

## EDUCATIONAL OBJECTIVES

These educational objectives are directed toward the standardization of training in minimally invasive gynecologic surgery. The fellow is expected to have attained the competencies set forth in the *CREOG Educational Objectives*(1) related to gynecologic conditions.

### **I. Anatomy**

The fellow should demonstrate an understanding of the descriptive and functional anatomy of

- (1) the pelvis including the bony structures, muscles, blood vessels, lymphatics, and nerves
- (2) the abdominal wall layers including the vascular and nerve supply of the abdominal wall
- (3) the abdominal and pelvic viscera, their anatomic relationships to one another, and to the other structures within the pelvis
- (4) the retroperitoneal spaces of the pelvis, including the prevesical, paravesical, vesicovaginal, pararectal and the presacral spaces
- (5) variations of the major blood vessels in the lower abdomen and pelvis
- (6) the genitourinary tract including the course of the ureter
- (7) pelvic support as relates to uterovaginal prolapse and urinary incontinence
- (8) the embryological origin of the pelvic viscera as relates to congenital anomalies

### **II. Vaginal Surgery**

The fellow should have an understanding of the principles, advantages, limitations, and complications of vaginal surgery.

### **III. Diagnostic Hysteroscopy**

The fellow should have an understanding of the principles, advantages, limitations, and complications of diagnostic hysteroscopy and vaginoscopy in the hospital and ambulatory settings.

### **IV. Instrumentation for Operative Hysteroscopy**

The fellow should have an understanding of

- (1) video-cameras, light sources and ancillary instrumentation
- (2) the optical principles of endoscopy
- (3) the principles of the integrated operative room
- (4) the equipment used for photo and video documentation
- (5) fluid management systems and distention media
- (6) the biophysics of intrauterine energy-based instrumentation
- (7) the function and use of the resectoscope
- (8) instrumentation used for uterine cavity access
- (9) instrumentation used for intrauterine manipulation and dissection
- (10) instrumentation for tissue resection and ablation
- (11) instrumentation for tissue removal including morcellation
- (12) troubleshooting all relevant equipment in the operating room

### **V. Operative Hysteroscopy:**

The fellow should demonstrate an understanding of the principles of

- (1) the operating room organization
- (2) the indications, risks and benefits of hysteroscopic surgery

- (3) the anatomy and physiology of the reproductive system
- (4) the indications, methods and complications associated with hysteroscopic endometrial ablation
- (5) the indications, methods and complications associated with hysteroscopic myomectomy
- (6) the indications, methods and complications associated with lysis of intrauterine adhesions
- (7) the indications, methods and complications associated with metroplasty
- (8) the indications, methods and complications associated with hysteroscopic sterilization
- (9) the practice of anesthesia for hysteroscopic procedures
- (10) the management of complications related to intravasation of distention media
- (11) the needs specific to office hysteroscopy and endometrial ablation

#### **VI. Complications of Hysteroscopy**

The fellow should be able to demonstrate knowledge and skill to prevent, recognize and manage problems and complications of

- (1) of uterine access and perforation
- (2) of thermal injury
- (3) of postoperative infection
- (4) related to patient positioning
- (5) of hemorrhage
- (6) related to distention media
- (7) of gas embolism
- (8) of intrauterine synechiae including hematometra
- (9) of anesthesia related risk factors
- (10) of thromboembolism

#### **VII. Diagnostic Laparoscopy**

The fellow should have an understanding of the principles, advantages, limitations, and complications of diagnostic laparoscopy.

