The fellow must document that they participated in at least 80% of meetings. Our **ASMBS Fellowship Sign Off Sheet** can be used for this required documentation. The didactic sessions may include specially designated bariatric textbook review sessions, journal clubs, peer-review conferences, and resident teaching rounds. The following topics must be covered during the fellowship:

1. Epidemiology of Obesity
2. History of Bariatric Surgery
3. Physiology and Interactive Mechanisms in Morbid Obesity
4. Preoperative Evaluation of the Bariatric Patient
5. Psychology of the Morbidly Obese Patient
6. Essentials of a Bariatric Program
7. Postoperative Management of the Bariatric Patient
8. Laparoscopic versus Open
9. Laparoscopic Adjustable Banding
10. Other Restrictive Operations
11. Gastric Bypass
12. Biliopancreatic Diversion/Duodenal Switch
13. Revisional Weight Loss Surgery
14. Managing Postoperative Complications
15. Nutritional Deficiencies
16. Obesity in Childhood and Adolescence
17. Outcomes of Bariatric Surgery
18. Role of Endoscopy in Bariatric Surgery

Management Conference Requirements
Fellows are expected to participate in at least quarterly morbidity and mortality (M&M), including quality improvement and peri-operative management conferences. Participation must be documented.

Research Requirements
Fellows are expected to conduct research and are expected to complete at least one clinical and/or research project during the fellowship and submitted to a National or Regional Society. The research project need not be accepted for presentation by the conference or for publication in the journal to which it was submitted.

Multidisciplinary Conference Requirements
Fellows are expected to participate in regular bariatric multidisciplinary conferences. They also must attend at least one patient support group and one patient educational seminar.

CLINICAL AND TECHNICAL EXPERIENCE

Surgical Operation Requirements
In order to meet the designation of comprehensive training, fellows must be exposed to more than one type of weight loss operation and participate in at least 100 weight loss operations. The fellow should have assumed the role of primary surgeon in at least 51% of cases, defined as having performed the key components of the operation. There should be a minimum of:

♦ 50 intestinal bypass operations (Roux–en-Y Gastric bypass or Biliopancreatic Diversion +/- Duodenal Switch)
♦ A combined total of 10 Restrictive operations (Sleeve Gastrectomy operations and/or Adjustable Gastric Banding procedures)
♦ 5 Revisional procedures
♦ Fellows should also have an exposure to endoscopy (as attested by the Program Director eventually to be evaluated by a competency tool, effective 2014.)

Evaluation Requirements
The fellow will participate in 50 patient preoperative evaluations, 100 postoperative in-patient management encounters, and 100 postoperative outpatient evaluations. Documentation required.
Performance Assessment Synopsis
The Program Director will be responsible for conducting at least 2 fellow performance assessment interviews and providing the ASMBS with a brief synopsis of the meeting.

DA VINCI® RESIDENCY & FELLOWSHIP TRAINING CERTIFICATE

In addition to the ASMBS Certificate of Acknowledgment, the ACES Clinical Fellow will also complete the necessary training to fulfill the requirements set forth to receive a da Vinci Surgical System Training program equivalency certificate.

BACKGROUND
There has been rapid adoption of the da Vinci® Surgical System for use in a variety of surgical specialties. A growing number of Surgical Residency and Fellowship programs now include the use of the da Vinci Surgical System as part of their curriculum, formally or informally. Some Fellows and Residents are exposed to a considerable number of da Vinci procedures during their residencies and fellowships. When their Resident or Fellowship term is complete, this surgical experience supports their application for surgical privileges.

In addition to evaluating a surgeon’s experience, a hospital may require a certificate of da Vinci Surgical System Training as part of the surgical credentialing process. Following is a list of requirements to grant a surgeon a da Vinci Surgical System Training program equivalency certificate. This certificate is not a replacement for a hospital’s credentialing requirements and is not a representation of clinical competence, as Intuitive Surgical only trains on the use of the da Vinci Surgical System.

DA VINCI SURGICAL SYSTEM TRAINING EQUIVALENCY REQUIREMENTS

1. **Online da Vinci Surgical System Course with Exam:**
   Introduction to the da Vinci Surgical System – Features and Function
   *Time commitment: (2 hours)*

2. **da Vinci Surgical System On-site Training: (Conducted at Hospital)**
   - Port Placement Philosophy
   - System Skills Drills
   - Docking Practicum
   *Time commitment: (3 hours)*

3. **A minimum 10-case experience in the role of a Patient-side Assistant**

4. **A minimum of 20 cases completed in the primary role of Console Surgeon**
   - Residents will provide a list of their surgical experience with progression from being a Patient-side Assistant to the Console Surgeon.
   - The Chief of Surgery or Residency Program Director will send a letter verifying the procedures in which the Resident or Fellow participated.

Once completion of the above requirements has been confirmed, a da Vinci Surgical System Equivalent Certificate will be supplied.
**DA VINCI SURGICAL SYSTEM TRAINING EQUIVALENCY OVERVIEW**

**Online da Vinci Surgical System Course**
This 2-hour on-line course (including final exam) will demonstrate the *da Vinci* Surgical System components, features and functions, as well as pre-operative, intra-operative and post-operative considerations when using the *da Vinci* Surgical System in clinical applications.

**da Vinci Surgical System On-site Training**

**Comprehensive da Vinci Surgical System Training**
A minimum of 3 hours of hands-on System training including port placement philosophy, System skills drills and a System docking practicum.

- **da Vinci Port Placement Philosophy:** An overview of the basic port placement principles when applying the *da Vinci* Surgical System clinically, including patient cart position and instrument arm position.

- **System Skills Drills:** A practicum of skills utilizing the *da Vinci* Surgical System.
  
  Skills include:
  
  - Suturing and knot tying
  - Needle handling
  - Transection
  - Manipulation

**da Vinci Surgical System Docking Practicum**
A review of basic principles of System docking and associated skill drills, as well as a competency assessment.
SECTION 4 – MIS POLICIES AND PROCEDURES

GENERAL

The purpose of this document is for residents/fellows to become familiar with the policies and procedures of the Section of Minimally Invasive & Robotic Surgery (MIS) service at Banner – University Medical Center (B-UMC) as well as to outline what the expectations are of the faculty, residents, and fellows. Adherence to these policies and practice guidelines will greatly improve efficiency, serve as a guideline for becoming a more proficient and organized surgical resident or Fellow and enrich your educational experience while on the MIS service.

General Responsibilities for all Surgical Residents

1. Read and be familiar with the MIS Service Document before arriving on the service.

2. Provide timely, thorough, efficient, and compassionate care for all in-patients & out patients on the surgery service and all surgical consults.

3. Practice the principle of independent thinking combined with coordination of a clinical plan of action with the Fellow or Attending prior to initiating that plan. Maximize communication at all levels!

4. Be in the OR on time. This should be at the time that the patient arrives in the room. The resident performing the case should always be present for patient positioning (this requires a knowledge of the operative plan as discussed with the attending ahead of time).

5. Come to the OR prepared. Confirm case assignments on the Friday before and always by the evening prior to day of operation with the Fellow and know the operative plan by discussing the case at some point in time with the surgical attending. Fully evaluate all in-patients by the evening prior to surgery. Know the anatomy of the planned operation, be familiar with all preoperative studies (e.g. CT scans and labs) and construct a complete plan for the operation (even if you have never performed the operation!). Discuss your resident plan with the attending on the day prior to operation.

We recognize that the operating room schedule may be changed up to the morning of operation and sufficient preparation for assigned cases is not always possible. Attempt to inform the attending of changes in resident staffing as soon as they are known.

The resident performing an operation should discuss the plan with the attending and should obtain the written surgical consent and make sure that the patient and family understand the procedure and potential complications as explained to them by the attending. (Exceptions are for outpatients who have previously been consented in the clinic). The resident should call the attending if this understanding is not clear. The consent on complex procedures should never be delegated to the junior resident on the service.

6. Round daily on patients, even if a patient operated upon emergently is now being followed by another surgery team. In addition, the resident should write a pre and postoperative note in the chart of every patient they have operated upon.

7. The residents are expected to be in clinic at its start time unless emergencies or extenuating circumstances preclude availability. A resident may be excused from the clinic to handle pressing issues outside of clinic in the ICU, OR, or to attend other administrative tasks that demand immediate attention. The resident is responsible for informing the faculty of such immediate needs outside of the
At the start of each clinic, the resident should familiarize him or herself with the patient list to be seen and delegate responsibilities to the residents and students appropriately.

8. When evaluating any new patient in the clinic the resident should initially ascertain and document who the patient’s primary care physician and referring physicians are and present this information to the attending.

9. When evaluating any consult in the hospital, ascertain who the attending physician is and clearly document the requesting attending name and the reason for consultation before evaluating the patient unless it is a life-threatening emergency. **Include this information in the consult note and then forward to the respective attending surgeon.**

10. Check with the Fellow regarding assigned operative cases for the upcoming week by Friday afternoon of the preceding week. In the absence of pertinent clinical knowledge of the case, the resident should communicate with the attending before the case so that they are familiar with the particulars of the patient’s pathology as well as the planned operation. Have x-ray or other studies available if needed for clarification of the presentation. **CT scans, MRI and ERCP at B-UMC can be displayed on the computer in the conference room.**

11. No resident should carry out a procedure independently without adequate supervision for which they are not appropriately trained or feel inadequately prepared to perform.

12. All junior residents should be supervised in the placement of at least 3-5 central lines (both the IJ and subclavian routes) and deemed competent by senior residents prior to being delegated this responsibility on their own.

13. Fill out the faculty evaluation forms at the end of your rotation and hand in to the General Surgery Residency office.

14. Log your operative cases in a timely fashion (at the least, every week) and log your hours at the end of each week. Residents who have a substantial back log on their case record or lack of reporting of their weekly duty hours will not be allowed to operate until they catch up with this mandatory reporting requirement.

15. The general surgical service is composed of the MIS Fellow and R2. There are times when there is a maldistribution of manpower relative to patient load. When this happens, it is expected that the residents will help each other out by cross covering each other’s service when one or the other are overworked—especially with helping out on the wards and in the clinic.

