

I. Basic Science/Mechanisms of Disease

A. Genetics

1. Describe the clinical relevance of viral oncogenes.
2. Describe the role of aneuploidy in the pathogenesis of neoplasia.
3. Describe the inheritance patterns for malignancies of the pelvic organs and breast.
4. Describe the cell replication cycle, and identify the phases of the cycle most sensitive to radiation and chemotherapy.
5. Describe the genetic basis for tumor immunotherapy.

B. Physiology

1. Describe the ability of vital organ systems to tolerate cancer therapy.
2. Describe the changes in cellular physiology that result from injury due to radiation and chemotherapy.
3. Describe the metabolic changes that occur in patients with a malignancy of the pelvic organs or breast.

C. Embryology

1. Describe the embryology of gonadal migration and its role in the pathogenesis of epithelial cell tumors.
2. Describe the pathogenesis of gonadal tumors in patients with gonadal dysgenesis.
3. Describe the embryologic precursors of ovarian germ cell tumors.

D. Anatomy

1. Describe the gross histologic anatomy of the pelvic organs and breast.
2. Describe the vascular, lymphatic, and nerve supply to each of the pelvic organs.
3. Describe the anatomic relationship between the reproductive organs and other viscera, such as bladder, ureters, and bowel.
4. Describe the likely changes in the anatomic relationships of the pelvic and abdominal viscera created by surgical or radiation treatment for malignancy.

E. Pharmacology

1. List major chemotherapeutic agents used for treatment of malignancies of the reproductive organs and breast.
2. Describe the principal adverse effects of the major chemotherapeutic agents.

3. Describe the medications of most value in treatment of complications resulting from chemotherapy and irradiation, such as:
 - a. Marrow suppression
 - b. Nausea and vomiting
 - c. Hemorrhagic cystitis
 - d. Peripheral neuropathy
 - e. Renal Toxicity

F. Pathology and Neoplasia

1. Describe the histology of malignancies of the pelvic organs and breast.
2. Describe the pathogenesis of malignancies of the pelvic organs and breast.
3. Describe the prognosis for the major malignancies of the breast and reproductive organs.

G. Microbiology and Immunology

1. Describe the alterations in host immune mechanisms that occur as a result of malignancies of the reproductive tract and breast.
2. Describe the immune changes that occur as a result of treatment of malignancies of the reproductive tract and breast.
3. Describe the immune aberrations that result from malnutrition and cachexia.

I. Vulvar and Vaginal Malignancies

A. Preinvasive Vulvar Lesions

1. Describe the epidemiology and pathogenesis of preinvasive vulvar lesions.
2. Describe the typical clinical manifestations of preinvasive vulvar lesions.
3. List the differential diagnosis of pigmented and nonpigmented vulvar lesions.
4. Treat preinvasive vulvar lesions medically and surgically.
5. Implement appropriate follow-up after treatment.

B. Invasive Vulvar Carcinoma

1. Describe the epidemiology and pathogenesis of the invasive vulvar lesions.
 - a. Melanoma
 - b. Squamous cell cancer
 - c. Basal cell carcinoma
 - d. Paget's disease
 - e. Sarcoma
 - f. Verrucous carcinoma

g. Bartholin's gland carcinoma

2. Describe the clinical manifestations of invasive vulvar malignancies.
3. Describe the staging of invasive vulvar cancers using the system adopted by the International Federation of Gynecology and Obstetrics (FIGO).
4. Describe the differential diagnosis of vulvar cancer.
5. Describe the treatments of invasive vulvar malignancies.
6. Describe the prognosis for invasive vulvar malignancies.
7. Refer patients to a subspecialist for definitive treatment of an invasive vulvar malignancy.
8. Manage, in consultation with subspecialist, the common complications of surgical and radiation treatment for invasive vulvar cancer.
9. Describe the impact of treatment vulvar cancer on sexual function and appropriately refer the patient for specialized treatment if sexual dysfunction develops.

C. Preinvasive Vaginal Neoplasia

1. Describe the epidemiology and pathogenesis of preinvasive vaginal neoplasia (VAIN).
2. Describe the typical clinical manifestations of VAIN.
3. Diagnose VAIN based on cytologic, coloscopic, and histologic findings.
4. Treat patients with VAIN medically and surgically.
5. Describe the structural and histological changes in the vagina characteristic of in utero exposure to diethylstilbestrol (DES).

D. Invasive Carcinoma of the Vagina

1. Describe the epidemiology and pathogenesis of invasive vaginal cancer.
2. Describe the typical clinical manifestations of invasive vaginal cancer.
3. Describe the FIGO staging of the invasive vaginal cancer.
4. Describe the differential diagnosis of invasive cancer.
5. Describe the treatments for invasive vaginal cancer
6. Describe the prognosis for invasive vaginal cancer.
7. Refer patients to a subspecialist for definitive treatment.
8. Manage, in combination with a subspecialist, the common complications of surgical and radiation treatment for vaginal cancer.

