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For Pharmacy Residents, Fellows & Preceptors

PLATFORM SESSION IA - INFECTIOUS DISEASE I
Learning Objectives:

1. Identify aminoglycoside pharmacokinetic targets based on existing literature
2. Identify limitations to aminoglycoside pharmacokinetic targets in the critically-ill hematologic malignancy patient

Self-Assessment Questions:

1. Based on existing literature, which pharmacokinetic parameter best predicts clinical outcomes with aminoglycosides for the treatment of gram-negative infection?
   - Peak / MIC ratio < 5
   - Time above MIC > 50% of dosing interval
   - Peak / MIC ratio > 10
   - AUC / MIC > 50

2. Which of the following is not a limitation to reaching aminoglycoside pharmacokinetic targets in the critically-ill hematologic malignancy patient population?
   - Higher volume of distribution
   - Altered aminoglycoside elimination
   - Elevated pathogen aminoglycoside MICs
   - Altered aminoglycoside metabolism

Answers:

1. Answer C
2. Answer D
CEFAZOLIN PLUS METRONIDAZOLE VERSUS CEFOXITIN FOR THE PREVENTION OF SURGICAL SITE INFECTIONS IN ELECTIVE COLORECTAL SURGERY

Teri Hopkins
Seton Healthcare Family
Austin, TX

Learning Objectives:

1. To explain current guideline recommendations for surgical site infection prophylaxis in colorectal surgery
2. To identify the potential advantages of using cefazolin plus metronidazole over other guideline-recommended regimens for antimicrobial prophylaxis in colorectal surgery

Self-Assessment Questions:

1. Compared to cefazolin, possible limitations of cefoxitin for surgical prophylaxis in colorectal surgery include:
   a. Higher incidence of Clostridium difficile infection
   b. Decreased Bacteroides fragilis group susceptibilities
   c. Inferior pharmacodynamic profile
   d. All of the above

2. B. fragilis group resistance to metronidazole is common
   a. True
   b. False

3. Which of the following is not a risk factor for surgical site infections in colorectal surgery?
   a. Obesity
   b. Hypoglycemia
   c. Perforation during surgery
   d. Extended duration of procedure

Answers:
1. D
2. False
3. B
Learning Objectives:
1. Identify the 2014 CLSI changes in cefepime breakpoints for Enterobacteriaceae.
2. Describe the pharmacodynamic index best associated with bactericidal activity of cefepime.
3. Recommend a cefepime dose for bacteremia caused by Enterobacteriaceae.

Self-Assessment Questions:
1. A cefepime MIC of _____µg/mL for Enterobacteriaceae is considered “susceptible dose-dependent” by Clinical & Laboratory Standards Institute (CLSI).
   a. 1
   b. 2
   c. 4
   d. 16

2. Which of the following pharmacokinetic-pharmacodynamic (PK-PD) parameters for cefepime best correlates with clinical outcomes?
   a. AUC/MIC > 400
   b. Peak/MIC > 8-10
   c. Time>MIC > 40%
   d. Time>MIC > 60%

3. According to CLSI M100-S26, which of the following is the appropriate dose of cefepime for an *E. coli* isolate with cefepime MIC of 8 µg/mL for a patient with normal renal function?
   a. Cefepime 1 g IV q12h
   b. Cefepime 1 g IV q8h
   c. Cefepime 2 g IV q12h
   d. Cefepime 2 g IV q8h

Answers:
1. c
2. d
3. d
TREATMENTS THAT IMPACT OUTCOMES IN SEPSIS WITH UNDERLYING CIRRHOSIS (TRIOS-C STUDY) IMPACT OF ANTIMICROBIAL REGIMENS ON PATIENT OUTCOMES

Lauren Adams  
Veteran’s Affairs North Texas Health Care System and Texas Tech University School of Pharmacy  
Dallas, Texas

Learning Objectives:

1. Identify factors that lead to the increased risk of infections in cirrhotic patients.
2. Analyze the literature available regarding treatment of infections in septic patients with cirrhosis.
3. Select an appropriate antibiotic regimen in patients with sepsis and cirrhosis.

Self-Assessment Questions:

1. What factors may cause cirrhotic patients to be predisposed to infections?
   a. Intestinal bacterial overgrowth  
   b. Intestinal dysmotility  
   c. Increased intestinal permeability  
   d. All of the above
2. Patients with infections and underlying cirrhosis have a decreased risk of mortality compared with patients with cirrhosis alone?
   a. True  
   b. False
3. Cirrhotic patients will often present as asymptomatic in the presence of an infection?
   a. True  
   b. False

Answers:

1. All of the above
2. False
3. True
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PLATFORM SESSION IB - INFECTIOUS DISEASE II
VANCOMYCIN DOSING IN THE SEVERELY OBESE: A COMPARISION OF TOTAL VS. ADJUSTED BODY WEIGHT DOSING

Andrew Johnson
Texas Health Presbyterian Hospital Dallas
Dallas, TX

Learning Objectives:
- To explain the history and challenges associated with dosing obese patients with vancomycin
- To analyze an alternative vancomycin obesity dosing strategy currently used at Texas Health Presbyterian Hospital Dallas

Self-Assessment Questions:

1. The Infectious Disease Society of America’s most recent vancomycin guideline published in 2009 recommends dosing obese patients according to which weight?
   a. Ideal body weight (IBW) for loading doses and IBW for maintenance doses
   b. Adjusted body weight (ABW) for loading doses and IBW for maintenance doses
   c. Total body weight (TBW) for loading doses and ABW for maintenance doses
   d. TBW for loading doses and TBW for maintenance doses

2. Which of the following best summarizes the results of this study?
   a. Although there was no significant difference between groups with respect to percentage of therapeutic troughs, there was a statistically significant increase in supratherapeutic troughs in the TBW group.
   b. Although there was no significant difference between groups with respect to percentage of therapeutic troughs, there was a statistically significant increase in subtherapeutic troughs in the ABW group.
   c. A statistically significant difference was seen between the groups with respect to percentage of therapeutic troughs and the occurrence of subtherapeutic troughs.
   d. This study found no statistically significant difference between groups for any endpoint.

Answers
1. D
2. A
EVALUATING THE MANAGEMENT OF CANDIDEMIA AT FOUR COMMUNITY HOSPITALS: A COMPARISON OF MICAFUNGIN VERSUS FLUCONAZOLE

Lori D. Watkins
Methodist Hospital
San Antonio, TX

Learning Objectives:
1. To describe both the empiric and targeted management of Candidemia.
2. To evaluate the importance of the role of an infectious disease consultation in the management of Candidemia.

Self-Assessment Questions:
1. An echinocandin is recommended as initial therapy for candidemia in both nonneutropenic and neutropenic patients.
   a. True
   b. False
2. What dose of micafungin is recommended for treatment for candidemia in neutropenic patients?
   a. 50 mg daily
   b. 100 mg daily
   c. 150 mg twice daily
   d. 200 mg daily
3. Testing for azole susceptibility is not recommended for all bloodstream and other clinically relevant Candida isolates.
   a. True
   b. False

Answers:
1. A
2. B
3. B

EVALUATION OF OUTCOMES ASSOCIATED WITH TREATED VERSUS UNTREATED ASYMPATOMIC CANDIDURIA IN A TERTIARY MEDICAL CENTER

Sarah M. El-Rachidi
Ochsner Medical Center
New Orleans, LA

Learning Objectives:
1. Identify patients in which the treatment of candiduria is indicated vs. not indicated.
2. Describe the role (benefit/harm) of antifungal agents in the treatment of asymptomatic candiduria.

Self-Assessment Questions:
1. Which of following high risk groups does the IDSA recommend treatment for asymptomatic candiduria?
   a. Underweight neonates
   b. Patients with neutropenic fever
   c. Patients undergoing invasive urologic procedures
   d. Patients with indwelling urinary catheter
   e. A-C
2. First line treatment of asymptomatic candiduria for patients without risk categories includes modifying external risk factors (i.e. removal of urinary catheter) and does not require treatment with fluconazole.
   a. True
   b. False

Answers:
1. E
2. A
USE OF PROBIOTICS IN THE PREVENTION OF CLOSTRIDIUM DIFFICILE INFECTION ASSOCIATED WITH BROAD-SPECTRUM ANTIBIOTICS

Courtney Wong
UT Southwestern Medical Center
Dallas, Texas

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Evaluate the incidence of Clostridium difficile infections in patients on concomitant broad-spectrum antibiotics and probiotics
2. Describe the potential role of probiotics in the prevention of Clostridium difficile infections
3. Identify subsets of populations that could benefit from the use of probiotics to prevent Clostridium difficile infections

Self-Assessment Questions:

1. What is the most effective method proven to prevent the onset of Clostridium difficile infections in patients on broad-spectrum antibiotics?
   a. Oral metronidazole or vancomycin
   b. Probiotics
   c. Fecal transplant
   d. None of the above

2. Which antibiotic is the least likely to be associated with Clostridium difficile infections?
   a. Ciprofloxacin
   b. Trimethoprim-Sulfamethoxazole
   c. Meropenem
   d. Clindamycin

3. Which of the following is not a proposed mechanism by which probiotics may prevent diarrhea associated with Clostridium difficile infections?
   a. Inactivates toxins A and B produced by Clostridium difficile via proteolytic digestion
   b. Prevents the infective Clostridium difficile spores from germinating into the vegetative toxin-producing form
   c. Inhibits the adhesion and colonization of Clostridium difficile in the intestinal tract
   d. Downregulates pro-inflammatory cascades and provides anti-inflammatory signals to the gut immune system

Answers:

1. D
2. B
3. B
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PLATFORM SESSION IIA - INFECTIONOUS DISEASE III
Learning Objectives:

1. Describe two national initiatives concerning antimicrobial stewardship.
2. Devise an appropriate antibiotic regimen for community-acquired pneumonia based on specific patient parameters.
3. Identify the antibiotic that was most commonly misused for community-acquired pneumonia in this study.

Self-Assessment Questions:

1. The Antibiotic Resistance Solutions Initiative was proposed by which organization?
   a. Centers for Disease Control and Prevention
   b. Infectious Disease Society of America
   c. United States government
   d. World Health Organization

2. CH is seen in your clinic and diagnosed with pneumonia. He was last seen four months ago and given an antibiotic for a dog bite. He has no comorbidities. What medication is most appropriate, based on the guidelines?
   a. Amoxicillin
   b. Cephalexin
   c. Doxycycline
   d. Levofoxacin

3. Doxycycline was the most commonly misused antibiotic in this study.
   a. True
   b. False

Answers:
1. a
2. c
3. b

IMPACT OF A PHARMACIST-LED VANCOMYCIN DOSING AND MONITORING SERVICE AT AN ACADEMIC MEDICAL CENTER
Kiya Harrison, Pharm.D.
University of Oklahoma College of Pharmacy
Oklahoma City, Oklahoma

Learning Objectives:

1. Explain the pharmacokinetic and pharmacodynamic characteristics of vancomycin.
2. Summarize the current literature supporting the implementation of pharmacist-led vancomycin dosing and monitoring services.

Self-Assessment Questions:

1. Which pharmacodynamic parameter best predicts the antimicrobial activity of vancomycin?
   a. Trough/MIC ratio
   b. AUC/MIC ratio
   c. Peak/MIC ratio
   d. Time above MIC

2. True or False. There is evidence for decreased hospital cost, antibiotic days and nephrotoxicity when pharmacist-led vancomycin dosing and monitoring services are implemented.

Answers:
1. B
2. True
EVALUATION OF PROCALCITONIN FOR ANTIBIOTIC STREAMLINING IN CRITICALLY ILL PATIENTS
Jennifer Tran
Methodist Dallas Medical Center
Dallas, TX

Learning Objectives:

1. Assess the use of procalcitonin for discontinuation of broad-spectrum antibiotics in critically ill patients treated for sepsis
2. Analyze limitations to the discontinuation of antibiotics in the ICU setting
3. Discover opportunities for improvement in the use of procalcitonin

Self-Assessment Questions:
1. True or False: Procalcitonin (PCT) can be used as an adjunct tool for detection of bacterial infections.
   a. True
   b. False
2. On average, how many hours does it take for PCT levels to peak after the onset of bacterial infections?
   a. 1-2 hours
   b. 4-6 hours
   c. 8-12 hours
   d. >24 hours
3. Escalation of antibiotics is considered:
   a. Increasing the spectrum of antibiotics alone
   b. Increasing the number of antibiotics alone
   c. Both increasing the spectrum and/or number of antibiotics
   d. None of the above

Answers:
1. A
2. C
3. C

AN OUTCOME EVALUATION OF A STANDARDIZED COMPUTERIZED PHYSICIAN ORDER SET FOR THE MANAGEMENT OF CLOSTRIDIUM DIFFICILE COLITIS IN A TERTIARY CARE FACILITY.
Linda Nwachukwu
Texas Tech University Health Sciences Center School of Pharmacy
Lubbock, TX

Learning Objectives:

1. Summarize the continuum of clostridium difficile manifestation
2. Manage acute clostridium difficile infection
3. Identify the key elements of a clostridium difficile initiative

Self-Assessment Questions:
1. All of the following are treatment regimens for C. difficile colitis EXCEPT
   a. Oral metronidazole
   b. Intravenous metronidazole
   c. Oral vancomycin
   d. Intravenous vancomycin
2. Which of the following are key elements of a C. difficile initiative?
   a. Education on control and management of CDI
   b. Environmental cleaning discussion and constant updating of a hospital-wide protocol that incorporated monitoring efficacy of cleaning
   c. Implementation of order-set/order entry protocol to assist in directing therapy
   d. All of the following
Learning Objectives:

1. Evaluate current literature concerning current renal impairment treatment patterns in patients with sepsis and underlying cirrhosis.
2. Compare different treatment modalities that may improve renal function and all-cause mortality in septic patients with acute kidney injury (AKI) and cirrhosis.
3. Identify optimal surrogate markers for renal function in septic patients with cirrhosis.

