• TEACH Cards (Teaching Evidence-based medicine And Clinical topics in the Hospital) is an inpatient curricular tool consisting of 50 topic-based cards designed to guide mini-teaching sessions that enhance both clinical knowledge and evidence-based medicine skills.

• TEACH Cards was developed at the University of Wisconsin-Madison Department of Family Medicine, along with contributions from Tufts University Department of Family Medicine and Saint Louis University Department of Family Medicine.

• Visit our website: www.fammed.wisc.edu/teachcards
INSTRUCTIONS

• Choose a card. It should take 5-10 minutes to use. Any team member can lead the discussion.
• Discuss the background questions as a group, and look up the answers as needed.
• Find the answer to the foreground question, or have everyone write their own PICO question.
• Take 5 minutes to look up the PICO answers.
• Share the PICO answers and resources used.
### What are the two groups of questions and where can I find answers?

<table>
<thead>
<tr>
<th>Background Question</th>
<th>Foreground Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is a more basic question that answers who, what, where, when, why, and how.</td>
<td>This a specific clinical query: <strong>PICO question</strong>.</td>
</tr>
<tr>
<td><strong>P</strong>atient population/Problem</td>
<td>Patient population/Problem</td>
</tr>
<tr>
<td><strong>I</strong>ntervention/exposure</td>
<td>Intervention/exposure</td>
</tr>
<tr>
<td><strong>C</strong>omparison (if applicable)</td>
<td>Comparison (if applicable)</td>
</tr>
<tr>
<td><strong>O</strong>utcome</td>
<td>Outcome</td>
</tr>
</tbody>
</table>

### Resources:
- American Family Physician
- BMJ Clinical Evidence
- DynaMed
- Essential Evidence Plus
- UpToDate
- Cochrane Database
- Pub Med Clinical Queries
- Pub Med MeSH Database
- TRIP Database

### What are some uses for the cards?

- To initiate discussion among team members
- To guide independent study
- To practice evidence-based medicine
- To create a mini presentation

*Answers are intentionally not provided.*
CARD TOPICS

NEUROLOGIC
Alcohol withdrawal
Cerebral vascular accident
Delirium
Hyperthermia
Hypothermia
Medication overdose
Meningitis
Neuroleptic malignant syndrome
Seizure
Serotonin syndrome
Traumatic brain injury

CARDIOVASCULAR
Acute coronary syndrome
Atrial fibrillation
Bradycardia
Congestive heart failure
Hypertensive urgency & emergency

PULMONARY
Acute respiratory distress syndrome
Asthma exacerbation
Community-acquired pneumonia
COPD exacerbation
Obstructive sleep apnea
Pulmonary embolism
Pulmonary hypertension
# CARD TOPICS

## RENAL
- Acidosis
- Acute renal failure
- Alkalosis
- Hyperkalemia
- Hypernatremia
- Hypokalemia
- Hyponatremia
- Rhabdomyolysis

## GASTROINTESTINAL
- Acute abdominal pain
- Gastrointestinal bleeding
- Hepatic failure
- Pancreatitis
- Refeeding Syndrome

## INFECTIOUS DISEASE
- Cellulitis
- Nosocomial infections
- Post-operative fever
- Pressure ulcers
- Sepsis

## HEMATOLOGIC
- Blood product transfusion
- Heparin-induced thrombocytopenia
- Sickled cell anemia

## ENDOCRINE
- Adrenal insufficiency
- Diabetic ketoacidosis
- Myxedema coma
- Thyroid storm

## END OF LIFE
- Hospice
- Organ donation/transplant
- Pronouncement of death
ALCOHOL WITHDRAWAL

Background Questions:
✓ List the key symptoms of withdrawal and time frame in which they usually occur.
✓ What is CIWA, and how can it be used in management?
✓ Discuss the decision to manage withdrawal in the outpatient versus inpatient setting.

Foreground Questions:
✓ In patients with alcohol withdrawal, are benzodiazepines more effective than non-benzodiazepines in preventing seizures?
✓ Write your own PICO question, and try to find the answer.
EBM Pearl:
Name two online resources that would assist you in finding recommendations for primary and secondary stroke prevention?