#### **VIII. Instrumentation for Operative Laparoscopy**

The fellow should have an understanding of

- (1) video-camera, light sources, insufflators, and ancillary instrumentation
- (2) the equipment used for photo and video documentation
- (3) instrumentation used to access the peritoneal cavity
- (4) the pros and cons of disposable versus reusable instrumentation
- (5) the optical principles of the instrumentation used during laparoscopy
- (6) instrumentation for uterine manipulation
- (7) instrumentation for tissue grasping, holding, manipulating, and dissection
- (8) instrumentation for irrigation and aspiration including different irrigants
- (9) instrumentation for laparoscopic suturing
- (10) suture materials and different types of needles
- (11) instrumentation for tissue collection and removal including morcellators and endobags
- (12) biophysics of energy-based instrumentation
- (13) troubleshooting all relevant equipments in the operating room

- (14) the principles of robotic assisted surgery
- (15) the principles of the integrated operative room

### **IX. Operative Laparoscopy**

The fellow should demonstrate an understanding of the principles of

- (1) the operating room organization
- (2) the indications, risks and benefits of laparoscopic surgery
- (3) patient positioning and preparation
- (4) the various approaches for work site management, including instrument assisted closures
- (5) the various approaches for peritoneal access and exit
- (6) the strategy for trocar selection and port placement for various operative procedures
- (7) dissection, hemostasis, and tissue handling
- (8) tissue removal
- (9) adhesion formation and its prevention
- (10) energy-based surgery

### **X. Complications of Laparoscopy**

The fellow should be able to demonstrate knowledge and skill to prevent, recognize and manage problems and complications of

- (1) peritoneal access
- (2) injury to pelvic and abdominal viscera
- (3) injury to blood vessels
- (4) injury to genitourinary tract
- (5) neurologic injury
- (6) postoperative infection
- (7) injury related to patient positioning and preparation
- (8) anesthesia related risk factors
- (9) thromboembolism

### **XI. Minimally Invasive Hysterectomy**

The fellow should demonstrate the knowledge and/or skill necessary to perform

- (1) Laparoscopic assisted vaginal hysterectomy
- (2) laparoscopic supracervical hysterectomy
- (3) total laparoscopic hysterectomy
- (4) vaginal hysterectomy
- (5) robotic assisted hysterectomy

### **XII. Gastrointestinal Surgery**

The fellow should demonstrate knowledge and skill to

- (1) perform laparoscopic appendectomy
- (2) perform laparoscopic enterolysis
- (3) describe and manage the complications of bowel surgery
- (4) understand and/or perform laparoscopic repair of large and small bowel injuries
- (5) understand and/or perform herniorrhaphy

### **XIII. Urinary Tract Surgery**

The fellow should demonstrate knowledge and skill to

- (1) perform cystoscopy
- (2) understand and/or perform ureteral stent placement and post operative management
- (3) understand and/or perform laparoscopic repair of cystotomy
- (4) understand and/or perform laparoscopic repair of ureter injury

### **XIV. Reproductive Surgery**

The fellow should demonstrate

- (1) knowledge and skills to perform microsurgical principles as applied to tissue handling and minimally invasive procedures
- (2) knowledge and skills to perform pelvic adhesiolysis and tubal reconstructive adnexal surgery
- (3) an understanding and/or skills to perform minimally invasive tubal reanastomosis
- (4) an understanding and/or skills to perform laparoscopic treatment of congenital anomalies of the reproductive tract
- (5) an understanding and/or skills to perform tubal cannulation
- (6) an understanding and/or skills to perform salpingoscopy
- (7) an understanding and/or skills to perform ovarian transposition and other procedures for fertility preservation
- (8) an understanding and/or skills to perform minimally invasive surgery and assisted reproductive technology.

### **XV. Urogynecology**

#### **A. Urinary Incontinence**

The fellow should demonstrate knowledge

- (1) understand and/or perform diagnostic studies for urinary incontinence
- (2) understand and/or perform treatment options for urinary incontinence

#### **B. Pelvic Floor Reconstruction**

The fellow should demonstrate knowledge

- (1) understand and/or perform vaginal and laparoscopic procedures utilized for pelvic floor reconstruction
- (2) understand benefits and sequelae of using synthetic materials for pelvic floor reconstruction

### **XVI. Gynecologic Conditions**

The fellow should possess the necessary knowledge and skills as proscribed by CREOG. In addition, the fellow should demonstrate advanced knowledge and skills to be able to understand and/or perform

#### **A. Ectopic pregnancy**

- (1) laparoscopic salpingectomy, linear salpingostomy, and partial salpingectomy
- (2) laparoscopic approach to a non-tubal ectopic pregnancy