Self-Assessment Questions:

1. In cirrhotic patients, severe sepsis can precipitate splanchnic vasodilation, decrease effective arterial volume, and exacerbate renal vasoconstriction leading to type-1 hepatorenal syndrome (HRS).
   a. True
   b. False

2. Despite advances in care, what is the in-hospital mortality rate in patients with type 1 HRS?
   a. 25%
   b. 50%
   c. 75%
   d. 100%

Answers:

1. A
2. C
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PLATFORM SESSION IIB - PHARMACEUTICAL CARE I
EVALUATION OF THE IMPACT OF A NEW PATIENT-CENTERED PHARMACIST STAFFING MODEL AT A LARGE ACADEMIC MEDICAL CENTER

Brandi Hamilton
CHI St. Luke’s Health – Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:

1. Discuss benefits of pharmacist-provided clinical services, including discharge counseling.
2. Identify barriers to providing pharmacist-led clinical services.
3. Explore ways to overcome staffing barriers.

Self-Assessment Questions:

1. What is a benefit of pharmacist-provided clinical services, including discharge counseling?
   a. Reduced ADEs
   b. Improved compliance
   c. Reduced costs
   d. All of the above

2. Which is the most significant barrier to providing pharmacist-led clinical services?
   a. Patient unwillingness to participate
   b. Nursing objections
   c. Too few pharmacists
   d. Physician objections

3. Which is not an effective way to overcome staffing barriers?
   a. Reduce the number of pharmacists
   b. Remove distributive tasks from decentralized pharmacists
   c. Deploy pharmacists to roles that suit their interests and aptitudes
   d. Provide tools to streamline daily tasks

ANSWERS:

1. D
2. C
3. A

ESTIMATED FINANCIAL BENEFIT OF OPENING A HOSPITAL-OWNED OUTPATIENT PHARMACY

Zinkeng Asonganyi
Methodist Dallas Medical Center
Dallas, TX

Learning Objectives:

- Explain the importance of opening a wholly owned outpatient pharmacy.
- Outline the other benefits associated with having an ambulatory pharmacy footprint.

Self-Assessment Questions:

1. Which of the following is NOT a benefit of having an outpatient pharmacy presence within a health system
   A. Better leverage of the 340B program
   B. Increase re-admission rates
   C. Improve patient experience and outcomes
   D. Reduce employee medication costs

2. An advantage of having a hospital owned outpatient pharmacy includes
   A. Selling OTC medications and supplies
   B. Receiving rental income
   C. Better provision of prescription services to indigents and reducing re-admissions
   D. None of the above

Answers:

1. B
2. C
EVALUATING COST SAVINGS AND PATIENT BENEFIT FROM THE 340B DRUG PRICING PROGRAM THROUGH EXPANSION OF PEDIATRIC OUTPATIENT PHARMACY SERVICES

Abhay S. Patel
Texas Children’s Hospital
Houston, Texas

Learning Objectives:

1. Explain the purpose and specifications of the 340B Drug Pricing Program as they pertain to pediatric institutions
2. Determine the impact of commercial payer plan acceptance on 340B drug cost savings from a pilot implementation
3. Evaluate the impact of bedside medication delivery on patient experience

Self-Assessment Questions:

1. Free-standing children’s hospitals that participate in the 340B Drug Pricing Program are required to maintain an annual disproportionate share percentage (DSH) adjustment of at least:
   a. 9.5%
   b. 10.25%
   c. 11.75%
   d. 12.5%

2. What parameter(s) are used to identify a prescription as being from an ‘eligible patient’ for the 340B Drug Pricing Program?
   a. Prescriptions pursuant to an outpatient visit
   b. Prescriptions not purchased through Group Purchasing Organizations (GPO)
   c. Patient is seen by a provider employed by the hospital
   d. A and C

Answers:

1. C
2. D
INVESTIGATION OF METHODS OF MEDICATION ADMINISTRATION USING THE THEORY OF PLANNED BEHAVIOR

Joseph Rogers
Memorial Hermann Health System
University of Houston College of Pharmacy
Houston, TX

Learning Objectives:

1. Describe systems for medication distribution and administration
2. Discuss methods to understand nurses and respiratory therapists as customers
3. Characterize the use of a scientific framework to drive process improvement with medication administration

Learning Assessment Questions

1. Which variable is a dependent variable in the Theory of Planned Behavior (TPB)?
   a. Attitude
   b. Subjective Norm
   c. Perceived Behavioral Control
   d. Intention

2. True or false: According to TPB, Intention is the most immediate determinant of behavior.
   a. True
   b. False

3. To understand the influence of others’ thoughts about a behavior, which variable must be analyzed?
   a. Attitude
   b. Subjective Norm
   c. Perceived Behavioral Control

Answers:

1. D
2. A
3. B
Learning Objectives:

1. Explain the potential consequences of hypo- and hyperkalemia
2. Determine patient- and treatment-specific factors that alter potassium homeostasis
3. Evaluate the accuracy of current potassium deficit estimations in critically ill hospitalized adults

Self-Assessment Questions:

1. Which of the following is true regarding potassium ions?
   A. Potassium is predominantly an extracellular cation
   B. Potassium is predominantly an extracellular anion
   C. Potassium is predominantly an intracellular anion
   D. Potassium is predominantly an intracellular cation

2. Which of the following is the most serious potential side effect of hypo- or hyperkalemia?
   A. Impaired muscle contraction
   B. Agitation
   C. Arrhythmias
   D. Hallucinations

3. Which of the following is most likely to cause a decrease in serum potassium concentrations in critically-ill patients?
   A. Metabolic acidosis
   B. Insulin administration
   C. Magnesium administration
   D. Lisinopril administration

Answers:

1. D
2. C
3. B
Learning Objectives:

1. Discuss key physiologic changes that impact resuscitation in patients with cirrhosis.
2. Evaluate existing data assessing common resuscitation strategies in cirrhosis patients.
3. Identify specific prognostic and treatment factors that are associated with improved outcomes in septic patients with cirrhosis.

Self-Assessment Questions:

1. Which of the following is most likely considered a key physiologic change that may affect resuscitation in patients with cirrhosis?
   a. Heightened immune response
   b. Increased systemic vascular resistance
   c. Decreased cardiac output
   d. Splanchnic vasoconstriction

2. Which of the following statements is true regarding available literature evaluating resuscitation strategies in cirrhosis patients?
   a. Several randomized controlled studies have identified that standard resuscitation parameters and their respective targets are reliable in cirrhosis patients.
   b. Strong evidence supports standard resuscitation parameters and their respective targets for use in cirrhosis patients.
   c. One single center study applied current sepsis bundles for resuscitation of cirrhosis patients but failed to improve mortality.
   d. No literature is currently available assessing resuscitation parameters and targets in cirrhosis patients with sepsis.

Answers:
1. A
2. C
DETERMINE THE IMPACT OF PREVENTING FLUID ACCUMULATION IN A COMMUNITY HOSPITAL ICU (DRI ICU)

Jessica Garza
Texas Tech University Health Science Center
Abilene, Texas

Learning Objectives:

• Identify adverse consequences of fluid accumulation in intensive care unit (ICU) patients.
• Review the management of volume status in ICU populations.
• Evaluate the impact of fluid accumulation on morbidity and mortality.

Self-Assessment Questions:

1. Which of the following is the goal of fluid resuscitation in critically ill patients?
   a. Restore intra-vascular volume
   b. Organ perfusion
   c. Tissue oxygenation
   d. All of the above

2. Which of the following is an adverse consequence of “fluid creep”?
   a. Worsening lung function
   b. Renal impairment
   c. Elevated intra-abdominal pressure
   d. All of the above

3. Which of the following does not contribute to “fluid creep?”
   a. Renal impairment
   b. Furosemide administration
   c. Fluid intake (IV antibiotics, blood products, nutrition)

Answers:

1. D
2. D
3. B

COMPARISON OF NOREPINEPHRINE AND VASOPRESSIN TO NOREPINEPHRINE IN ACIDOTIC SEVERE SEPTIC SHOCK

Hannah Davis
Department of Pharmacy, University Hospital
San Antonio, Texas

Learning Objectives:

1. Identify the current guideline recommendations for utilization of vasopressin in patients with septic shock.
2. Describe the potential benefits of vasopressin in patients with septic shock.
3. Evaluate the role of vasopressin in patients with acidosis and septic shock as a second line vasopressor.

Self-Assessment Questions:

True or False:

1. Appropriate fluid resuscitation in septic shock is no more than 15 mL/kg of a crystalloid fluid.
   False
2. Catecholamine hormones are more efficacious in acidotic environments.
   False
3. Vasopressin may be considered as an adjunctive vasopressor in septic shock.
   True
IMPACT OF A PHARMACIST-LED VACCINE RECOMMENDATION PROGRAM FOR PEDIATRIC KIDNEY TRANSPLANT CANDIDATES

Clarice Carthon
University Health System
San Antonio, Texas

Learning Objectives:

1. Discuss the currently published compliance rates for recommended pediatric age-specific vaccination schedules at the time of transplantation
2. Summarize the impact of transplant pharmacists on improving up-to-date vaccination schedules

Self-Assessment Questions:

1. Based on currently published literature, the rates of compliance with recommended vaccination schedules in all transplant recipients are suboptimal.
   a. True
   b. False

2. Vaccination is more effective in transplant recipients when given after transplantation.
   a. True
   b. False

3. A transplant pharmacist-led vaccination program can significantly improve up-to-date vaccination schedules in pediatric kidney transplant recipients.
   a. True
   b. False

Answers:
1. True
2. False
3. True
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PLATFORM SESSION III B - CLINICAL PRACTICE II
ALCOHOL WITHDRAWAL TREATMENT: OUTCOMES IN PATIENTS RECEIVING A SYMPTOM-TRIGGERED REGIMEN WITH OR WITHOUT SCHEDULED CHLORDIAZEPoxide

Megan Radigan
Baylor University Medical Center
Dallas, TX

Learning Objectives:

1. Summarize the pathophysiology of alcohol withdrawal syndrome in the acute setting.
2. Review the role of the Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar) in a symptom-triggered benzodiazepine regimen.
3. Compare and contrast pharmacologic approaches for alcohol withdrawal.