16. The ACGME rules governing reduced resident work hours creates serious potential problems with continuity of care for patients. In order to avoid major problems in this regard, the residents must religiously check out to one another at all levels. **The residents rotating off should speak directly with the residents coming on about all patients who are potentially ill or who are undergoing diagnostic evaluation so that errors of omission are not created. This is particularly important at the senior resident level for critically ill patients or for patients for whom operation is planned.**

17. Residents must adhere to the 80-workweek rules. They are to go home the day after being on call and not to operate or be in clinic. On weekends, in particular, residents coming off call should be transitioning patients to the team coming on call and under no circumstance are to be operating after 0800. The rest of the team is to deal with all problems on the ward, all consults to general surgery after 8 am and operations scheduled to begin in the am. **Interns, post call, are not to see any consults on the morning after call; these are to be seen by a member of the resident team taking over.**

18. Residents with delinquent operative or discharge summaries will not be allowed to operate on the MIS service until ALL delinquent reports have been dictated.
19. Be prepared at the Indications Conference to give a succinct presentation of the operative indications and management plan for assigned cases. In the absence of pertinent clinical knowledge of the case, the resident should communicate with the attending before Indications Conference so that they are familiar with the particulars of the patient’s pathology as well as the planned operation. Have x-ray or other studies available if needed for clarification of the presentation. CT scans; MRI and ERCP at B-UMC can be displayed on the computer in the conference room.

**CALL SCHEDULE**

The MIS call schedule is distributed 1-2 weeks in advance of the upcoming month to all members of the team including the PGY3 resident on service. It is the responsibility of the MIS Fellow to ensure appropriate coverage if they will be out of the office. The call schedule is set up so that the clinical fellow and resident rotate a “one-week on / one-week off” schedule to allow for adequate personal time and professional development. The call hours are typically scheduled from Monday through Sunday. The MIS pager will always be with the resident or fellow on call.

**MIS WEEKLY CLINIC AND OR SCHEDULE**

At the end of each week, the clinic and OR schedule for the upcoming week will be distributed via email to the fellow, Surgery R2, medical student on service (if applicable) and attendings. Review the schedule and cases for the upcoming week but please note that the scheduled OR times are subject to change. Any revisions to the weekly schedule will be sent out via email.

<table>
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<tr>
<th><strong>Monday</strong></th>
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<tbody>
<tr>
<td>7:00 – 8:00 am</td>
<td>MIS Indications Conference</td>
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<tr>
<td>8:00 am – 12 pm</td>
<td>General Surgery Clinic (TC, 5OPC)</td>
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<tr>
<td>1 – 4 pm</td>
<td>Bariatric Clinic (TC, 5OPC)</td>
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<tr>
<td>5 – 6 pm</td>
<td>Surgical Weight Loss Seminar (TC, *2 x per month)</td>
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<th><strong>Tuesday</strong></th>
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<tbody>
<tr>
<td>7:30 am –</td>
<td>Robotic OR (TC) – MIS, bariatric, foregut</td>
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<tr>
<th><strong>Wednesday</strong></th>
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<tbody>
<tr>
<td>6:30 – 7:30 am</td>
<td>Department of Surgery M&amp;M conference</td>
</tr>
<tr>
<td>7:30 – 8:30 am</td>
<td>Department of Surgery Grand Rounds</td>
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<tr>
<td>9 am –</td>
<td>OR (TC) – MIS, bariatric, foregut</td>
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<th><strong>Thursday</strong></th>
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<tbody>
<tr>
<td>7:30 – 9 am</td>
<td>EGDs (SC GI Lab) (*as scheduled) OR</td>
</tr>
<tr>
<td>7:30 am –</td>
<td>MIS pancreas, liver, endocrine, and spleen cases</td>
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<tr>
<td>9:30 am – 12 pm</td>
<td>General Surgery/Bariatric Clinic (SC)</td>
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<tr>
<td>1 – 4 pm</td>
<td>General Surgery/Bariatric Clinic (SC)</td>
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<th><strong>Friday</strong></th>
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<tbody>
<tr>
<td>7:30 am –</td>
<td>Research day/ Operating room when available: Pancreas, liver, endocrine, and spleen MIS cases or assuming the role of teaching assistant to teach residents when appropriate on general surgery laparoscopic cases.</td>
</tr>
</tbody>
</table>
DIDACTIC CONFERENCES

MIS Indications Conference
The MIS Indications Conference is conducted every Monday morning from 7 – 8 am at the Tucson Campus. Every other week, there will be a lecture on an assigned topic†, coordinated by the clinical fellow and presented by the resident, fellow or medical student on service. Each lecture will last 20 minutes followed by the regularly scheduled conference.

Goals
1. Document a complete list of all operations scheduled for the upcoming week (Monday through Friday).
2. Ensure that the diagnosis and indication for each scheduled operation fall within accepted guidelines for clinical practice.
3. Ensure that the residents associated with the scheduled operations and the subsequent care of these patients understand the indications for the procedures performed.
4. At the beginning or end of the conference, there will be a 20-minute lecture on an assigned topic given by the fellow, resident or medical student.

Organization
1. The Fellow will begin the conference by stating the number of operations performed the previous week (since this always exceeds the number of listed cases).
2. The lecture topic and case list will be sent out the week before via email within the Clinic and OR Schedule.
3. The clinical fellow assigns the topic to be presented during the 20-minute lecture given by the fellow, resident or medical student (at the beginning or end of the conference).
4. The Fellow will assign each scheduled case on his/her service to a specific resident on that service. The Fellow will also choose two or three index cases for extended discussion during the conference (if time permits).
5. The resident assigned to each case will obtain the clinical information on each patient sufficient to present in conference such as the patient's diagnosis, any unusual clinical circumstances that might affect the choice of procedure, and the specific indications for the operation that is scheduled. Potential sources for this information include the Electronic Medical Record within Epic, the patient's paper medical record, and conversation with the attending surgeon.
6. The conference will be coordinated and facilitated by the MIS clinical fellow. The Fellow will indicate the patients in order, and the resident assigned to each patient will briefly present the diagnosis, indications, and scheduled operation.
7. If a member of the conference questions the indication for operation or the choice of operation, he/she will so indicate and the assigned resident, backed up by the Fellow or attending (if necessary) will defend the decision.
Mortality and Morbidity Conference

Goals

1. Document a complete list of all operations performed in the main operating room.

2. Present a succinct account of all patient deaths and complications resulting from preoperative, intraoperative, postoperative, or outpatient interventions or oversights, including the category of each complication, and emphasizing education to prevent similar or related complications in the future.

3. Provide a written account of operations, deaths, and complications required for peer-reviewed quality assurance in the Department of Surgery at B-UMC.

4. Provide a format for resident clinical presentations with an expectation of constructive critique by peers and faculty to improve skills in public speaking and to improve the clarity and effectiveness of case presentations by surgical residents.

5. Provide a format for faculty analysis of the decision-making and surgical judgment involved in an operative and peri-operative surgical plan.

6. All complications are expected to be presented in an honest, clear, and constructive manner.

7. The ultimate goals of M & M presentations should be:
   a) to improve the quality of operative and perioperative care of surgical patients
   b) enhance the education of all members of the Department of Surgery
   c) to improve the ability of surgical residents to clearly and effectively deliver case presentations to their peers.

8. All complications and deaths should be discussed with the attending faculty prior to being presented at the M & M conference. Junior residents should practice their presentations with the senior resident on their service prior to presentation in the conference.

RESPONSIBILITIES OF THE MIS FELLOW

1. Oversee the clinical care of all in-patients on the surgical services and all surgical consults.

2. Be available to junior residents at all levels when possible to clinically evaluate all new consults and emergency room patients. It is expected that the Fellow will see every consultation in the emergency room or on the ward with the intermediate resident for all consults. It is also expected that the senior resident in house be informed about every planned emergent operation and to scrub on those cases when they are in house.

3. Make resident and student assignments to all OR cases by evening rounds on the day prior to surgery.
4. If all members of the team are in the OR then the Fellow will designate a resident on the team to cover the ward during the day for emergency coverage. Similarly, when an emergent condition arises on the floor during clinic, the senior resident will delegate who is to leave clinic to deal with the problem.

5. Provide review articles to senior and junior residents relevant to patient problems on the services.

6. Lead daily rounds on all patients on the service. Begin rounds early enough each morning to allow a thorough evaluation of each patient and form a daily clinical plan in sufficient time to allow for prompt arrival to the OR, conference and clinic by all members of the team and to allow sufficient time for medical students to present their patients.

7. Communicate with attendings about sudden changes or complications that develop in their patients. This is a primary and crucial responsibility.

8. Meet with the students at least weekly for a teaching session on basic surgical principles, i.e. fluids, nutrition, wounds, etc.

9. Meet with junior residents in a timely fashion to discuss the deaths, complications, and interesting cases on the service to be presented by the residents at weekly Departmental M & M conference on Wednesday. The Fellow should confirm that all known cases and complications are documented on the case sheets.

10. See all surgical consults on the ward and the emergency room in a timely fashion and present a complete assessment and plan to the Attending as soon as possible. If it is appropriate, the Fellow can delegate a consult to another member of the resident team who will then report back to the Fellow or attending in a timely fashion.

11. Assure that all junior residents and students are aware of upcoming conferences, OR assignments and clinic assignments as soon as possible.

12. Assure that all in-patients have a complete history and physical, pre-operative evaluation (with early identification of any abnormal lab or x-ray findings) and pre-op note by the evening of operation. These tasks may be delegated where appropriate.

13. Come to the OR prepared and on time with a thorough knowledge of the patient, indications for operation, planned surgical procedure, positioning, instrumentation and post-operative monitoring.

14. Ensure accurate documentation of all cases performed on their respective service in the main operating room. Assign all cases and make sure that the residents have appropriate guidance in presenting their cases.

15. Assure that all residents on the service fill out and complete their case list and log them onto the computer database.

16. Assure that all junior residents fill out their evaluations of the faculty prior to departure from the service.

17. Avail themselves to all junior residents and students for consultation with respect to personal problems or concerns.

18. Ensure that the resident/nursing/student team is meeting the medical and personal needs of all general surgery patients.

19. Log your operative cases through the Fellowship Council Case Log System in a timely fashion (at the least, every week)\(^6\).
20. Be a primary teacher and role model for residents and medical students on the service. The Fellow plays a vital role in the daily education of junior residents and students. A few teaching points per patient are noticed by junior members more than one thinks!

8 See Appendix 4 – Fellowship Council Case Log System

RESPONSIBILITIES OF THE SURGERY R2

1. Primary care of all Surgery inpatients. Communicate daily with family members of patients after the complete plan (through attending level) has been decided.

2. Primary care for all ward patients on the service, including:
   a) Clear, concise, timely notes and orders, good communication and availability to the nursing staff, social worker, dietician, consultants, and discharge planners.
   b) Attention to the scheduling and results of lab tests and imaging studies. (e.g., the junior resident should justify any laboratory test performed on their patients. X-rays taken should be read in a timely fashion and never on the next day.
   c) Periodically reviews all standing medications and lab work on patients admitted for an extended stay.
   d) Anticipate upcoming patient discharges to initiate and expedite discharge planning, prescriptions, and discharge summaries. Whenever feasible and after discussion with the Fellow and/or attending staff, discharge orders and prescriptions should be filled out the night prior to discharge. Discharge summaries should always be dictated on the same day of discharge.
   e) Exercise independent thinking and presentation of a clinical plan on each patient to the Fellow without carrying out independent actions.
   f) Be a primary teacher and role model for medical students on the service.
   g) Provide feedback to the medical students on their performance every week after the indications conference.

