

Gynecology

PGY-2

The practice of gynecology includes both surgical and nonsurgical treatment of disorders of the female reproductive tract. Once primarily a surgical specialty, as a result of advances in therapeutic and diagnostic techniques, gynecology has increasingly become more office-based. In addition to primary office care, the gynecologist often cares for patients with more specialized needs, including those of patients with endocrinologic disorders, infertility and pregnancy loss, urologic disorders, cancer of the reproductive tract, and conditions requiring acute and critical care. In acquiring skills and knowledge in the general discipline of obstetrics and gynecology, residents should assimilate diagnostic and therapeutic principles underlying a broader spectrum of medical and surgical disorders. Once in clinical practice, the gynecologist often remains the primary health care provider for patients who have been treated by subspecialists or by physicians outside the specialty of obstetrics and gynecology. The following learning objectives are linked to the ACGME competencies: The competencies are: 1) Medical knowledge (**MK**); 2) Patient care (**PC**); 3) Interpersonal and communication skills (**ICS**); 4) Professionalism (**P**); 5) Practice-based learning and improvement (**PBLI**); 6) Systems-based practice (**SBL**).

I. Basic Science/Mechanisms of Disease

A. Basic mechanism of genetic inheritance

1. Describe the inheritance of hemoglobinopathies. (MK)
2. Summarize the genetic basis for hereditary cancer syndromes in women such as: (MK)
 - a. Breast cancer
 - b. Colon cancer
 - c. Ovarian cancer
 - d. Endometrial cancer
3. Describe the implications of the integration of viral genetic information into normal cervical cells. (MK)

B. Clinical implications of genetic inheritance

1. Describe the role of genetics in the following: (MK)
 - a. Spontaneous abortion
 - b. Recurrent abortion
 - c. Uterine leiomyomata

C. Physiology

1. Describe the physiology of: (MK)
 - a. The hypothalamic–pituitary–ovarian axis
 - b. Adrenal steroid and catecholamine synthesis
 - c. The thyroid gland and thyroid hormone synthesis
 - d. Female and male gametogenesis
 - e. Hormonally regulated tissue receptors
 - f. Bone formation/resorption
2. Describe the normal process of steroid hormone biosynthesis. (MK)
3. Describe the relationship between ovarian and adrenal androgen production and hyperinsulinemia. (MK)
4. Describe the physiology of the normal menstrual cycle. (MK)
5. Describe physiologic changes that occur at the time of puberty and menopause. (MK)

D. Embryology and developmental biology

1. Describe the normal embryology of Müllerian and ovarian development. (MK)
2. Describe the pathogenesis of abnormal Müllerian development. (MK)

3. Describe the pathogenesis of disorders of sexual differentiation. (MK)

E. Anatomy

1. Describe and interpret normal and abnormal reproductive tract anatomy visualized by imaging procedures, such as: (MK, PC)

- a. Hysterosalpingography (HSG)
- b. Pelvic ultrasonography/saline infusion ultrasonography
- c. CT
- d. MRI

2. Describe normal and abnormal reproductive tract anatomy visualized grossly, hysteroscopically and laparoscopically. (PC)

3. Describe the anatomic appearance of Müllerian abnormalities. (MK)

4. Describe the anatomic abnormalities that occur in patients with disorders of sexual differentiation. (MK)

5. Describe the anatomy of the central nervous system as it relates to menstrual function. (MK)

6. Describe the anatomic changes that occur to the reproductive organs and breasts at the time of puberty and menopause. (MK)

F. Pharmacology (MK)

1. Describe the general principles of drug delivery, distribution, metabolism, and excretion.

2. Summarize the pharmacology of medications used in the treatment of common gynecologic disorders.

3. Explain the pharmacologic principles of drug therapy in prepubertal girls, women of reproductive age, and elderly patients.

4. Describe the components of commonly used contraceptive agents and their mechanism of action.

G. Pathology and neoplasia (MK)

1. Summarize the pathogenesis and epidemiology of the common nonmalignant neoplasms that affect the external and internal genitalia.
2. Describe the histology of the common non-malignant neoplasms that affect the external and internal genitalia.