Self-Assessment Questions:

1. Which of the following utilizes a symptom-triggered benzodiazepine approach for alcohol withdrawal syndrome?
   a. Richmond Agitation Sedation Scale (RASS)
   b. Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar)
   c. Riker Sedation-Agitation Scale (SAS)
   d. Confusion Assessment Method for the ICU (CAM-ICU)

2. Goals for the acute treatment of alcohol withdrawal include:
   a. Treatment of psychomotor agitation
   b. Minimize sedation and respiratory depression
   c. Prevention of more serious complications
   d. All of the above

3. True or False: Benzodiazepines can cause respiratory depression
   a. True
   b. False

Answers:

1. B
2. D
3. A
CONTINUOUS VERSUS INTERMITTENT PANTOPRAZOLE INFUSION THERAPY FOR NONVARICEAL GASTROINTESTINAL BLEEDING: A RETROSPECTIVE STUDY OF AN INSTITUTIONAL DRUG SHORTAGE MANAGEMENT PLAN

Alison Merkel
St. David’s South Austin Medical Center
Austin, TX

Learning Objectives:
1. Compare conventional intravenous proton pump inhibitor (PPI) therapy to bolus plus intermittent intravenous therapy for upper gastrointestinal bleeding
2. Identify patients who are candidates for intermittent intravenous proton pump inhibitor therapy
3. Develop an evidence-based pharmacotherapeutic plan for patients presenting with upper gastrointestinal bleeding

Self-Assessment Questions:
1. Current guidelines from the American College of Gastroenterologists recommend the use of an 80mg IV bolus and 8mg/hr continuous infusion of a proton pump inhibitor for management of ulcer bleeding.
   a. True
   b. False

2. Which of the following scenarios should NOT be treated with intermittent proton pump inhibitor therapy?
   a. Actively bleeding ulcers
   b. Non-bleeding visible vessels
   c. Variceal bleeding
   d. Adherent clots

3. Which of the following characteristics are recommended to be included when selecting an intermittent proton pump inhibitor regimen?
   i. High-dose PPI
   ii. Low-dose PPI
   iii. Daily dosing
   iv. BID dosing
   a. i & iii
   b. ii & iii
   c. i & iv
   d. ii & iv

Answers:
1. a
2. c
3. d
IMPACT OF NOREPINEPHRINE WEIGHT-BASED DOSING COMPARED TO NON-WEIGHT BASED DOSING IN ACHIEVING TIME TO GLAP MAP IN OBESE PATIENTS WITH SEPTIC SHOCK

Nina Vadiei
Seton Healthcare Family
Austin, TX

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

Analyze this retrospective study and determine if weight-based dosing achieves earlier time to goal mean arterial pressure (MAP) compared to non-weight based dosing

Self-Assessment Questions:

1. What is the definition of septic shock?
   a. Sepsis with persisting hypotension
   b. Sepsis with persisting hypotension requiring vasopressors to maintain MAP ≥ 65
   c. Sepsis with persisting hypotension requiring vasopressors to maintain MAP ≥ 65 and having a serum lactate > 2 mmol/L despite adequate fluid resuscitation
   d. Sepsis complicated by severe organ dysfunction

2. What do the Surviving Sepsis Guidelines recommend in treating patients with septic shock following adequate fluid resuscitation?
   a. Dopamine initiation to target MAP of 65 mmHg
   b. Norepinephrine initiation to target MAP of 65 mmHg
   c. Dopamine initiation to achieve CVP 8-12 mmHg
   d. Norepinephrine initiation to achieve CVP 8-12 mmHg

3. Why is it important to determine the ideal dosing strategy for norepinephrine (WBD vs. non-WBD)?
   a. Lack of existing pharmacokinetic data
   b. Lack of standardization in clinical practice
   c. Unknown risks vs. benefits
   d. All of the above

Answers:

1. C
2. B
3. D
COMPARISON OF WEIGHT BASED VERSUS NON-WEIGHT BASED NOREPINEPHRINE DOSING IN PATIENTS WITH SHOCK

William Shu
Presbyterian Hospital of Dallas
Dallas, TX

Learning Objectives:

1. To explain the role of norepinephrine in shock
2. To describe the rationale for weight based and non-weight based norepinephrine dosing
3. To assess potential advantages and disadvantages between dosing strategies of norepinephrine

Self-Assessment Questions:

1. According to the Surviving Sepsis Campaign, norepinephrine is ________.
   a. Reserved for patients who fail dopamine therapy
   b. First line therapy for refractory hypotension
   c. Contraindicated
   d. None of the above apply

2. True or False: Blood volume is independent of weight.
   a. True
   b. False

3. Which of the following are potential disadvantages to using non-weight based dosing of norepinephrine?
   a. Under dosing
   b. Overdosing
   c. Delay in reaching goal MAP
   d. All of the above

Answers:
1. B
2. B
3. D
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PLATFORM SESSION IVA - CLINICAL PRACTICE III
Learning Objectives:

1. Identify patients with severe sepsis and septic shock
2. Distinguish key differences between fluid resuscitation strategies in septic patients with congestive heart failure, cirrhosis, and end stage renal disease
3. Recognize complications of fluid resuscitation in sepsis

Self-Assessment Questions:

1. A 52 year-old male presents to the emergency department with septic shock secondary to pneumonia. The patient is 100 kg. At minimum, how much fluid resuscitation in milliliters should he receive?
   a. 500 milliliters
   b. 1000 milliliters
   c. 2000 milliliters
   d. 3000 milliliters

2. Which of the following may be a complication of over-fluid resuscitating with normal saline?
   a. Hypochloremic metabolic alkalosis
   b. Hyperchloremic metabolic acidosis
   c. Hypochloremic respiratory acidosis
   d. Hyperchloremic respiratory alkalosis

Answers:
1. D
2. B

Learning Objectives:

1. Discuss the implications of anticholinergic agent use in the nursing home population.
2. Assess anticholinergic burden risk scores and antipsychotic prescribing practices in nursing homes.

Assessment Questions:

1) Why is a high anticholinergic burden concerning in the nursing home population?
   a. Increases risk of cognitive decline
   b. Increases risk of delirium
   c. Increases risk of diarrhea
   d. A and B
   e. All of the above

2) The nursing staff at the nursing home you consult for have noticed that Ms. A acting disoriented to her surroundings. This recent change has prompted the nursing staff to ask you to assess her medication regimen. Which agent has the highest anticholinergic burden?
   a. Carbamazepine 300 mg
   b. Cyclobenzaprine 5 mg
   c. Paroxetine 20 mg
   d. Ranitidine 150 mg
   e. Warfarin 5 mg
IDENTIFYING PATIENT AND ANTIRETROVIRAL SPECIFIC FACTORS FOR SWITCHING TO SIMPLIFIED HIV TREATMENT REGIMENS

Amy Cheng
University of Houston College of Pharmacy
Houston, TX

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. List the principles of regimen switches and identify patient specific factors for simplifying highly active antiretroviral therapy (HAART).
2. Evaluate continuity of targeted clinical outcomes after simplifying HAART.
3. Discuss benefits and limitations of HAART regimen simplification.

Self-Assessment Questions:

1. According to the Department of Health and Human Services (DHHS) HIV Guidelines, when can a patient’s antiretroviral regimen be considered for simplification?
   a. Whenever a new single tablet regimen comes to market
   b. When pill burden and frequent dosing is a major adherence barrier for the patient
   c. When the patient has tried their current regimen for at least 12 months
   d. When the patient’s viral load is greater than 100,000 copies/mL

2. What are some reasons why a patient’s antiretroviral therapy regimen might be switched/simplified?
   a. To manage drug-drug/food interactions
   b. To improve tolerability or convenience
   c. To avoid toxicities of antiretrovirals
   d. All of the above

3. What factors should be considered before switching/simplifying a patient’s antiretroviral therapy?
   a. Any prior resistance testing (i.e. genotype/phenotype)
   b. HIV viral load
   c. History of opportunistic infections
   d. A and B

Answers:

1. B
2. D
3. D
EFFECT OF DARBEPOETIN ALFA ON MORTALITY AND TRANSFUSION INDEPENDENCE IN CRITICALLY ILL TRAUMA PATIENTS
Sara Schulz
Baylor University Medical Center
Dallas, TX

Learning Objectives:

• Review anemia in critically ill trauma patients
• Outline current treatment approaches for anemia in critically ill trauma patients
• Analyze the efficacy of darbepoetin alfa administration on mortality and transfusion independence in critically ill trauma patients

Self-Assessment Questions:

1. What is the mechanism of anemia in critically ill trauma patients?
   a. Failure of EPO concentrations to increase in response to reduced Hgb levels
   b. Excessive blood loss due to initial trauma event
   c. Low levels of vitamin B12 or folic acid
   d. Iron deficiency

2. What is the major clinical difference between epoetin alfa and darbepoetin alfa?
   a. Stimulate endogenous EPO
   b. Induce erythropoiesis
   c. 3-fold increase terminal half-life
   d. Black box warning for thromboembolic events

Answers:

1. A
2. C
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For Pharmacy Residents, Fellows & Preceptors

PLATFORM SESSION IVB - CARDIOVASCULAR I
OPTIMIZING THERAPY: PHARMACIST INVOLVEMENT VERSUS USUAL CARE IN A HEART FAILURE POPULATION
Qian Ya Lenza Zeng
University of Texas at Austin and CommUnityCare Clinics
Austin, TX

Learning Objectives:

1. Compare pharmacist and physician management of heart failure medication dose optimization and refill adherence in an ambulatory care setting.
2. Assess the potential role for pharmacists to enhance heart failure medication optimization and refill adherence in a pharmacist managed primary care clinic.
3. Compare 30-day all-cause rehospitalization rates between patients seen by pharmacists and patients receiving standard care.

Self-Assessment Questions:

1. The Centers for Medicare & Medicaid Services’ 30-day all-cause rehospitalization rates for heart failure encompasses
   a. Systolic heart failure only
   b. Diastolic heart failure and systolic heart failure
   c. Diastolic heart failure only

2. One of the most commonly cited reasons for heart failure readmissions is the underutilization of medications.
   a. True
   b. False

3. Available studies highlight the beneficial effect of pharmacist involvement in the management of heart failure in which heart failure is not the primary disease of focus for the pharmacist.
   a. True
   b. False

Answers:
1. B
2. A
3. B
EVALUATION OF AN ELECTROLYTE REPLETION PROTOCOL IN PATIENTS RECEIVING THERAPEUTIC HYPOTHERMIA FOR SUDDEN CARDIAC DEATH
Michael Ha
Memorial Hermann – Texas Medical Center
Houston, TX

Learning Objectives:
At the conclusion of this presentation, participants should be able to:

Describe the electrolyte derangements that occur in patients receiving therapeutic hypothermia.
Examine the potential risks of electrolyte disturbances in patients status post cardiac arrest.
Evaluate the efficacy and safety of an electrolyte repletion protocol in patients receiving therapeutic hypothermia.

Self-Assessment Questions:
1. Patients undergoing therapeutic hypothermia experience a shift of intracellular electrolytes to the extracellular space.
   a. True
   b. False

2. Due to electrolyte derangements during rewarming, patients are at risk of the following EXCEPT:
   a. Arrhythmias
   b. Cardiac arrest
   c. Hypocoaguable state
   d. None of the above, all are risks

3. Maintaining electrolytes at a low to low-normal range during hypothermia per a repletion protocol is associated with an increased risk of safety events.
   a. True
   b. False

Answers:
1. a. False
2. c. Hypocoaguable state
3. b. False
EFFECT OF AMIODARONE LOADING DOSE ON READMISSION RATES IN PATIENTS WITH PAROXYSMAL AND PERSISTENT ATRIAL FIBRILLATION
Molly F. Curran
University Health System
San Antonio, TX

Learning Objectives:

1. Describe the pathophysiology of atrial fibrillation and common risk factors associated with persistence of the rhythm.
2. Define the mechanism of action of amiodarone on cardiac tissue in the acute and chronic setting and current recommendations for amiodarone loading doses in patients with atrial fibrillation.
3. Identify risk factors that may be associated with higher rates of cardioversion failure and readmissions.
4. Formulate an evidence-based recommendation for the duration of amiodarone loading dose.

Self-assessment Questions:

1) AHA/ACC guidelines consider a full amiodarone loading dose is considered to be either 5g PO or 10g IV. T F

2) Risk factors known to contribute to the propagation of atrial fibrillation include hypertension, coronary heart disease and chronic heart failure. T F

3) The use of partial amiodarone loading dose results in a statistically significant increase in 7-day readmission rates. T F

Answers
1) F
2) T
3) F

SAFETY AND EFFICACY OF DEXMEDETOMIDINE IN PATIENTS WITH CONGESTIVE HEART FAILURE
Stephy Kuriakose, Pharm.D
VA North Texas Healthcare System
Dallas, Texas

Learning Objectives:

1) Provide a brief overview of the pharmacology and indication of dexmedetomidine.
2) Review primary literature studying the safety of efficacy of dexmedetomidine in patients with congestive heart failure.
3) Discuss the results of the present study.