3. Communicate promptly with the Fellow as the situation calls for. This is one of the most important responsibilities. The key is to call every time you have information that is NEW, NOT ROUTINE, and/or important or you have any questions regarding management. When in doubt, call.

4. Coordinate the clinical care and communicate and work together as a team to ensure availability to patients and nursing staff at all times. This is especially important for ICU patients.

5. Help in the operating room and in the surgery clinic as needed. Your primary responsibility on Mondays is to be in clinic seeing patients. There is no excuse to not be in clinic other than to deal with life threatening problems or assignments delegated to you by your senior resident.

6. Identify assigned operative case(s) on the afternoon/evening prior to operation, obtain as much information as possible about the patient and planned procedure (track down the patient record and/or talk to the attending), and have a plan ready for the operation.

7. Communicate closely with the receiving nurses at the time of patient transfer from the ICU to the ward.

8. Immediately see ER and in-patient consultations when requested by the Fellow and promptly report an impression and plan to the Fellow or attending. In no circumstance are students to see ER consults
on an independent basis. Inform the senior, in-house resident of when you receive a consult (not after you have seen the patient). Do not write any opinion in the medical record without first discussing the patient with the senior resident or attending.

9. When evaluating a consult, make sure that the attending name requesting the consult is clearly written at the top of the consult note. Example: “Asked to see this patient by Dr. X for evaluation and treatment recommendations regarding abdominal pain”.

10. The SICU attending must be notified of all admissions to the SICU upon admission to the unit.

**TEACHING RESPONSIBILITIES – ALL RESIDENTS**

1. All residents while on call in house should take the medical student on-call with them to see any consult on the ward or ER. Students should be present for all aspects of evaluation and decision-making about the need for operation. The student on-call should be the first person to evaluate problems on the ward or at least be present with the in-house resident when they first evaluate a patient.

2. The Fellow should assure that the teaching of medical students is occurring and should help the R2 to develop teaching skills and make sure they are taking the time to teach.

3. Make an evaluation of every medical student working with them and be prepared to give this evaluation after Indications conference on Friday mornings.

4. Identify and report any marginal or unsatisfactory medical student performance ASAP and make every effort to help the student rectify such problems early in the rotation.

5. The R2 will interact with medical students more than anyone else and should spend time teaching students:
   a) How to write post-op orders, TPN orders, pre- and post-op notes, and daily progress notes (from a surgical perspective).
   b) The basics of fluid and electrolyte management. This should be done by involving the students in the daily IV fluid orders with discussion of the rationale for the orders that are written.
   c) The basics of suturing and knot-tying.
   d) Involve students in procedures, e.g. - central lines, IV’s NG tubes, and Foleys, etc.

6. Residents should expect the medical students to be active participants in the care of patients on the service by delegating duties appropriate to their level of training and responsibility. Students like residents and faculty, will generally rise to the level of expectations.

7. Be prepared at the Indications Conference to give a succinct presentation of the operative indications and management plan for assigned cases. In the absence of pertinent clinical knowledge of the case, the resident should communicate with the attending before Indications Conference so that they are familiar with the particulars of the patient’s pathology as well as the planned operation. Have x-ray or other studies available if needed for clarification of the presentation. CT scans, MRI and ERCP at B-UMC can be displayed on the computer in the conference room.
OPERATING ROOM RESPONSIBILITIES

Preoperative Evaluation

Fellow

1. Responsible for informing faculty of conflicts regarding simultaneous cases and resident coverage. This is particularly important given the 80 hr workweek restrictions. When a member of the resident team knows they are going to be post call and there are scheduled cases, they should notify the Fellow.

2. Make resident assignments to all OR cases by evening rounds on the day prior to surgery.

3. Discuss an operative plan with the attending on the afternoon or evening prior to operation (including positioning, operative strategies, and rationale). Such a review will make preoperative discussions with the patient and family as accurate and informative as possible.

R2

1. Assure that all in-patients have a complete history and physical, pre-operative evaluation (with early identification of any abnormal lab or x-ray findings) and pre-op note by the evening of operation. These tasks may be delegated where appropriate.

2. See that a signed consent is on the chart. Ask if patients and family have questions for the attending.

3. All patients arriving in the preop area from home must have an updated H&P within 7 days of last being seen and an updated consent. In addition, the site for surgery needs to be marked and initialed prior to the patient going to the operating room. It is the responsibility of the resident assigned to a given patient to perform these functions. They should therefore go to the surgicenter in a timely fashion so that OR starts are not delayed.

INTRAOPERATIVE/POSTOPERATIVE RESPONSIBILITIES

Fellow

1. Assure that all residents assigned to cases are present for anesthetic induction, patient positioning, and have placed relevant x-ray studies on the O.R. room viewing box.

2. Be prepared to act as teaching assistant or first assistant to junior residents on appropriate cases.

All Residents

1. Be on time and come prepared to the O.R. If a resident comes to the operating room unprepared, he/she should not expect to have the privilege of being the primary surgeon.

2. Understand that a surgical procedure is a cooperative endeavor between attending and resident. Parts of the case will be apportioned by the attending based on the skills of the resident, the progress of the case at hand, and the relative ease of performing each component of the case from one position at the table or another.

3. Assure completion of a brief operative progress note with drawings of findings or reconstructions where relevant.

4. Write clear, comprehensive postoperative orders for inpatients and clear instructions for outpatients, including wound care, pain medications, follow-up appointments, and phone numbers of the surgery team and clinic regarding problems or questions.

5. Discuss operative and post-operative plans with the attending.
6. Assure that copies of the operative note are sent to all referring or treating physicians. Ask the attending surgeon for a copy of the printout from the General Surgery Referral Data Base which contains the names and addresses of referring and other involved physicians.

7. Call for assistance when progress in an operation has slowed or ceased.

SURGERY OUTPATIENT CLINIC

1. The attending is responsible for the evaluation and treatment plan of all new and returning clinic patients.

2. The attending is responsible for informing the Division Nurses of upcoming absences and arrange for attending or resident coverage of return patients.

3. The Fellow and R2 are expected to be in clinic on time and remain until all patients have been seen. In case of emergencies requiring leave from clinic, the attending and Fellow must be informed.

4. When a patient has been put into an exam room, a resident or student should evaluate the patient, take a focused history, review relevant medical records and films, and do a focused exam and formulate an assessment and plan. Then the student/resident should present the assessment and plan to the responsible attending and return to see the patient jointly. The student or resident should aim to complete the initial evaluation and begin the presentation to the attending within 5-10 minutes.

5. Check with the assigned attending to determine if his personal clinic practice, especially regarding the role of residents and students, differs from that stated above.

6. All elective operations are scheduled through the Section Nurses. No patients can be scheduled for elective operation without preauthorization from their insurance provider or primary care physician. While the nurses assist with this function, it is the faculty’s responsibility to ensure that this occurs prior to scheduling any patient electively.
SECTION 5

*MIS Activities*
SECTION 5 – MIS ACTIVITIES

ACES RESIDENCY TRAINING COURSE

Program Overview
During your Fellowship, you will participate in and co-instruct the ACES Residency Training Course which has been established by the University of Arizona, Department of Surgery. The current course has been designed, and is being implemented, to advance the surgical skills of our general surgery residents. Ultimately, we hope to transform it into a national and international laparoscopic training program and to have our department become a Level 1 Education Institute verified by the American College of Surgeons (ACS).

The Department of Surgery has established the curriculum and put the needed resources in place, including naming a Course Director and a Course Coordinator, selecting faculty instructors with advanced expertise in laparoscopic surgery, building modern surgical facilities, creating our animal use protocol, establishing policies and procedures, and creating a successful partnership with industry to ensure our program’s sustainability. The ACES Course is now conducted four times per year, in a state-of-the-art facility featuring the latest simulation technologies, the most modern operating rooms, and laparoscopic equipment from our industry partners.

The main objective of this comprehensive training program, held on a rotational basis, is to help residents achieve effective performance levels in specific basic and complex laparoscopic skills. During the training course, our residents have no clinical or patient obligations: their educational time is fully protected.

The curriculum combines multidisciplinary, multimedia didactic lectures with simulation technology laboratory practice and in vivo (in a porcine model) laparoscopic surgery training in advanced laparoscopic procedures.

Program Description
Each year, a total of 4 days of intensive training are planned. Every 3 months, (6) PGY-3 – PGY 5 residents will participate in the animate lab. The objective is to introduce each resident to one of the most comprehensive laparoscopic surgical training experiences ever offered, teaching them the fundamental skills required for a variety of minimally invasive procedures.

Faculty & Support Staff
- Iman Ghaderi, MD, Faculty and Instructor
- Lilah Morris-Wiseman, MD, Faculty and Instructor
- Melissa Carton, Course Coordinator
- MIS Clinical Fellow, Instructor
- MIS Postdoctoral Research Fellow, Instructor
- Scrub Tech
- David Biffar, ASTEC Simulation Lab

Assistants
In addition to the surgery residents who are enrolled in the ACES Course, University of Arizona medical students were trained to serve as assistants and/or scrub technicians in the operating room. Additionally, medical and pre-med students volunteered to assist periodically during the animal surgery laboratory.
Materials
- SAGES Manual: Basic and Advanced Laparoscopy and Endoscopy (2 Volume Set)
- Laparoscopic Suturing Technique in the Vertical Zone by Koh (printed handouts)
- DVD and CD describing suturing techniques and different operations
- Information Resources on Swine in Biomedical Research, edited by C. Smith (article by Swindle and A. Smith) (online)
- PowerPoint presentations of procedures and didactic lectures

Curriculum & Protocol

Didactic Curriculum
- Review of the course
- Introduction to laparoscopic surgery
- Suturing techniques
- Hemodynamic effect of pneumoperitoneum
- Minimally invasive esophagogectomy
- Lap. Nissen fundoplication
- Lap. hiatal herniorrhaphy
- Lap. gastric bypass w/ Roux-en-Y gastrojejunostomy
- Minimally invasive sleeve gastrectomy
- Laparoscopic feeding gastrostomy
- Minimally invasive colectomy (right, transverse, left)
- Low anterior resection
- Distal pancreatectomy
- Lap. Liver resection
- Splenectomy
- Hernia repair (ventral and inguinal)

Simulations and Laparoscopic Fundamentals
PGY 3 – PGY5 residents will spend 30-60 minutes of the morning in the ASTEC laboratory. They initially practice with laparoscopic instruments on simulation and training machines to learn the instruments’ spatial position and ergonomics, then practice continuous and interrupted suturing techniques. Timing is recorded for knot tying; for running, continuous, and interrupted sutures; and for handling a rope marked at certain intervals to simulate running the small bowel. Particular attention is paid to suturing techniques (intracorporeal, extracorporeal, and Endo Stitch).

