

HOSPITAL, INTERVENTIONAL, AND SURGICAL CARE COURSE

SURGERY BLOCK DIDACTICS

01.30.20

PC1. Obtain an accurate, age-appropriate medical history

PC2. Demonstrate proper technique in performing both a complete and a symptom-focused examination, addressing issues of patient modesty and comfort

PC3. Perform routine technical procedures and tests under supervision and with minimal discomfort to the patient

PC4. Justify each diagnostic test ordered with regard to cost, effectiveness, risks and complications, and the patient's overall goals and values.

PC5. Apply clinical reasoning and critical thinking skills in developing a differential diagnosis

PC6. Apply the principles of pharmacology, therapeutics, and therapeutic decision-making to develop a management plan

PC7. Identify and incorporate into the care of patient's appropriate prevention strategies for common conditions.

PC8. Identify when patients have life-threatening conditions and institute appropriate initial therapy

MK1. Describe the normal structure and function of the human body and of each of its major organ systems across the life span.

MK2. Explain various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, behavioral, and traumatic) of major diseases and conditions and the ways in which they operate on the body (pathogenesis).

MK3. Describe how the altered structure and function (pathology and pathophysiology) of the body and its major organ systems are manifest through major diseases and conditions.

MK4. Identify the proximate and ultimate factors that contribute to the development of disease and illness, and that contribute to health status within and across populations regionally, nationally, and globally.

MK5. Demonstrate knowledge of the common medical conditions within each clinical discipline, including its pathophysiology and fundamentals of treatment.

LL1. Demonstrate skills in retrieving, critically assessing, and integrating social and biomedical information into clinical decision-making.

SHS4. Identify factors that place populations at risk for disease or injury and select appropriate strategies for risk reduction.

SHS9. Identify necessary elements for coordinated care of patients with complex and chronic diseases.

| Session Topic/Title | Session Learning Objectives | Assessment or Assignments | Teaching Method |
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| Back Pain/Upper Extremity/Lower Extremity | <p>1. Elicit history and physical exam finding that permits a focused evaluation of back pain. Incorporate a detailed neuromuscular assessment (PC1 & PC2).</p> <p>2. Describe the key manifestations of various back pain syndromes. Consider: acute vs. chronic, age and gender, occupational & recreational risk factors (PC5, PC7, MK5 & SHS4).</p> <p>3. Recognize radicular pain symptoms (herniated disc) and correlate neurologic findings with neuroanatomic level of disease (PC2, PC5 & MK5).</p> <p>4. Develop a differential diagnosis, initial evaluation and treatment strategies for (PC5):</p> <ul style="list-style-type: none"> • herniated disc • spondylosis / spondylolisthesis • scoliosis • osteoporosis & degenerative disc disease • primary & metastatic tumors of the spine • infectious: osteomyelitis, epidural and paraspinal abscess • traumatic (musculoskeletal strain, vertebral fractures/dislocation ± cord injury) • retroperitoneal sources (aortic aneurysm, GU sources, pancreatic disease). <p>5. Discuss the use of diagnostic studies available for evaluation of back and leg pain. Include spine radiographs, CT scan, MRI, bone scan, myelography, angiography (PC4).</p> <p>6. Discuss the indications for surgical consultation and treatment in problems addressed above (PC6).</p> <p>7. List potential complication of surgery on the spine as well as unique concerns for perioperative management and rehabilitation / recovery (PC6 & SHS9).</p> | Surgery Shelf Exam | Small group didactic |
| Breast Problems | <p>1. Develop a differential diagnosis for a 20-year-old patient with breast mass and a 45- year-old patient with breast mass. Consider benign vs. malignant, abscess (PC1, PC2 & PC5).</p> <p>2. Describe the diagnostic work-up and sequence (PC1, PC2, PC3, PC4, PC5 & PC6):</p> <ul style="list-style-type: none"> • Discuss importance of the patient's history: estimated duration of illness, nipple discharge, breast cancer risk factor assessment. • Discuss physical findings to look for. | Surgery Shelf Exam | Small group didactic |