III. Cervical Disorders

A. Preinvasive Cervical Disease

1. Describe the epidemiology and pathogenesis of cervical dysplasia.
2. Elicit a pertinent history in a woman with an abnormal Pap test.
3. Interpret Pat test reports using the Bethesda classification system.

4. Interpret the results of cervical biopsy, and plan definitive therapy.
5. Treat cervical dysplasia with modalities, such as:
 - a. Cryosurgery
 - b. Laser ablation
 - c. Loop electrical excision
6. Manage the complications resulting from treatment of cervical dysplasia.
7. Describe the appropriate follow-up for a woman who has been treated for cervical dysplasia.
8. Describe the structural changes in the cervix that are characteristic of intrauterine DES exposure.

B. Invasive Cervical Cancer

1. Describe the epidemiology and pathogenesis of invasive cervical cancer.
2. Describe the typical clinical manifestations of invasive cervical cancer.
3. Describe the FIGO staging of invasive cervical cancer.
4. Describe the differential diagnosis of invasive cervical cancer.
5. Describe the treatments of invasive cervical cancer.
6. Refer patient to a subspecialist for definitive treatment.
7. Manage, in combination with a subspecialist, the common complications of surgical and radiation treatment for cervical cancer.
8. Address the psychological concerns of patients who have invasive cervical cancer and refer to a consultant when indicated.

IV. Carcinoma of the Uterus

A. Endometrial Hyperplasia

1. Obtain a targeted history in patients who have abnormal bleeding, including an assessment of risk factors, such as:
 - a. Obesity
 - b. Anovulation
 - c. Polycystic ovary syndrome
 - d. Glucose intolerance
 - e. Estrogen or antiestrogen exposure
 - f. Family history
2. Perform a focused physical examination in women who have abnormal bleeding and risk factors for endometrial hyperplasia.
3. Describe the classification of endometrial hyperplasia:
 - a. Simple
 - b. Complex
 - c. Atypical

4. Describe the factors that influence treatment of hyperplasia, such as:
 - a. Classification and history
 - b. Age of patient
 - c. Reproduction goals
 - d. Risk of malignancy
5. Select and perform appropriate treatments for endometrial hyperplasia:
 - a. Medical therapy
 - (1) Progestins
 - (2) Oral contraceptives
 - (3) Gonadotropin-releasing hormone analogs
 - (4) Danazol
 - b. Surgery
 - (1) Endometrial curettage
 - (2) Endometrial ablation
 - (3) Hysterectomy
6. Describe and manage the potential complications of these interventions.
7. Describe appropriate follow-up for these patients after treatment.

B. Carcinoma of the Endometrium

1. Describe the epidemiology and pathogenesis of invasive endometrial cancer.
2. Describe the typical clinical manifestations of invasive endometrial cancer.
3. Describe the FIGO staging of invasive endometrial cancer.
4. Describe the differential diagnosis of invasive endometrial cancer.
5. Describe the treatments of invasive endometrial cancer
6. Describe the prognosis for invasive endometrial cancer.
7. Refer patients to a subspecialist for definitive treatment.
8. Manage, in combination with a subspecialist, the common complications of surgical and radiation treatment for endometrial cancer.

V. Ovarian and Tubal Carcinoma

A. Carcinoma of the Ovary

1. Describe the epidemiology and pathogenesis of ovarian cancer.
2. Describe the inherited syndromes that increase a woman's likelihood of developing ovarian cancer.
3. Describe the screening protocols that may identify patients who have an inherited form of ovarian cancer.
4. Describe the typical clinical manifestations of ovarian cancer.
5. Describe the histology, staging, and prognosis for:
 - a. Epithelial tumors

- b. Germ cell tumors
 - c. Stromal tumors
 - d. Sarcomas
 - e. Metastatic tumors
 - f. Tumors of low malignant potential
6. Interpret the following tests to diagnose ovarian cancer:
- a. Ultrasonography
 - b. Serum tumor markers
 - c. Cytology from paracentesis
7. Describe the treatment of ovarian cancer based on:
- a. Type
 - b. Grade
 - c. Stage
 - d. Patient characteristics
8. Perform procedures to treat women with ovarian cancer, in consultation with subspecialists when indicated.
- a. Ultrasonography
 - b. Serum tumor markers
 - c. Cytology from paracentesis
9. Describe the indications for secondary cytoreductive surgery.
10. Manage, in consultations with subspecialist, the common complications resulting from treatment of ovarian cancer.
11. Provide psychosocial support and appropriate palliative therapy for women dying of ovarian cancer.