#### **B. Recurrent pregnancy loss**

- (1) metroplasty
- (2) hysteroscopic intrauterine lysis of adhesions
- (3) myomectomy
- (4) laparoscopic abdominal cerclage

#### **C. Permanent Contraception**

- (1) laparoscopic tubal occlusion
- (2) hysteroscopic tubal occlusion

*D. Abnormal Uterine Bleeding*

- (1) transvaginal sonography
- (2) sonohysterography
- (3) office hysteroscopy
- (4) operative hysteroscopy
- (5) endometrial ablation (hysteroscopic and non-hysteroscopic)
- (6) the role of hysterectomy and treatment of abnormal uterine bleeding

*E. Adnexal Mass*

- (1) normal and abnormal adnexal imaging
- (2) laparoscopic ovarian cystectomy
- (3) management of tubo-ovarian abscess
- (4) salpingectomy, tubal occlusion, and neosalpingostomy for hydrosalpinx
- (5) laparoscopic oophorectomy and salpingoophorectomy
- (6) laparoscopic surgery in pregnancy for evaluation and treatment of adnexal mass

*F. Uterine Leiomyoma*

- (1) the non-surgical options for the management of fibroids
- (2) hysteroscopic myomectomy
- (3) laparoscopic myomectomy
- (4) instrumentation for morcellation by vaginal, laparoscopic and hysteroscopic technique

*G. Chronic Pelvic Pain*

The fellow should be able to understand the diagnosis and management of musculoskeletal, neurologic, urological, and gastrointestinal causes of chronic pelvic pain.

*H. Endometriosis*

- (1) the pathogenesis, symptomatology, visual appearance, and classification
- (2) the surgical and medical treatment options
- (3) operative minimally invasive surgery for all stages of endometriosis including ablation and excision of endometriosis
- (4) ureterolysis
- (5) ovarian cystectomy and/or ovarian ablation for endometrioma
- (6) management of obliteration of cul de sac
- (7) surgical treatment of endometriosis involving the bladder, ureter, gastro-intestinal tract, and diaphragm
- (8) laparoscopic presacral neurectomy
- (9) impact of excision of endometrioma

**XVII. Practice-Based Learning and Improvement**

Fellows must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Fellows are expected to:

- (1) Analyze practice experience and perform practice-based improvement activities using a systematic methodology.

- (2) Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
- (3) Obtain and use information about their population of patients and the larger population from which their patients are drawn.
- (4) Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- (5) Use information technology to manage information, access on-line medical information; and support their education.
- (6) Facilitate the learning of students, residents, health care professionals and patients

#### **XVIII. Interpersonal and Communication Skills**

Fellows must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates.

Fellows are expected to:

- (1) Create and sustain a therapeutic and ethically sound relationship with patients.
- (2) Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
- (3) Work effectively with others as a member or leader of a health care team or other professional group

#### **XIX. Professionalism**

Fellows must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Fellows are expected to:

- (1) Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- (2) Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practice.
- (3) Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

#### **XX. Systems-Based Practice**

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Fellows are expected to:

- (1) Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.
- (2) Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources.
- (3) Practice cost-effective health care and resource allocation that does not compromise quality of care.
- (4) Advocate for quality patient care and assist patients in dealing with system complexities.

- (5) Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.
- (6) Demonstrate understanding of CPT coding, cross linking, coding modifiers, and resources
- (7) Demonstrate understanding of medical malpractice, informed consent, documentation and strategies for decreasing risk of litigation

## **XXI. Research**

The fellow should demonstrate an understanding and/or the skills necessary to conduct scholarly research activity including

- (1) formulation of a hypothesis and an experimental design
- (2) interpretation of results and drawing appropriate conclusion(s)
- (3) statistical analysis and choosing the appropriate statistical test
- (4) basic principles of epidemiology
- (5) clinical interpretation of the literature
- (6) manuscript preparation that is suitable for peer review
- (7) application of fundamental ethical principles related to biomedical research and the role of IRB