Self-Assessment Questions:

1) What is the usual dose for dexmedetomidine for sedation?
   a) 0.2 to 0.7 mcg/kg/hour
   b) 0.002 to 0.007 mg/kg/min
   c) 2 to 7 mcg/kg/hour
   d) 0.2 to 0.7 mg/kg/min

2) Does dexmedetomidine require renal adjustment in patients with renal failure?
   a) Yes
   b) No

3) At what LVEF would a patient be considered to be in systolic heart failure?
   1) < 30 %
   2) > 50 %
   3) < 40 %
   4) > 40 %
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PLATFORM SESSION VA - ANTICOAGULATION I/
INFECTIONOUS DISEASE IV
THE 4T’S SCORING SYSTEM IN THE SCREENING OF HEPARIN-INDUCED THROMBOCYTOPENIA IN PATIENTS WITH MECHANICAL CIRCULATORY SUPPORT

Younju Lee
Memorial Hermann – Texas Medical Center
Houston, TX

Learning Objectives:

At the end of this presentation, you should be able to:

1. Describe heparin-induced thrombocytopenia (HIT)
2. Investigate 4T’s clinical scoring tool and its pitfalls in predicting likelihood of HIT in patients with mechanical circulatory support (MCS)
3. Evaluate the positive and negative predictive value of 4T’s scoring tool for HIT in patients with MCS

Self-Assessment Questions:

1. Which one of the statement is TRUE regarding heparin-induced thrombocytopenia (HIT)?
   a. Patient’s platelet count often decreases below 10,000/mm³
   b. HIT can be reversed by protamine administration
   c. Heparin antibody ELISA and serotonin release assay are diagnostic tools for HIT
   d. All patients must develop thrombosis in order to be diagnosed with HIT

2. Which one of the following is NOT a part of 4T’s scoring assessment?
   a. Thrombocytopenia
   b. Time of platelet count decrease
   c. Other causes for thrombocytopenia
   d. Duration of hospitalization

VTE TREATMENT OUTCOMES IN CANCER PATIENTS AND EFFECT OF THIRD-PARTY PAYERS ON ANTICOAGULANT CHOICE

Katherine Kelly, PharmD
Texas Tech Health Sciences Center/UT Southwestern Medical Center
Dallas, TX

Learning Objectives:

At the conclusion of the presentation, participants should be able to:

1. Describe the pathophysiology and risk factors contributing to increased rates of VTE in cancer patients
2. Compare and contrast the various anticoagulants used in treatment of VTE in cancer patients
3. Reflect on a retrospective analysis of VTE treatment recurrence in cancer patients treated with different anticoagulant therapies

Self-Assessment Questions:

1. Patients with cancer are at an increased risk of recurrent VTE due to:
   a. Cancer-related factors
   b. Treatment-related factors
   c. Patient-related factors
   d. All of the above

2. Current barriers to utilizing low-molecular weight heparins in cancer patients with venous thromboembolism include:
   a. No availability of a reversal agent
   b. Many drug interactions
   c. Third-party payer rejection/out-of-pocket expenses
   d. Requirement for frequent drug-level monitoring

Answers:
1. D
2. C
Learning Objectives:

1. Explain the contradictory evidence of cannabinoid or alcohol use and their effect on sustained virologic response
2. Evaluate the effect of cannabinoid or alcohol use on sustained virologic response with novel direct-acting antivirals
3. Endorse or dispute restrictions on direct-acting antivirals related to cannabinoid or alcohol use

Self-Assessment Questions:

1. Is there current data to support the utility of pretreatment screening for illicit drug or alcohol use in identifying a population more likely to successfully complete HCV therapy?
   a. Yes
   b. No

2. There is current data available to support the exclusion of HCV-infected persons from considerations for hepatitis C therapy based on the amount of alcohol intake or the use of illicit drugs?
   a. True
   b. False

Answers:

1. B
2. B
SAFETY AND EFFECTIVENESS OF BIVALIRUDIN VERSUS UNFRACTIONATED HEPARIN IN PERCUTANEOUS PERIPHERAL INTERVENTIONS
Ellen Yin
CHI St. Luke’s Health Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:
At the conclusion of this presentation, participants should be able to:
1) Summarize the major clinical trials examining bivalirudin versus unfractionated heparin in coronary interventions and describe the applicability to peripheral interventions
2) Compare the safety and effectiveness of using bivalirudin versus unfractionated heparin in peripheral interventions
3) Justify the use of one agent over the other based on the cost of the medication

Self-Assessment Questions:
1. In studies done on unfractionated heparin versus bivalirudin in percutaneous coronary interventions, the available literature to date has provided inconsistent and controversial results. In which recent major trials has the superiority of bivalirudin been called into question?
   a. HEAT PPCI and MATRIX
   b. HORIZONS AMI and ISAR-REACT 3
   c. HEAT PPCI and REPLACE-2
   d. MATRIX and HORIZONS AMI

2. The American College of Cardiology/American Heart Association recommends bivalirudin over unfractionated heparin as an anticoagulation strategy in patients undergoing percutaneous peripheral interventions. True or False?
   a. True
   b. False

3. Why might bivalirudin be a better choice than unfractionated heparin in percutaneous peripheral procedures?
   a. Inhibits free and bound thrombin
   b. Predictable anticoagulation response
   c. Lower cost
   d. A and B

Answers:
1. A
2. B
3. D
CEFTOLOZANE-TAZOBACTAM (CFT-TAZ) FOR THE TREATMENT OF MULTI-DRUG RESISTANT PSEUDOMONAS (PSDA): A CASE SERIES
Gary Fong
CHI St. Luke’s Health – Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:
1. Identify the role of ceftolozane-tazobactam in the treatment of multi-drug resistant Pseudomonas
2. Understand the limitations of current evidence for the use of ceftolozane-tazobactam in the treatment of multi-drug resistant Pseudomonas

Self-Assessment Questions:
1. Ceftolozane-tazobactam is a novel cephalosporin-beta lactamase inhibitor with improved activity against which of the following organisms?
   a. Carbapenem-resistant Enterobacteriaceae
   b. Pseudomonas aeruginosa
   c. Vancomycin-resistant Enterococci
   d. Rapid-growing Mycobacterium

2. Ceftolozane-tazobactam is currently FDA approved for which of the following indications
   a. Hospital-acquired pneumonia
   b. Complicated urinary tract infections
   c. Complicated intra-abdominal infections
   d. Complicated skin and skin structure infections
   e. B and C

3. Large retrospective studies have shown that ceftolozane-tazobactam must be used in combination with other gram-negative active agents to be efficacious.
   a. True
   b. False

Answers:
1. B
2. E
3. B
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PLATFORM SESSION VB - AMBULATORY CARE I
Learning Objectives:

1. Explain the importance of empathy in clinical pharmacy practice.
2. Identify the key components of successful empathy interventions in pharmacy education.

Self-Assessment Questions:

1. What is the correct definition of empathy?
   a. The ability to acknowledge another’s emotions and lend support.
   b. The ability to understand and share the feelings of another.
   c. The ability to communicate your feelings.
   d. The ability to compartmentalize and assess another’s misfortunes.

2. What is thought to be the benefit for students in completing complex patient simulations?
   a. To provide students with the opportunity to learn from patient experiences.
   b. To allow students the opportunity to empathize with patients.
   c. To prepare students to deal only with patients meeting the criteria of those simulated.
   d. A and B.

Answers:

1. B
2. D
Learning Objectives:

1) Describe the four main benefits of chronic azithromycin in patients with cystic fibrosis greater than six years old.
2) List the top 3 risk factors for QTc prolongation identified in a study of people with cystic fibrosis.
3) Specify the percent of patients with cystic fibrosis receiving ECG monitoring with chronic azithromycin therapy.

Self-Assessment Questions:

1. Which of the following decreases with chronic azithromycin therapy in cystic fibrosis?
   a. Pulmonary exacerbations
   b. Body mass index (BMI)
   c. Risk of mycobacterium avium infection
   d. Risk QTc prolongation

2. Which of the following was the most common medication risk factor for QTc prolongation found in a one center study?
   a. Inhaled antibiotics
   b. Dornase-alpha
   c. Long-acting beta agonists
   d. Levofoxacin

3. In which range did the percent of patients receiving ECG therapy with chronic azithromycin therapy fall?
   a. 10-20%
   b. 20-30%
   c. 30-40%
   d. 40-50%

Answers:

1. A
2. C
3. C
Learning Objectives:

1. Discuss the evidence available regarding the outpatient management of symptomatic hyperglycemia
2. Describe a symptom-based outpatient hyperglycemia protocol

Self-Assessment Questions:

1. Evidence suggests type 1 diabetes patients with mild diabetic ketoacidosis may be successfully managed in the outpatient setting using __________ insulin.
   a. Rapid-acting
   b. Short-acting
   c. Intermediate-acting
   d. Long-acting

2. For which patient would the activation of an outpatient hyperglycemia protocol be appropriate?
   a. 22 year old Caucasian male with T1DM and a finger stick blood sugar of 212 mg/dL
   b. 24 year old Hispanic female with T2DM, a finger stick blood sugar of 403 mg/dL, complaints of polyuria, but otherwise stable
   c. 36 year old African American male with T2DM, a finger stick blood sugar of 200 mg/dL, and complaints of polyuria and polydipsia
   d. 65 year old African American female with T2DM, finger stick blood sugar of 486 mg/dL, and hemodynamically unstable

Answers:

1. A
2. B
IMPACT OF A MENTAL HEALTH PHARMACIST ON PRIMARY CARE IN A FEDERALLY QUALIFIED HEALTH CENTER

Germaine Williams, Pharm.D., BCPS
University of Texas at Austin College of Pharmacy/CommUnityCare Health Centers
Austin, Texas

Learning Objectives:

- Describe interventions made by clinical pharmacists among patients with mental health conditions.
- Evaluate the impact of a mental health pharmacist on PHQ-9 scores in an ambulatory care setting.
- Discuss how to integrate pharmacist-provided mental health services into ambulatory care or primary care practice settings.

Self-Assessment Questions:

1. How many states in the US have at least 75% of the mental health care providers that they need?
   a. 6
   b. 10
   c. 24
   d. 40

2. Which of the following interventions are within the scope of a clinical pharmacist with a specialty in mental health at the study site?
   a. Start an antidepressant
   b. Administer a PHQ-9
   c. Titrate antipsychotic dosing
   d. Refill lithium
   e. All of the above

Answers:

1. A
2. E
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PLATFORM SESSION VIA - CLINICAL PRACTICE I
DURATION OF MECHANICAL VENTILATION IN PATIENTS IN INTENSIVE CARE UNIT PATIENTS TREATED WITH BENZODIAZEPINE VS. NON-BENZODIAZEPINE BASED SEDATION

Elizabeth Franco, Pharm.D.
Memorial Hermann - Texas Medical Center
Houston, TX

Learning Objectives:

1. Review literature on pain and sedation strategies in mechanically ventilated patients
2. Define risk associated with use of benzodiazepine based sedation
3. Identify the outcomes associated with benzodiazepine and non-benzodiazepine based sedation on clinical outcomes.

Self-Assessment Questions:

1. Which would be an appropriate method to provide initial comfort to a mechanically ventilated patients?
   a. Cisatracurium
   b. Midazolam
   c. Fentanyl
   d. Diphenhydramine

2. What are some risks associated with use of benzodiazepine based sedation?
   a. Delirium
   b. Hyperglycemia
   c. Improved respiratory function
   d. Increased incidences of self extubation

3. What are some of the reasons why a patient may require benzodiazepine based sedation?
   a. Alcohol withdrawal
   b. Patient is requiring continuous paralysis
   c. Status epilepticus
   d. All of the above

Answers:

1. C. Fentanyl
2. A. Delirium
3. D. All of the above
ATTAINMENT OF TARGET ANTI-XA LEVELS IN PATIENTS WITH ACUTE KIDNEY INJURY REQUIRING CONTINUOUS RENAL REPLACEMENT THERAPY

Kellee Brown
Our Lady of the Lake Regional Medical Center
Baton Rouge, LA

Learning Objectives:

1. Evaluate the current literature and recommendations for treatment and prophylaxis of thromboembolic events in patients receiving continuous renal replacement therapy
2. Describe the research methods and preliminary results
3. Identify the limitations and future directions of current research

Self-Assessment Questions:

1. Which of the following anticoagulants is preferred for use as systemic anticoagulation in patients with acute kidney injury requiring CRRT?
   a. Enoxaparin
   b. Heparin
   c. Bivalirudin
   d. Citrate

2. Current literature evaluates the safety and efficacy of enoxaparin when used in patients requiring CRRT.
   a. True
   b. False

Answers:
1. B
2. False

DETECTING THE FREQUENCY AND SEVERITY OF PAROXYSMAL SYMPATHETIC HYPERACTIVITY IN TRAUMATIC BRAIN INJURY PATIENTS USING ASSESSMENT TOOLS

Monica Lee
Memorial Hermann – Texas Medical Center
Houston, Texas

Learning Objectives:

• Define paroxysmal sympathetic hyperactivity (PSH) and its clinical implications
• Investigate the incidence and severity of PSH in traumatic brain injury (TBI) patients using assessment tools
• Examine medications used to manage PSH symptoms

Self-Assessment Questions

1. What is the leading cause of paroxysmal sympathetic hyperactivity?
   a. Hypoxic brain injury
   b. Traumatic brain injury
   c. Hemorrhagic stroke
   d. Ischemic stroke

2. Which of the following is not a common symptom of paroxysmal sympathetic hyperactivity?
   a. Tachycardia
   b. Tachypnea
   c. Hypotension
   d. Diaphoresis

3. Paroxysmal sympathetic hyperactivity is frequently associated with increased morbidity and mortality.
   a. True
   b. False

Answers:
1. B
2. C
3. A
NEW METFORMIN PRESCRIBING RECOMMENDATION: EVALUATING METFORMIN USE BASED ON ESTIMATED GLOMERULAR FILTRATION RATE OVER TRADITIONAL SERUM CREATININE CONTRAINDICATIONS

Vivian Bui
West Texas Veterans Affairs Health Care System
Big Spring, TX

Learning Objectives:

At the completion of this presentation, the participant will be able to:

1. Compare the number of patients who qualify for metformin therapy based on different assessments of renal function: eGFR versus traditional serum creatinine
2. Detect difference in HgA1c, number of diabetic medications added, and total cost of diabetic regimen after discontinuation of metformin

Self-Assessment Questions:

1. Which medication class is considered first-line therapy for patients with type-2 diabetes?
   a) Sulfonylureas
   b) Insulin
   c) Biguanides
   d) Thiazolidinediones
   e) None of the above

2. According to its package insert, metformin is contraindicated in men with SCr ≥1.5 mg/dL and women with SCr ≥1.4 mg/dL. This is likely due to which of the following adverse effects, for which metformin also has a black box warning?
   a) Heart failure
   b) Stroke
   c) Kidney failure
   d) Lactic acidosis
   e) None of the above