B. Carcinoma of the Fallopian Tube

- 1. Describe the epidemiology of pathogenesis of fallopian tube cancer.
- 2. Describe the typical clinical manifestations of fallopian tube cancer.
- 3. Describe the histology, FIGO staging, and prognosis of fallopian tube tumors.
- 4. Perform appropriate tests to diagnose cancer of the fallopian tube.
- 5. Describe the treatment of fallopian tube cancer based on:
 - a. Type
 - b. Grade
 - c. Stage
 - d. Patient characteristics
- 6. Perform procedures to treat women with fallopian tube cancer, in consultation with subspecialists when indicated.

7. Manage, in consultation with subspecialist, the common complications resulting from treatment of fallopian tube cancer.
8. Provide psychosocial support and appropriately palliate women dying of fallopian tube cancer.

VI. Gestational Trophoblastic Disease

A. Hydatidiform mole

1. Describe the epidemiology and pathogenesis of hydatidiform mole.
2. Describe the typical clinical manifestations of gestational trophoblastic disease (GTD).
3. Diagnose GTD and its complications using tests such as:
 - a. Ultrasonography
 - b. Quantitative β -hCG titer
 - c. Chest X-ray
 - d. CT scan of brain, liver and chest
 - e. Thyroid function tests
4. Distinguish between a complete and partial hydatidiform mole using histology and cytogenetic findings.
5. Describe the appropriate follow-up for a patient who has had suction evacuation of a molar pregnancy.
6. Describe the indications for, and complications of, chemotherapy after surgical evacuation of a molar pregnancy.
7. Describe the indications of referral of the patient to a subspecialist for chemotherapy.
8. Counsel the patient regarding recurrence risk for GTD.

B. Malignant Gestational Trophoblastic Disease

1. Describe the conditions that may precede malignant GTD.
2. Describe the histologic appearance of invasive mole versus choriocarcinoma versus placental site trophoblastic tumor.
3. Diagnose malignant GTD using a combination of physical examination, β -hCG, chest x-ray, CT scan, and ultrasonography.
4. Classify GTD into good prognosis (low risk) versus poor prognosis (high risk).
5. Describe the medical and surgical management of malignant GTD.
6. Provide, in consultation with a subspecialist, medical and surgical treatment for a patient with malignant GTD.
7. Provide appropriate follow-up at the completion of treatment.
8. Counsel patients regarding risk of recurrence and prognosis for future pregnancies.

VII. Therapy

A. Radiation Therapy

1. Describe the general principles of radiation therapy.
2. Identify when radiation therapy is indicated, either as primary treatment or as adjunctive treatment, for gynecologic neoplasms.
3. Describe the basic mechanism of action of:
 - a. Intracavitary irradiation
 - b. External-beam irradiation
 - c. Interstitial irradiation
 - d. Radioisotopes
 - e. Palliative radiation therapy
4. Describe the factors that influence decisions regarding intervention, such as:
 - a. Classification and FIGO staging of disease and histology
 - b. Age of patient
 - c. Underlying medical conditions
 - d. Implications for future fertility
 - e. Concomitant therapy with radiosensitizers or chemotherapy.
 - f. Previous abdominal procedures
 - g. Maximal dose tolerance of selected organ systems.
5. Describe the potential complications of radiation therapy.
6. In consultation with a subspecialist, manage the complications of radiation therapy.

B. Chemotherapy

1. Describe the general principles and mechanism of action of chemotherapy.
2. Identify when chemotherapy is indicated, either as primary treatment for gynecologic neoplasms.
3. Describe the likelihood of response of each common gynecologic malignancy to chemotherapeutic agents.
4. Describe the mechanisms of action and antineoplastic activity of various chemotherapeutic agents, such as:
 - a. Alkylating agents
 - b. Antimetabolites
 - c. Vinca alkaloids
 - d. Antibiotics
 - e. Hormones
 - f. Heavy metals
 - g. Immunotherapy
5. Describe and manage the potential complications of chemotherapy.
6. Describe the long-term effects of chemotherapy on fertility.

C. Terminal Care

1. Describe the basic principles of palliative care.
2. Describe medical, radiation, and operative modalities for palliation of symptoms in terminally ill patients.
3. Describe the appropriate indications for a do-not-resuscitate order.
4. Describe the medical, ethical, and legal indications of such an order.
5. Describe the concept of therapeutic index when considering medical or operative intervention to improve patients' quality of life.
6. Describe the basic principles of pain management.

Procedures

The table at the end of Unit 4, Gynecology, provides a detailed list of the gynecologic procedures with which the resident should be familiar. The following table lists the additional procedures that are specific to gynecologic oncology 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.