Basic Laparoscopic Skills
- Instruments and technology used for laparoscopic surgery
- Trocars and port placement
- Laparoscopic suturing
- Port placement
- Surgeons’ positions and monitors
**Weekly Agenda**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 8:15 am</td>
<td>Welcome/Introduction/Course Overview, ASTEC Lab</td>
</tr>
<tr>
<td>8:15 – 9:00 am</td>
<td>FLS Skills, ASTEC Lab</td>
</tr>
<tr>
<td>9:00 am – 12 pm</td>
<td>Animal Surgery OR</td>
</tr>
<tr>
<td>12 – 1 pm</td>
<td>Lunch Break (UAC Library Room 1108) / Industry In-service</td>
</tr>
<tr>
<td>1 – 4 pm</td>
<td>Animal Surgery OR</td>
</tr>
<tr>
<td>4 – 5 pm</td>
<td>Debriefing of the day’s Surgical Procedures (UAC Library Rm 1108)</td>
</tr>
</tbody>
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**Animal Care Protocol**

Residents perform in vivo laparoscopic surgical procedures on anesthetized female pigs (weight, 90 to 110 pounds). Three pigs per day are fasted for 24 hours before the procedure, but are allowed water ad libitum. All pigs are sedated and maintained under general anesthesia during the entire procedure under the care of a veterinarian. At the completion of each training day, the pigs are euthanized, per the protocol. The protocol is approved for a total of 216 pigs, covering course offerings for 3 years, by the University of Arizona’s Institutional Animal Care and Use Committee (IACUC).

Residents are able to examine the pigs’ internal organs via open surgery. All of the ACES Course components and animal laboratory activities are conducted and monitored closely, under the supervision of the course director and other instructors. All instructors and course coordinator are certified by the IACUC through the CITI program.

**LAPAROSCOPIC SKILLS TRAINING PROGRAM**

**Program Overview**

The Arizona Center for Endoscopic Surgery (ACES) and the Arizona Simulation Training & Education Center (ASTEC) Laparoscopic Skills Training Program was developed based on the Fundamentals of Laparoscopic Surgery (FLS) Technical Skills Curriculum. It was established to teach and assess both cognitive and technical skill aspects of laparoscopic surgery. The curriculum is proficiency-based, whereby trainees are oriented to the materials and self-practice until expert-derived performance levels are reached.

The Section of MIS is responsible for outlining the course, assigning tasks, instructing the weekly training course, and conducting quizzes.

Successful completion of the training program is a prerequisite to taking the Fundamentals of Laparoscopic Surgery (FLS) test, which is now required by the American Board of Surgery.

The skills lab is available throughout the year for residents and fellows to promote the development of dexterity and hand-eye coordination required to perform laparoscopic and robotic surgery. Box trainers and state-of-the-art virtual reality simulators for both laparoscopic and robotic surgery are also available.
Appendix 1

The Fellowship Council Core Curriculum for Advanced GI Surgery
APPENDIX 1 - THE FELLOWSHIP COUNCIL CORE CURRICULUM FOR ADVANCED GI SURGERY

PREAMBLE
The purpose of this document is to define the learning objectives in an Advanced GI Surgery fellowship. This curriculum is designed to build on and to follow the current RRC and ABS requirements for General Surgery training. It is an expectation of the American Board of Surgery that a qualified surgeon be knowledgeable in the management of GI surgery, therefore, this curriculum will not restate those learning objectives required of all general surgeons but rather build upon these concepts.

PREREQUISITES
Completion of an RRC approved (or International equivalent) General Surgery Residency. The fellow must be Board-Certified or in the examination process by the American Board of Surgery (i.e., “board eligible”). Exceptions for entry into fellowship for international candidates may be granted by the program director. However, ultimate certification will be dependent upon the fellow’s ability to meet all stipulated requirements.

AIM
To define the knowledge and technical skills required to achieve mastery in Advanced GI and related Surgery.

Specialty silos under the umbrella of Advanced GI Surgery:
- Advanced GI Surgery Curriculum for Minimally Invasive Surgery (MIS)
- Advanced GI Surgery Curriculum for Bariatric Surgery
- Advanced GI Surgery Curriculum for Hepatobiliary Surgery
- Advanced GI Surgery Curriculum for Flexible Endoscopy

GOAL OF THE FELLOWSHIP
To provide fellows with an immersion in the study and practice of diseases of the GI tract and abdominal cavity such that knowledge and skill-based confidence will achieve expert status by the end of the experience.

This Curriculum for Advanced GI Surgery Fellowships describes the goals and objectives of the core competencies that are common to and required by all Fellowships in Advanced GI Surgery including: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism and systems-based practice.

Patient Care

Fellows will be expected to perform preoperative assessment of patients and demonstrate an understanding of the management options, indications, contraindications, and complications associated with the recommended procedure.

Fellows should demonstrate understanding of and ability to order, integrate and interpret perioperative testing and evaluation of all organ systems as related to advanced GI surgery.

Fellows will demonstrate intraoperative decision-making that minimizes complications and demonstrates an awareness of the limitations of his/her technical skills.
Fellows will demonstrate knowledge of anatomy of the GI tract and the abdominal cavity, including as viewed through MIS access, both normal and abnormal. Fellows will demonstrate knowledge of a variety of approaches (both operative and nonoperative) to a given GI tract disease and exhibit reasoning to arrive at the correct procedure for a given patient.

Fellows will demonstrate expertise in interpreting anatomic and physiologic studies of the GI tract and abdominal cavity relevant to their areas of expertise.

Fellows will demonstrate fundamental MIS competency relevant to their area of expertise.

These would include some or all of the following:

- **Basic Skills:**
  - a. preoperative preparation (positioning, knowledge of necessary equipment, bowel prep); evaluations of cardiopulmonary system, age, body habitus
  - b. Exposure
  - c. Retraction
  - d. tissue handling
  - e. camera navigation
  - f. two-handed manipulation
  - g. port-site placement
  - h. alternative access techniques
  - i. use of angled scopes
  - j. FLS completion
  - k. vascular control and algorithm for control of bleeding
  - l. knot-tying ability, both hands, intracorporeal and extracorporeal
  - m. decision to convert a laparoscopic procedure to an open operation

- **Advanced Skills:**
  - a. Intraoperative ultrasound
  - b. Suturing
  - c. Stapling
  - d. Intracorporeal anastomosis
  - e. Adhesiolysis
  - f. Running of bowel
  - g. Demonstrates knowledge of energy sources
  - h. Placement and fixation of prosthetic material

Fellows will acquire skills in diagnostic flexible endoscopy relevant to their area of expertise.

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**Medical Knowledge**

Fellows will be expected to demonstrate understanding of the anatomy, physiology and pathologic conditions of the entire GI tract, abdominal cavity, abdominal wall, and solid organs in the abdominal cavity and retroperitoneum.

Fellows will demonstrate an understanding of the surgical and nonsurgical options for managing pathologic conditions of the entire GI tract, abdominal cavity, abdominal wall, and solid organs in the abdominal cavity and retroperitoneum.

Fellows are expected to be able to appropriately order, read, and interpret diagnostic tests and images.
Fellows are expected to have basic FLS certification; to have knowledge of two or more journals delving into Advanced GI Tract Surgery and MIS.

The specific medical knowledge expectations appear in the curricula of the specific subspecialty fellowships in advanced gastrointestinal surgery.

**Practice-based Learning and Improvement**

Fellows will remain diligent in updating their knowledge with regard to advances in allied health disciplines.

Fellows will demonstrate an ability to access multiple resources for obtaining timely evidence to guide patient care decisions and be able to explain their decision-making rationale.

Fellows will demonstrate ability to perform a detailed assessment of their patient care practice and be able to identify best practices and areas for improvement.

Fellows will participate in and lead journal clubs, M&M conferences, and Grand Rounds as indicated.

Fellows will be engaged in the education and training of residents and medical students, where appropriate.

Fellows will seek and accept constructive feedback concerning their practices.

Fellows will use feedback from faculty and their own self-assessments to develop a plan for filling gaps in knowledge or skills.

Fellows will learn the basics of practice management to include billing and coding for operative procedures, where relevant.

Fellows will actively participate in bench, clinical, or basic science research as it applies to their situation.

**Interpersonal and Communication Skills**

Fellows will provide concise and accurate communication of clinical information both in verbal and written form.

Fellows will demonstrate effective communication with patients and family members in a manner that creates and sustains a professional and therapeutic relationship across a broad range of socioeconomic and cultural backgrounds.

Fellows will demonstrate a caring attitude toward patients and families.

Fellows will effectively explain working diagnoses and management.

Fellows will demonstrate ability to effectively communicate with physicians, other health professionals and health related agencies about patients’ problems.

Fellows will maintain comprehensive, timely and legible medical records.
**Professionalism**

Fellows will display compassion and respect for all patients even under difficult circumstances.

Fellows will treat all members of the health care team with respect regardless of their level of power or influence.

Fellows will advocate for patients’ needs and desires even if they differ from the fellow’s views.

Fellows will take personal responsibility for the timely completion of all assigned work and medical records.

Fellows will demonstrate the importance of teamwork by assisting colleagues in need.

Fellows will demonstrate honesty in their interactions with patients and team members by practicing full disclosure of information with their patients, admitting and disclosing patient care errors, and admitting weaknesses as well as knowledge gaps.

Fellows will demonstrate respect of patient confidentiality and the importance of best practices for insuring optimal care in the clinical setting.

**Systems-based Practice**

Fellows will demonstrate understanding of new technologies and their role in the care of their patients.

Fellows will demonstrate understanding of the integrative nature of health care and will coordinate the care of their patients utilizing the support of consulting physicians, allied health professionals, and ancillary staff.

Fellows will develop appropriate discharge and disposition plans for patients by assessing the patients’ access to out-patient services, resources for paying for medications and tests, and by working cooperatively with the discharge planning service to obtain needed treatments and follow-up for their patients.

Fellows will communicate the discharge plan with the patient’s referring physician to insure adequate follow-up care.

Fellows will practice cost-effective medicine. Specifically, they will learn to avoid unnecessary tests and minimize length of stay while providing high quality care.