3. Most current international diabetes guidelines have suggested the transition of metformin dosing adjustments based on estimated glomerular filtration rate (eGFR) instead of serum creatinine (SCr). What is the proposed contraindication based on eGFR?
   a) eGFR ≤15 mL/min/1.73m²
   b) eGFR ≤30 mL/min/1.73m²
   c) eGFR ≤45 mL/min/1.73m²
   d) eGFR ≤60 mL/min/1.73m²
   e) none of the above

Answers:

1. C
2. D
3. B
COMPARISON OF EVIDENCE BASED ALBUMIN UTILIZATION GUIDELINE

Tracy Hudson
Ochsner Medical Center
New Orleans, LA

Learning Objectives:

1) Identify evidence-based indications for the use of human albumin
2) Discuss potential impact of an albumin utilization guideline

Self-Assessment Questions:

1. Which of the following are evidence-based indications for albumin use?
   a. Septic shock/hypovolemia, SBP, post-operative kidney transplant
   b. HRS, cardiothoracic surgery, diuresis aid with furosemide
   c. Hypoalbuminemia, septic shock/hypovolemia, hyponatremia
   d. SBP, HRS, and large volume paracentesis (> 5L)

2. Which of the following is a possible outcome of decreasing inappropriate albumin use?
   a. Worse clinical outcomes such as mortality and length of stay
   b. Decreased cost due to low-cost alternatives for albumin
   c. Increased cost due to high-cost alternatives for albumin
   d. No significant outcomes in reducing albumin use

Answers:
1. D
2. B

DEMENTIA RATES IN GERIATRICS TAKING OXYBUTYNIN VS TROSPIUM (DOT Study)

Elaine Lo, Pharm.D.
Veteran Affairs North Texas Health Care System and
Texas Tech University Health Sciences Center School of Pharmacy
Dallas, Texas

Learning Objectives:

• Describe the difficulties of managing overactive bladder in patients with altered mental status
• Analyze the literature available regarding treatment of overactive bladder in patients with altered mental status
• Evaluate the available medications for patients with concurrent altered mental status and overactive bladder

Self-Assessment Questions:

1. Which class of medication is most commonly used for treatment of overactive bladder syndrome?
   a. Anticholinergics
   b. OnabotulinumtoxinA
   c. Antidepressants
   d. β3-adrenoceptor agonist

2. What is thought to be the mechanism behind using trospium in minimizing cognitive impairment?
   a. Trospium is a β3-adrenoceptor agonist, therefore, only affecting receptors in the bladder
   b. Trospium is a quaternary amine that is hydrophilic, therefore, it should not cross the blood brain barrier
   c. Trospium targets M2 receptors only, which is predominantly found in the bladder
   d. Trospium targets M3 receptors only, which is predominantly found in the bladder

Answers:
1. A
2. B
A COMPARISON OF PAIN MANAGEMENT IN PEDIATRICS POST-TONSILLECTOMY:
RETROSPECTIVE REVIEW
Nancy Johnson
McLane Children’s Hospital
Temple, Texas

Learning Objectives:

1. Compare the metabolism of pain medications used in pediatrics
2. Identify appropriate pain management options for pediatric patients post-tonsillectomy

Self-Assessment Questions:

1. Which of the following is not an analgesic approved for use in pediatrics?
   a. Oxycodone
   b. Hydrocodone
   c. Codeine
   d. Acetaminophen

2. Which metabolism is more active in children over adults?
   a. Phase 1 metabolism
   b. Phase 2 metabolism

Answers to self-assessment questions:
1. C
2. B
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PLATFORM SESSION VIB - CLINICAL PRACTICE II
IMPACT OF A PAIN, AGITATION, AND DELIRIUM PROTOCOL IN MECHANICALLY VENTILATED PATIENTS WITHIN A COMMUNITY HOSPITAL
Annilee Miller
Memorial Hermann Hospital System
Houston, TX

Learning Objectives:
At the completion of this program, the participant will be able to:

1. Outline the current pain, agitation, and delirium (PAD) guidelines
2. Describe the PAD protocol used at Memorial Hermann Greater Heights
3. Evaluate the efficacy of a PAD protocol on mechanically ventilated patients within a community hospital

Self-Assessment Questions:

1. According to the Society of Critical Care Medicine 2013 Pain, Agitation, and Delirium Guidelines, what is first line management for pain in ICU patients?
   a. Tramadol
   b. PO acetaminophen/hydrocodone
   c. IV fentanyl
   d. Butorphanol

2. What was the median duration of mechanical ventilation, in days, in our patient population in the pre-protocol implementation phase?
   a. 3.2
   b. 5.1
   c. 6.7
   d. 4.3

Answers:
1. C
2. B
USE OF ANTIPSYCHOTICS FOR THE MANAGEMENT OF DELIRIUM IN THE INTENSIVE CARE UNIT

Soyoung Kim
Memorial Hermann Memorial City Medical Center
Houston, TX

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Describe risk factors, negative outcomes, and treatment options available for delirium in the ICU.
2. Evaluate the safety and effectiveness of antipsychotic use for delirium in the ICU.

Self-Assessment Questions:

1. What is a risk factor for developing delirium in the ICU?
   a. Mechanical ventilation
   b. Multi-organ failure
   c. Foley catheter
   d. All of the above
2. What is a tool developed to assess for delirium in the ICU?
   a. ICDSC
   b. RASS
   c. CAM-ICU
   d. A and C
3. What does the Pain, Agitation, and Delirium in the ICU guideline published in 2013 recommend regarding the management of delirium?
   a. Haloperidol should be administered to prevent delirium in adult ICU patients
   b. Atypical antipsychotics may reduce the duration of delirium
   c. Nonpharmacological management of delirium should not be performed in the ICU
   d. Antipsychotics are safe in patients with baseline prolonged QTc interval

Answers:
1. D
2. D
3. B

RISK FACTORS FOR ICU DELIRIUM IN A GERIATRIC VETERAN POPULATION

Heidi N. Michaels
Dallas Veterans Affairs Medical Center
Dallas, Texas

Learning Objectives:

- Discuss critical care and the geriatric population
- Review the short and long term impacts of ICU delirium
- Evaluate risk factors for ICU delirium in the geriatric population

Self-Assessment Questions:

1. True or False: Age is an independent risk factor for delirium in the ICU.

2. Which of the following is an impact of ICU delirium?
   a. Increased mortality
   b. Increased length of stay in hospital
   c. Long-term cognitive impairment
   d. All of the above

Answers:
1. True
2. D
Learning Objectives:

1. Describe the appropriate timing of RSI medications.
2. Describe the overall goals for ventilator sedation.
3. Compare approaches to ventilator sedation and the physiologic response (vital signs) associated with each.

Self-Assessment Questions:

1. Which of the following is not a part of RSI?
   A. Pretreatment
   B. Induction
   C. Paralytic
   D. Sedation

2. What are the overall goals of ventilator sedation?
   A. RASS -2 to 0
   B. Maximize oxygenation
   C. Prevent extreme changes in vitals
   D. Reduce risk of PTSD

3. Which medication is the drug of choice for hemodynamically unstable patients?
   A. Propofol
   B. Midazolam
   C. Fentanyl
   D. Ketamine

Answers:

1. D
2. B
3. C
EVALUATING THE BENEFITS OF UTILIZING DRONABINOL IN THE TREATMENT OF CHRONIC PAIN PATIENTS: A RETROSPECTIVE COHORT STUDY
Jessica S. Pabon
San Antonio Military Medical Center (SAMMC)
Fort Sam Houston, TX

Learning Objectives:

1. Discuss the adverse effects of long term chronic opioid therapy
2. Describe the role of the Endocannabinoid System (ECS) plays in nociceptive transmission
3. Analyze the potential benefits of cannabinoids, more specifically, dronabinol in pain modulation
4. Identify the clinical study limitations and the potential impact of various confounders on results

Self-Assessment Questions:

1. Which of the following side effects are NOT associated with dronabinol except?
   a. Constipation
   b. Hyperalgesia
   c. Ataxia
   d. Hypogonadism

2. What receptors and what type of affect does dronabinol have on the endocannabinoid system?
   a. Partial CBR1 agonist
   b. CBR1/partial CBR2 antagonist
   c. CBR2 agonist
   d. Partial CBR1/CBR2 agonist

3. The Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) recommended a minimum of 12 week duration for clinical trials involving chronic pain to demonstrate what?
   a. Side effects and tolerance
   b. Efficacy and safety
   c. Safety and adverse events
   d. Efficacy and adverse events

Answers:

1. C
2. D
3. B
SAFETY AND EFFICACY OF THE CONCURRENT USE OF LONG-ACTING INJECTABLE AND ORAL ANTIPSYCHOTICS IN THE TREATMENT OF SCHIZOPHRENIA AND SCHIZOAFFECTIVE DISORDER IN VETERANS
Andrew Young
Veterans Affairs North Texas Health Care System
Dallas, TX

Learning Objectives:
1. Define the common characteristics of schizophrenic and schizoaffective patients that are initiated on concurrent therapy with a long-acting injectable and oral antipsychotic
2. Assess the risks and benefits of treating patients with concurrent long-acting injectable and oral antipsychotics versus monotherapy

Self-Assessment Questions:
1. Antipsychotic polypharmacy is recommended per guidelines for refractory symptoms in schizophrenia before attempting clozapine.
   A. True
   B. False

2. Which long-acting injectable antipsychotic does NOT require oral overlap?
   A. Risperidone
   B. Fluphenazine
   C. Aripiprazole
   D. Paliperidone

3. Which is NOT a monitoring parameter for antipsychotics?
   A. AIMS
   B. Cholesterol
   C. M-spike
   D. A1c

Answers:
1. B. False
2. D. Paliperidone
3. C. M-spike
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PLATFORM SESSION VIC - CLINICAL PRACTICE III
AN EVALUATION OF COMBINATION THERAPY WITH BENZODIAZEPINES AND SELECTIVE SEROTONIN REUPTAKE INHIBITORS IN THE TREATMENT OF POST-TRAUMATIC STRESS DISORDER

Meghan Duquette
VA North Texas Health Care System and Texas Tech University Health Sciences Center School of Pharmacy
Dallas, Texas

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Discuss the controversy surrounding the use of benzodiazepines in the treatment of PTSD
2. Evaluate current literature on the efficacy of benzodiazepines in PTSD
3. Summarize preliminary findings from this retrospective chart review.

Self-Assessment Questions:

1. Which of the following is considered first line therapy for the treatment of PTSD according to the VA/DoD Guidelines?
   a. SSRIs/SNRIs
   b. Atypical Antipsychotics
   c. Benzodiazepines
   d. MAOIs

2. PTSD can only occur in individuals who are combat veterans.
   a. True
   b. False

3. Which of the following is a potential side effect of long term use of benzodiazepines?
   a. Impaired insulin resistance
   b. Dependence/addiction
   c. Seizures
   d. Neuropathy
ANTI-EPILEPTIC PROPHYLAXIS IN TRAUMATIC BRAIN INJURY (TBI) – A COMPARISON OF FOSPHENYTOIN/PHENYTOIN VS. LEVETIRACETAM

Monica Sharma
Methodist Dallas Medical Center
Dallas, TX

Learning Objectives:

1. Evaluate the incidence of early onset seizure activity in traumatic brain injury (TBI), defined as within 7 days of injury, comparing prophylactic use of fosphenytoin/phenytoin vs. levetiracetam.
2. Determine the length of ICU stay.

Self-Assessment Questions:

1. When is a seizure most likely to occur, if at all following a traumatic brain injury (TBI)?
   a. Within the first 7 days of occurrence
   b. Within the first 30 days of occurrence
   c. Within the first 24 hours of occurrence
   d. The risk is cumulative overtime

2. Levetiracetam use is associated with increased costs as compared to phenytoin:
   a. True
   b. False

3. Using concomitant seizure threshold lowering medications with levetiracetam or phenytoin following a traumatic brain injury (TBI) always results in patients suffering from a seizure:
   a. True
   b. False

Answers:

1. C
2. B
3. B

A RETROSPECTIVE ANALYSIS OF BOLUS VERSUS CONTINUOUS DOSING OF HYDROCORTISONE IN SEPTIC SHOCK PATIENTS

Erica Wilson
Medical Center Hospital
Odessa, TX

Learning Objectives:

1. Evaluate the current recommendations and associated literature for hydrocortisone use in septic shock.
2. Analyze the clinical effects of continuous and bolus hydrocortisone in patients with septic shock.
3. Apply the literature and results of presented study to optimize recommendations for hydrocortisone dosing and monitoring in septic shock patients.