OBJECTIVES FOR ELECTIVE COLPOSCOPY ROTATION

Goals

- To identify the colposcopic features of dysplasia of the lower genital tract.
- Have a working knowledge of HPV biology and epidemiology.
- Understand the principles of cervical cancer screening.
- Understand the role of liquid-based cytology versus traditional Pap smears.
- Understand and have a working knowledge of the Bethesda system.
- Working and understanding of pathology relative to the cytology and histology of dysplasia.
- Be aware of the principles of cervical cytology, histopathology, pathophysiology and basic colposcopy.
- Be able to differentiate low-grade lesions, high-grade lesions and invasive disease of the lower genital tract.
- Be able to decide appropriate management and be thoroughly familiar with all surgical methods of treatment of pre-malignant and benign disease of the lower genital tract.
- Be able to counsel the woman with the abnormal cytology or with a macroscopically abnormal cervix.

Procedure	Understand	Perform
Colectomy (partial or total)	X	
Colostomy	X	
Fistula repair		
Enterocutaneous	X	
Ureterovaginal	X	
Hysterectomy		
Extrafascial (with or without bilateral Salpingo-oophorectomy)		X
Radial (with or without bilateral Salpingo-oophorectomy)	X	
Lymph node biopsy/dissection		
Axillary	X	
Inguinal	X	
Paraaortic	X	
Pelvic		X
Sentinel	X	
Paracentesis		X
Pelvic exenteration with or without Reconstruction	X	
Port placement, interperitoneal	X	
Radiation therapy		
Brachytherapy	X	
External beam	X	
Interstitial	X	
Resection of large and small bowel	X	
Staging laparotomy		
Biopsy of pelvic lymph nodes		X
Biopsy of peritoneal implants and cytologic washings of the peritoneal cavity		X

Procedure	Understand	Perform
Cytology smear of diaphragm		X
Exploration of abdomen		X
Infracolic omentectomy		X
Suction evacuation of molar pregnancy		X
Vaginal reconstruction		
Gracilis flap	X	
Martius flap	X	
Skin graft	X	
Transverse rectus abdominis myocutaneous flap	X	
Venous access device placement	X	
Vulvectomy – modified radical		X
Vulvectomy – radical	X	

GYNECOLOGY ONCOLOGY ROTATION OBJECTIVES

At the completion of the gynecologic oncology rotation, the resident will have acquired the following competencies:

Medical Expert/Clinical Decision Maker

General Requirements **(Please see attached rotation objectives)**

The resident must demonstrate

- diagnostic and therapeutic skills for ethical and effective patient care
- the ability to access and apply relevant information to clinical practice
- effective consultation services with respect to patient care, education and legal opinions

Communicator

General Requirements

The resident must be able to:

- establish therapeutic relationships with patients/families
- obtain and synthesize relevant history from patients/families/communities
- listen effectively, and discuss appropriate information with patients/families and the health care team

Specific Requirements

The resident must demonstrate:

- the ability to obtain informed consent
- evidence of good interpersonal skills when working with patients, families, and other members of the oncology team
- an understanding of the unique impact of psychological, social, sexual and ethical problems that may arise as the patient and her family cope with gynecological cancer and its treatment
- the ability to support the morale of the patient with compassion and understanding, and to address issues in terminal care

Collaborator

General Requirements

The resident must be able to:

- consult effectively with other physicians and health care professionals
- contribute effectively to other interdisciplinary team activities

Specific Requirements

The resident must:

- demonstrate the ability to participate in an interdisciplinary and multi-specialized team and the ability to respect, consider and accept the opinions of other team members
- be able to function effectively at multi-disciplinary and inter-disciplinary group meetings (eg. Tumor Board)
- demonstrate the ability to work effectively with gynecologists, radiation oncologists, medical oncologists, pathologists, surgeons, basic researchers, nurses and other health care workers
- understand the significant role of other allied health care professionals in the provision of holistic patient care
- demonstrate the ability to utilize health care resources necessary to provide a functioning multidisciplinary team in order to effectively manage the concerns and the problems of patients with genital cancer

Manager

General Requirements

The resident should be able to:

- manage resources effectively to balance patient care, learning needs and outside activities
- work effectively and efficiently in a health care organization; and utilize information technology to optimize patient care, life-long learning and other activities.

Specific Requirements

The resident should have:

- the ability to utilize health care resources necessary to promote a functioning multidisciplinary team to effectively manage the concerns and the problems of patients with genital cancer
- appropriate involvement in the development and utilization of “Supportive and Coping Programs” including palliative care for patients who have gynecologic cancer
- an understanding of the structure, financing, and operation of provincial and regional health systems and their facilities

Health Advocate

General Requirements

The resident will:

- identify the important determinants of health affecting patients

- contribute effectively to improved health of patients and communities
- recognize and respond to those issues where advocacy is appropriate

Specific Requirements

- The resident should have the ability to identify current “at risk” groups in gynecologic oncology and apply the available knowledge about prevention to “at risk” groups within the specialty; and contribute “group data” to understanding health problems of this population
- In the management of individual patients, the resident should be able to identify the patient’s status with respect to one or more of the determinants of health (i.e. unemployment); adapt the assessment and management accordingly (ie. the medical history to the patient’s social circumstances); and assess the patient’s ability to access various services in the health and social system
- The resident should have the ability to make clinical decisions and judgments based on sound evidence for the benefit of individual patients and the population served. This allows for an advocacy role primarily for the individual but in the context of societal needs when monitoring and allocating needed resources.

