Penn State College of Medicine The Milton S. Hershey Medical Center Bariatric Surgery Fellowship Curriculum

In addition to meeting the Institutional Goals and Objectives, the Fellow must also meet the Goals and Objectives of the Fellowship Council (See Appendix A)

Goals:

- 1. To develop the recently graduated general surgery resident into a clinically competent Bariatric Surgeon.
- 2. To provide opportunities for professional development.
- 3. To encourage the production of works of scientific value.
- 4. To introduce to/expand on concepts of surgical simulation/VR training
- 5. To enhance the ability of the fellow to serve as a teacher for residents and medical students.

Objectives:

Upon completion of the fellowship the fellow will be able to:

- 1. Demonstrate appropriate clinical evaluation and management of the following diseases/processes:
 - a. Obesity (surgical management)
- 2. Demonstrate appropriate surgical management of the following diseases/processes:
 - a. Obesity (surgical management)
- 3. Discuss current literature important to the practice of Bariatric Surgery
- 4. Apply principles of Minimally Invasive Surgery to the bariatric surgery patient
- 5. Meet expert performance criteria on VR simulators and part task trainers as defined by the staff
- 6. Produce work(s) of scientific value to the field of Bariatric Surgery
- 7. Serve as a teacher of Bariatric Surgery techniques to residents/medical students

Structure of the fellowship:

- 1. Daily
 - a. Serve as resource for residents/medical students on the service
 - b. Participate in surgical procedures and/or clinic as below
 - c. Provide ongoing care to patients on the service
- 2. Weekly
 - a. Monday OR with Dr. Rogers (AM/PM)

- b. Tuesday Clinic with Dr. Shope (AM/PM): Alternating with MIS Fellow
- c. Wednesday OR with Dr. Rogers (AM/PM)
- d. Thursday OR with Dr. Shope (AM); Clinic with Dr. Rogers (PM)
- e. Friday OR with Dr. Haluck/Shope (AM/PM) or Clinic with Dr. Rogers (AM/PM)
- f. On any given week there is usually one or two half days for professional development, reading and producing work of scientific value
- g. Occasionally the opportunity will arise for cases with other surgeons
- h. Presentation of complications at M&M conference (Wednesday PM)
- i. Participation in monthly bariatric team meeting (Wednesday PM)

3. Yearly

- a. Participation in the "Fellows Training Program" detailed below
- b. Presentation at one GI med/surg conference
- c. Serve as an intra-operative teaching assistant for residents
- d. Participate in medical student Minimally Invasive Surgery tutorials
- e. Attendance at least one patient bariatric info session
- f. Attendance at least one bariatric patient support group

Recommended texts (all available in MIS office):

Mastery of Endoscopic and Laparoscopic Surgery 2nd ed 2005. Soper, Swanstrom and Eubanks, eds.

Atlas of Laparoscopic Surgery 2000. Ballantyne

The SAGES Manual

Fellows Training Program

This program has been developed to provide the fellow with abundant opportunity to learn the basic and clinical science of obesity. There are didactic and lab components to the program. Short, simple tests will be given upon completion of each portion of the program (written/computer based for didactic exercises, practical for lab exercises). Procedure modules will include both didactic and lab components.

It is anticipated that completion of these tasks will require 75-100 hours (1.5-2 hours per week on average), about half of which will be spent working in a simulated environment. It is expected that the fellow, when working in the simulated environment, will train to expert performance criteria. We have several papers on file which demonstrate not only the utility of these exercises, but also the importance of training to expert performance criteria in a number of limited duration intervals rather than in a single extended period. Please limit yourself to no more than 45 minutes at a time on any one single exercise.

Didactic Module:

Basic instrumentation Video Systems Insufflation

Lab Module:

Train to EPC on Level 3 of EndotowerTM

Procedure Module 1:

Physical lap box

Clip placement, cutting

VR training

Train to EPC on Rapid Fire level 5, 6, 7 or 8

Video/DVD critique

Procedure Module 2:

Physical lap box

Cobra rope

Video/DVD critique

Physical lap box

Linear stapler use, specimen bag deployment

Video/DVD critique

Procedure Module 3:

Physical lap box

Use of suture passer, Protack device

Physical lap box

2 handed spread, "Bump" maneuver

Procedure Module 4:

Physical lap box

Harmonic scalpel use

Video/DVD critique

Procedure Module 5:

Physical lap box

Intracorporeal suturing and knot tying

Video/DVD critique

Procedure Module 6:

Physical lap box

Use of circular EEA stapler

Video/DVD critique

Procedure Module 8:

Laparoscopic Gastric Bypass

Anatomy, physiology, indications Physical lap box Stapled anastomosis Video/DVD critique

Procedure Module 9: (under construction)

Laparoscopic Adjustable Gastric Banding
Anatomy, physiology, indications
Physical lap box
Secure band
Perform "adjustment"
Video/DVD critique

Please use the consumables responsibly. Document your time in the lab and performance. Please provide feedback to Drs. Rogers, Haluck, Shope or Ms. Cindy Miller.