Background Questions:
✓ Discuss the use of stroke screening tools and the definition of TIA.
✓ List the imaging and labs used to evaluate patients with CVA and TIA.
✓ Discuss risk stratification criteria for evaluating TIA in the outpatient or inpatient setting.

Foreground Questions:
✓ In patients who have had a stroke, do antiepileptic medications prevent seizures?
✓ Write your own PICO question, and try to find the answer.
EBM Pearl:
List 5 different study designs.

Background Questions:
✓ List common risk factors for and precipitants of delirium.
✓ Describe the clinical presentation of delirium and screening tools that help in diagnosis.
✓ Discuss the risks and benefits of pharmacologic and non-pharmacologic treatments of delirium.

Foreground Questions:
✓ In elderly post-operative hospitalized patients, does haloperidol prevent the development of delirium?
✓ Write your own PICO question, and try to find the answer.
Teaching Pearl:
Discuss the inheritance and triggering agents of malignant hyperthermia.

Background Questions:
- Describe the difference between heat cramps, heat exhaustion, and heat stroke.
- What are the potential sequelae of extreme or prolonged hyperthermia?
- Discuss are the goals of cooling treatment in heat illness?

Foreground Questions:
- In patients with fever, are NSAIDs more effective than acetaminophen in reducing fever?
- Write your own PICO question, and try to find the answer.
HYPOTHERMIA

Background Questions:
✓ What are the signs and symptoms of hypothermia?
✓ What are the indications for therapeutic induced hypothermia?
✓ Discuss rewarming methods for hypothermia.
✓ Describe stages and treatment of frostbite.

Foreground Questions:
✓ In adults following surgery, is forced air warming superior to conventional care in preventing post-op hypothermia?
✓ Write your own PICO question, and try to find the answer.

Community Health Pearl: Where can uninsured homeless people receive medical care in your community?
Community Health Pearl: How do you contact your local poison control, and what services do they provide?

Background Questions:
- List the symptoms of acetaminophen and two other common medication overdoses.
- Discuss the initial clinical and lab evaluation for suspected overdose.
- Explain the appropriate use of gastrointestinal decontamination.

Foreground Questions:
- In patients with acetaminophen overdose and hepatotoxicity, does N-acetylcysteine improve mortality?
- Write your own PICO question, and try to find the answer.
MENINGITIS

Background Questions:
✓ Explain the history, exam, and lab findings of bacterial and aseptic meningitis.
✓ List the common pathogens and empiric treatment for adult patients with meningitis.
✓ Discuss the recommendations for immunizations and chemoprophylaxis for meningitis.

Foreground Questions:
✓ In adult patients with meningitis, do steroids improve morbidity and mortality?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
How do you discuss lumbar puncture with your patient or their family members?
NEUROLEPTIC MALIGNANT SYNDROME

Background Questions:
✓ Describe the typical clinical presentation of NMS.
✓ Discuss the difference between NMS, serotonin syndrome, and malignant hyperthermia.
✓ List 5 medications that can cause NMS.
✓ What are the general management goals for NMS?

Foreground Questions:
✓ In patients with NMS, does treatment with dantrolene or bromocriptine decrease mortality?
✓ Write your own PICO question, and try to find the answer.

EBM Pearl:
How would you explain the sensitivity and specificity of a test to a patient?
Background Questions:
 ✓ Describe the physiologic and clinical difference between generalized and focal seizures.
 ✓ How do psychogenic seizure, syncope, and seizure clinically differ?
 ✓ Discuss recommendations for imaging, lumbar puncture, and EEG after first seizure.

Forefront Questions:
 ✓ For adult patients in status epilepticus, is lorazepam or diazepam more effective in aborting the seizure?
 ✓ Write your own PICO question, and try to find the answer.

Teaching Pearl: How do you talk about driving to patients who have had a seizure?
Background Questions:
✓ Define serotonin syndrome (SS) and describe its classic features.
✓ Name 5 non-SSRI medications that can cause SS.
✓ Discuss the use of the Hunter Serotonin Toxicity Criteria for diagnosis.
✓ What medications can help in symptom management of serotonin syndrome?