Scholar

General Requirements

The resident must:

- develop, implement and monitor a personal continuing education strategy; critically appraise sources of medical information
- facilitate learning of patients, house staff/students and other health professionals
- contribute to development of new knowledge

Specific Requirements

The resident should be able to function effectively in each of the following areas:

Research

- develop a life-long personal plan of research (for professional development and patient care)

Education

- ability to assess medical procedures ability to teach students and nurses
- ability to present up-to-date knowledge related to gynecologic oncology

Professional

General Requirements

The resident must:

- deliver highest quality care with integrity, honesty and compassion
- exhibit appropriate personal and interpersonal professional behaviours
- practice medicine consistent with the ethical obligations of a physician
- demonstrate patterns of learning conducive to life-long continuing professional development

Specific Requirements

Discipline-Based Objectives

The resident will:

- continually self-evaluate abilities, knowledge and skills and know the limitations of professional competence (performance self-evaluation)
- foster a caring, cooperative, compassionate attitude for patients, their families and friends

Personal/Professional Boundary Objectives

The resident will:

- be punctual, show self-discipline in obligations on the ward, in conferences and other activities, and be a moral and ethic role-model for colleagues
- know how to delegate responsibilities and process a plan to solve inter-professional conflicts; and have the ability to balance professional life with personal life

Objectives Related to Ethics and Professional Bodies

The resident will:

- know the principles of medical ethics as applied to gynecologic oncology
- know when to refer a case to the ethics committee
- be able to consult and advise in particular ethics situations
- show respect for the patient's beliefs; and know how to deal with professional intimidation and complaints

GYNECOLOGIC ONCOLOGY ROTATION

Medical Expert Objectives

General Requirements

The general objectives of the rotation are to provide the trainee with comprehensive exposures and knowledge of surgical oncology with emphasis on screening, prevention, diagnosis, and treatment of premalignant and malignant conditions of the female reproductive organs.

Specific Requirements

The trainee will be competent at managing all pre and postoperative issues in a patient with cancer with appropriate consultations to other medical and surgical specialists. For each anatomic site, the trainee will be expected to have complete understanding of the epidemiology of the disease, the presenting signs and symptoms, the natural history of the disease, the histopathology, required investigations, and available treatment options together with associated common complications. The trainee will be familiar with the principles of palliative care and approaches to terminal illness.

Peri-Operative Care

The trainee will develop the ability to:

- understand factors relating to the assessment of operative risk
- recognize and understand the implications for perioperative care of cardiovascular disorders, respiratory disorders, endocrine-metabolic disorders, hematologic disorders, hepatic and gastrointestinal disorders, autoimmune disorders, neurologic disorders, psychiatric disorders
- recognize and understand the implications to surgery of the physiologic changes of aging
- recognize the implications to surgery of important or commonly used drugs
- understand the basis for the development of the following:
 - identify risk factors for, and prescribe measures to prevent the following postoperative complications: bacterial endocarditis, myocardial ischemia and infarction, deep venous thrombosis, pulmonary embolism, atelectasis, pneumonia
- understand the principles related to: anesthetic pre-medication and skin/wound preparation
- understand the principles and techniques of asepsis and antisepsis
- understand the basis for the development of compression or traction injuries during surgical procedures and measures necessary to avoid such injuries (e.g. patient positioning)
- understand the basic indications, contraindications and complications relating to the use of various forms of local, regional and general anesthesia