Fellows will demonstrate understanding of the importance of institutional policy in promoting patient health through strict adherence to infection control policies and specific treatment protocols.

Fellows will demonstrate understanding of documentation criteria for different levels of care.

Fellows will develop an understanding of the nature and importance of regulatory requirements implemented by agencies such as the Joint Commission, CMS, RRC, and Fellowship Council.
Appendix 2

The Fellowship Council Advanced GI Surgery Curriculum for Minimally Invasive Surgery
APPENDIX 2 - THE FELLOWSHIP COUNCIL ADVANCED GI SURGERY CURRICULUM FOR MINIMALLY INVASIVE SURGERY

Introduction
While general surgical training now requires basic skills in minimally invasive surgery, advanced training is usually required to achieve expertise in not only the technical aspects of performing minimally invasive surgery, but also an understanding of how minimally invasive surgery is used for the global care of patients with disorders of the GI tract, other intraabdominal organs, abdominal wall, and retroperitoneum.

a. The purpose of Fellowship education in Minimally Invasive Surgery is to provide a structured educational and training experience necessary to achieve expertise in minimally invasive surgery techniques relating to advanced GI surgery.
b. This curriculum provides
   i. Minimally Invasive Surgery Program Directors with a framework for instruction and evaluation of fellows
   ii. Fellows with a guide to the study of Minimally Invasive Surgery and defines the essential areas of knowledge and technical skills that need to be mastered.
   iii. An overview of the significant areas of focus within the discipline of minimally invasive surgery. This document acknowledges the variety and different emphases which may exist between individual programs, and describes the concepts which are deemed essential in the curriculum for each.

Curriculum Structure

   c. This Curriculum for Minimally Invasive Surgery Fellowship should be considered within the broader context of the Core Curriculum for Advanced GI Surgery Fellowship. This document, as produced and maintained by The Fellowship Council details the core requirements common to all Fellowships in Advanced GI Surgery, including those denoted as providing advanced training in:
      i. Minimally Invasive Surgery (MIS) (SAGES)
      ii. Bariatric Surgery (ASBMS)
      iii. Hepato-pancreatic & biliary surgery (AHPBA)
      iv. Flexible endoscopy (SAGES)
      v. GI Surgery (SSAT)

   d. It is intended that each of the respective National Societies will be responsible for establishing and maintaining a Curriculum that describes the specific goals, and detailed objectives that are relevant to their sub-specialty Fellowship, and that these Curricula be included in the Core Curriculum for Advanced GI Surgery Fellowship.

   e. The Core Curriculum for Advanced GI Surgery Fellowship describes the following goals and objectives of the core competencies that are common to and required by all Fellowships in Advanced GI Surgery including:
      i. Patient care, including minimum laparoscopic surgical skills
      ii. Medical knowledge
      iii. Practice-based learning and improvement
      iv. Interpersonal and communication skills
      v. Professionalism
      vi. Systems based practice
These are also fundamental requirements of this Curriculum for Minimally Invasive Surgery Fellowship. The present document will describe the distinct Medical Knowledge and Technical Skills required by a Fellow to become an expert in Minimally Invasive Surgery.

f. This Curriculum for Minimally Invasive Surgery Fellowship has been approved by the Executive Committee of SAGES.

Overview of the Curriculum for Minimally Invasive Surgery Fellowship
At the conclusion of the Fellowship in Minimally Invasive Surgery, the Fellow should be able to provide comprehensive, state-of-the-art medical & surgical care to patients with surgical diseases approachable through minimal access techniques. This will include the abilities to investigate, diagnose, recommend appropriate treatment options, perform the operative procedures and provide the pre-, peri-, and post-operative care. To achieve this goal, this Curriculum provides a guide to the topics for study, and the knowledge and skills required to become a Minimally Invasive Surgeon.

This National Curriculum consists of 7 Major Units, some with Subunits:

- **UNIT 1-ADVANCED LAPAROSCOPIC SKILLS**
- **UNIT 2-FOREGUT**
  - Esophagus
  - Stomach and Duodenum
- **UNIT 3-MIDGUT**
  - Small Intestine
- **UNIT 4-HINDGUT**
  - Appendix
  - Large intestine and Rectum
- **UNIT 5-SOLID ORGAN**
  - Adrenal Gland
  - Pancreas
  - Kidney
  - Spleen
- **UNIT 6-ABDOMINAL WALL AND RETROPERITONEUM**
- **UNIT 7-HEPATOBILIARY SYSTEM**
  - Liver
  - Biliary Tree

Each Unit or Sub-unit is organized into 3 Sections:
- **Objectives:** description of the topics the Fellow must understand and the specific knowledge to be acquired.
- **Content:** description of the specific areas of study necessary to achieve the unit objectives
- **Clinical Skills:** description of the clinical activities and technical skills that are to be mastered
UNIT 1 – ADVANCED LAPAROSCOPIC SKILLS

Objectives
Upon completion of this unit the fellow will be able to understand and describe the following:
1. Physiology of pneumoperitoneum.
2. Proper selection and placement of trocars in a safe and effective manner.
3. Proper positioning of patients for a given procedure with emphasis on safety and protection of patient and personnel.
4. Proper placement of monitors and personnel to optimize operative approach.
5. Proper choice of instrumentation, equipment, and energy sources.
6. Trouble shoot MIS equipment including monitors, insufflation, and recording components.
7. Safe use of Energy sources with advantages and limitations of each.

Content
1. Physiology of Pneumoperitoneum-describe the effect on the following:
   a. Renal function
   b. Cardiovascular function
   c. Pulmonary function
   d. Abdominal Wall and Diaphragm
2. Laparoscopic Equipment
   a. Monitor
   b. Insufflator
   c. Light Sources
   d. Camera
   e. Operating Table-standard, split leg
   f. Trocar choices-bladed, bladeless, optical
3. Energy Sources
   a. Ultrasonic dissector
   b. Monopolar cautery
   c. Bipolar cautery

Clinical Skills
1. Demonstrate the following:
   a. Laparoscopic exposure of all intraabdominal areas, including use of retractors.
   b. Proper tissue handling and two handed surgical technique
   c. Intracorporeal and extracorporeal laparoscopic suturing
   d. Endoscopic stapling
   e. Intracorporeal anastomosis-linear and circular
   f. Laparoscopic adhesiolysis
   g. Laparoscopic running of bowel
   h. Placement and fixation of prosthetic materials
   i. Use and interpretation of intraoperative ultrasound
   j. Use and interpretation of intraoperative endoscopy

UNIT 2 – FOREGUT

A. ESOPHAGUS
1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the esophagus. The fellow will have expertise in the investigation and treatment of esophageal disorders, with a focus on minimally invasive approaches.
2. **Content**
   a. Embryology, anatomy, and physiology of the thoracic and abdominal esophagus and the gastroesophageal junction
   b. Physiologic and radiographic tests used in the evaluation and treatment of esophageal disorders
      i. Esophageal manometry
      ii. Barium/Gastrograffin swallow
      iii. Computed tomography
      iv. pH studies-Bravo probe, 24-hour with proximal and distal measurements
   c. Endoscopic procedures
      i. Esophagogastroduodenoscopy
         - Biopsy
         - Dilation
         - Ablative therapy
         - Plication of GE junction
      ii. Endoscopic ultrasound
   d. Achalasia
      i. Epidemiology
      ii. Natural History
      iii. Pathophysiology
      iv. Diagnosis
      v. Treatment
   e. Gastroesophageal reflux disease
      i. Epidemiology
      ii. Pathophysiology
      iii. Complications
      iv. Diagnosis
      v. Treatment
   f. Esophageal Diverticula
      i. Epidemiology
      ii. Pathophysiology
      iii. Diagnosis
      iv. Treatment
   g. Hiatal Hernia
      i. Epidemiology
      ii. Pathophysiology
      iii. Diagnosis
      iv. Treatment
   h. Esophageal Carcinoma
      i. Epidemiology
      ii. Pathophysiology
      iii. Diagnosis
      iv. Treatment
      v. Management

3. **Clinical Skills**
   a. Identify and recognize the anatomic structures of the gastroesophageal junction both on imaging and intra-operatively
   b. Understand the salient features of the esophageal physiologic studies and interpret them.
i. Esophageal manometry
ii. Barium/Gastrograffin swallow
iii. Computed tomography
iv. pH studies-Bravo probe, 24-hour with proximal and distal measurements
c. Describe the indication for and perform esophagastroduodenoscopy, with biopsy or ablation where indicated
d. Describe the indication for endoscopic ultrasound and interpret reports.
e. Describe indication, patient selection, and outcomes for endoscopic plication of the gastroesophageal junction. This may include performing the procedure in some programs.
f. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the esophagus:
   i. Achalasia
   ii. Epiphrenic diverticula
   iii. Hiatal hernia
   iv. Adenocarcinoma
g. Develop an operative strategy, including port positioning, patient positioning for the following minimally invasive esophageal procedures:
   i. Laparoscopic Heller myotomy
   ii. Laparoscopic diverticulectomy with or without myotomy
   iii. Laparoscopic hiatal hernia repair
   iv. Fundoplication
      – Nissen fundoplication
      – Toupet fundoplication
      – Dor fundoplication
      – Collis gastroplasty
   v. Laparoscopic esophagectomy

B. STOMACH AND DUODENUM

1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the stomach and duodenum. The fellow will have expertise in the investigation and treatment of stomach and duodenal disorders, with a focus on minimally invasive approaches.