Foreground Questions:
✓ For patients with serotonin syndrome, does treatment with cyproheptadine improve symptoms?
✓ Write your own PICO question, and try to find the answer.
Background Questions:
- Discuss the clinical difference between mild and moderate/severe traumatic brain injury (TBI).
- Name and discuss clinical decision tools that help determine the need for head imaging.
- Review the components of the Glasgow Coma Scale.
- Describe the services provided on inpatient rehabilitation for patients with moderate to severe TBI.

Foreground Questions:
- In patients with TBI, does phenytoin compared to valproate decrease the incidence of seizures?
- Write your own PICO question, and try to find the answer.

Community Health Pearl: What helmet or head safety programs are in your community?
ACUTE CORONARY SYNDROME

Background Questions:
✓ Describe anginal chest pain and non-anginal chest pain.
✓ List the common EKG changes for acute coronary syndrome.
✓ What are the initial medications used to treat acute coronary syndrome?

Foreground Questions:
✓ In patients with unstable angina/NSTEMI, are invasive strategies associated with decreased mortality compared to conservative treatment?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss the different types of stress tests and the patients who are appropriate for each.
ATRIAL FIBRILLATION

Background Questions:
✓ Explain what CHA$_2$DS$_2$-VASC and HAS-BLED score are and how to use them.
✓ List secondary causes of atrial fibrillation.
✓ Discuss the medication options for the treatment of atrial fibrillation.
✓ When should patients be referred to cardiology?

Foreground Questions:
✓ In patients with a fib, is catheter ablation superior to medical therapy in reducing recurrence of a fib?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss foods and beverages that can affect INR in patients taking warfarin. (Do patients need to avoid these items?)
BRADYCARDIA

Background Questions:
✓ What are the most common causes of secondary bradycardia?
✓ Describe the difference between 1st degree, 2nd degree type I and II, and 3rd degree heart block.
✓ What are the indications for pacemaker placement?
✓ Discuss treatment of acute symptomatic bradycardia.

Foreground Questions:
✓ In patients with bradycardia, are bi-ventricular pacemakers compared to single lead pacemakers associated with greater longevity?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss the pros and cons of transcutaneous, transvenous, and implantable pacemakers.
Teaching Pearl:
Discuss the evidence for cardiac resynchronization in patients with CHF.

Background Questions:
✓ Name signs and symptoms of congestive heart failure.
✓ List the lab tests and imaging used to support or exclude the diagnosis of heart failure.
✓ When is it appropriate to repeat imaging and laboratory tests for CHF?

Foreground Questions:
✓ In patients with heart failure, what is the number needed to treat for ACE inhibitors to reduce mortality?
✓ Write your own PICO question, and try to find the answer.
EBM Pearl:
Explain the difference between relative and absolute risk reduction.

HYPERTENSIVE URGENCY & EMERGENCY

**Background:**
- Explain the difference between hypertensive urgency and emergency.
- List the signs and symptoms of end organ damage.
- Discuss the considerations in choosing medications and follow up in treatment.

**Foreground:**
- In patients with hypertensive emergency, is there an optimal rate of blood pressure reduction to decrease morbidity and mortality?
- Write your own PICO question, and try to find the answer.
ACUTE RESPIRATORY DISTRESS SYNDROME

Background Questions:
✓ What is the Berlin Definition for diagnosing ARDS?
✓ Discuss common causes of indirect lung injury that lead to ARDS.
✓ Describe the work-up for suspected ARDS.
✓ What are the main treatment components for ARDS?

Foreground Questions:
✓ In adults with ARDS, does the use of surfactant improve survival?
✓ Write your own PICO question, and try to find the answer.

EBM Pearl:
Define validity. What determines the validity of a study?
Teaching Pearl:
What is an asthma action plan and what are the different components?

Background Questions:
✓ Discuss classification of asthma control and severity, and discuss risk factors for an asthma exacerbation.
✓ Discuss differential diagnosis and diagnostic work-up of someone presenting with respiratory distress.
✓ When does a patient with asthma exacerbation need to be admitted to the hospital?
✓ Discuss inpatient management of asthma exacerbation.