Self-Assessment Questions:

1. What is the current recommendation from the 2012 Surviving Sepsis Guidelines regarding the use of hydrocortisone in patients with septic shock?
   a. Hydrocortisone should be used in all septic shock patients requiring vasopressor support
   b. Hydrocortisone may be used in septic shock patients in which fluid resuscitation and vasopressor therapy are unable to restore hemodynamic stability
   c. Hydrocortisone may be used only when random cortisol level is obtained and is <18ug/dl
   d. Hydrocortisone is no longer recommended for the treatment of septic shock patients

2. What hydrocortisone dosing strategy is recommended by the 2012 Surviving Sepsis Guidelines?
   a. Hydrocortisone 100mg IV every 6 hours
   b. Hydrocortisone 50mg IV every 8 hours
   c. Hydrocortisone 50mg IV every 6 hours
   d. Hydrocortisone 200mg IV continuous infusion

Answers:

1. b
2. d
LEVENTIRACETAM VERSUS (FOS)PHENYTOIN FOR EARLY ONSET POST-TRAUMATIC SEIZURE PROPHYLAXIS IN PEDIATRIC PATIENTS

Luke A. Neff
University Health System
San Antonio, TX

Learning Objectives:

1. Identify common risk factors for post-traumatic seizures after traumatic brain injury in pediatric patients
2. Describe current guideline recommendations for early onset post-traumatic seizure prophylaxis in pediatric patients
3. Compare the efficacy and safety of levetiracetam and (fos)phenytoin for early onset post-traumatic seizure prophylaxis in pediatric patients

Self-Assessment Questions:

1. Early post-traumatic seizure is defined as seizure activity within 10 days of injury.
   a. True
   b. False

2. Depressed skull fracture is a risk factor for early post-traumatic seizures
   a. True
   b. False

   a. True
   b. False

Answers:

1. False
2. True
3. False
PHARMACY-COMPOUNDED DIARRHEA: EXAMINING THE EFFECTS OF ENTERAL NUTRITION AND SORBITOL-CONTAINING MEDICATIONS
Grace Martin
The University of Texas MD Anderson Cancer Center
Houston, TX

Learning Objectives:
- Identify common causes of diarrhea in hospitalized patients
- Recognize the mechanism of sorbitol-induced diarrhea
- Execute appropriate choice of medication dosage form for a patient receiving enteral nutrition

Self-Assessment Questions:

1. Select all of the following factors that are likely to contribute to diarrhea in hospitalized patients.
   a. Oral liquids with high sucrose concentrations
   b. Oral liquids with high sorbitol concentrations
   c. Stool sample positive for Staphylococcus aureus
   d. Medications such as laxatives, antibiotics, and certain chemotherapies

2. Which of the following is the mechanism of sorbitol-induced diarrhea?
   a. Stimulates peristalsis by directly irritating the smooth muscle of the intestine
   b. Absorbs water in the intestine to form a viscous liquid which causes increased motility
   c. Produces an osmotic effect in the large intestine promoting peristalsis
   d. Lowers the surface tension of stool causing expulsion of fecal matter

3. LM is a 58-year-old male with laryngeal cancer. He had a feeding jejunostomy surgically placed and was started on enteral nutrition three days ago. He has had five unformed stools in the past 24 hours. The physician would like to start paroxetine 20 mg per tube daily. Which dosage form of paroxetine is most appropriate for this patient?
   a. Oral solution administered per tube
   b. Oral tablets crushed finely, mixed with water, and administered per tube
   c. Oral capsules crushed finely, mixed with water, and administered per tube
   d. No dosage form of paroxetine is appropriate, so you should recommend using an alternative product

Answers:
1. B and D
2. C
3. B
MEDICATION USE EVALUATION AND COST MINIMIZATION ANALYSIS OF PREMIXED NICARDIPINE INJECTABLE SOLUTION VERSUS COMPOUNDED NICARDIPINE INJECTION IN A COMMUNITY HOSPITAL

Christopher Brown
Norman Regional Health System
Norman, Oklahoma

Learning Objectives:

1. Identify various strategies and associated cost-effectiveness for injectable nicardipine utilization.
2. Recall the category of compounded sterile product (CSP) the nicardipine kit is assigned to, as well as the beyond use date once assembled.

Self-Assessment Questions:

1. Identify the injectable nicardipine strategy selected by this study.
   a. Continue current protocol
   b. Premixed initial drip and pharmacy compounded subsequent doses
   c. Nicardipine kit alone
   d. Nicardipine kit for initial drip and pharmacy compounded subsequent doses

2. Why was the particular nicardipine strategy selected by this study?
   a. Significant cost savings potential
   b. Lowest amount of burden on the pharmacy staff
   c. Ability to be kept in medication cabinets for urgent use
   d. All of the above

3. What is the category of compounded sterile preparation (CSP) and beyond use date (BUD) of the nicardipine kit after assembly?
   a. Low-Risk Level CSP, 48 hours
   b. Medium-Risk Level CSP, 30 hours
   c. High-Risk Level CSP, 24 hours
   d. Immediate-Use CSP, 1 hour BUD and time

Answers:

1. C
2. D
3. D
ANALYSIS OF USE OF PROCALCITONIN ASSAY IN COPD EXACERBATIONS AT AN ACADEMIC MEDICAL CENTER
Philip Dollin
Scott & White Memorial Hospital
Temple, TX

Learning Objectives:

At the end of this presentation, participants should be able to:

- List procalcitonin values associated with bacterial infection of lower respiratory tract
- Identify patient characteristics or conditions that could cause procalcitonin elevation in the absence of bacterial infection

Self-Assessment Questions:

1. What recommendation does the presented algorithm make for a patient with a lower respiratory tract infection and an initial procalcitonin measurement of 0.57 ng/mL?
   a. Strongly encourage antibiotic therapy
   b. Encourage antibiotic therapy
   c. Encourage antiviral therapy
   d. Discourage antibiotic therapy
   e. Strongly discourage antibiotic therapy

2. Which of the following is a non-bacterial cause of procalcitonin elevation?
   a. Viral respiratory tract infection
   b. End stage renal disease
   c. Uncontrolled diabetes mellitus
   d. Cirrhosis
   e. All of the above

Answers:
1. A
2. B

EVALUATION OF AUTOMATED MEDICATION DISPENSING MACHINE OVERRIDES AND DEVELOPMENT OF POLICIES TO PROMOTE IMPROVEMENT
Whitney Rohlman Pharm.D.
Norman Regional Health System
Norman, Oklahoma

Learning Objectives:

1. To describe the importance of appropriate automated dispensing cabinet medication override procedures in the healthcare system.
2. To evaluate the appropriateness of medications pulled out via the override function.

Self-Assessment Questions:

1. When does the Joint Commission allow an exception to the required pharmacist review of all medications to be dispensed within a hospital?
   a. If a treatment delay would harm the patient.
   b. If a patient’s daily home medication was not profiled by the physician, but the patient is requesting it.
   c. If a medication with a prior order was not administered and has now been discontinued.

2. Which is an example of an appropriate override?
   a. A first-time dose of PO diazepam with a subsequent order
   b. Ativan injection with a subsequent order
   c. Morphine injection for a comfort care patient without an order
   d. Fentanyl vial first time dose with an order already profiled and verified.

Answers:
1. A
2. B
IMPACT OF A UNIT-BASED PHARMACY TECHNICIAN AT A TERTIARY ACADEMIC MEDICAL CENTER
Amanda Beck
Houston Methodist Hospital, Houston, TX

Learning Objectives:

1. Describe implementation steps for a unit based technician (UBT) program
2. Evaluate the impact of a UBT on nursing units

Assessment Questions:

1. What hours of operation for the unit-based technician were selected, and what was the decision based on?
   a. 0900-0500, missing dose data from dispensing software
   b. 0600-1430, nursing perception of time of missing doses
   c. 1300-2200, nursing unit manager preference
   d. 0600-1430, pharmacy research team preference

2. Which of the following nursing satisfaction questions were found to be statistically significant?
   a. Satisfaction with pharmacy services
   b. Time processing STAT/NOW orders
   c. Delivery time
   d. Time locating missing medications
   e. Time locating scheduled orders

3. True/False: Nursing satisfaction survey results improved after the implementation of the unit-based technician

DECREASING THE RATE OF INAPPROPRIATE PROTON PUMP INHIBITOR USE IN THE EMERGENCY CENTER
Henry Cao
UT MD Anderson Cancer Center
Houston, TX

Learning Objectives:

1. Identify the complications associated with inappropriate acid suppression
2. Evaluate the indications for appropriate proton pump inhibitor use

Self-Assessment Questions:

1. Which of the following is an FDA indication for proton pump inhibitors?
   a. Corticosteroid use
   b. Healing and maintenance of duodenal ulcers
   c. Treatment of nausea and vomiting
   d. Stress ulcer prophylaxis

2. Which of the following is not a potential adverse effect associated with prolonged use of proton pump inhibitors?
   a. Electrolyte imbalances
   b. Cardiac complications
   c. Hypertension
   d. Increased infection risk

3. What is the primary mechanism of drug interactions associated with proton pump inhibitors?
   a. Increased gastric pH causing decreased absorption of other drugs
   b. Direct chelation to other drugs in the GI tract
   c. Enzymatic activation that causes rapid metabolism of other drugs
   d. Decreased renal clearance of other drugs

Answers:

1. B
2. C
3. A
IMPACT OF A PHARMACIST DIRECTED RISK ASSESSMENT DISCHARGE TOOL (RADT) ON HOSPITAL READMISSIONS
Kendra Gonzalez
CHRISTUS Spohn Hospital Corpus Christi – Memorial
Corpus Christi, TX

Learning Objectives:
1. To describe the problem of hospital readmission
2. To describe the pharmacist’s role in improving the discharge process
3. To become familiar with the processes and elements of Risk Assessment Discharge Tool (RADT)

Self-Assessment Questions:
1. Medication Reconciliation:
   a. Includes comparison of existing and previous medication regimens
   b. Helps avoid, or detect and correct, medication errors
   c. Should occur at every care transition
   d. All of the above

2. All of the following are reasons for avoidable readmission except:
   a. Patient does not understand medication regimen
   b. Patient has a new diagnosis
   c. Poor medication reconciliation
   d. No primary care follow-up

3. What patient populations would benefit from a pharmacist assisted medication reconciliation at discharge?
   a. Patients with CHF
   b. Patients with COPD
   c. Patients on insulin
   d. A and B only
   e. All of the above

Answers:
1. D.
2. B.
3. E.
THE IMPLEMENTATION OF DISCHARGE FOLLOW-UP PHONE CALLS AT A COMPREHENSIVE CANCER CENTER

Shrina Patel
The University of Texas MD Anderson Cancer Center
Houston, Texas

Learning Objectives:

1. Identify key components that are necessary to create a post discharge telephone call process
2. Plan and create a workflow process to implement a follow up telephone call program

Self-Assessment Questions:

1. If an institution was interested in implementing a discharge follow-up phone call program, which resource(s) could be utilized?
   a. A data collection form
   b. An education team
   c. A shared account with access to training material
   d. All of the above

2. Select all that apply. Which of the following staff can complete the phone calls?
   a. Pharmacists
   b. Technicians
   c. Pharmacy students
   d. Education specialists

Answers:

1. D
2. A, B, C
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PLATFORM SESSION VIIB - PHARMACEUTICAL CARE II
HEALTH AND WELLNESS OUTCOMES IN THE UNITED STATES ACTIVE DUTY SERVICE MEMBER POPULATION: VACCINATION OUTCOMES IN UNITED STATES AIR FORCE ACTIVE DUTY POPULATION
Julie Menegay
San Antonio Military Medical Center
Fort Sam Houston, TX

Learning Objectives:

At the completion of this presentation, the participant will be able to:

1. Summarize Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) guidelines for influenza vaccination for HIV-infected individuals
2. Evaluate adverse effects of live attenuated intranasal influenza vaccine (LAIV) compared to inactivated influenza vaccine (IIV) in HIV-infected service members

Self-Assessment Questions:

1. What are the current Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) guideline recommendations for influenza vaccination for HIV-infected individuals?
   a. Live attenuated intranasal influenza vaccine (LAIV)
   b. Inactivated influenza vaccine (IIV)
   c. Either a or b
   d. None of the above, not recommended in HIV-infected individuals

2. What is thought to be the reason for current Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) guideline recommendations for influenza vaccination for HIV-infected individuals?
   a. Live attenuated intranasal influenza vaccine (LAIV) can cause adverse reactions such as influenza-like illness (ILI) in immunocompromised HIV-infected individuals
   b. Inactivated influenza vaccine (IIV) or live attenuated intranasal influenza vaccine (LAIV) can cause adverse reactions such as influenza-like illness (ILI) in immunocompromised HIV-infected individuals
   c. Either a or b
   d. None of the above

3. The current Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) guideline recommendations for influenza vaccination for HIV-infected individuals are based on _____ literature sources or trials?
   a. 1
   b. 2
   c. 3 or more
   d. None of the above

Answers:

1. B
2. A
3. D
EVALUATION OF THE IMPACT OF A NATIONAL OPIOID SAFETY INITIATIVE ON CENTRAL TEXAS VETERANS ON CONCURRENT OPIOIDS AND BENZODIAZEPINES WHO COMPLETED SUICIDE