2. Content
   a. Embryology, physiology, and anatomy of the stomach and duodenum
   b. Physiologic and radiographic tests used in evaluation of stomach and duodenal disorders.
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Upper gastrointestinal series
      iv. Gastric emptying study
   c. Endoscopic procedures
      i. Esophagastroduodenoscopy
      ii. Endoscopic ultrasound
   d. Benign gastric disease
      i. Peptic ulcer disease
         – Epidemiology
         – Natural History
         – Pathophysiology, including importance of Helicobacter pylori infection
– Diagnosis, including malignant potential
– Treatment—medical and surgical
– Complications – tricture, gastric outlet obstruction

ii. Gastric Polyps
– Classification
– Epidemiology
– Natural History
– Pathophysiology
– Diagnosis
– Treatment—endoscopic, surgical, medical

e. Malignant gastric tumors
i. Carcinoid tumor
– Epidemiology
– Pathophysiology—multiple vs. single
– Diagnosis
– Treatment
– Management—medical and surgical

ii. Adenocarcinoma
– Epidemiology
– Pathophysiology
– Diagnosis
– Treatment
– Management—adjuvant therapies

iii. Lymphoma
– Epidemiology
– Pathophysiology
– Diagnosis
– Treatment
– Management—indications for surgery, adjuvant therapies

f. Bariatric procedures
i. Roux-Y Gastric Bypass—open or laparoscopic
ii. Laparoscopic adjustable gastric banding
iii. Duodenal Switch

3. Clinical Skills
a. Identify and recognize the structures associated with the stomach and duodenum with particular attention to blood supply.
b. Interpret the significance of the reports and images from the following physiologic and radiographic studies of the stomach and duodenum:
   i. Computed tomography
   ii. Magnetic resonance imaging
   iii. Upper gastrointestinal series
   iv. Gastric emptying study
c. Interpret the results of and perform esophagastroduodenoscopy
d. Interpret the findings of endoscopic ultrasound
e. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the stomach and duodenum:
   i. Peptic ulcer disease
   ii. Gastric Neoplasms
   – Polyps—Carcinoid
   – Adenocarcinoma—Carcinoid
iii. Morbid Obesity
   – Roux-Y Gastric bypass
   – Laparoscopic adjustable gastric banding
   – Biliopancreatic diversion
f. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection.
   i. Partial Gastrectomy
      – Wedge resection
   ii. Antrectomy
      – Bilroth I reconstruction
      – Bilroth II reconstruction
      – Roux-Y reconstruction
   iii. Total gastrectomy
   iv. Vagotomy
      – Truncal-transabdominal or transthoracic–Highly selective
v. Omental Patch for ulcer disease (Graham patch)
vi. Palliative intestinal bypass for unresectable or intractable duodenal or pyloric disease
vii. Bariatric procedures

UNIT 3-MIDGUT

A. SMALL INTESTINE

1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the small intestine. The fellow will have expertise in the investigation and treatment of small intestinal disorders, with a focus on minimally invasive approaches.

2. Content
   a. Embryology, physiology, and anatomy of the small intestine
   b. Physiologic and radiographic tests used in evaluation of small intestinal disorders.
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Upper gastrointestinal series
      iv. Small bowel through
   c. Endoscopic procedures
      i. Enteroscopy-including intraoperative
      ii. Pill camera enteroscopy
   d. Benign gastric disease
      i. Small bowel obstruction—Etiology
         – Mass
         – Hernia
         – adhesive disease
            ▪ Pathophysiology
            ▪ Diagnosis
            ▪ Treatment
            ▪ Complication
      ii. Crohn’s Disease
         – Epidemiology
         – Natural History
3. Clinical Skills
   a. Identify and recognize the structures associated with the small intestine.
   b. Interpret the significance of the reports and images from the following physiologic and radiographic studies of the small intestine:
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Upper gastrointestinal series
      iv. Small bowel through
   c. Interpret the results of enteroscopy and pill camera studies
   d. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the small intestine:
      i. Small bowel obstruction
      ii. Crohn’s disease
      iii. Meckel’s diverticulum
      iv. Intussusception
      v. Malignant small intestinal disease
- Polyps
- Adenocarcinoma
- Carcinoid

e. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection.
   i. Laparoscopic small bowel resection with anastomosis
   ii. Laparoscopic creation of Roux-Y limb

UNIT 4-HINDGUT

A. APPENDIX

1. **Objectives:** Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the appendix. The fellow will have expertise in the investigation and treatment of appendiceal disorders, with a focus on minimally invasive approaches.

2. **Content**
   a. Embryology, physiology, and anatomy of the appendix
   b. Physiologic and radiographic tests used in evaluation of appendiceal disorders.
      i. Computed tomography
   c. Endoscopic procedures
      i. Colonoscopy
   d. Benign appendiceal disease
      i. Appendicitis
         - Etiology
         - Pathophysiology
         - Diagnosis
         - Treatment
         - Complication
      ii. Crohn’s Disease
         - Epidemiology
         - Natural History
         - Pathophysiology
         - Diagnosis
         - Treatment-surgical, medical
   e. Malignant appendiceal tumors
      i. Carcinoid tumor
         - Epidemiology
         - Pathophysiology
         - Diagnosis
         - Treatment
         - Management-medical and surgical
      ii. Adenocarcinoma
         - Epidemiology
         - Pathophysiology
         - Diagnosis
         - Treatment
         - Management-adjuvant therapies
3. Clinical Skills
   a. Identify and recognize the structures associated with the appendix.
   b. Interpret the significance of the reports and images from the following physiologic and radiographic studies of the small intestine:
      i. Computed tomography
   c. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the appendix:
      i. Appendicitis
      ii. Crohn’s disease
      iii. Malignant appendiceal disease
         - Polyps
         - Adenocarcinoma
         - Carcinoid
   d. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection.
      i. Laparoscopic appendectomy
      ii. Laparoscopic ileocolic resection

B. LARGE INTESTINE AND RECTUM
1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the large intestine and rectum. The fellow will have expertise in the investigation and treatment of colorectal disorders, with a focus on minimally invasive approaches.
2. Content
   a. Embryology, physiology, and anatomy of the large intestine and rectum
   b. Physiologic and radiographic tests used in evaluation of colorectal disorders.
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Contrast enema-barium or Gastrograftin
      iv. Defacography
      v. Sitz marker study
   c. Endoscopic procedures
      i. Flexible Sigmoidoscopy
      ii. Colonoscopy
      iii. Colonoscopic stenting
      iv. Endorectal ultrasound
   d. Benign colorectal disease
      i. Large bowel obstruction – Etiology
         - Mass
         - Hernia
         - Adhesive disease
         - Diverticular stricture
         - Volvulus
            ▪ Pathophysiology
ii. Crohn’s Disease
   – Epidemiology
   – Natural History
   – Pathophysiology
   – Diagnosis
   – Treatment-surgical, medical

iii. Ulcerative Colitis
   – Epidemiology
   – Natural History
   – Pathophysiology
   – Diagnosis
   – Indications for resection

iv. Volvulus
   – Etiology-sigmoid, cecal
   – Natural History
   – Pathophysiology
   – Diagnosis
   – Treatment

v. Rectal prolapse
   – Epidemiology
   – Natural History
   – Pathophysiology
   – Diagnosis
   – Indications for resection

vi. Colorectal polyps
   – Epidemiology
   – Natural History
   – Pathophysiology
   – Diagnosis
   – Indications for resection

e. Malignant colorectal tumors
   i. Carcinoid tumor
      – Epidemiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Management-medical and surgical
   ii. Adenocarcinoma
      – Epidemiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Management-adjuvant therapies

3. Clinical Skills
   a. Identify and recognize the structures associated with the large intestine and rectum.
   b. Interpret the significance of the reports and images from the following physiologic and radiographic studies of the large intestine:
      i. Computed tomography
ii. Magnetic resonance imaging
iii. Contrast enema-barium or Gastrograffin
iv. Defacography
v. Sitz marker study
c. Interpret the results of the following endoscopic procedures:
   i. Flexible Sigmoidoscopy
   ii. Colonoscopy
   iii. Colonoscopic stenting
   iv. Endorectal ultrasound
d. Perform colonoscopy
e. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the large intestine:
   i. Large bowel obstruction
   ii. Crohn’s disease
   iii. Ulcerative colitis
   iv. Volvulus
   v. Rectal Prolapse
   vi. Colorectal polyps
   vii. Malignant colorectal disease
      - Adenocarcinoma
      - Carcinoid
f. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection.
   i. Laparoscopic mobilization of the flexures
   ii. Laparoscopic partial colectomy with or without anastomosis
   iii. Laparoscopic subtotal colectomy
   iv. Laparoscopic mobilization of rectum with or without resection

UNIT 5-SOLID ORGAN

A. ADRENAL GLAND

1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the adrenal gland. The fellow will have expertise in the investigation and treatment of large intestinal disorders, with a focus on minimally invasive approaches.
2. Content
   a. Embryology, physiology, and anatomy of the adrenal gland with particular attention to blood supply
   b. Physiologic tests used in evaluation of adrenal disorders.
      i. Biochemical studies
      ii. Hormone level studies
      iii. 24 hour urine studies
   c. Radiographic test used in evaluation of adrenal disorders
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Selective venous hormonal sampling
      iv. MIBG scan
d. Adrenal mass
   i. Nonfunctioning adrenal mass/Incidentoloma
   ii. Functioning adrenal mass
      – Addison’s Disease
      – Cushing’s Disease
      – Gonadotropin secreting tumors
      – Pheochromocytoma
   iii. Etiology
   iv. Pathophysiology
   v. Diagnosis
   vi. Treatment

e. Malignant adrenal tumors
   i. Metastasis
      – Epidemiology
      – Diagnosis
      – Treatment
      – Management-medical vs. indication for resection
   ii. Adenocarcinoma
      – Epidemiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Management-adjuvant therapies
   iii. Pheochromocytoma
      – Epidemiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Management

3. Clinical Skills
   a. Identify and recognize the structures associated with the adrenal gland.
   b. Interpret the significance of the reports and images from the following physiologic and radiographic studies of the small intestine:
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Selective venous hormonal sampling
      iv. MIBG scan
   c. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the appendix:
      i. Incidentaloma
      ii. Functioning adrenal masses
      iii. Malignant adrenal disease
         – Metastasis
         – Adenocarcinoma
         – Pheochromocytoma
   d. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection. Particular focus on preoperative preparation for surgery.
      i. Laparoscopic adrenalectomy
B. PANCREAS

1. **Objectives:** Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the pancreas. The fellow will have expertise in the investigation and treatment of pancreatic disorders, with a focus on minimally invasive approaches.