- understand and identify the principles of management of the following intra operative complications: unexpected bleeding, injuries to bowel, bladder, and ureters
- identify sites and techniques for establishing intravenous access in resuscitation, elective surgical settings, and long-term intravenous therapy; understand the rationale for selecting specific sites and techniques, contraindications, potential complications, and measures to avoid such complications
- identify the indications, techniques of administration (oral, parenteral, epidural, patient-controlled etc.) contraindications and complications of analgesic drugs
- understand the bases for the development of postoperative problems such as the following and identify the measures to diagnose appropriately and prescribe the measures necessary to treat such problems:
 - deep vein thrombosis, pulmonary thromboembolism, atelectasis, pneumonia, hypoxemia, hypercarbia, respiratory failure, oliguria, myocardial ischemia and infarction, congestive heart failure, arrhythmia, hypotension, hypertension, fever, bacteremia, delirium, gastro duodenal stress ulcer, pressure palsy and ulcers, ileus.
- identify the events and mediators of normal wound healing, their time course, and their clinical relevance
- differentiate healing by primary closure, delayed primary closure, and secondary intention and identify indications for their planned use
- understand the basis for the use of various suture materials, staples, other methods of wound closure, drains and drainage methods, and the implantations for wound healing and related complications
- identify factors associated with impaired wound healing and wound dehiscence, and measures to minimize their effect
- identify principles of wound management including the use of skin grafts and tissue flaps
- understand the principles of cross-matching of blood and the indications, contraindications, and complications of the administration of uncross-matched, type-specific, and cross-matched blood
- understand the physiologic basis for fluid, electrolyte, and acid-base management of the surgical patient, including body water compartments; composition, osmotic activity and oncotic pressure of body fluids; water and electrolyte exchange; mechanisms of osmoregulation and volume regulation; buffer systems and mechanisms of acid-base homeostasis
- prescribe appropriate fluid and electrolyte management in terms of maintenance requirements, correction of existing deficits, replacement of ongoing losses, and monitoring of fluid and electrolyte status
- diagnose and prescribe appropriate treatment for fluid, electrolyte, and acid-base disturbances, on the basis of clinical manifestations and interpretation of blood gases and serum and urine biochemistry, including metabolic acidosis and alkalosis, respiratory acidosis and alkalosis, mixed acid-base disturbances, hyponatremia, hypernatremia, syndrome of inappropriate ADH release, diabetes insipidus

- identify the composition of conventional intravenous solutions and understand the indications for their use and potential adverse effects in surgical patients
- identify and distinguish shock arising from various causes in pathophysiologic terms and by interpretation of a relevant history, physical examination, and investigations; prescribe appropriate management
- identify potential indications, contraindications, techniques, and complications of invasive and non-invasive hemodynamic and physiologic monitoring including ECG, transcutaneous oxygen saturation, BP monitoring non-invasive or by arterial line, end-tidal CO₂, central venous pressure, pulmonary artery catheter
- understand basic concepts related to the use of mechanical ventilation
- identify the factors in clinical and laboratory assessment which contribute to an evaluation of nutritional state
- identify the implications of malnutrition for the surgical patient
- understand the rationale and clinical indications for and the use of various enteral and parenteral routes of nutritional support
- identify complications related to the use of enteral and parenteral nutrition and their management
- identify the management of acute metabolic problems including disturbances of calcium, potassium, sodium, glucose, magnesium
- identify the ethical and legal principles relating to confidentiality and access to health records, record-keeping, informed consent, obtaining permission for autopsy, autonomy, paternalism, beneficence, non-maleficence, withholding resuscitative measures, organ donation, brain death, professional misconduct, allocation of resources, effective communication, relation of patient care and cost effectiveness
- identify risk factors for surgical wound infection and expected rates of surgical wound infection according to classification of wound type; understand the rationale for and prescribe measures to minimize its occurrence; and prescribe appropriate treatment.
- identify patterns of antimicrobial activity, potential adverse effects and drug interactions, and clinical dosing considerations for antibiotics

Vulvar Cancer

The trainee will develop the ability to:

- discuss the epidemiology of vulva carcinoma
- discuss the signs and symptoms associated with premalignant and malignant lesions of the vulva
- classify and describe histologically benign vulva lesions
- perform vulvar biopsies for diagnosis
- describe the indications, contraindications and complications of surgical excision and laser ablation for premalignant lesions and squamous cell carcinoma in situ of the vulva
- perform wide local excision as appropriate for the purpose of diagnosis and treatment

- discuss the indications and contraindications for simple vulvectomy, radical vulvectomy and inguinofemoral lymphadenectomy in the treatment of vulva diseases
- describe the common complications associated with radical vulvectomy and groin node dissection
- know the FIGO staging for carcinoma of the vulva
- know prognosis associated with different stages of vulvar cancer
- be aware of the role of adjuvant radiation therapy in the management in women with cancer of the vulva
- be familiar with common non squamous cell malignancies of the vulva and discuss their clinical presentation, principles of management and prognosis

Carcinoma of the Vagina

The trainee will develop the ability to:

- know the general incidence and risk factors for VAIN and carcinoma of the vagina
- describe the most common pathologic subtypes of carcinoma of the vagina and their pattern of spread
- know the FIGO staging system for carcinoma of the vagina
- know the signs and symptoms of carcinoma of the vagina
- describe and perform the following diagnostic tests: colposcopy, Schiller's test and directed biopsy
- discuss indications, contraindications, and complications associated with surgical treatment of carcinoma of the vagina
- discuss the indications, contraindications together with the common associated complications in the use of radiation therapy for carcinoma of the vagina
- discuss the genital changes caused by intrauterine exposure to Diethylstilboestrol and the association with clear cell adenocarcinoma of the vagina