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| | <ul style="list-style-type: none"> • Discuss in-office procedures for evaluation and treatment (FNAC, needle aspiration, incision & drainage, core needle biopsy) and their diagnostic/therapeutic implications. • Discuss the importance of such breast imaging studies as ultrasound and mammography. <p>3. Discuss the diagnosis and management of the patient with an abnormal mammogram (consider microcalcifications)</p> <p>4. Discuss the rationale for management with specific emphasis on (PC3, PC6, PC7, MK3, MK5, SHS4 & SHS9):</p> <ul style="list-style-type: none"> • Clinical staging of breast CA • The various possible malignant, pre-malignant, and benign pathology results (including hormonal receptor analysis, tumor DNA analysis) • The follow-up for a patient with a benign lesion (alterations in lifestyle, imaging studies, cancer risk) • The role of incision and drainage and antibiotics in breast abscess treatment. • Current recommendations for screening mammography. • Therapeutic options for the patient with breast CA <ul style="list-style-type: none"> ○ role of surgery/when to consult a surgeon for further diagnosis & treatment ○ role of radiotherapy ○ role of chemotherapy (adjuvant or neoadjuvant) ○ role of hormonal therapy ○ surgical options including reconstruction | | |
| Colorectal Cancer and Polyposis | Identify the types, clinical features, genetic causes, and clinical management of hereditary gastrointestinal polyposis syndromes (PC1, PC2, PC5, PC6, MK2, MK3, MK5 & SHS4). | Surgery Shelf Exam | Small group didactic |
| Head and Neck Review | Discuss types of thyroid disorders (including cancer), incidences, symptoms and diagnoses, and treatment/management plans (PC1, PC2, PC5, PC6, MK5 & SHS4). Identify types, symptoms, complications, diagnoses, and treatment options of neck masses (PC1, PC2, PC5, PC6, MK5 & SHS4). | Surgery Shelf Exam | Small group didactic |
| Head Trauma | Identify the Glasgow Coma Scale, intracranial pressure, mechanisms of brain injury, evaluation of head injury, and operative and non-operative management options for head injuries (PC1, PC3, PC4, PC5, PC6 & MK5). | Surgery Shelf Exam | Small group didactic |

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| <p>Skin and Soft Tissue</p> | <ol style="list-style-type: none"> 1. Describe the commonly used local anesthetics (PC3 & PC6). <ul style="list-style-type: none"> • Discuss the advantages and disadvantages of epinephrine in the local anesthetic. • Discuss special precautions needed on the digits. • Discuss safe dosage ranges of the common anesthetics and the potential toxicities of these drugs. 2. Describe benign skin lesions and their treatment (papillomas, skin tags, subcutaneous cysts, lipomas) (PC1, PC2, PC5, PC6, PC7 & SHS4). 3. Describe characteristics, location, etiology and incidence of basal cell and squamous skin cancers (PC1, PC2, PC5, PC6, PC7, MK2, MK3, MK5 & SHS4). <ul style="list-style-type: none"> • Discuss the risk factors: solar irradiation, ethnicity, previous tissue injury, immunosuppression. • Discuss the characteristics of malignant skin lesions which distinguish them from benign lesions. • Discuss the appropriate treatment and prognosis of small and large basal and squamous cancers. 4. Describe the characteristics, typical locations, etiology and incidence of malignant melanoma (PC1, PC2, PC5, PC6, PC7, MK2, MK3, MK5 & SHS4). <ul style="list-style-type: none"> • Discuss relationship of melanoma to benign nevi and distinguishing characteristics. • Discuss risk factors for melanoma. What are the lesions which have high potential for malignant transformation? • Discuss the various types of melanoma and prognosis for each type. • Discuss the relationship of size and thickness to prognosis. • Discuss the usual treatment for cutaneous melanoma including margins, depth and lymph node management including sentinel node mapping. 5. Describe the incidence, etiology, epidemiology and classification for soft tissue sarcomas (PC1, PC2, PC5, PC6, PC7, MK2, MK3, MK5, SHS4 & SHS9). <ul style="list-style-type: none"> • Discuss the differences in frequency and cell type between childhood and adult sarcomas. • Discuss the features which differentiate benign from malignant soft tissue tumors. • Discuss staging and how the stage impacts prognosis for these tumors. | <p>Surgery Shelf Exam</p> | <p>Small group didactic</p> |
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| | <ul style="list-style-type: none"> • Discuss the role and extent of surgery in treatment, chemotherapy, radiation, and immunotherapy. • Discuss the relationship of Kaposi's sarcoma to HIV infection and implications for management. | | |
| Swallowing Difficulty and Pain | <p>Identify GERD, its causes, symptoms, complications, diagnosis, and treatment options (PC1, PC2, PC5, PC6, PC7 & MK5).</p> <p>Identify esophageal cancer pathology (MK3 & MK5).</p> <p>Identify Barrett's Esophagus pathologic diagnosis, complications of dysplasia, and treatment options (PC1, PC2, PC4, PC5, PC6 & MK5).</p> <p>Identify incidence, pathophysiology, diagnosis, and treatment options of achalasia (Heller Myotomy technique) (PC1, PC2, PC4, PC5, PC6, MK4, MK5 & SHS4).</p> <p>Identify the epidemiology, classifications, and treatment options of hiatal hernias (PC1, PC2, PC5, PC6, PC7, MK4, MK5 & SHS4).</p> <p>Identify types of esophageal diverticula (PC5 & MK5).</p> | Surgery Shelf Exam | Small group didactic |
| Transplant Surgery | <p>Review the history of organ transplant (SHS1, SHS6 & LL1).</p> <p>Identify the indications and causes of liver failure, criteria for transplantation of acute liver failure, types of liver transplants and their advantages and disadvantages, and rates of liver transplants in the United States (PC1, PC2, PC5, PC6, MK4 & MK5).</p> <p>Identify kidney transplant indications, evaluation, donor surgery techniques, risks, complications, and post-operative course (PC2, PC3, PC5, PC6, MK5 & SHS9).</p> <p>Identify the predictors, pediatric and adult indications, and surgical techniques of intestinal transplant (PC2, PC3, PC5, PC6 & MK5).</p> <p>Identify types and indications and post-operative risks of islet cell transplant (PC3, PC5, PC6, MK5 & SHS9).</p> | Surgery Shelf Exam | Small group didactic |
| Trauma Surgery | <p>Identify the incidence, financial cost, and types of trauma injuries (PC5, MK4, MK5 & SHS4).</p> <p>Identify characteristics and considerations of trauma injuries, such as neck, chest, abdomen, colon/rectal, and pelvic injuries (PC1, PC2, PC5, MK4, MK5 & SHS4).</p> | Surgery Shelf Exam | Small group didactic |