The Fellowship Council and The American Society for Metabolic and Bariatric Surgery

Advanced GI Surgery Curriculum for Bariatric Surgery Fellowship

1. Introduction

- The purpose of Fellowship education in Bariatric Surgery is to provide a structured educational and training experience necessary to achieve expertise in Bariatric Surgery
- This curriculum provides:
 - Bariatric Surgery Program Directors with a basis for instruction and evaluation of Fellows
 - Fellows with a guide to the study of Bariatric Surgery and defines the essential areas of knowledge and technical skills that must be mastered.

2. Curriculum Structure

This Curriculum for Bariatric Surgery Fellowship should be considered within the broader context of the core curriculum for the 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:

Minimally Invasive Surgery (MIS)	(SAGES)
o Bariatric Surgery	(ASMBS)
Hepato-pancreatic & biliary surgery	(AHPBA)
 Flexible endoscopy 	(SAGES)
o GI Surgery	(SSAT)

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 subspecialty fellowship, and that these curricula be included in the curriculum for Advanced GI Surgery Fellowship.

The curriculum for the Advanced GI Surgery Fellowship describes the following goals and objectives in the framework of the ACGME core competencies (which are common to, and required by, all Fellowships in Advanced GI Surgery) including:

1. Patient care, including minimum laparoscopic surgical skills

- 2. Medical Knowledge
- 3. Practice-based learning and improvement
- 4. Interpersonal and communication skills
- 5. Professionalism
- 6. Systems-based practice

These are also fundamental requirements of the curriculum for Bariatric Surgery Fellowship. The present document will describe the distinct medical knowledge and technical skills required by a fellow to become an expert of Bariatric Surgery.

This curriculum for a Bariatric Surgery Fellowship has been approved by the Executive Committee of The American Society for Metabolic and Bariatric Surgery.

3. Overview of the Curriculum for Bariatric Surgery Fellowship

At the conclusion of the fellowship in Bariatric Surgery, the fellow will be able to provide comprehensive, state-of-the-art medical & surgical care to patients with morbid obesity and obesity related diseases. This will include the ability to investigate, diagnose, recommend therapeutic options, perform operative procedures, and provide all aspects of care, including pre-operative, peri-operative, and late postoperative care. To achieve this goal, this curriculum provides a guide to the topics for study, and the knowledge and skills required to become a Bariatric Surgeon.

This Curriculum consists of Major Units, some with Subunits:

- Unit 1 Understanding Morbid Obesity
- Unit 2 Nonoperative Management of Morbid Obesity
- Unit 3 Primary Operative Management of Morbid Obesity
- Unit 4 Revisional Operative Management of Morbid Obesity
- Unit 5 Management of Complications

Each Unit or Sub-unit is organized into 3 Sections:

- 1. **Objectives**: description of the topics the Fellow must understand and the specific knowledge to be acquired
- 2. **Content**: description of the specific areas of study necessary to achieve the unit objectives
- 3. **Clinical Skills**: description of the clinical activities and technical skills that are to be mastered

Unit 1 - Understanding Morbid Obesity

- Objectives: Fellows will obtain an in-depth understanding of Obesity and its related diseases, including surgical and non-surgical treatment of these modalities.
- 2. **Content:** Minimum scope of understanding will include:
 - A. The epidemiology of obesity, including adolescent and geriatric obesity
 - B. The physiologic and interactive mechanisms of Morbid obesity
 - C. The psychological issues associated with Morbid Obesity
 - D. Identification and management of nutritional deficiencies related to surgery
 - E. Outcomes of bariatric surgery
 - F. Fellows are expected to participate in institutional multidisciplinary conferences held at least quarterly. The fellowship director should design this conference to include discussion of issues related to patient screening for bariatric surgery and co-morbidity management attended by nutrition staff, psychologists, and non-surgical specialists.
 - G. Fellows must attend at least one bariatric surgery patient support group meeting during the fellowship year.
 - H. Fellows are expected to contribute to the advancement of knowledge of obesity surgery and treatment of obesity and related diseases. Fellows are expected to submit an abstract and complete at least one clinical and/or research manuscript or research project (poster) during the fellowship year.

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3. Clinical Skills:

- A. Fellows will apply such knowledge in evaluating obese patients for appropriate management.
- B. Fellows will understand appropriate evaluation of the obese patient including end-organ by-products of the disease
 - a. Cardiac Disease
 - b. Pulmonary Disease
 - c. Musculoskeletal Disease
 - d. Psychological Disease
 - e. Metabolic Diseases
- C. Fellows will provide patients with the information needed to choose appropriate management options.

