

EDUCATIONAL OBJECTIVES

Minimally Invasive Gynecologic Surgery

Educational Purpose

The mission of the Department of Obstetrics & Gynecology at Columbia University is to provide the finest comprehensive training for future practitioners in our specialty by using the latest knowledge and innovative research and to provide to the community at large the highest quality of patient care. Our goal is to create a learning environment that fosters the knowledge, skills, attitudes and behaviors of physicians who exhibit the highest levels of professional competence in women's health care.

The rotations in **Minimally Invasive Gynecologic Surgery** will involve direct participation in the care of patients in the operating room, outpatient office setting and inpatient hospital service at The Valley Hospital in Ridgewood, New Jersey. The resident will gain experience in the management of both routine and complicated post-operative patients and will also assist in surgical procedures. Residents will participate in the care of patients with both benign and malignant gynecologic disease. Minimally invasive surgery (MIS) is a relatively new field of surgery, with rapid and ongoing technological advances. This rotation will offer residents the opportunity to work closely with master surgeons who are specially trained in MIS. The goal of the rotation is to provide residents with a solid foundation in minimally invasive surgery and to impart the understanding that achieving and maintaining excellence in surgery is a lifelong endeavor, which requires the ability to adapt to new and emerging technology and continually develop and refine clinical skills. Didactic sessions including lectures, conferences and teaching rounds will supplement the core clinical experience.

Learning Objectives

We have generated the following set of educational objectives for the rotation, modified from the CREOG Educational Objectives Core Curriculum in Obstetrics and Gynecology, Ninth Edition. Residents at each PGY level must demonstrate mastery of these competencies that have been identified by the Accreditation Council for Graduate Medical Education (ACGME).

Objective 1: The resident will acquire and demonstrate knowledge about core areas in benign gynecology, including:

PGY-3

1. The following basic mechanisms of disease:
 - a. The hemodynamic changes associated with blood loss
 - b. The changes that occur in the cardiopulmonary function of an anesthetized and postanesthetic patient
 - c. The physiology of thermoregulation in the anesthetized and postanesthetic patient
 - d. The physiology of wound healing
 - e. The physiologic changes related to the maintenance of adequate urine output
2. The principal causes, diagnostic tests, surgical and nonsurgical treatment options and appropriate follow up in the management of patients with abnormal uterine bleeding.
3. The major causes, diagnostic tests, nonsurgical and surgical treatments and appropriate follow up for patients with pelvic masses, such as:
 - a. Uterine fibroids
 - b. Adnexal cystic and solid masses
 - c. Tuboovarian abscess
 - d. Adnexal torsion
4. The principal gynecologic and non-gynecologic causes, diagnostic tests, nonsurgical and surgical treatment options and appropriate follow up for patients with chronic pelvic pain.
5. The theories of pathogenesis, diagnostic tests, staging, medical and surgical treatment options and appropriate long-term follow up for patients with endometriosis.
6. The normal anatomic supports of the vagina, rectum, bladder, urethra, uterus or vaginal cuff, including the bony pelvis, pelvic floor nerves and musculature and connective tissue.
7. The principal etiologies of pelvic support defects, urinary incontinence and fecal incontinence.
8. The principles of electrosurgery
9. The proper positioning of patients undergoing minimally invasive surgery

ACGME competency domains addressed: *Medical Knowledge*
Interpersonal Skills and Communication

Objective 2: The resident will acquire and demonstrate knowledge about core areas in gynecological oncology, including:

PGY-3

1. The epidemiology, pathophysiology, staging, usual presentation, and means of diagnosis as well as common treatment methods for the following gynecologic malignancies:
 - a. Vulvar cancer
 - b. Vaginal cancer
 - c. Cervical cancer
 - d. Uterine cancer
 - e. Ovarian cancer
 - f. Fallopian tube cancer
 - g. Gestational trophoblastic disease
2. The basic principles of radiobiology, including external therapy and brachytherapy, and chemotherapy, and their immediate application to the treatment of gynecologic cancers, as well as possible complications of treatment.
3. Age and risk-appropriate recommendations for screening of reproductive cancers.
4. Routine care of postoperative patients, and clinical skill development to recognize when a patient is showing signs and symptoms of physiologic decompensation such as sepsis, pulmonary embolus, myocardial infarct, or internal bleeding.
5. Familiarity with pelvic anatomy, both internal and external with emphasis on the blood supply to pelvic organs, ureteral location and course, and retroperitoneal anatomy.
6. The usual presentation, diagnosis, staging and common treatment options for vaginal cancers and gestational trophoblastic disease.
7. Familiarity with basic repair options for intra-operative complications including bleeding, bowel and bladder lacerations, and ureteral injuries.
8. Initial best practices for the acute care of a patient who is manifesting signs of physiologic decompensation.
9. Appreciate the choices of energy available for intra-operative surgical dissection, and to be able to discuss the relative strengths and weaknesses of each modality including specific safety concerns.