Foreground Questions:
✓ In patients with persistent symptomatic asthma, does long term treatment with azithromycin vs. usual care reduce frequency of hospitalizations?
✓ Write your own PICO question, and try to find the answer.
Community-Acquired Pneumonia

Background Questions:
✓ List the organisms that commonly cause community-acquired pneumonia (CAP) in adults.
✓ When is it appropriate to obtain lab studies, and what labs would you order?
✓ Discuss differences in management of CAP in outpatient, inpatient, and ICU settings.

Foreground Questions:
✓ In patients with CAP, is procalcitonin useful for determining the need for antibiotics?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl: Discuss the use of the Pneumonia Severity Index (PSI) and CURB-65.
Background Questions:
✓ Define COPD exacerbation.
✓ List the key medications for the treatment of mild, moderate, and severe exacerbation.
✓ When does a patient need to be admitted to the hospital for treatment of COPD exacerbation?

Foreground Questions:
✓ In hospitalized patients with a COPD exacerbation, do IV or oral corticosteroids lead to decreased mortality?
✓ Write your own PICO question, and try to find the answer.
OBSTRUCTIVE SLEEP APNEA

Background Questions:
✓ What are the signs and symptoms of OSA?
✓ Describe the physiologic sequelae of OSA.
✓ Discuss the Epworth Sleepiness Scale.
✓ What are the differences between an attended sleep lab study versus a home sleep study?
✓ Describe how CPAP works.

Foreground Questions:
✓ For patients who are intolerant to CPAP, is surgery or oral appliance more effective at reducing OSA severity at 12 months?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss techniques to use when talking to patients about behavior change.
PULMONARY EMBOLISM

Background Questions:
- List the common risk factors for PE.
- What role do the D-dimer lab and imaging play in diagnosis of PE?
- Describe the acute and chronic treatment of PE.
- When is it appropriate to evaluate for thrombophilia, and what tests are included in the evaluation?

Foreground Questions:
- In patients with PE, is anticoagulation with rivaroxaban as effective as warfarin in preventing recurrent PE?
- Write your own PICO question, and try to find the answer.

Teaching Pearl: What criteria determines the duration of anti-coagulation therapy?
PULMONARY HYPERTENSION

Background Questions:
✓ List the common causes of secondary pulmonary hypertension (PH).
✓ Discuss the indications for and initial tests used to evaluate pulmonary hypertension.
✓ What are the common medications used in primary pulmonary hypertension?

Foreground Questions:
✓ In patients with pulmonary hypertension, does exercise improve endurance?
✓ Write your own PICO question, and try to find the answer.

Community Health Pearl:
Are there local pulmonary rehabilitation programs, and how are they structured?
ACIDOSIS

Background Questions:
✓ What are the common causes of anion gap and non-anion gap metabolic acidosis?
✓ What is the work-up for renal tubular acidosis?
✓ Discuss how to determine the primary etiology of an acid-base disorder based on ABG and how to calculate expected compensation?

Foreground Questions:
✓ For inpatients with mild-moderate acidosis (pH 7.1-7.35), does IV sodium bicarbonate lead to decreased mortality?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
What is the delta delta ratio (delta gap)?
Teaching Pearl:
What should you document for a patient with acute renal failure who has underlying chronic kidney disease?

Background Questions:
✓ What are common causes of acute pre-renal, intra-renal, and post renal failure?
✓ How do you determine the etiology of acute renal failure?
✓ When is it appropriate to obtain imaging studies, and what studies would you order?

Foreground Questions:
✓ For adults taking metformin, do NSAIDs increase the likelihood of lactic acidosis?
✓ Write your own PICO question, and try to find the answer.
Teaching Pearl:
What are the differences between arterial and venous blood gas analysis?

Background Questions:
- What are the common causes of metabolic and respiratory alkalosis?
- Discuss the pathophysiology and treatment of chloride-responsive (contraction) metabolic alkalosis.
- How would you adjust mechanical ventilation settings to correct respiratory alkalosis?