H. Microbiology and immunology (MK)

1. Describe the normal bacteriologic flora of the lower genital tract.
2. Describe the microbiologic principles germane to the diagnosis and treatment of gynecologic infectious diseases.
3. Describe the epidemiologic principles involved in the spread of infectious diseases in both patients and health care workers, including transmission and prevention of human immunodeficiency virus (HIV) and hepatitis.
4. Discuss the immunologic response to infection.

II. Disorders of the Urogenital Tract and Breast

A. Abnormal/Dysfunctional uterine bleeding

1. Describe the principal causes of abnormal uterine bleeding and distinguish abnormal uterine bleeding from dysfunctional uterine bleeding. (MK)
2. Elicit a pertinent history to evaluate abnormal uterine bleeding. (PC)
3. Perform a focused physical examination to investigate the etiology of abnormal uterine bleeding.
4. Perform and interpret the results of selected diagnostic tests to determine the cause of abnormal uterine bleeding, such as: (PC)
 - a. Endometrial biopsy
 - b. Pelvic ultrasonography/saline infusion ultrasonography
 - c. Hysteroscopy

- d. Laparoscopy
- 5. Interpret the results of other diagnostic tests, such as: (PC)
 - a. Serum/urine human chorionic gonadotropin (hCG) assay
 - b. Endocrinologic assays
 - c. Microbiologic cultures of the genital tract
 - d. Complete blood count
 - e. Coagulation profile
- 6. Treat abnormal uterine bleeding using both nonsurgical and surgical methods. (PC)
- 7. Recommend appropriate follow-up that is necessary for a patient with abnormal uterine bleeding. (PC)

B. Vaginal and vulvar infections

- 1. Describe the principal infections that affect the vulva and vagina. (MK)
- 2. Elicit a pertinent history in a patient with a possible infection of the vulva or vagina. (PC)
- 3. Perform a focused physical examination. (PC)
- 4. Perform and interpret the results of selected tests to confirm the diagnosis of vulvar or vaginal infection, such as: (PC, MK)
 - a. Vaginal pH
 - b. Saline microscopy
 - c. Potassium hydroxide microscopy
 - d. Bacterial, fungal and viral culture
 - e. Colposcopic examination
 - f. Vulvar or vaginal biopsy
- 5. Treat vulvar and vaginal infections. (PC)
- 6. Describe the follow-up that is necessary for a patient with a vulvar or

vaginal infection, for example: (PC, P, SBP, ICS).

- a. Assessing and treating sexual partner(s)
- b. Requirements for reporting a communicable disease
- c. Assessing the patient for other possible genital tract infections
- d. Counseling the patient with respect to measures that prevent reinfection

C. Vulvar dystrophies, dermatoses and vulvar pain syndromes

1. Describe the principal types of vulvar dystrophies and dermatoses, such as: (MK)

- a. Squamous cell hyperplasia
- b. Lichen sclerosus
- c. Lichen planus
- d. Lichen simplex chronicus
- e. Atrophic dermatitis
- f. Vulvar vestibulitis and vulvodynia

2. Elicit a pertinent history in a patient with a suspected vulvar dystrophy, dermatosis or vulvar pain syndrome. (PC)

3. Perform a focused physical examination in a patient with a suspected vulvar dystrophy, dermatosis or vulvar pain syndrome. (PC)

4. Perform and/or interpret the results of selected diagnostic tests to confirm the diagnosis of a vulvar dystrophy or dermatosis, for example: (PC, MK)

- a. Colposcopy
- b. Staining with dyes to localize the affected area
- c. Vulvar biopsy

5. Treat common vulvar dystrophies dermatoses and vulvar pain syndromes medically and surgically. (PC)

6. Describe follow-up for a patient with a vulvar dystrophy or dermatosis, including the risk, if present, for malignant change. (PC)

D. Sexually transmitted diseases

1. Describe the most common STIs, including causes, symptoms, and risk of transmission, such as: (MK)

- a. Chlamydia
- b. Gonorrhea
- c. Syphilis
- d. Hepatitis B and hepatitis C
- e. Human immunodeficiency virus (HIV)
- f. Herpes simplex
- g. Human papillomavirus
- h. Chancroid