<u>Unit 2 – Nonoperative Management of Obesity</u>

1. **Objectives:** Fellows will obtain and apply a comprehensive knowledge of management options for obesity without surgery.

2. Content:

A. Caloric Management

- B. Exercise Physiology
- C. Pharmacologic Management

3. Clinical Skills:

- A. Fellows will develop understanding of various diet and caloric management systems including how they work and short- and longterm outcomes. They will have an understanding of potential complications of low calorie diets and ability to monitor for adverse outcomes.
- B. Fellows will understand the purpose of different exercise programs and the benefits/risks of each for the obese patient
- C. Fellows will be well versed on medications (prescription and non-prescription) for weight control including appropriate dosing and usage. This will include an understanding of outcomes, side effects, and risks.

Unit 3 - Primary Operative Management of Morbid Obesity

 Objectives: Fellows will develop surgical competence through experience with bariatric operations. Fellows will develop the skills and knowledge to evaluate and care for patients preoperatively and postoperatively.

2. Content:

- A. Fellows must be exposed to more than one type of weight loss operation:
 - a. Laparoscopic and open surgical access
 - b. Restrictive operations
 - c. Gastric bypass
 - d. Malabsorptive procedures
- B. While there is general consensus that skill improves with more experience, the minimum number of laparoscopic procedures to attain competence in bariatric procedures remains unclear. For current recommendations, please see the Appendix.
- C. Fellows must also know how to perform these weight loss procedures by the open approach.
- D. Preoperative evaluation and postoperative management of the bariatric patient, including obesity related conditions

3. Clinical Skills:

- A. Fellows will participate in weight loss operations.
- B. The fellow should have assumed the role of primary surgeon in the majority of cases (at least 51%), defined as having performed key components of the operation.

- C. Fellows will participate in preoperative evaluations:
 - a. Order and interpret appropriate testing
 - b. Consult with non-surgical specialists when needed
 - c. Evaluate most appropriate surgical options
 - d. Educate patient on benefits and risks of each option.
- D. Fellows will participate in postoperative patient encounters (eg, hospital rounds) and postoperative outpatient evaluations

Unit 4 - Revisional Operative Management of Morbid Obesity

 Objectives: Fellows will develop understanding of revision options, including the benefits and risks of each. Fellows will develop surgical competence through experience with revisional bariatric procedures. Fellows will develop the skills and knowledge to evaluate and care for patients preoperatively and postoperatively.

2. Content:

A. Fellows will have experience with procedures for revision to treat complications or failure of previous bariatric surgery.

3. Clinical Skills:

- A. Fellows will participate in preoperative evaluations for surgical revision:
 - i. Order and interpret appropriate testing
 - ii. Consult with non-surgical specialists when needed
 - iii. Evaluate most appropriate surgical options
 - iv. Educate patient on benefits and risks of each option.
- B. Fellows will gain appropriate operative skill through primary and revisional procedures to perform these procedures in practice.

Unit 5 - Management of Complications of Bariatric Surgery

 Objectives: Fellows will gain comprehensive understanding of management of complications and obesity related conditions.

2. Content:

- A. Early Complications
 - a. Indentification
 - b. Management
- B. Late Complications
 - a. Indentification
 - b. Management

3. Clinical Skills:

A. Fellows will demonstrate ability to detect post operative complications through history and clinical examination.

- B. Fellows will demonstrate an understanding of the physiologic impact of delaying diagnosis or treatment of postoperative complications.
- C. Fellows will demonstrate appropriate use and interpretation of diagnostic tests to determine presence and magnitude of post operative complications.
- D. Fellows will demonstrate a safe and logical plan of action, and show expediency in implementing management of postoperative complications.
- E. Fellows will demonstrate the operative skill to manage such complications.

Appendix

While there is general consensus that skill improves with more experience, the minimum number of procedures to attain competence in bariatric procedures remains unclear. Currently the ASMBS recommends the following case numbers:

Unit 3 - Primary Operative Management of Morbid Obesity in which the <u>fellow is</u> the primary surgeon:

<u>Procedure</u>	# Procedures
Stapling/anastomoses of the gastrointestinal tract	51
Gastric restrictive procedures	10
Clinical Skills	
Weight loss operations (role as primary surgeon in 51%)	100
Preoperative evaluations	50
Postoperative patient encounters (e.g. hospital rounds)	100
Postoperative outpatient evaluations	100

Unit 4 - Revisional Operative Management of Morbid Obesity

Procedure
Procedures for revision to treat complications or failure
of previous bariatric surgery

Procedures
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