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| | <p>Identify the components of initial management of trauma: airway maintenance and spine control, breathing, circulation with hemorrhage control, disability, and exposure (PC3, PC6 & PC8).</p> <p>Identify the steps of secondary survey of trauma injuries (PC2, PC3, PC6 & PC8).</p> | | |
| Vascular Surgery | <p>Define atherosclerosis and identify its pathology, risk factors, and clinical manifestations (PC2, PC5, MK3, MK4 & MK5).</p> <p>Define chronic lower extremity ischemia and identify its prevalence, etiologies, symptoms, diagnosis, and treatment options, including surgical techniques (PC1, PC2, PC5, PC6, MK2, MK3, MK4, MK5 & SHS4).</p> <p>Define acute lower extremity ischemia and identify its etiology, symptoms, and treatment options (revascularization) (PC1, PC2, PC5, PC6, PC7, MK2, MK3, MK4, MK5 & SHS4).</p> <p>Define symptomatic and asymptomatic carotid disease, its etiology, diagnosis, and treatment options and risks (PC5, PC6, MK4, & MK5).</p> <p>Define aneurysm disease and identify its types and morphology, risk factors, etiology, treatment options by type (PC5, PC6, MK4, & MK5).</p> <p>Define acute and chronic mesenteric ischemia and identify its symptoms, diagnosis, risk factors, and treatment options (PC5, PC6, MK4, MK5, SHS4).</p> <p>Define hemodialysis and peritoneal dialysis (PC6 & MK5).</p> <p>Identify steps in the procedure for hemodialysis and associated risks (PC6).</p> | Surgery Shelf Exam | Small group didactic |
| Vomiting, Diarrhea and Constipation | <p>Identify the anatomy, embryology and physiology of the gastrointestinal tract (MK1).</p> <p>Define small bowel partial and total obstruction and identify its etiologies, symptoms, diagnosis and treatment (PC5, PC6, MK2, MK3 & MK5).</p> <p>Define large bowel obstruction and identify its etiologies, symptoms, diagnosis, and treatment (PC5, PC6, MK2, MK3 & MK5).</p> <p>Define Ogilvie's Syndrome (Colonic Pseudo-Obstruction) and identify its associated conditions and treatment options (PC5, PC6 & MK5).</p> <p>Define Crohn's Disease and identify its symptoms and identify its management options (surgical versus medical) (PC5, PC6 & MK5).</p> | Surgery Shelf Exam | Small group didactic |

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| Define ulcerative colitis and identify its indications for surgery and associated complications (PC5, PC6 & MK5). | | |
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