2. **Content**
   a. Embryology, physiology, and anatomy of the pancreas with particular attention to other retroperitoneal structures.
   b. Physiologic tests used in evaluation of pancreatic disorders.
      i. Biochemical studies
      ii. Hormone level studies
   c. Radiographic test used in evaluation of pancreatic disorders
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Selective venous hormonal sampling
      iv. PET scan
      v. Intraoperative ultrasound
   d. Endoscopic procedures used in evaluation of pancreas
      i. Esophagogastroduodenoscopy
      ii. Endoscopic ultrasound with aspiration, biopsy, or drainage
      iii. ERCP with or without stent
   e. Benign pancreatic disease
      i. Pancreatitis
         - Epidemiology
         - Diagnosis
         - Treatment
         - Management-medical vs. indication for surgery
         - Complications
         - Bleeding, infection, necrosis, fistula, pseudocyst
      ii. Cystic Lesions
         - mucinous and serous
         - Epidemiology
         - Pathophysiology
         - Diagnosis
         - Treatment
         - Management
   f. Malignant pancreatic disease
      i. Adenocarcinoma
         - Epidemiology
         - Pathophysiology
         - Diagnosis
         - Treatment
         - Management-adjuvant therapies
      ii. Lymphoma
         - Epidemiology
         - Pathophysiology
         - Diagnosis
         - Treatment
         - Management
iii. Neuroendocrine
   - Epidemiology
   - Pathophysiology
   - Diagnosis
   - Treatment
   - Management

3. Clinical Skills
   a. Identify and recognize the structures associated with the pancreas.
   b. Interpret the significance of the reports and images from the following physiologic studies of the pancreas:
      i. Biochemical studies
      ii. Hormone level studies
   c. Interpret the images and significance of reports from the following radiographic studies of the pancreas:
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. Selective venous hormonal sampling
      iv. PET scan
      v. Intraoperative ultrasound
   d. Interpret the reports of the following endoscopic evaluations of pancreatic disorders:
      i. Esophagogastroduodenoscopy
      ii. Endoscopic ultrasound with aspiration, biopsy, or drainage
      iii. ERCP with or without stent
   e. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the pancreas:
      i. Pancreatic pseudocyst
      ii. Pancreatic necrosis
      iii. Cystic lesions of the pancreas
      iv. Malignant tumors of the pancreas - Adenocarcinoma - Neuroendocrine
   f. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection. Particular focus on preoperative preparation for surgery.
      i. Laparoscopic distal pancreatectomy with or without splenectomy
      ii. Laparoscopic enucleation
      iii. Laparoscopic intraoperative ultrasound

C. KIDNEY

1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the kidney. The fellow will have expertise in the investigation and treatment of renal disorders, with a focus on minimally invasive approaches.

2. Content
   a. Embryology, physiology, and anatomy of the kidney with particular attention to other retroperitoneal structures.
   b. Physiologic tests used in evaluation of renal disorders.
      i. Biochemical studies
      ii. Hormone level studies
      iii. Urine studies
   c. Radiographic test used in evaluation of renal disorders
i. Computed tomography
ii. Magnetic resonance imaging
iii. Renal Scan
d. Benign renal disease
   i. Chronic renal failure
      – Epidemiology
      – Diagnosis
      – Treatment
      – Indications for transplantation
e. Malignant renal disease
   i. Renal Cell Carcinoma
      – Epidemiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Management-adjuvant therapies

3. Clinical Skills
   a. Identify and recognize the structures associated with the kidney.
   b. Interpret the significance of the reports and images from the following physiologic studies of the pancreas:
      i. Biochemical studies
      ii. Hormone level studies
      iii. Urine studies
c. Interpret the images and significance of reports from the following radiographic studies of the kidney:
   i. Computed tomography
   ii. Magnetic resonance imaging
   iii. Renal Scan
d. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the pancreas:
   i. Transplantation for chronic renal disease
   ii. Renal cell carcinoma
e. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection. Particular focus on preoperative preparation for surgery.
   i. Laparoscopic nephrectomy

D. SPLEEN

1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the spleen. The fellow will have expertise in the investigation and treatment of splenic disorders, with a focus on minimally invasive approaches.
2. Content
   a. Embryology, physiology, and anatomy of the spleen with particular attention to other retroperitoneal structures.
   b. Physiologic tests used in evaluation of splenic disorders.
      i. Biochemical studies
      ii. Hematologic studies
c. Radiographic test used in evaluation of splenic disorders
   i. Computed tomography
   ii. Magnetic resonance imaging

d. Benign splenic disease
   i. Hematologic disorders
      – ITP, TTP, polycythemia vera
      – Epidemiology
      – Diagnosis
      – Treatment
      – Indications for splenic resection
   ii. Splenic cysts
      – Epidemiology
      – Diagnosis
      – Treatment
      – Indications for splenic resection

e. Malignant splenic disease
   i. Lymphoma
      – Epidemiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Management-adjuvant therapies

3. Clinical Skills
   a. Identify and recognize the structures associated with the spleen.
   b. Interpret the images and significance of reports from the following radiographic
      studies of the spleen:
      i. Computed tomography
      ii. Magnetic resonance imaging
   c. Describe the indications, limitations, options and potential complications of minimally
      invasive procedures done for the following disorders of the spleen:
      i. Hematologic disorders of spleen
      ii. Splenic cysts
      iii. Lymphoma
   d. Develop an operative strategy and perform the following procedures, including port
      positioning, patient positioning, and instrument selection. Particular focus on
      preoperative preparation for surgery.
      i. Laparoscopic splenectomy

UNIT 6-THE ABDOMINAL WALL AND RETROPERITONEUM

1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding
   of the embryology, anatomy, and physiology of the abdominal wall and retroperitoneum. The
   fellow will have expertise in the investigation and treatment of abdominal wall disorders, with
   a focus on minimally invasive approaches.

2. Content
   a. Embryology and anatomy of the abdominal wall and retroperitoneum.
   b. Radiographic test used in evaluation of abdominal wall and retroperitoneal disorders
      i. Computed tomography
      ii. Magnetic resonance imaging
UNIT 7 - THE HEPATOBILIARY SYSTEM

A. LIVER

1. Objectives: Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the liver. The fellow will have expertise in the investigation and treatment of liver disorders, with a focus on minimally invasive approaches.

2. Content
   a. Embryology, physiology, and anatomy of the liver
   b. Physiologic tests used in evaluation of liver disorders.
i. Biochemical studies
ii. Tumor markers
c. Radiographic test used in evaluation of liver disorders
   i. Computed tomography
   ii. Magnetic resonance imaging
   iii. Angiography
   iv. PET scanning
   v. Ultrasound
d. Liver mass
   i. Cystic liver lesions
      – Etiology
      – Pathophysiology
      – Diagnosis
      – Treatment
   ii. Hemangioma
      – Etiology
      – Pathophysiology
      – Diagnosis
      – Treatment
   iii. Hepatic adenoma
      – Etiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Indications for resection
   iv. Hepatoma
      – Etiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Indications for resection
   v. Metastases
      – Etiology
      – Pathophysiology
      – Diagnosis
      – Treatment
      – Indications for resection

3. Clinical Skills
   a. Identify and recognize the structures associated with the liver.
   b. Interpret the significance of the reports and images from the following physiologic and radiographic studies of the liver:
      i. Computed tomography
      ii. Magnetic resonance imaging
      iii. PET scan
      iv. Angiography
   c. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the liver:
      i. Cystic Lesions
      ii. Hemangioma
      iii. Hepatic adenoma
iv. Hepatoma
v. Metastasis
d. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection.
   i. Laparoscopic wedge resection
   ii. Laparoscopic intraoperative ultrasound of liver

B. BILIARY TREE

1. **Objectives:** Upon completion of this unit, the Fellow will have a comprehensive understanding of the embryology, anatomy, and physiology of the biliary tree. The fellow will have expertise in the investigation and treatment of biliary disorders, with a focus on minimally invasive approaches.

2. **Content**
   a. Embryology, physiology, and anatomy of the biliary tree.
   b. Physiologic tests used in evaluation of biliary disorders.
      i. Biochemical studies
      ii. Tumor markers
   c. Radiographic test used in evaluation of biliary disorders
      i. Computed tomography
      ii. Magnetic resonance imaging/MRCP
      iii. HIDA scan
      iv. Percutaneous cholangiography
   d. Endoscopic procedures used in evaluation of the biliary tree
      i. ERCP
   e. Biliary disease
      i. Cholelithiasis
         - Epidemiology
         - Diagnosis
         - Treatment
         - Management-medical vs. indication for surgery
         - Complications-cholecystitis, choledocholithiasis, gallstone pancreatitis
      ii. Gallbladder polyp
         - Epidemiology
         - Pathophysiology
         - Diagnosis
         - Treatment
         - Management
      iii. Biliary stricture
         - Epidemiology
         - Pathophysiology-primary or secondary
         - Diagnosis
         - Treatment
         - Management

3. **Clinical Skills**
   a. Identify and recognize the structures associated with the biliary tree.
   b. Interpret the significance of the reports from the following physiologic studies of the liver:
i. Biochemical studies
ii. Tumor markers

c. Interpret the images and significance of reports from the following radiographic studies of the liver:
   i. Computed tomography
   ii. Magnetic resonance imaging
   iii. HIDA scan
   iv. Percutaneous cholangiography

d. Interpret the reports of the following endoscopic evaluations of pancreatic disorders:
   i. ERCP

e. Describe the indications, options and potential complications of minimally invasive procedures done for the following disorders of the pancreas:
   i. Cholelithiasis
      – Cholecystitis—calculous and acalculous
   ii. Gallbladder polyp
   iii. Biliary stricture

f. Develop an operative strategy and perform the following procedures, including port positioning, patient positioning, and instrument selection.
   i. Laparoscopic cholecystectomy
   ii. Laparoscopic cholangiogram
   iii. Laparoscopic intraoperative ultrasound
   iv. Laparoscopic common bile duct exploration
Appendix

While there is general consensus that skill improves with more experience, the minimum number of procedures to attain competence in Minimally Invasive Surgery procedures remains unclear. Currently the Fellowship Council Accreditation Committee recommends 150 cases in advanced Minimally Invasive Surgery.
Appendix 3

MIS Didactic Lecture Topics
APPENDIX 3 - MIS DIDACTIC LECTURE TOPICS

The following lecture topics will be covered during the 2017 – 2018 fellowship training year. Topics are revised annually to reflect the core curriculum of the American Society of Metabolic and Bariatric Surgery (ASMBS) fellowship.

1. Preoperative evaluation of the bariatric patient
2. Postoperative Management of the Bariatric patient
3. Physiology and Interactive Mechanisms in Morbid Obesity
4. Laparoscopic Inguinal Hernias
5. Laparoscopic Adjustable Banding, Other Restrictive Procedures, Gastric Bypass, Biliopancreatic Diversion/Duodenal Switch
6. Evaluation and Management of Paraesophageal Hernias
7. Managing Postoperative Complications
8. Epidemiology of Obesity
9. Esophageal Cancer Staging and a Case Presentation
10. Esophageal Manometry
11. Outcomes of Bariatric Surgery
12. Cholelithiasis and Choledocholithiasis
13. Role of Endoscopy in Bariatric Surgery
14. DVT/VTE Prophylaxis in Bariatric Patients
15. Association between Obesity and Hiatal Hernia
16. History of Bariatric Surgery
17. Laparoscopic vs. Open Ventral Hernia
18. Esophageal Motility Disorders
19. Endoscopy in Bariatric Surgery
20. Nutritional Deficiencies
21. Psychology of the Morbidly Obese
22. Essentials of a Bariatric Program
23. Revisional Weight Loss Surgery
24. Obesity in Childhood and Adolescence
Appendix 4

Fellowship Council Case Log System
APPENDIX 4 – FELLOWSHIP COUNCIL CASE LOG SYSTEM

BUNDLED CASES

*Fellows should count the following as ONE procedure and not separate procedures when logging the following in the Fellowship Council case log system. You may add information to the Notes column if you wish to describe the procedure in more detail.