Carcinoma of the Cervix

The trainee will develop the ability to:

- know the general incidence and the risk factors for cervical dysplasia and carcinoma of the cervix
- be familiar with the underlying principles and challenges behind the screening programs for cancer of the cervix including frequency of screening, technique of the smear, interpretation of results and management of abnormal results
- describe the histopathology of the normal transformation zone and its role in the pathogenesis of cervical intraepithelial neoplasia
- perform the cervical biopsies and endocervical curettage
- discuss the indications, contraindications and complications of cervical conization, cryotherapy, laser therapy and loop electrosurgical procedure for treatment of cervical dysplasia
- list common signs and symptoms of invasive carcinoma of the cervix

- establish a plan of investigation for women with carcinoma of the cervix and know the FIGO classification of staging of cervical cancer
- discuss the indications, contraindications, potential advantages and complications of radical surgery for carcinoma of the cervix
- discuss the indications, contraindications, potential advantages and complications of combined chemo radiation therapy for carcinoma of the cervix
- describe the regional lymphatic spread pattern of cancer of the cervix, its implication on treatment and prognosis
- expose the retroperitoneal structures including the ureters and iliac vessels at surgery
- discuss the indications, contraindications, and potential complications of pelvic exenteration in the treatment of recurrent cervical carcinoma

Carcinoma of the Endometrium

The trainee will develop the ability to:

- explain the general incidence and risk factors for carcinoma of the endometrium
- discuss the presenting signs and symptoms in women with carcinoma of the endometrium
- discuss the role of ultrasound in the investigation of a patient with post-menopausal bleeding and discuss the indications and accuracy of cytology, endometrial biopsies and uterine curettage
- describe the histopathology of the normal post-menopausal endometrium, simple hyperplasia, atypical hyperplasia, and carcinoma
- establish a plan of investigation and be familiar with the FIGO classification for surgical staging of carcinoma of the endometrium
- be aware of the standard surgical staging procedures for treatment of adenocarcinoma of the endometrium
- describe the regional lymphatic spread of carcinoma of the endometrium and its implication in the recommendation of surgical staging
- discuss the role of adjuvant radiation therapy in women with carcinoma of the endometrium
- describe the roles of hormonal therapy and chemotherapy for patients with recurrent or advanced carcinoma of the endometrium
- explain the role of hereditary cancers ie (BRACA 1&2, HNPCC) on the develop of this cancer

Carcinoma of the Ovary/Fallopian Tubes

The trainee will develop the ability to:

- know the epidemiology of carcinoma of the ovary and fallopian tubes
- list the signs and symptoms associated with cancer of the ovary
- describe the gross appearance, clinical behaviour and pattern of spread of ovarian cancer
- know the general histopathologic classification (WHO) of ovarian tumours

- discuss the appropriate pre-operative investigations of women with suspected ovarian cancer
- describe the management of an ovarian tumour discovered on routine pelvic in different age groups; pre-menarcheal, adolescent, reproductive years and post-menopausal
- know the FIGO staging system for carcinoma of the ovary
- describe the standard surgical staging procedure for carcinoma of the ovary
- be familiar with the retroperitoneal approach for debulking of ovarian cancer, the omentectomy and lymph node sampling
- describe major intra-operative and post-operative complications associated with debulking surgery
- discuss the difficulties in screening for ovarian cancer
- be familiar with indications for chemotherapy and the chemotherapeutic agents that are active in ovarian cancer
- be familiar with the side effects related to different chemotherapy drugs and their mode of action
- understand the role of tumour markers in diagnosis and follow up of patients with ovarian cancers
- perform a paracentesis and know the indications, contraindications and complications
- list and describe the indications and principles of radiation therapy for women with cancer of the ovary
- describe the signs and symptoms related to fallopian tube carcinoma
- describe appropriate surgery for fallopian tube carcinoma
- discuss principles of post-operative treatment for carcinoma of the fallopian tube
- describe the role of genetic predisposition to ovarian cancer
- describe the role of prophylactic oophorectomy in patients with BRACA 1 or 2

Gestational Trophoblastic Neoplasia

The trainee will develop the ability to:

- know the general incidence, risk factors, and prognosis of gestational trophoblastic neoplasia
- describe the pathophysiology of complete and partial hydatidiform mole, invasive mole and choriocarcinoma
- know the investigations required to make a diagnosis and treat patients with gestational trophoblastic neoplasia
- describe the methods of evacuating a hydatidiform mole and their respective indications, contraindications and complications
- plan the follow-up care of patients after evacuation of hydatidiform mole
- list the indications for initiating chemotherapy in trophoblastic disease
- discuss the investigations required in persistent trophoblastic disease
- plan the follow up care after chemotherapy for trophoblastic disease
- be familiar with the chemotherapy agents and regimens active in persistent hydatidiform mole and choriocarcinoma