***ACGME competency domains addressed: Medical Knowledge
Interpersonal Skills and Communication***

Objective 3: *The resident will develop and demonstrate patient history-taking, diagnostic, and management-planning knowledge and skills, including:*

PGY-1

1. The ability to perform a thorough menstrual history, obstetric history, gynecologic history, contraceptive history and sexual history.
2. The ability to communicate the results of the history and physical examination by well organized written notes and oral reports.
3. The ability to develop hypotheses, diagnostic strategies and management plans in the evaluation of patients with gynecologic problems, including routine postoperative care following gynecologic surgery.
4. The ability to develop hypotheses, diagnostic strategies and management plans in the evaluation of post-operative patients on the floor following gynecologic surgeries, including those with problems of greater acuity, such as sepsis and those with complicated medical problems.
5. The ability to conduct detailed preoperative assessment with consideration given to the needs of special patient groups, such as children and adolescents, the elderly, and patients with co-existing medical conditions.
6. The indications for appropriate preoperative evaluation and/or referral, including laboratory tests, radiographic imaging and ECG.
7. The ability to summarize indications and compose appropriate preoperative preparation plans for patients undergoing gynecologic surgery, including mechanical bowel preparation and thromboembolism prophylaxis.
8. The ability to choose appropriate suture and surgical instruments as dictated by the procedure.
9. The ability to consider and explain surgical options for a given indication in a geriatric patient, accounting for the patient's medical condition and functional status.
10. Understanding of the unique considerations related to preoperative, intraoperative, and postoperative care of the geriatric patient, such as:
 - a. Entrapment (pressure) neuropathies
 - b. Hypothermia
 - c. Fluid and electrolyte imbalances
 - d. Thromboembolism
 - e. Pain management
 - f. Adverse drug events
 - g. Mental status changes

- h. Incontinence
- i. Infection
- j. Nutrition
- k. Stress-induced gastrointestinal ulceration
- l. Pressure ulcers
- m. Ambulation difficulties
- n. Prevention of falls
- o. Functional decline
- p. Possible referral to an assisted-living facility or need for assistance within the home

*ACGME competency domains addressed: Medical Knowledge
Patient Care
Interpersonal Skills and Communication
Practice-Based Learning and Improvement*

Objective 4: The resident will acquire and demonstrate patient management skills, including:

PGY-3

1. The ability to manage and counsel patients about normal postoperative recovery, including:
 - a. Advancement of diet and return to normal dietary and bowel function
 - b. Ambulation
 - c. Urethral catheterization and return to normal urinary function
 - d. Thromboembolism prophylaxis
 - e. Wound care
 - f. Return to normal activity levels and/or appropriate restrictions, including sexual activity

2. The ability to elicit an appropriate history, perform a physical examination, perform and/or interpret appropriate tests and manage common postoperative complications, such as:
 - a. Fever
 - b. Gastrointestinal ileus/ obstruction
 - c. Infection
 - a. Wound complications
 - b. Fluid or electrolyte imbalances, including abnormalities of urinary output
 - c. Respiratory problems
 - d. Thromboembolism

3. The ability to recognize, prioritize, and institute initial treatment while immediately notifying others of life-threatening clinical emergencies encountered on the floor (e.g. sepsis induced hypotension, cardiopulmonary arrest, pneumothorax, anaphylaxis).

ACGME competency domains addressed: *Patient Care*
Interpersonal Skills and Communication
Practice-Based Learning and Improvement

Objective 5: The resident will demonstrate understanding of, and the ability to perform or assist with gynecologic procedures, including:

PGY-3

1. The following basic gynecologic procedures under direct supervision:
 - a. Pap smear
 - b. Endometrial biopsy
 - c. Vaginal and vulvar biopsy
 - d. Transvaginal ultrasonography
2. The use of simulation labs to refine minimally invasive surgical skills.
3. The ability to describe the accepted indications and risks for the following procedures and perform them under visual supervision:
 - a. Dilation and curettage
 - b. Diagnostic and operative hysteroscopy
 - c. Diagnostic laparoscopy
 - d. Laparoscopic/ robotic ablative procedures (cervix, endometrium)
 - e. Laparoscopic lysis of adhesions (abdominal or laparoscopic)
 - f. Laparoscopic/ robotic salpingectomy or linear salpingostomy
 - g. Laparoscopic adnexectomy
 - h. Laparoscopic bilateral tubal ligation
 - i. Total laparoscopic/ robotic hysterectomy
 - j. Laparoscopic/ robotic supracervical hysterectomy
 - k. Laparoscopic/ robotic myomectomy
 - l. Laparoscopic/ robotic ureterolysis and enterolysis
 - m. Laparoscopic/ robotic mass extraction (using morcellation techniques)
 - n. Laparoscopic/ robotic stapling, suturing, intra, extra-corporeal knot-tying
 - o. Opening and closing the abdomen for major gynecologic laparotomies
 - a. Abdominal myomectomy
 - p. Abdominal hysterectomy, total or supracervical
 - q. Exploratory laparotomy/ salpingectomy and/or oophorectomy
 - r. Ovarian or paraovarian cystectomy

ACGME competency domains addressed: *Patient Care*
Medical Knowledge
Practice-Based Learning and Improvement

Objective 6: The resident will acquire and demonstrate the ability to interact and communicate with patients in a manner that is culturally sensitive and patient-centered, including:

PGY-3

1. The ability to interact with the patient to gain her confidence and cooperation and assure her comfort, privacy, confidentiality of patient information, dignity, and modesty.
2. The ability to address sensitive issues with compassion and demonstrate sensitivity to human differences and understanding of the impact of gender, ethnic, cultural, socioeconomic and other social factors.
3. The ability to communicate in a professional and empathetic manner with patients and their families, in a way that is consistent with the statements and management plans developed with the attending physicians on the team.
4. The ability to effectively and empathetically deliver bad news to patients and their families.

***ACGME competency domains addressed: Interpersonal and Communication Skills
Professionalism
Systems-Based Practice***

Objective 7: The resident will acquire and demonstrate the ability to interact, communicate, and work effectively with clinical and ancillary staff in inpatient, outpatient, and operating room settings, including:

PGY-3

1. The ability to share knowledge effectively with peers.
2. The ability to carry out thoughtful, respectful, and effective communication with junior and senior colleagues, nurses, and ancillary staff, in a way that fosters cooperation and patient-based care.
3. The ability to carry out thoughtful, respectful, and effective communication with referring physicians, in a way that fosters cooperation and patient-based care.

***ACGME competency domains addressed: Interpersonal and Communication Skills
Professionalism
Systems-Based Practice***

Objective 8: The resident will acquire and demonstrate the ability to apply knowledge and understanding gained from basic science and clinical research to support one's own education and provide accessible information to patients, by:

PGY-3

1. Developing skills (including use of information technology) required to access, then, critically assess the current medical literature.
2. Learning the appropriate application of research and/or evidence-based studies to patient care and communication.
3. Demonstrating the ability to collect, apply and synthesize patient outcome data to larger population.

ACGME competency domains addressed: *Interpersonal and Communication Skills*
Medical Knowledge
Practice-Based Learning and Improvement

Objective 9: The resident will acquire and demonstrate the ability to use feedback to identify areas and set goals for improvement by:

PGY-3

1. Acknowledging and accepting the limitations of one's own knowledge, understanding and clinical skills, and seeking and accepting feedback from attending physicians and senior residents.
2. Developing goals for improvement in the above areas, commensurate with expectations for PGY-3, with senior members of the team and showing evidence of improvement in above identified areas within an agreed upon time frame.

ACGME competency domains addressed: *Professionalism*
Practice-Based Learning and Improvement

Objective 10: The resident will demonstrate the ability to conduct oneself in a professional manner by:

PGY-3

1. Demonstrating personal integrity; altruism; a commitment to ethical principles pertaining to the provision of clinical care, such as autonomy, benevolence, and nonmaleficence; and a commitment to ethical behavior in all other aspects of professional practice.
2. Exhibiting dependability, responsibility, and self-respect.