Foreground Questions:
- For ICU patients with metabolic alkalosis, is a single dose of acetazolamide as effective as multiple doses for treatment of metabolic alkalosis?
- Write your own PICO question, and try to find the answer.
Background Questions
- What are the complications of hyperkalemia?
- Describe the EKG changes in hyperkalemia.
- How should medications for hyperkalemia be given, and when should labs be checked?

Foreground Questions:
- In patients taking both ACE inhibitors and ARBs, what is the relative risk of hyperkalemia?
- Write your own PICO question, and try to find the answer.
HYPERNATREMIA

Background Questions:

✓ Describe the classification of hypernatremia based on volume status.
✓ What is the work-up for hypernatremia?
✓ Discuss methods and potential complications of hypernatremia correction.
✓ What medications can treat diabetes insipidus?

Foreground Questions:

✓ In patients on lithium who develop diabetes insipidus and hypernatremia, does stopping lithium correct hypernatremia?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
How do you calculate free water deficit?
HYPOKALEMIA

Background Questions:
✓ What are the common causes of hypokalemia?
✓ Describe the clinical manifestations of hypokalemia.
✓ What are the potential complications of hypokalemia?
✓ Discuss principles of potassium replacement.

Foreground Questions:
✓ In patients taking potassium-wasting diuretics, is a potassium rich diet as effective as a potassium supplement in maintaining a normal potassium level?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss ways to minimize discomfort with IV potassium replacement.
Background Questions:
✓ Describe how hyponatremia is classified.
✓ Name lab tests to help determine the cause of hyponatremia.
✓ What are the different methods of treating hyponatremia?

Foreground Questions:
✓ In elderly patients, is chlorthalidone or HCTZ associated with a higher mortality rate?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss how to determine when hyponatremia requires immediate treatment.
Teaching Pearl:
Discuss the medications and toxins that increase the risk of rhabdomyolysis.

Background Questions:
✓ Discuss the pathophysiology and diagnosis of rhabdomyolysis.
✓ Explain how IV fluids are used in treatment.
✓ Discuss the common complications of rhabdomyolysis.
✓ When should hemodialysis, sodium bicarbonate, and/or mannitol be used in treatment?

Foreground Questions:
✓ When rhabdomyolysis is due to statin use, which other lipid medications reduce cardiovascular mortality?
✓ Write your own PICO question, and try to find the answer.
ACUTE ABDOMINAL PAIN

Background Questions:
✓ List history and exam findings that differentiate obstruction and peritonitis from other abdominal pain.
✓ Discuss considerations for appropriate imaging for abdominal pain evaluation.
✓ Discuss indications for immediate surgical consultation.

Foreground Questions:
✓ In patients with acute abdominal pain, is the Alvarado score or Appendicitis Inflammatory Response (AIR) score more sensitive for predicting appendicitis?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss how your evaluation changes in women of child-bearing age.
GASTROINTESTINAL BLEEDING

Background Questions:
✓ Explain the expected symptoms and causes of upper and lower GI bleeding.
✓ Discuss indications for inpatient evaluation and management of GI bleeding.
✓ Discuss medications to initiate or discontinue during upper and lower GI bleeding.

Foreground Questions:
✓ In patients with upper GI bleed, does treatment with IV PPI vs no PPI decrease the risk of rebleeding?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Discuss the indications and logistics of blood transfusions during a GI bleed.
Background Questions:
✓ List common risk factors for development of cirrhosis.
✓ Describe the common physical exam findings in patients with cirrhosis.
✓ Discuss labs and images used to diagnose cirrhosis.
✓ Explain the indications for medicinal and surgical treatment of ascites and cirrhosis.

Foreground Questions:
✓ In cirrhotic patients with ascites, is spironolactone or furosemide more effective at treating ascites?
✓ Write your own PICO question, and try to find the answer.

Community Health Pearl:  
Where is the nearest liver transplant center, and what is the average waiting time?
Background Questions:
✓ Discuss the risk factors for acute pancreatitis.
✓ List the components and use of at least one acute pancreatitis scoring system.
✓ Explain the indications for ERCP.

Foreground Questions:
✓ In patients with severe acute pancreatitis, is enteral feeding associated with increased mortality compared to parenteral feeding?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
What is the evidence for using antibiotics in acute pancreatitis?
EBM Pearl:
Try to find a critical appraisal worksheet for a randomized control trial.