2. Elicit a pertinent history in a patient with a suspected STI. (PC)

3. Perform a focused physical examination in a patient with a suspected STI. (PC)

4. Perform and/or interpret results of specific tests to confirm the diagnosis of an STI, such as: (PC)

- a. Bacterial and/or viral culture
- b. Endocervical aspirate for Gram stain
- c. Endocervical swab for nucleic acid probe
- d. Endocervical culture
- e. Cervical or vaginal cytologic screening (Pap test) and HPV testing
- f. Scraping of an ulcer or chancre

g. Serologic assays

h. Tzanck smear

5. Treat STIs with appropriate antimicrobial agents. (PC)

6. Describe the long-term follow-up for patients with a STI, including assessment of the patient's sexual partner, discussion of preventive measures, and review of serious sequelae, such as: (PC, ICS, P, SBP)

a. Infertility

b. Ectopic pregnancy

c. Chronic pelvic pain

d. Pelvic inflammatory disease (PID)

e. Cervical dysplasia, neoplasia

E. Pelvic inflammatory disease (PID)

1. Describe the diagnostic criteria for PID. (MK)

2. List the common infectious agents implicated in PID. (MK)

3. Elicit a pertinent history from a patient suspected to have PID. (PC)

4. Perform a physical exam to confirm the diagnosis of PID. (PC)

5. Describe the appropriate diagnostic tests to confirm PID, including indications for the tests, and how to perform and/or interpret the results. (PC)

a. Endocervical swab for culture or nucleic acid probe

b. Endometrial biopsy

c. Imaging studies

d. Laparoscopy

6. Treat PID with appropriate antimicrobial and surgical options. (PC)

7. Summarize the potential long-term effects and counsel patients regarding risks of further complications, including: (PC, ICS, P)

- a. Chronic pelvic pain
- b. Infertility
- c. Ectopic pregnancy

F. Urinary tract disorders (infection, nephrolithiasis)

1. Distinguish the types of urinary tract infection, including bacteruria, urethritis, cystitis, and pyelonephritis. (MK)
2. Describe the pathophysiology related to urinary tract infection, including the organisms commonly implicated in lower and upper urinary tract disorders, and host factors, such as urinary retention, age, and pregnancy. (MK)
3. Describe the pathophysiology of the common forms of nephrolithiasis, including patient risk factors for the development of nephrolithiasis. (MK)
4. Describe typical clinical presentations, and elicit a pertinent history, in a patient with a possible urinary tract infection or nephrolithiasis. (PC)
5. Describe the diagnostic methods and diagnostic criteria for the various types of urinary tract infections. (MK)
6. Summarize the methods used for the diagnosis of nephrolithiasis. (MK)
7. Describe modes of therapy for acute, chronic, and complicated urinary tract infections, including prophylaxis for recurrent infection. (MK, PC)
8. Summarize therapeutic options for nephrolithiasis, and strategies to prevent recurrence. (MK, PC)

G. Pelvic masses

1. Describe the major causes of pelvic masses, including nongynecologic sources and those arising from the female genital tract, such as: (MK)
 - a. Uterine fibroids
 - b. Adnexal cystic and solid masses

- c. Tuboovarian abscess
 - d. Adnexal torsion
 - e. Ovarian cysts/benign neoplasms
 - f. Diverticulitis
 - g. Appendicitis
2. Elicit a pertinent history suggestive of a pelvic mass, such as: (PC)
 - a. Weight loss or weight gain
 - b. Gastrointestinal symptoms
 - c. Menstrual abnormalities
 - d. Pelvic pain or pressure
 3. Perform a focused physical examination to confirm the diagnosis of a pelvic mass. (MK)
 4. Perform and/or interpret tests such as endovaginal or abdominal ultrasonography to confirm the diagnosis of a pelvic mass. (PC)
 5. Interpret the results of other tests, such as MRI or tomographic imaging, in the evaluation of a pelvic mass. (PC, SBP)
 6. Discuss the role of serum markers in the evaluation and monitoring of a patient with a pelvic mass. (MK)
 7. Treat benign pelvic masses, using nonsurgical or surgical methods, considering such factors as the patient's: (MK)
 - a. Age
 - b. General health
 - c. Treatment preference
 - d. Desire for future childbearing
 - e. Symptom complex
 8. Describe the appropriate follow-up for patients who have been treated

for a benign pelvic mass. (PC, SBP)