ACGME competency domains addressed: Professionalism

Objective 11: The resident will demonstrate knowledge of important systems and regulatory requirements of medical training and practice; and demonstrate adeptness in using the system of care in a way that is beneficial and vital for excellent patient care, including:

PGY-3

1. Using available system resources to respond to medical errors, should they arise, in an appropriate and timely manner.
2. Demonstrating familiarity with the requirements of the American Board of Obstetrics and Gynecology.
3. Demonstrating knowledge of, and completing all, hospital/university-mandated and regulatory-agency documentation, including:
 - a. Documentation of participation in all surgeries and procedures in the ACGME case log system and completion of Surgical Skills Competency Forms.
 - b. Documentation of all pertinent ambulatory patient encounters in the ACGME case log system
4. Demonstrating adherence to NYS and ACGME work rules and regulations.
5. Demonstrating knowledge of the process and system for evaluating faculty and programs, including:
 - c. Completion of all electronic evaluations for the MIS rotation in the E*value system.

***ACGME competency domains addressed: Professionalism
Systems-Based Practice***

Objective 12: The resident will demonstrate the ability to work on original research by:

PGY-3

1. Developing skills required to assess reports in medical literature.
2. Identifying an area of research interest and pursuit of an original project with faculty guidance.
3. Preparing for the option/or possibility of fellowship training.
4. Presenting original research to the department at the Sloane Academic Assembly as well as national meetings and/or publication of original research project in peer reviewed journals.

ACGME competency domains addressed: Medical Knowledge

Resident Supervision

The above set of learning objectives is designed to communicate clearly what is expected in terms of the knowledge, skills, and attitudes that ideally would be acquired during the **Minimally Invasive Gynecologic Surgery** rotation by all residents.

The faculty believes that superior resident education requires the opportunity for decision making by the resident staff as their level of training and knowledge allows. All decisions will be evaluated by attending physicians on service on a daily basis. An attending physician is available for consultation and/ or direct supervision at all times, including nights, weekends and holidays.

Resident Responsibilities

In addition to the educational component of the rotation, certain administrative duties are incumbent upon house officers on each clinical service. The department expects that residents will attend to these administrative tasks with equal diligence and attention to detail. Teamwork and collegiality are key elements to successfully completing these duties in an efficient manner, while emphasizing learning and excellent patient care. The following guidelines have been created by Dr. William Burke to delineate the responsibilities of the PGY-3 resident on the MIS service.

The PGY-3 resident on the MIS service should:

1. Mondays: Report to Dr. Burke's clinic at 9am. No morning rounding required.
2. Tuesdays: Report to the operating room at Valley Hospital by 7:15am. First case start time is 7:40am. The resident will round on postoperative patients with Dr. Burke and Dr. Goldman in between surgical cases.
3. Wednesdays: Report to Dr. Goldman's clinic at 9am. No morning rounding.
4. Thursdays: Attend M&M, Grand Rounds and resident didactic sessions at NYPH beginning at 7:30am. Attend weekly continuity clinic session at NYPH on Thursday afternoon.
5. Fridays: Report to the operating room at Valley Hospital by 7:15am. First case start time is 7:40am. The resident will round on postoperative patients with Dr. Burke and Dr. Goldman in between surgical cases.
6. Residents may be asked to see inpatient consults with supervision from Dr. Burke and Dr. Goldman.
7. Complete DaVinci robotic surgical simulator curriculum provided by Dr. Burke.

Recommended Reading and Educational Materials

Comprehensive Gynecology

by Stenchever, Droegmueller, Herbst, Mishell, eds.

TeLinde's Operative Gynecology

by Rock and Thompson, eds.

Clinical Gynecology, Endocrinology and Infertility

by Speroff, Glass, and Kase, eds.

All ACOG Compendium Bulletins pertaining to Benign Gynecology

Precis on Benign Gynecology and Office Practice

PROLOG on Benign Gynecology and Office Practice

Method of Evaluation

1. A Surgical Skills Competency Form should be completed by the resident and attending physician involved on every procedure performed during the rotation. Residents should receive timely formative feedback from the attending physician(s) during this rotation. All forms should be submitted to the Residency Coordinator on a weekly basis. These will be maintained in the resident's portfolio and reviewed by the program directors and heads of service at regular intervals.
2. Residents will complete mid-rotation feedback sessions. Junior and senior members of the team will share feedback regarding team dynamics, individual and team strengths, areas for improvement and goals for future learning.
3. Global 360° evaluations of residents are performed at the completion of each five week block and reflect input from faculty members, nurses, physician extenders, patients, peers and medical students. These evaluations will be available to residents via the E*value electronic system. These evaluations will be reviewed with the program directors during the resident's semi-annual evaluation meeting, and at interim points if deemed necessary.
4. Cognitive assessment of the resident's medical knowledge is achieved by the relevant scores on the CREOG In-Training examination.