Background Questions:
✓ Describe 3 risk factors for refeeding syndrome.
✓ Which nutritional deficiency is most profound in refeeding syndrome?
✓ Describe 3 dangerous clinical complications of refeeding syndrome.
✓ How can you prevent refeeding syndrome in patients?

Foreground Questions:
✓ For patients with anorexia nervosa, does family therapy compared to individual therapy reduce relapse rates?
✓ Write your own PICO question, and try to find the answer.
Background Questions:
✓ What is the difference between cellulitis and erysipelas?
✓ Which populations are at higher risk for community-acquired MRSA?
✓ What are signs and symptoms that should increase your suspicion for necrotizing fasciitis?
✓ What oral and IV antibiotics are used to treat cellulitis?

Foreground Questions:
✓ For adults in the ICU, does decolonization prevent MRSA infections?
✓ Write your own PICO question, and try to find the answer.

EBM Pearl:
Define confidence interval and odds ratio.
Background Questions:
✓ What is the difference between hospital acquired pneumonia (HAP) and healthcare associated pneumonia (HCAP)?
✓ What empiric antibiotic regimen would you initiate for suspected HCAP?
✓ List risk factors for Clostridium difficile infection.
✓ Discuss five interventions that decrease the incidence of nosocomial infections.

Foreground Questions:
✓ For adults requiring antibiotics, do probiotics decrease the likelihood of acquiring C. difficile-associated diarrhea?
✓ Write your own PICO question, and try to find the answer.

Community Health Pearl:
Where can you find your own hospital data?
EBM Pearl: How does pretest probability affect the predictive value of a test?

Background Questions:
✓ What are the 5 “W’s” for causes of post-op fever?
✓ Discuss differential diagnosis based on the timing of the fever.
✓ What are the most likely pathogens causing surgical site infections?
✓ Discuss the work-up and treatment of post-op fever.

Foreground Questions:
✓ In post-operative patients does the use of incentive spirometry compared to observation reduce the risk of pneumonia?
✓ Write your own PICO question, and try to find the answer.
Background Questions:
✓ What are the stages of a pressure ulcer?
✓ Discuss risk factors for developing a pressure ulcer.
✓ Review 3 types of wound dressings including an advantage and disadvantage of each.
✓ What is the imaging method of choice to evaluate for osteomyelitis?

Foreground Questions:
✓ For elderly patients does vitamin C prevent pressure ulcers?
✓ Write your own PICO question, and try to find the answer.

Community Health Pearl:
Review healthypeople.gov to find national benchmarks for different diseases.
e.g. Find national goals for pressure ulcer-related hospitalization.
Teaching Pearl:
Discuss IV access options, and explain how to obtain IV access in patients with sepsis.

Background Questions:
✓ Define SIRS, sepsis, severe sepsis, and septic shock.
✓ Explain the initial evaluation of sepsis.
✓ Discuss the management of blood pressure in patients with sepsis.
✓ Discuss the choice and management of antibiotics in patients with sepsis.

Foreground Questions:
✓ In patients with sepsis does early enteral feeding compared to fasting improve survival?
✓ Write your own PICO question, and try to find the answer.
Background Questions:
✓ Discuss indications and contraindications for transfusion of PRBCs, platelets, and FFP.
✓ When should irradiated blood products be used?
✓ Discuss management of mild to severe transfusion reactions.
✓ Discuss how to correct elevated INR.

Foreground Questions:
✓ In patients undergoing blood transfusion, do prophylactic loop diuretics decrease transfusion-related morbidity?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl: What is the difference between type & screen and type & cross match?
HEPARIN-INDUCED THROMBOCYTOPENIA

Background Questions:
✓ What are the two types of HIT?
✓ When does HIT typically present?
✓ For whom should you consider obtaining HIT antibody testing? When is testing not helpful?

