## HOSPITAL, INTERVENTIONAL, AND SURGICAL CARE COURSE

## MEDICINE BLOCK DIDACTICS

## 01.30.20

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

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

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.

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

IC1. Communicate effectively in oral format with patients and patients' families.

IC2. Communicate effectively in oral format with colleagues, and other health care professionals.

IC3. Communicate effectively in written format with colleagues, and other health care professionals.

IC4. Sensitively participate in end-of-life activities with other health care professionals and patients. Examples may include end of life discussions and pain management.

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

| Didactic Topic | Competencies and Learning Objectives | Assessments | Teaching Method |
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| **Diagnostic Reasoning** | Explain in plain English the concepts of prevalence, sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio, negative likelihood ratio, pretest probability and posttest probability; as well as explain the interrelationship of these concepts (e.g., calculate each value when given several of the other values; describe which values change with prevalence of disease and which can be considered characteristics of the test itself). (PC4, PC5) | Quiz (formative)<br><br>UNC Internal Medicine Exam (summative) | Small Group |

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| | Convert from probability to odds and from odds to probability (PC4, PC5)<br><br>Determine which test has the best ability to “rule in” or “rule out” a given disease when given sensitivity, specificity and likelihood ratios. (PC4, PC5)<br><br>Calculate likelihood ratios when given information in a 2 x 2 table format. (PC4, PC5)<br><br>Calculate likelihood ratios when given sensitivity and specificity. (PC4, PC5)<br><br>Calculate posttest probability when given pretest probability and likelihood ratios (by using longhand math and Fagan nomogram). (PC4, PC5) | | |
| **Therapeutic Reasoning** | Explain what to do with the posttest probability once it has been calculated. (PC4, PC5, LL1)<br><br>Explain when it is best to do nothing (observe), to test, or to treat empirically without testing. (PC4, PC5, PC6, LL1)<br><br>Discuss when it is appropriate to treat someone based on the underlying treatment principle of treat only if it does more good than harm (PC4, PC5, PC6, LL1)<br><br>Discuss when it is appropriate to treat someone based on the underlying principle of testing decisions: do not test unless it has the potential to change management (PC4, PC5, PC6, LL1) | Case-Based Exercises (formative)<br><br>UNC Internal Medicine Exam (summative) | Small Group |
| **EKG Interpretation** | Identify the elements of a "the normal EKG,” including determination of rate, rhythm, intervals, axis, evidence for hypertrophy and ischemic changes (MK1).<br><br>Identify common EKG abnormalities, including supraventricular tachycardias (including SVT, afib and atrial flutter), ventricular tachycardias (including vtach and vfib), ischemic changes (including localization of acute myocardial infarctions), left and right bundle branch blocks, first/second/third degree heart blocks and hyperkalemia (MK3). | EKG Problem Set (formative)<br><br>UNC Internal Medicine Exam (summative)<br><br>Medicine Shelf Exam (summative) | Small Group, Computer-based module |

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| **Chest X-Ray Interpretation** | Identify the features of "the normal chest x-ray." (MK1)<br><br>Recognize several common chest x-ray abnormalities, including alveolar and interstitial infiltrates, CHF, pleural effusions, pneumothorax, and pulmonary masses. (MK4) | UNC Internal Medicine Exam (summative)<br><br>Medicine Shelf Exam (summative) | Computer-based module |
| **Palliative Care** | Practice how to communicate what is palliative care (IC4)<br><br>Discuss spectrum of communication topics appropriate for outpatient setting (IC1 & IC4):<br>Prognosis<br>Goals of Care<br><br>Review mechanisms for translating goals communication into care decisions (IC2, IC3 & IC4):<br>Advance Care Planning<br>MOST form | Written Reflection (formative) | Small Group |