- Ventral hernia repair includes Lysis of Adhesions
- Sutured Hiatal Hernia included with Laparoscopic Adjustable Band or Gastric Bypass (When a surgeon places a stitch or two to re-approximate the crura this is not a Hiatal hernia repair)
- Heller Myotomy includes Dor, Nissen, or Toupet
- Paraesophageal Hernia repair includes Dor, Nissen, or Toupet
- Esophagectomy includes Gastric resection, pyloromyotomy, and vagotomy
- Pancreatoduodenectomy includes cholecystectomy, bile duct resection, pancreatic resection, and bowel resection
- Liver resections include cholecystectomy
- Colon resection includes colostomy or ileostomy
- Gastric resections include gastrojejunostomy, Roux-en-Y anastomosis, and intra-operative EGD’s
- Lysis of Adhesions included with any procedure other than SBO—(When performing a cholecystectomy or splenectomy LOA should be included and not listed as a separate procedure.)
- Small bowel resection and ileostomy

NOT BUNDLED

*Fellows should log the following as SEPARATE procedures in the Fellowship Council case log system.

- Paraesophageal Hernia Repair with Adjustable Band or Gastric Bypass
- Cholecystectomy with Hiatal Hernia repair, Band, Bypass, Ventral hernia repair
- Incarcerated ventral, inguinal, or femoral hernia repair and small bowel or large bowel resection
- Distal Pancreatectomy and Splenectomy
- Vagotomy with pylorotomy or antrectomy
- Biliary bypass and Gastrojejunostomy
- Esophagectomy with colon interposition
- Adjustable Band removal included with a Sleeve Gastrectomy or Gastric Bypass
- Intra-operative EGD included with Foregut and bariatric surgery
SURGEON ROLE GUIDELINES

First assistant and Primary surgeon designated cases only count towards the minimum case requirements for minimally invasive and open procedures. For laparoscopic and open procedures, the fellow should designate themselves as the primary surgeon if they performed the majority of the procedure, as first assistant if they performed a significant but less than 50% of the key portion of the procedure, as teaching assistant if they guided a more junior trainee through the procedure, and as an observer if they did not personally perform any critical portion of the procedure. For robotic cases, fellows should designate themselves as primary surgeon if they spent greater than 50% of the procedure as the operating surgeon at the console, as first assistant if they spent less than 50% of the time at the console as operating surgeon, and as an observer if they did not spend any significant time at the console (e.g. served as the bedside assistant or observer at the console).
Appendix 5

Contact Information and Resources
## APPENDIX 5 – CONTACT INFORMATION AND RESOURCES

### CONTACTS

<table>
<thead>
<tr>
<th>Contact</th>
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</tr>
<tr>
<td>Ivonne Rodriguez</td>
<td>694-6641</td>
<td>626-1424</td>
<td><a href="mailto:Ivonne.rodriguez@bannerhealth.com">Ivonne.rodriguez@bannerhealth.com</a></td>
</tr>
<tr>
<td>Clinical Fellow Desk</td>
<td>626-8006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Fellow Pager</td>
<td>4076</td>
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### UA & B-UMC Important Numbers

<table>
<thead>
<tr>
<th>Contact</th>
<th>Phone</th>
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<tbody>
<tr>
<td>GME Office</td>
<td>626-7878</td>
</tr>
<tr>
<td>Parking-University</td>
<td>694-6533</td>
</tr>
<tr>
<td>Parking South</td>
<td>874-4007/874-2926</td>
</tr>
<tr>
<td>UA CoM Helpdesk (IT)</td>
<td>626-8721</td>
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<tr>
<td>UA Main Helpdesk</td>
<td>626-8324</td>
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<tr>
<td>B-UMC Helpdesk</td>
<td>694-4357</td>
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<tr>
<td>Employee Health</td>
<td>694-7616</td>
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<tr>
<td>Facilities Management</td>
<td>621-3000</td>
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### Units and Clinics

<table>
<thead>
<tr>
<th>Contact</th>
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<tbody>
<tr>
<td>2 East</td>
<td>694-2323</td>
<td>694-2327</td>
</tr>
<tr>
<td>3 East</td>
<td>694-7612</td>
<td>694-9477</td>
</tr>
<tr>
<td>3 North East</td>
<td>694-7166</td>
<td>694-9479</td>
</tr>
<tr>
<td>3 North West</td>
<td>694-7656</td>
<td>694-9478</td>
</tr>
<tr>
<td>3 West</td>
<td>694-7453</td>
<td>694-9482</td>
</tr>
<tr>
<td>4 North East</td>
<td>694-5018</td>
<td>694-9489</td>
</tr>
<tr>
<td>4 North West</td>
<td>694-7660</td>
<td>694-9490</td>
</tr>
<tr>
<td>4 West</td>
<td>694-4227</td>
<td>694-9488</td>
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<tr>
<td>5 East ICU (UA desk)</td>
<td>694-6886; 694-6885</td>
<td>694-6891</td>
</tr>
<tr>
<td>5 West</td>
<td>694-7395</td>
<td>694-9475</td>
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<tr>
<td>6 East</td>
<td>694-6035</td>
<td>694-5612</td>
</tr>
<tr>
<td>7 East</td>
<td>694-7060</td>
<td>694-9485</td>
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<tr>
<td>7 West (UA desk)</td>
<td>694-7371</td>
<td>694-9476</td>
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<tr>
<td>8 East (L&amp;D)</td>
<td>694-7046</td>
<td>694-9480</td>
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<td>CDU</td>
<td>694-7520</td>
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<tr>
<td>D2N</td>
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<tr>
<td>D2W</td>
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<td>694-0295</td>
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<td>D3N</td>
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<td>D4N</td>
<td>694-7578</td>
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<td>D5</td>
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<td>D6N / PICU</td>
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<td>694-0174</td>
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<td>D6W</td>
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<td>Newborn Nursery</td>
<td>694-7625</td>
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<td>NICU</td>
<td>694-7578</td>
<td>694-9491</td>
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REQUEST FOR TIME OFF

Department of Surgery
REQUEST FOR TIME OFF

Request Information

Employee Name: 

Department: Surgery

Division/Section: 

Supervisor: 

Dates Requested: 

<table>
<thead>
<tr>
<th>Banner Available Hours</th>
<th>Banner Requested Time Off</th>
<th>UofA Available Hours</th>
<th>Uof A Requested Time Off</th>
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<tbody>
<tr>
<td>PTO</td>
<td>PTO</td>
<td>Vacation</td>
<td>Vacation</td>
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<tr>
<td></td>
<td></td>
<td>Sick</td>
<td>Sick</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Comp ___</td>
<td>Comp ___</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td></td>
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</tbody>
</table>

If your PTO qualifies you for FMLA or LOA, Call Cigna at 1.888.842.4462
If your PTO is Military LOA or Personal LOA, Call 520.694.4899 Option #3

Physician Only:
Physician(s) Covering During Absence: ________________________________

Admin Support Only:
Person(s) Covering During Absence: ________________________________

Employee Signature __________________ Date __________________

Approval

☐ Approved

☐ Rejected

Supervisor Signature __________________ Date __________________
**TRAVEL AUTHORIZATION**

---

**TRAVELER & DEPARTMENT INFORMATION**

<table>
<thead>
<tr>
<th>NAME</th>
<th>DEPARTMENT NAME</th>
<th>DEPARTMENT NO.</th>
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</table>

<table>
<thead>
<tr>
<th>EMPLID</th>
<th>DEPARTMENT PO BOX ADDRESS</th>
<th>ROOM NUMBER</th>
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</table>

<table>
<thead>
<tr>
<th>EMPLOYEE</th>
<th>STUDENT</th>
<th>OTHER</th>
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</table>

<table>
<thead>
<tr>
<th>CONTACT NAME/TITLE</th>
<th>PHONE NUMBER</th>
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**TRAVEL ORDER**

<table>
<thead>
<tr>
<th>BUSINESS PURPOSE OF TRIP: (conference dates)</th>
<th>IN-STATE</th>
<th>OUT-OF-STATE</th>
<th>INTERNATIONAL*</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>MODE OF TRANSPORTATION:</th>
<th>DUTY POST</th>
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<table>
<thead>
<tr>
<th>CITY, STATE DEPARTING FROM:</th>
<th>DEPARTURE DATE:</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>CITY, STATE RETURNING FROM:</th>
<th>RETURN DATE:</th>
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</thead>
</table>

**ATTACH ITINERARY IF MULTIPLE LOCATIONS**

**DESIGNATED LODGING:**

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

---

**EXCEPTIONS**

- Vehicle taken out of state: State-owned [ ] Rental [ ] Private [ ]
- Long-term travel status (if travel will exceed 30 days, state reason):
- Personal time taken (state reason and how long):
- Use of other than coach/economy travel on commercial airlines (state reason):
- Miscellaneous – explain:

**JUSTIFICATION / REASON:**

---

**INTERNATIONAL TRAVEL**

- **INTERNATIONAL TRAVEL REGISTRY #:**
- If you are traveling internationally, you must register your trip through the UA International Travel Registry prior to departure:
  - [http://ua-iris.terradotta.com](http://ua-iris.terradotta.com)
- **TRAVEL WARNING COUNTRY**
  - If your destination has a Travel Warning issued by the U.S. State Department, you must submit a “Supplemental Authorization Form for Travel Warning Areas” along with this Travel Authorization. Check current Travel Warnings at:
  - [http://travel.state.gov](http://travel.state.gov)

---

**TRAVEL ADVANCES (OPTIONAL)**

<table>
<thead>
<tr>
<th>AMOUNT</th>
<th>ACCOUNT #</th>
<th>DATE REQUIRED</th>
<th>CHECK</th>
<th>DIRECT DEPOSIT</th>
</tr>
</thead>
</table>

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**PAYEE SIGNATURE**

DATE

**PLEASE USE COLORED INK FOR SIGNATURES SO THAT ORIGINALS CAN BE DISTINGUISHED FROM PHOTOCOPIES**

---

**APPROVALS**

<table>
<thead>
<tr>
<th>AUTH. DEPT.</th>
<th>NAME/TITLE</th>
<th>SIGNATURE</th>
<th>DATE</th>
</tr>
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</table>

Please forward completed form to: FSO-Operations, Travel Office, PO BOX 210158, USB 402

*This is a sample Travel Authorization form. The fillable form can be found at [http://uabis.arizona.edu/eforms/#T](http://uabis.arizona.edu/eforms/#T) under Travel Authorization*