Foreground Questions:
✓ For adults requiring heparin, is low molecular weight heparin compared to unfractioned heparin less likely to cause HIT?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Review the 4T’s Score and how you would use it.
Background Questions:
✓ Discuss diagnostic criteria for acute chest syndrome?
✓ Discuss pain management for someone experiencing a sickle cell vaso-occlusive crisis requiring hospitalization.
✓ What are the indications for a blood transfusion in a patient with a sickle cell vaso-occlusive crisis?
✓ What immunizations should sickle cell patients receive?

Foreground Questions:
✓ For adults hospitalized with a painful sickle cell crisis, does incentive spirometry reduce the risk of acute chest syndrome?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Read “Voices of Adults Living with Sickle Cell Disease Pain”
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3804106/
ADRENAL INSUFFICIENCY

Background Questions:
✓ What are the main causes of primary, secondary, and critical illness-related adrenal insufficiency?
✓ Discuss how the ACTH stimulation test is performed and how to interpret the results.
✓ What imaging test is indicated if secondary adrenal insufficiency is suspected?
✓ Describe the treatment of acute adrenal insufficiency.

Foreground Questions:
✓ In women with primary adrenal insufficiency, does DHEA improve symptoms and quality of life?
✓ Write your own PICO question, and try to find the answer.

EBM Pearl:
What is the difference between incidence and prevalence?
Teaching Pearl:
What is the difference between osmolality and osmolarity?

Background Questions:
✓ Describe the pathophysiology of DKA.
✓ What are the laboratory and physiologic differences between DKA and hyperosmolar hyperglycemic state?
✓ Discuss treatment of DKA. What is an indication for delaying insulin therapy?
✓ What are the early signs of cerebral edema, and how can it be prevented?

Foreground Questions:
✓ In patients with DKA is subcutaneous insulin as effective as IV insulin drip in treating DKA?
✓ Write your own PICO question, and try to find the answer.
Background Questions:
✓ Discuss the definitions of and distinctions between hypothyroidism, myxedema, and myxedema coma.
✓ What medications can cause hypothyroidism?
✓ Discuss principles of treatment for myxedema coma.
✓ What is the prognosis for patients with myxedema coma?

Foreground Questions:
✓ In patients with subclinical hypothyroidism, does levothyroxine treatment result in decreased cardiovascular morbidity?
✓ Write your own PICO question, and try to find the answer.

Teaching Pearl:
Read about the history of iodized salt in the US. Which populations are still at risk for iodine deficiency?
THYROID STORM

Background Questions:
✓ Discuss the definitions of and distinctions between hyperthyroidism, thyrotoxicosis, and thyroid storm.
✓ What are common triggers of thyroid storm?
✓ What laboratory findings are common in thyrotoxicosis?
✓ Discuss principles of treatment for thyroid storm?

Foreground Questions:
✓ In pregnant patients with hyperthyroidism, is treatment with methimazole or propylthiouricil safer in the first trimester?
✓ Write your own PICO question, and try to find the answer.

EBM Pearl:
Discuss limitations of EBM in clinical decision making.
Community Health Pearl:
What county or state resources are available for your patients requiring end of life care?

Background Questions:
✓ List services that hospice provides.
✓ Discuss patient qualifications for admission to hospice.
✓ When and how do you present hospice to your patients?

Foreground Questions:
✓ In cancer patients is oxycodone superior to morphine in alleviating pain?
✓ Write your own PICO question, and try to find the answer.
Community Health Pearl:
How do organ donation policies in the US differ from other countries?

Background Questions:
✓ Describe the necessary consent for organ donation.
✓ What are exclusion criteria to receive an organ transplant?
✓ Discuss the time frame for organ procurement.
✓ Discuss health considerations for transplant recipients on immunosuppressive medications.

Foreground Questions:
✓ In a country/population, do presumed consent laws increase the rate of organ donation?
✓ Write your own PICO question, and try to find the answer.
Background Questions:
- List the key information to know prior to death pronouncement.
- Identify the important information for documentation.
- What decisions need to be made if the death is unexpected?

Foreground Questions:
- For family members of patients requiring CPR, does observing CPR or not observing CPR increase the likelihood of PTSD?
- Write your own PICO question, and try to find the answer.

Community Health Pearl:
What is the age-adjusted death rate due to cancer for African Americans in your county?