

## GENERAL SURGERY

### PGY-4 Resident

#### Knowledge Objectives:

1. In depth knowledge of the anatomy of the head and neck with respect to:
  - Fascial planes
  - Path and course of cranial nerves
  - Knowledge of major arterial and venous structures
  - Anatomy of the larynx and cervical trachea
  - Location of cricothyroid membrane
  - Steps involved in a radical and modified radical neck dissection
2. Knowledge of the concept of field cancerization and its implications in tumors of the head and neck.
3. Identify and delineate level 1 through 5 lymph node regions.
4. Role of diagnostic modalities in the evaluation of head and neck lesions:
  - Plain x-rays
  - CT scan
  - MRI
  - Ultrasound
  - Isotope scans
5. Knowledge of the role of preoperative and postoperative chemo and radiotherapy for neoplastic lesions of the head and neck.
6. Knowledge of the sources of financing for U.S. Health Care including:
  - Medicare
  - Medicaid
  - Veteran Affairs and Department of Defense
  - Public Health System
  - Employer-based private health plans
  - HMO
  - PPO
7. Knowledge of basic health care reimbursement systems
8. Knowledge of the fundamental cellular and molecular events involved in platelet activation.
9. Basic principles of rheology as they applied to vascular physiology and pathophysiology.
10. Identify and discuss the pathophysiology and the management of common acquired disorders of coagulation associated with stress, trauma, surgery, and co-morbid conditions including:
  - DIC

- Dilutional thrombocytopenia
- Mechanical circulation
- Hypothermia
- Vit K deficiency
- Uremia
- Liver failure

11. Knowledge of hypercoagulable states including:

- Protein C deficiency
- Protein S deficiency
- Antithrombin III deficiency
- Leiden factor V
- Antiplatelet antibody production

12. Knowledge of the mechanics/ballistics associated with wounding agents.

13. Identify the indications for emergency room thoracotomy in the trauma victim.

14. Identify the indications for emergency operative procedures such as burr holes, cricothyroidotomy, and insertion of cardiac assist devices.

15. Discuss the management of a trauma service.

16. Indications for use of external fixators in trauma victims.

17. Identify the indications for non-operative management of blunt abdominal trauma, including:

- Spleen
- Liver
- Bladder injuries
- Pelvic fractures

18. Discuss the mechanisms of action in vertical and horizontal deceleration injuries.

19. In depth knowledge of the surgical steps of major abdominal operations, including:
  - Pylorus preserving pancreatico-duodenectomy
  - Whipple procedure
  - Low anterior resection
  - Abdominal-perineal resection
  - Parietal cell vagotomy
  - Subtotal gastrectomy
  - Total gastrectomy
20. Knowledge of facts relative to tumor suppressive genes and the implications of mutations.
21. Explain the rationale and methodology employed in lymphatic mapping and sentinel node biopsies for breast malignancies and melanoma.
22. Explain the fundamental principles of radiation oncology and its application as a primary treatment modality for selected benign and malignant lesions.
23. Describe radioimmunoguided surgery and its clinical applications.
24. Describe the characteristics, diagnosis, and therapy of:
  - Inflammatory carcinoma
  - Paget's disease
  - Lactiferous duct fistula
  - Mondor's disease
  - Cystosarcoma phylloides
  - Bilateral breast carcinoma
  - Male breast carcinoma
25. Describe the basic issues in the staging and treatment of metastatic breast cancer, including the role of:
  - Chemotherapy
  - Radiation therapy
  - Hormonal therapy
26. Evaluate the following areas of research in breast disease:
  - Role of breast cancer susceptibility genes
  - Monoclonal antibodies
  - Her-2/neu, cathepsin D, flow cytometry analysis with chromosomal analysis
27. Discuss the management of an ovarian mass unsuspected at laparotomy by considering:
  - Biopsy vs. oophorectomy
  - Surgical staging
  - Consultation (family, gynecologist)
28. Outline the differential diagnoses for pelvic pathology such as:

- Salpingitis vs. appendicitis
  - Mittelschmerz vs. bleeding ovarian cyst
  - Fibroid uterus vs. intraabdominal mass
29. Discuss the differential diagnosis of a pelvic mass to include considering:
- Benign ovarian cysts
  - Malignant solid primary and metastatic tumors
  - Masses of infectious origin (tubo-ovarian abscess)
30. Outline major issues involved in managing surgical conditions in the pregnant patients including:
- Appendicitis
  - Cholecystitis
  - Intestinal obstruction
  - Breast mass and breast tumors
  - Trauma
  - General surgical procedures in the high-risk pregnant patient

Skills Objectives:

1. Perform, with appropriate supervision, surgery on the thyroid and parathyroid glands.
2. Supervise residents through tracheostomy and excision of simple neck masses.
3. Perform, under supervision, conventional and modified radical neck dissection.
4. Outline a comprehensive plan of treatment that includes chemo and radiotherapy for patients with head and neck cancers.
5. Identify vascular patients who will benefit from antiplatelets therapy.
6. Describe the compromised runoff in vascular disease and its implication on graft patency.
7. Describe the role of anticoagulation following distal revascularization.
8. Demonstrate knowledge on the role of adjunctive measures in operative procedures including:
  - Angioscopy
  - Thrombolytic therapy
  - Angioscopic control of venous tributaries during in situ bypass
9. Perform Emergency Thoracotomy in the trauma victim.
10. Perform, under supervision, all operative and management procedures for trauma to the:
  - Chest
  - Abdomen

- Extremities
  - Head and neck
11. Perform triage of multiple traumatized patients requiring in-hospital resuscitation.
  12. Perform triage of multiple sets of multiply traumatized patients in the emergency department.
  13. Instruct ATLS.
  14. Function as multi specialty team leader by coordinating timing of interventions of the chest, abdomen, head, and extremities.
  15. Perform, under supervision, left hemicolectomy, abdominoperineal resection, subtotal gastrectomy, parietal cell vagotomy, choledoco-jejunostomy, and choledoco-duodenostomy.
  16. Independently evaluate a new patient with breast pathology through H&P, ordering appropriate and cost-effective test such as mammogram, ultrasound, or fine- needle aspiration.
  17. Formulate a diagnostic work-up and plan of treatment for most breast conditions, including carcinomas.
  18. Perform more advanced procedures on the breast, including:
    - Radical mastectomy
    - Modified radical mastectomy
    - Axillary dissection
    - Needle localization for breast biopsy
    - Sentinel lymph node biopsy
  19. Manage unusual breast disease such as:
    - Inflammatory carcinoma
    - Paget's disease
    - Lactiferous duct fistula
    - Mondor's disease
    - Cystosarcoma phylloides
    - Bilateral breast carcinoma
    - Male breast carcinoma
  20. Perform pelvic examination
  21. Formulate differential diagnosis of pelvic infection and masses to consider:
    - Common infections (endometritis, salpingitis, tubo-ovarian abscess)
    - Common organisms (gonococcus, chlamydia, anaerobic bacteria)
  22. Participate as part of the surgical team in performing gynecologic procedures during abdominal procedures including:
    - Oophorectomy

- Hysterectomy
- Salpingectomy
- Pelvic laparoscopy

23. Manage a pregnant surgical patient during acute trauma.
24. Perform an emergency C-section.
25. Perform laparoscopy for a pregnant patient