H. Endometriosis

1. Summarize the theories of the pathogenesis of endometriosis. (MK)
2. Describe the typical history of a patient with endometriosis. (MK)
3. Perform a focused physical examination in a patient with suspected endometriosis and identify the principal abnormal clinical findings. (PC)
4. Perform and interpret the results of selected tests to confirm the diagnosis of endometriosis, for example: (PC)
 - a. Endovaginal ultrasonography
 - b. Laparoscopy with/without biopsy
5. Describe various features of endometriosis on visual inspection with laparoscopy or laparotomy. Compare the sensitivity of visual inspection with biopsy in diagnosing endometriosis. (MK)
6. Describe the staging system for endometriosis according to the American Society for Reproductive Medicine Classification of Endometriosis. (MK)
7. Treat endometriosis medically and surgically. (PC)
8. Describe the appropriate long-term follow-up and outcome in patients who have endometriosis, including infertility. (MK, PC)

III. First-Trimester Pregnancy Loss

A. Spontaneous abortion

1. Describe the principal causes of, or predisposing factors for, spontaneous first-trimester abortion. (MK)
2. Describe the differential diagnosis of early spontaneous abortion. (MK)
3. Describe the usual symptoms and findings experienced by a patient with an early pregnancy loss. (MK)
4. Perform a focused physical examination to confirm the diagnosis of

spontaneous abortion. (PC)

5. Perform and/or interpret the results of selected tests used in the diagnosis and management of early pregnancy loss: (PC)

- a. Quantitative serum hCG titer
- b. Ultrasonography (abdominal and endovaginal)
- c. Serum progesterone
- d. Complete blood count

6. Treat a patient with an early spontaneous abortion, using nonsurgical or surgical methods. (PC)

7. Describe and treat the complications that may develop as a result of treatment of a spontaneous abortion, for example: (PC)

- a. Genital tract infection
- b. Uterine perforation
- c. Retained products of conception

8. Describe the indications for anti-D immune globulin in patients experiencing a spontaneous abortion. (MK)

9. Counsel patients regarding future fertility issues and risk of recurrent pregnancy losses depending on the etiology (see also Unit 5, Reproductive Endocrinology, section H). (PC, ICS, P)

10. Summarize signs and symptoms, diagnosis, treatment, and potential sequelae for septic abortion. (MK)

B. Ectopic pregnancy

1. Describe the major factors that predispose to ectopic pregnancy. (MK)

2. Elicit a pertinent history in a patient with a suspected ectopic pregnancy. (PC)

3. Perform a focused physical examination in a patient with suspected ectopic pregnancy. (PC)

4. Describe the differential diagnosis of ectopic pregnancy. (MK)

5. Perform and interpret the results of tests to confirm the diagnosis of ectopic pregnancy, such as: (PC)
 - a. Endovaginal ultrasonography
 - b. Uterine curettage or aspiration
 - c. Laparoscopy
6. Interpret the results of other diagnostic tests, such as: (PC)
 - a. Quantitative serum hCG titer
 - b. Complete blood count
7. Describe the indications and contraindications for, and complications of, medical and surgical management of an ectopic pregnancy. (PC)
8. Counsel a patient about the risks and effectiveness of medical and surgical therapy for ectopic pregnancy.
9. Treat an affected patient using appropriate nonsurgical or surgical methods. (PC)
10. Describe the indications for anti-D immune globulin in patients with an ectopic pregnancy. (MK)
11. Describe the follow-up that is indicated for a patient treated for an ectopic pregnancy. (PC, ICS)
12. Counsel patients about the recurrence risk for an ectopic pregnancy and prognosis for a normal intrauterine pregnancy. (PC, ICS, P)

IV. Preoperative, Intraoperative, and Postoperative Care

A. Preoperative care

1. Conduct detailed preoperative assessment with consideration given to the needs of special patient groups, such as: (PC, ICS, P, SBP)
 - a. Children and adolescents
 - b. The elderly
 - c. Patients with coexisting medical conditions, such as

cardiopulmonary disease or coagulation disorders

d. Non-English speaking patients

2. Describe indications for and perform appropriate preoperative evaluation and/or referral, including laboratory tests, radiographic imaging, and EKG. (PC, SBP)