- know the poor prognostic factors associated with persistent GTN and how they affect cure rates
- advise patients concerning contraception and future fertility in the follow up period

Technical Procedural Skills

The trainee will develop the ability to:

Be able to perform competently:

- dilatation and curettage for post menopausal bleedings
- cone biopsies
- diagnostic and therapeutic excision of vulva lesions
- paracentesis and thoracentesis
- exploratory laparotomy using various incisions techniques
- complete assessment of intra abdominal organs at the time of laparotomy
- lysis of intra abdominal adhesions
- TAH/BSO/Infracolic Omentectomy/Pelvic Lymph Node Sampling
- exposure and identification of important retroperitoneal structures

Be able to recognize and assist with:

- intra operative injuries to GI and GU tracts and their proper surgical corrections
- retroperitoneal lymphadenectomies
- radical surgical procedures as applicable to gynecologic oncology (hysterectomy, vulvectomy, exenteration)

Radiation Therapy

The trainee will develop the ability to:

- identify the role of radiation therapy for women with gynecological malignancies
- discuss the indications and the principles of external radiation and intracavitary radiation for women with advanced cancer of the cervix
- discuss the indications for adjuvant post-operative radiation therapy in women with carcinoma of the endometrium and carcinoma of the cervix
- discuss the role of radiation therapy in women with carcinoma of the ovary
- discuss the factors that limit dosage to the normal surrounding pelvic tissues including the rectum, bladder and vagina
- discuss the acute and long term complications of radiation therapy on the GI and GU tracts

Palliative Care

The trainee will develop the ability to:

- describe the common distressing symptoms of women suffering from terminal gynecologic cancers
- describe the anatomic structures responsible for pain in women with advanced cancer of the cervix
- discuss the indications, contraindications and side effects of commonly used narcotic analgesics in patients with advanced cancer of the cervix
- describe the management of obstructive uropathy in advanced cancer of the cervix
- describe the pathophysiology of bowel obstruction in women with advanced cancer of the ovary
- describe the medical and surgical management options for bowel obstruction in women with advanced cancer of the ovary including indications and contraindications for surgery
- discuss with patients the diagnosis and prognosis associated with their cancer
- be comfortable with patients' (and family) inquiries on death and dying
- be familiar with the available resources in the community for care of terminally ill patients
- view the gynecology-oncology objectives listed in the CREOG booklet

Administrative Requirements for Gynecological Oncology Residents

Residents are required to be an integral part of the Gynecological Oncology Team.

Specific patients related responsibilities include:

Ward

Service rounds should be done at 07:00 hours each morning during the week so that the main problems for the day can be planned and appropriate arrangements can be made. A second ward round should be done in the evening and appropriate sign over of critically ill patients to the on call residents and attending physicians. This should include follow up of all imaging studies done during the day and ensuring that all appropriate interventions had been performed. The resident is responsible for timely completion of all discharge summaries and proper progress notes being recorded on each in-patient daily.

Operating Room

- residents are required to attend the O.R. and will be actively involved to the level of which will be proportional to his/her ability
- all patients admitted pre-op for surgery should have a pre-operative note which includes:
 - a brief summary of the clinical indication for the surgery

- reports of relevant tests including barium enema, chest x-ray, pulmonary function tests, hemoglobin, ECG, etc
 - relevant medical problems clearly documented
 - planned procedure
- operative notes should begin with a clinical note which is a brief summary of the indication for the procedure. It should then be followed by a section entitled “Findings” which lists the disease status, the time of surgery, the size and site of the metastasis, the presence of pelvic and/or periaortic adenopathy including description of size, omental metastasis, liver metastasis sites and size, intra or superficial, peritoneal deposits, the presence of disease or absence of disease on the diaphragm. Documentation should also be made of the presence of ascites, bowel metastasis and the presence or absence of gallbladder stones. This then should then be followed by a description of the residual disease after surgery, the stated procedure and a description of the actual operative report. Copies of the O.R. report should be sent to the referring physician as well as the patient’s general practitioner. The residents are responsible for minor procedures on all patients including paracentesis and thoracentesis.

Clinics

- Clinic schedules will be given to the resident at the start of the rotation
- Residents are primarily responsible for seeing all new patients and are to be an integral part of the Gynecologic Oncology Team.
- Proper attire including lab coat and I.D. are required

Rounds

- Residents are expected to do patient rounds at 07:00 hours Monday to Friday
- Residents are responsible for timely discharge summary O.R. reports as indicated.
- Residents are expected to attend O.R. on time
- Residents or clerks are expected to be present at Gynecology/Pathology rounds
- Residents are responsible for filling out preliminary discharge summaries of the chart
- Residents are responsible for documenting all results, ie. chest x-ray, labs
- Residents are expected to perform weekend patient rounds in collaboration with the attending on call physician