3. Be able to obtain informed consent, with special regard to: (PC, ICS, P)

a. Alternatives to surgery

b. Alternative surgical procedures

c. Interoperative complications

d. Indications for transfusion

4. Compose appropriate preoperative preparation plans for patients undergoing gynecologic surgery, including: (MK, PC)

a. Mechanical bowel preparation

b. Antibiotic use

c. Thromboembolism prophylaxis

d. Preoperative anesthesia consultation

B. Intraoperative care

1. Discuss the surgical plan with the operating room team. (ICS, SBP)

2. Choose appropriate suture and surgical instruments as dictated by the procedure. (MK, PC)

3. Be able to properly position the patient for the procedure and understand the consequences of improper use of stirrups. (PC)

4. Understand and demonstrate the incisions used and instruments for abdominal entry for laparoscopy and laparotomy, including Cherney, Maylard, Midline, Paramedian and Pfannenstiel. (MK, PC)

5. Demonstrate the proper use of retractors. (MK, PC)

6. Name and be able to properly use surgical instruments. (MK, PC)

7. Discuss the various surgical power sources (electrocautery, laser, and so forth), indications for each, alternatives, and complications. (MK, PC)

8. Describe the options for intraoperative pain control. (MK)

C. Postoperative care

1. Choose appropriate pain control based on the surgical procedure, degree of patient discomfort, and patient characteristics, including age and presence of coexisting morbidities. (MK, PC)

2. Elicit appropriate history, perform a physical examination, perform and/or interpret appropriate tests, and manage common postoperative complications, such as: (PC)

a. Fever

b. Gastrointestinal ileus/obstruction

c. Infection

d. Wound complications

e. Fluid or electrolyte imbalances, including abnormalities of urinary output

f. Respiratory problems

g. Thromboembolism

3. Manage and counsel patients about normal postoperative recovery. Include the following topics: (PC, ICS, SBP)

a. Advancement of diet and return to normal dietary and bowel function

b. Ambulation

c. Management of 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

g. Surgical menopause

4. Arrange for appropriate posthospitalization care, including visiting nurse, physical therapy, social services, and other resources to optimize patient outcomes. (SBP)

V. Critical Care

A. Toxic shock syndrome

1. Describe the pathogenesis and microbiology of toxic shock syndrome (TSS). (MK)

2. Describe the typical signs and symptoms of a patient with TSS and distinguish signs/symptoms according to the infectious agent. (PC)

3. Perform a focused physical examination to confirm the diagnosis of TSS, and assess the severity of the patient's illness. (PC)

4. Interpret the results of diagnostic tests to evaluate TSS. (PC)

5. Describe the principles of treatment of TSS, and the possible need for consultation with a critical care or infectious disease specialist. (PC, SBP)

6. Counsel affected patients about the risk of recurrence and the value of preventive measures. (PC)

B. Allergic drug reactions

1. List the drugs most likely to produce allergic reactions in obstetric and gynecologic patients. (MK)

2. Describe the typical symptoms associated with a drug reaction. (MK)

3. Describe the varying degrees of severity of a drug reaction, including anaphylaxis. (MK)

4. Perform a focused physical examination to confirm the diagnosis of a drug reaction and assess the severity of the reaction. (PC)

5. Describe the differential diagnosis of a drug reaction. (MK)

6. Describe the principles of treatment of a drug reaction. Manage a patient with a drug reaction, in consultation with an appropriate specialist, as needed. (MK, PC, SBP)

C. Acute blood loss

1. Describe the pathophysiology of acute blood loss.
2. Describe the laboratory evaluation of acute blood loss, including:
 - a. Complete blood count
 - b. Evaluation of coagulopathy
 - c. Electrolyte evaluation
 - d. Evaluation of acute renal failure
3. Describe the treatment of acute blood loss, including:
 - a. Fluid and electrolyte replacement
 - b. Blood transfusion
 - c. Correction of coagulopathies

You should be competent to perform these procedures by the end of you PGY-2 year:

1. Colposcopy
2. Mylex
3. I&D of a Bartholin's gland
4. Cervical biopsy
5. Treat vulvar condyloma with TCA or cryotherapy

Simulation lab (minimum of 2 hours during the rotation)

Simulation lab procedures:

Goal (< seconds)

- Camera navigation 0 degree	52
- Hand-eye coordination	20
- Clip application	54
- Grasp and Clip	57
- Bean Drop	77
- Cutting	32

- Cautery Application	84
- Object translocation	180
- Peg transfer	48
- Pattern cut	98

Procedures

The following Table lists the procedures pertinent to gynecology and summarizes the level of technical proficiency that should be achieved by a graduating resident. The resident should either understand a procedure (including indications, contraindications, and principles) or be able to perform it independently. These distinctions are based on the premise that knowledge of a procedure is implicit in the ability to perform it.

Procedure	Understand	Understand and Perform
Abdominal sacrocolpopexy	X	
Ablation and excision of endometriosis implants		X
Ablative procedures (cervix endometrium, vagina, vulva)		X
Anti-incontinence (urinary) procedures		
X		
Anoscopy	X	
Appendectomy	X	
Biopsy		
Cervix		X
Endocervix		X
Endometrium		X
Skin		X
Vagina		X
Vulva		X
Peritoneum		X
Breast, cyst aspiration	X	
Cervical Conization		X
Colonic endoscopy	X	
Colpocleisis	X	
Colporrhaphy		
Anterior (including urethropexy)		X
Posterior		X
Colposcopy, with directed biopsy of cervix, vagina or vulva		X
Colposuspension		X
Culdoplasty		X
Cystometrography		
Simple		X
Complex (multichannel)	X	

Procedure	Understand	Understand and Perform
Cystotomy repair		X
Cystourethroscopy	X	
Dilation and curettage		X
Enterocoele repair		X
Enterotomy repair		X
Excision of cyst (ovarian, tubal, vaginal, vulvar)		X
Excision of Bartholin's gland		X
Fistula repair Rectovaginal	X	
Vesicovaginal	X	
Ureterovaginal	X	
Urethrovaginal	X	
Hernia repair (incisional)		X
Hymenotomy		X
Hypogastric artery ligation	X	
Hysterectomy		
Laparoscopic, total or supracervical	X	
Abdominal, total or supracervical		X
Vaginal		X
Vaginal, laparoscopically assisted		X
Hysterosalpingography		X
Hysteroscopy		
Diagnostic		X
Operative		X
Incision and drainage of an abscess or hematoma		X
Laparoscopy, diagnostic and/or operative	X	
Laparotomy incisions, abdominal		X
Lysis of adhesions		
Abdominal		X
Laparoscopic		X
Marsupialization of Bartholin's cyst		X
Myomectomy		X
Omentectomy, infracolic		X
Oophorectomy		X
Ovarian biopsy		X
Ovarian or paraovarian cystectomy		X
Ovarian drilling, laparoscopic	X	
Ovarian transposition	X	
Paravaginal repair	X	
Perineorrhaphy		X

Procedure	Understand	Understand and Perform
Perineoplasty		X
Pessary fitting		X
Polypectomy		X
Presacral neurectomy	X	
Pressure-flow study (urodynamics)	X	
Q-tip test		X
Salpingectomy and/or oophorectomy		X
Salpingostomy	X	
Salpingotomy		X
Sterilization		
Abdominal		X
Laparoscopic		X
Hysteroscopic	X	
Trachelectomy	X	
Trigger point injection	X	
Ultrasonography		
Abdominal		X
Endovaginal		X
Saline infusion ultrasonography	X	
Urethral bulking procedures	X	
Urethral diverticulum repair	X	
Urethral pressure profilometry	X	
Ureteroureterostomy	X	
Ureteral reimplantation	X	
Uterine artery embolization	X	
Uterine evacuation (for pregnancy termination, incomplete abortion, fetal death)	X	
Dilation and evacuation	X	
Suction curettage		X
Mechanical or osmotic preprocedural cervical preparation		X
Vulvectomy, simple	X	
Wide local excision (vulva)		X
Wound care		
Débridement		X
Incision and drainage		X
Placement of fascial or skin graft	X	
Repair of dehiscence		X
Secondary closure		X