Sarah Klembih
Central Texas Veterans Health Care System
Temple, TX

Learning Objectives:

1) Explain the risks associated with concurrent opioid and benzodiazepine treatment
2) Evaluate the impact the Opioid Safety Initiative had on Veterans taking concurrent opioids and benzodiazepines who completed suicide

Self-Assessment Questions:

1. There are numerous clinical practice guidelines providing recommendations for safe treatment with concurrent opioids and benzodiazepines.
   A. True
   B. False

2. Studies have shown patients with chronic pain are at an increased risk for comorbid psychiatric disorders, such as anxiety and depression.
   A. True
   B. False

3. Studies have shown that individuals who are treated with both opioids and benzodiazepines are at increased risk of the following adverse event(s)?
   A. Fatal/nonfatal overdose
   B. Aberrant behaviors
   C. Death
   D. All of the above

Answers:

1. B
2. A
3. D
IMPACT OF IMPLEMENTING A PARENTERAL NUTRITION ALGORITHM ON PRESCRIBING PATTERNS
Lauren M. Linder
Our Lady of the Lake Regional Medical Center
Baton Rouge, Louisiana

Learning Objectives:

1. Define appropriate indications for total parenteral nutrition (TPN) and enteral nutrition (EN) based on the American Society of Parenteral and Enteral Nutrition (ASPEN) guidelines
2. Identify evidence based recommendations for the utilization of TPN in combination with EN
3. Recognize the complications and risks associated with TPN
4. Describe our current research evaluating the impact of a TPN algorithm

Self-Assessment Questions:

1. Which of the following is not a complication of parenteral nutrition?
   a. Central line associated blood stream infection (CLABSI)
   b. Hyperglycemia
   c. Refeeding syndrome
   d. Pulmonary Embolism

2. 24 JB s/p MVA with sustained head injuries and multiple orthopedic surgeries for bone repair admitted to Our Lady of the Lake Regional Medical Center surgical ICU on 2/12/16. Today is 2/17/16 (LOS = 5 days). He has received EN via nasogastric tube x 4 days. Per registered dietician’s note, patient is tolerating on average ~ 50 % of their EN. MD predicts patient will require 2 weeks of inpatient stay. The surgical resident approaches you after rounds, and asks you at what point can parenteral nutrition be considered?
   a. Today: orthopedic surgery is an indication for TPN
   b. After day 7 of EN, if JB still is not tolerating > 60% of his EN
   c. Never due to the potential bone damage from the TPN
   d. Today: ICU setting is an indication for TPN

3. If the patient is started on supplemental TPN (EN & TPN) during his ICU stay, at what point should the TPN be discontinued according to the current ASPEN guidelines?
   a. After 7-10 days of tolerating at least 80% of goal calories from the TPN and EN.
   b. After the patient is tolerating 100% of his EN while also on TPN
   c. The TPN should be continued for the duration of the patient’s ICU stay regardless of calories tolerated with EN & TPN
   d. After the patient is tolerating greater than 60% of his target energy from EN.

Answers:
1. D
2. B
3. D
Learning Objectives:

1) Explain the importance of barcode medication administration (BCMA)
2) Discuss factors that may limit utilization of BCMA in the emergency department (ED)
3) Describe two interventions that can improve scanning rates and reduce alert fatigue in the ED

Self-Assessment Questions:

1. Why is proper barcode medication administration (BCMA) utilization important?
   a. It improves safety in medication administration
   b. It keeps our nurses busy
   c. It keeps our IT team busy
   d. What’s BCMA? I’ve never heard of it.

2. What is/are some of the importance of reviewing alerts?
   a. Determine presence of nuisance alerts
   b. Prevent alert fatigue
   c. Understand why the alerts are firing
   d. All of the above

3. What are some tools that can be utilized to help determine what/where to intervene?
   a. Pareto Principle
   b. Brainstorming session
   c. Fishbone (Ishikawa) diagram
   d. All of the above
   e. None of the above

Answers:

1. A
2. D
3. D
SEVERE SEPSIS OR SEPTIC SHOCK UPON ARRIVAL TO THE EMERGENCY DEPARTMENT (ED) – ARE ED PHARMACISTS IMPROVING OUTCOMES?

Angela Gamwell
Baylor Scott & White All Saints Medical Center – Fort Worth
Fort Worth, TX

Learning Objectives:
1. To review the interventions described in the Surviving Sepsis Campaign bundles for early resuscitation and discuss previous literature proving their value to patient outcomes.
2. To discuss the role pharmacists have as part of a sepsis care team.
3. To assess if pharmacist involvement in the care of patients with severe sepsis or septic shock admitted through an emergency department affected specific outcomes.

Self-Assessment Questions:
1. Which of the following elements of the “Sepsis Resuscitation Bundle” is NOT consistently supported by current guidelines and expert opinion?
   A. Blood cultures prior to antibiotic administration
   B. Achieve central venous pressure of > 8mmHg
   C. Prompt administration of effective intravenous antimicrobials
   D. Prompt administration of intravenous fluid

2. Which of the following mechanisms have been used successfully to alert or consult pharmacists to assist with sepsis care teams?
   A. Sepsis order set entry automatically pages the pharmacist on-call
   B. “Code Sepsis” pager alert notifies inpatient pharmacist
   C. Emergency Medicine clinical pharmacists provides consultative services, on an informal basis, which can be initiated through provider, allied health personnel inquisition, or through proactive involvement of the pharmacist
   D. All of the above

Answers:
1. B
2. D

MEDICATION RECONCILIATION IN THE EMERGENCY DEPARTMENT PERFORMED BY PHARMACY PERSONNEL: A PROSPECTIVE COHORT COMPARISON STUDY

Bella Mogaka
Baylor Scott & White Health
Temple, Texas

Learning Objectives:
1. Define medication reconciliation
2. List 3 benefits of medication reconciliation programs led by pharmacy staff

Self-Assessment Questions:
1. Medication reconciliation is the process of identifying the most accurate list of all prescription medications a patient is taking
   a. True
   b. False

2. Which of the following is not considered a benefit of pharmacy led medication reconciliation programs
   a. Cost effectiveness
   b. Reduced emergency room visits
   c. Increased curative outcomes
   d. Decreased medication errors

Answers:
1. B
2. C
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PLATFORM SESSION VIIC - PHARMACEUTICAL CARE III
Learning Objectives:

1. Describe pharmacist interventions used to improve outcomes in patients with COPD
2. Evaluate the benefits of pharmacist led inhaler counseling for patients admitted with COPD
3. Discuss patient satisfaction survey data relating to pharmacist led inhaler counseling sessions and its impact on future clinical services.

Self-Assessment Questions:

1. Pharmacists can help address issues with which of the following factors that affect patient compliance to inhaler devices?
   a. Improper inhaler technique
   b. Using multiple inhalers
   c. Increased cost associated with inhalers
   d. Poor and/or infrequent inhaler counseling from providers
   e. All of the above

2. The Centers for Medicare and Medicaid Services (CMS) is currently measuring 30-day readmission rates for patients with chronic obstructive pulmonary disease (COPD).
   a. True
   b. False

3. Based on patient satisfaction survey results from this pilot study, which of the following counseling methods was reported by COPD patients to be most effective?
   a. Video demonstration
   b. Live inhaler demonstration
   c. Written instruction sheet
   d. Verbal education

Answers:

1. E
2. A
3. B
EVALUATION OF ASTHMA READMISSION RATES AS COMPARED TO THE JOINT COMMISSION STANDARD

Lauren Coker Pharm.D., R.PH.
University Health Shreveport
Shreveport, LA

Learning Objectives:

At the conclusion of this presentation, participants should be able to

1. Discuss the existing literature pertaining to the efficacy of asthma education
2. Describe the asthma education procedures performed in our facility
3. Evaluate the asthma readmission rates as compared to the Joint Commission standard in our facility

Self-Assessment Questions:

1. Which of the following have been identified as risk factors for hospital readmission due to asthma?
   a. No health insurance
   b. African American race
   c. Cystic fibrosis
   d. Previous admission for asthma
   e. All of the above

2. True or False? Asthma education at University Health Shreveport includes ALL persons admitted for asthma exacerbation.
   a. True
   b. False

Answers:

1. E
2. B
ENHANCING PRACTICE THROUGH THE USE OF A CLINICAL SKILLS ASSESSMENT PROGRAM
Wendy Nguyen
University of Texas Medical Branch, Correctional Managed Care
Huntsville, Texas

Learning Objectives:

• Describe the development and implementation of a skills assessment program
• Outline the benefits of a skills assessment program
• Evaluate clinical pharmacists' perceptions of the program

Self-Assessment Questions:

1. Which of the following are key competencies that clinical pharmacists should possess?
   a. Maintain a professional relationship with other members of the health care team
   b. Efficiently manage a large volume of patient visits each clinic day
   c. Use effective communication skills to obtain pertinent information and provide patient education
   d. Appropriately document patient’s care plan following the organization’s policies and procedures
   e. A, C, and D

2. The purpose of having a clinical skills assessment program is to:
   a. Clearly communicate expected standards of performance
   b. Identify shared training needs among the pharmacists
   c. Assist in the employment termination process
   d. A and B

3. The pharmacists being evaluated should participate actively in developing the skills assessment program
   a. True
   b. False

Answers:

1. E
2. D
3. A

A DESCRIPTIVE REVIEW OF PEDIATRIC DISCHARGE PRESCRIPTION INTERVENTIONS MADE BY EMERGENCY DEPARTMENT PHARMACISTS DURING A PROSPECTIVE REVIEW PROCESS
Erin Waehner
Children’s Medical Center Dallas
Dallas, TX

Learning Objectives:

1. To describe the discharge medication error rate in a pediatric emergency department patients.
2. To evaluate methods to reduce discharge prescription error rates in a pediatric emergency department.
3. To describe the types of interventions emergency department pharmacists identify on discharge prescriptions at a large pediatric ED.

Self-Assessment Questions:

1. Pediatric and emergency department patients are at an increased risk for medication errors?
   a. True
   b. False

2. What strategies can be implemented to decrease medication errors?
   a. Computerized prescriber order entry
   b. Rely on outpatient pharmacist to identify errors
   c. Dedicated emergency department pharmacist
   d. A and C

Answers:

1. True
2. A and C
Learning Objectives:

At the end of this presentation, participants should be able to:

1. Identify strategies that can be used to minimize missing dose requests
2. Recognize LEAN Management terminology and how to apply it in everyday pharmacy practice
3. Be aware of challenges when implementing new policies and procedures in an academic healthcare setting

Self-Assessment Questions:

1. Before beginning a quality improvement project, it is important to discuss with key stakeholders interventions that will produce the best results.
   
   a. True
   b. False

2. Which of the following is not a form of waste according to muda?
   
   a. Overproduction
   b. Waiting
   c. Motion
   d. All listed above is a form of waste

3. A5 thinking can help to organize your thoughts when conducting quality improvement projects to identify problems with implementation and document outcomes of improvements made.

   a. True
   b. False

Answers:

1. a (True)
2. d (All listed above is a form of waste)
3. b (False, should be A3)
EFFECT OF PHARMACIST-PROVIDED CLINICAL INTERVENTIONS ON QUALITY OF CARE AND COST AVOIDANCE IN AN EMERGENCY DEPARTMENT

Mahmoud Sabawi
CHI St. Luke’s Health Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:
1. Describe literature detailing cost avoidance figures for adverse drug events
2. Identify the main intervention types that clinical pharmacists document in the emergency department (ED)
3. Formulate a strategy to justify or expand ED pharmacy services at your institution using cost avoidance utilization

Self-Assessment Questions:
1. According to study performed by Bates and colleagues, what is the average cost of an adverse drug event?
   a. $100-$400
   b. $2000-$5000
   c. $7000-10000
   d. $12000-16000

2. For the study presented today, which type of pharmacist interventions were most prevalent in the emergency department at BSLMC?
   a. Antimicrobial stewardship
   b. Medication selection and dose optimization
   c. Nurse-pharmacist consultation
   d. A and B

3. In which areas do ED pharmacists make an impact?
   a. Choosing the right antibiotic for patients after discharge
   b. Assist in management of stroke and sepsis
   c. Assist physicians in making decisions regarding patients’ pharmacotherapy
   d. All of the above

Answers:
1. B
2. D
3. D
PLATFORM SESSION VIII - CARDIOVASCULAR I
EVALUATING THE OUTCOMES OF PATIENTS WITH DIFFICULT TO MANAGE HYPERTENSION SEEN BY A CLINICAL PHARMACY SPECIALIST
Catlin Grisham-Takac
North Texas VA Healthcare System
Dallas, TX

Learning Objectives:
- Review the definition of resistant hypertension and its long term prognostic impact
- Analyze available literature outlining successful treatment of resistant hypertension
- Summarize results from this study and describe how they may apply to future practice

Self-Assessment Questions:

1. Which of the following patients could be classified as having resistant hypertension?
   a. 35 yo WM on amlodipine 10 mg, lisinopril 20 mg, hydrochlorothiazide 25 mg and spironolactone 25 mg with average home BPs of 140/80.
   b. 45 yo AAM with BP 165/95 who takes his lisinopril 40 mg and hydrochlorothiazide 12.5 mg regularly and his carvedilol 12.5 mg when his head hurts.
   c. 60 yo WF on amlodipine 10 mg, lisinopril 20 mg and furosemide 40 mg twice daily with an in clinic BP of 160/95.
   d. 55 WM with in-clinic BP of 170/95 and average home BPs of 135/80 on 3 antihypertensives

2. Which of the following is not a component of backbone A+C+D therapy recommended by the AHA resistant hypertension guidelines?
   a. Chlorthalidone 25 mg
   b. Metoprolol tartrate 25 mg
   c. Losartan 50 mg
   d. Amlodipine 10 mg

3. Which are potential causes of pseudo-resistant hypertension?
   a. White coat hypertension
   b. Poor treatment adherence
   c. Renal artery stenosis
   d. A and B

Answers:

1. A
2. B
3. D
EVALUATION OF A NEW CARDIOTHROACIC SURGERY INSULIN INFUSION PROTOCOL FOR POST-OPERATIVE BLOOD GLUCOSE MANAGEMENT

Mythili Chunduru Pharm. D.
Ochsner Medical Center
New Orleans, LA

Learning Objectives:

1. Identify current recommendations for blood glucose targets in cardiothoracic surgery patients
2. Recognize potential clinical benefits of a moderate blood glucose control strategy compared to a strict blood glucose control strategy

Self-Assessment Questions:

1. Which blood glucose goal target is supported by the literature in cardiothoracic surgery patients?
   a. ≤ 220 mg/dl
   b. 80-120 mg/dl
   c. < 180 mg/dl
   d. 110-140 mg/dl

2. What are the potential benefits to pursuing a moderate (110-140 mg/dl) over a strict (80-110 mg/dl) blood glucose goal?
   a. Fewer infectious complications
   b. Fewer hypoglycemic events
   c. Less atrial fibrillation
   d. Less hyperglycemia
   e. a and b

Answers:

1. c. < 180 mg/dl
2. b. Fewer hypoglycemic events

IMPACT OF ACTIVE HEART FAILURE MANAGEMENT IN THE VETERANS AFFAIRS COMMUNITY LIVING CENTER POPULATION

Ruby Oh PharmD.
VA North Texas Health Care System
Dallas, TX

Learning Objectives:

At the completion of this program, the participant will be able to:

1. Discuss the implications of heart failure management in the geriatric patient population
2. Interpret clinical practice guideline recommendations for the management of heart failure with reduced ejection fraction
3. Review preliminary results and explain pertinent findings

Self-Assessment Questions:

1. Patients hospitalized for heart failure with reduced ejection fraction (HFrEF) have an increased risk for…?
   a. 30 day cardiovascular complication re-admission
   b. Patient survival
   c. All cause re-hospitalization
   d. All the above

2. True or False. A national survey among healthcare professionals looking at barriers to dose adjustments in guideline recommended HFrEF therapies established that many providers felt reluctant to increase to target doses of recommended medications if the patients were asymptomatic or stable.

Answers:

1. D
2. True
VASOPLEGIC SYNDROME IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING: AN EVALUATION OF PHARMACOLOGIC MANAGEMENT

John Dechand
Baylor University Medical Center
Dallas, TX

Learning Objectives:

• Evaluate patients with risk factors for the development of vasoplegic syndrome
• Construct an effective pharmacotherapy care plan for the management of vasopressor support in vasoplegic patients

Self-Assessment Questions:

1. Which of the following medications is known to potentiate the severity of vasoplegic syndrome?
   a. Dexmedetomidine
   b. Ramipril
   c. Clopidogrel
   d. Atorvastatin

2. True or False: Utilization of cardiopulmonary bypass during cardiac surgery increases the likelihood of developing vasoplegic syndrome.
   a. True
   b. False

3. Which of the following medications has a role as adjunctive therapy for treating vasoplegic syndrome?
   a. Dopamine
   b. Milrinone
   c. Vasopressin
   d. Amiodarone

Answers:
1. b
2. a
3. c
Learning Objectives:

2. Determine the most appropriate pharmacotherapy strategy to support primary PCI by applying evidence based medicine and clinical practice guidelines.

Self-Assessment Questions:

1. Since the publication of the 2013 STEMI CPG, it would be reasonable to consider that all of the following have been impacts as a result of this publication on STEMI patients at SAMMC, EXCEPT?
   a. Increased use of high intensity statins
   b. Higher doses of clopidogrel
   c. Higher doses of aspirin
   d. Decreased use of P2Y12 Inhibitors as the only antiplatelet agent, other than aspirin

2. Select the most appropriate pharmacotherapy regimen to support primary PCI in a patient that presents with STEMI?
   a. Clopidogrel PO, tirofiban IV bolus followed by continuous IV infusion for 24 hours, and a heparin IV bolus
   b. Clopidogrel PO, abciximab IV bolus followed by continuous IV infusion for 12 hours, and a heparin IV bolus
   c. Abciximab IV bolus followed by continuous IV infusion for 12 hours, and a heparin IV bolus
   d. Prasugrel PO, bivalirudin IV bolus followed by continuous IV infusion, and a heparin IV bolus

Answers:

1. Answer c
2. Answer b
DETERMINATION OF OPTIMAL DIURESIS TARGETS FOR PATIENTS IN ACUTE DECOMPENSATED HEART FAILURE
Keith Chow, Pharm.D.
Texas Tech University Health Sciences Center – School of Pharmacy
Amarillo, TX

Learning Objectives:
1. Explain the data and rationale behind using diuretics for patients in acute decompensated heart failure
2. Outline the different adverse effects with using loop diuretics
3. Devise an optimal fluid goal based on a patient’s individual characteristics

Self-Assessment Questions:
1. Worsening renal function has been identified as an independent risk factor for mortality. How much of a serum creatinine increase from baseline is defined as worsening renal function?
   a. >0.1 mg/dL
   b. >0.3 mg/dL
   c. >0.5 mg/dL
   d. >1 mg/dL
2. For patients with acute decompensated heart failure what is the currently recommended max diuresis goal?
   a. 0.5 L/day
   b. 1 L/day
   c. 2 L/day
   d. 4 L/day

Answers:
1. B
2. C

EVALUATION OF COMPLIANCE TO BETA-BLOCKER THERAPY FOR THE PREVENTION OF POSTOPERATIVE ATRIAL FIBRILLATION IN PATIENTS UNDERGOING CORONARY BYPASS GRAFT SURGERY
David Liu
Memorial Hermann Southwest Hospital
Houston, TX

Learning Objectives:
At the conclusion of this presentation, participants should be able to:
1. Summarize the data to see if timing of beta-blockers affects the rate of post-operative atrial fibrillation
2. Generalize the results and assess if changes need to be made to practice.

Self-Assessment Questions:
1. How do beta-blockers reduce the incidence of postoperative atrial fibrillation?
   a. Antiarrhythmic agent that inhibits alpha and beta receptors and decreases AV conduction and sinus node function
   b. Antiarrhythmic agent that enhances alpha and beta receptors and increases AV conduction and sinus node function
   c. Blocking chronotropic and inotropic effects at the beta-2 receptors
   d. Blocking chronotropic and inotropic effects at the beta-1 receptors
2. Postoperative atrial fibrillation is associated with a high risk of increased mortality, morbidity, and increased length of stay
   a. True
   b. False

Answers:
1. D
2. A
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PLATFORM SESSION VIIIIB - CARDIOVASCULAR II
EFFECTS OF PAROXETINE ON MORTALITY AND HOSPITAL ADMISSIONS IN HEART FAILURE PATIENTS
Marie Ann Ngan
Oklahoma City Veterans Affairs Health Care Systems (OKCVAHCS)
Oklahoma City, OK

Learning Objectives:

1) Explain the effects of cardiovascular disease in the world and United States
2) Describe the proposed mechanism of action for paroxetine use in heart failure patients

Self-Assessment Questions:

1. How many people die of heart disease per year?
   a. 250,000
   b. 300,000
   c. 375,000
   d. 450,000

2. Fluoxetine has the same proposed mechanism to improve heart failure as paroxetine.
   a. True
   b. False

3. Dysregulation of the G-protein coupled receptor (GPCR) in the heart can result in:
   a. Increased heart rate
   b. Decreased heart rate
   c. Decreased cardiac output
   d. B and C
   e. None of the above

Answers:

1. C
2. B
3. A
EVALUATION OF MODIFIED DEL NIDO VERSUS BUCKBERG SOLUTION FOR CARDIOPLEGIA DURING ISOLATED AORTIC VALVE REPLACEMENT SURGERY

Kevin Welch
Trinity Mother Frances Hospital and Clinics
Tyler, Texas

Learning Objectives:

1. Analyze the role of cardioplegia during cardiac surgery
2. Describe components of different cardioplegia solutions
3. Evaluate the relationship between surgical endpoints and patient outcomes

Self-Assessment Questions:

1. Which component of cardioplegia solutions is primarily responsible for arresting the heart during cardioplegia administration?
   a. Sodium
   b. Magnesium
   c. Potassium
   d. Mannitol

2. What is a potential advantage of using a modified del Nido solution over Buckberg solution in cardiac surgeries?
   a. Modified del Nido has a higher dextrose content giving the heart muscle needed energy
   b. Modified del Nido requires less frequent administration
   c. Modified del Nido is proven to have lower mortality rates
   d. Modified del Nido solution is FDA approved for arresting the heart during cardiac surgery

3. True or False: The use of modified del Nido solution resulted in significantly shorter cross-clamp times.
   a. True
   b. False

Answers:

1. C
2. B
3. A
IMPACT OF PHARMACIST-DELIVERED DISCHARGE COUNSELING ON HEART FAILURE READMISSIONS
Amanda R. Grego
Harris Health System
Houston, TX

Learning Objectives:
At the conclusion of this presentation, the participants should be able to:

-Identify the role of a discharge pharmacist in reducing the readmission rate of heart failure patients.
-List the significant counseling points that should be provided to heart failure patients during discharge.
-Recognize the importance of patient education and patient empowerment in reducing heart failure readmission rates

Self-Assessment Questions:
1. Which of the following counseling points should a pharmacist review with a patient upon discharge?
   a. Overview of heart failure
   b. Importance of medication adherence
   c. Symptoms the patient may experience
   d. All of the above
2. Patient empowerment can lead to better health outcomes such as a reduction in hospital readmission rates.
   a. True
   b. False

Answers:
1. D
2. A

INCIDECE AND ANALYSIS OF INFECTIOUS COMPLICATIONS IN PATIENTS WITH LEFT VENTRICULAR ASSIST DEVICES
Jeena Jacob
Baylor University Medical Center
Dallas, Texas

Learning Objectives:
1. Describe the infectious complications that may occur in patients with left ventricular assist devices (LVAD)
2. Evaluate antimicrobial agents for appropriateness in the peri-operative setting of left ventricular assist device(LVAD) implantation

Self-Assessment Questions:
1. In patients with LVAD with bacteremia, the prognosis is considered good if a patient undergoes transplantation.
   a. True
   b. False
2. Examples of VAD-specific infections include all of the following except:
   a. Infective endocarditis
   b. Pocket infections
   c. Driveline infections
   d. Cannula infections
3. Administration of peri-operative antibiotic prophylaxis should be customized per institution’s flora, but should generally include coverage against:
   a. Pseudomonas spp. and Mycobacterium spp.
   b. Pseudomonas spp. and Staphylococcus spp.
   c. Staphylococcus spp. and Mycobacterium spp.
   d. Candida spp. and Serratia spp.

Answers:
1. B
2. A
3. B
IMPLEMENTATION OF A STERILE COMPOUNDING WORKFLOW MANAGEMENT SYSTEM: A TIME MOTION STUDY
Linda Nguyen
Houston Methodist Hospital, Houston, TX

Learning Objectives:
1. Examine the impact of workflow efficiency after implementation of a sterile compounding workflow system
2. Compare types of medication errors before and post implementation of sterile compounding workflow technology system
3. Describe the leading causes of decreased medication waste based on workflow changes

Assessment Questions:
1. Implementation of SCWT is expected to result in which of the following?
   a. Increase efficiency
   b. Decrease medication waste
   c. Improve medication safety of sterile compounded products through barcoding
   d. Improve documentation
   e. All of the above
2. SCWT may reduce waste by:
   a. Queuing doses based on schedule and stability
   b. Decreasing the number of medications ordered
   c. Decreasing the number of medications which will require sterile preparation
   d. Extending expiration dating of sterile products
3. True/False: Barcode scanning and volume metric imaging will eliminate the syringe pull-back method, which is an unsafe practice discouraged by ISMP.

ASSESSING THE IMPACT OF ANTICOAGULATION ON ATRIAL FIBRILLATION PATIENTS WITH A CHA2DS2-VASC SCORE OF 1 DUE TO HYPERTENSION
Carson L. Bechtold
Central Texas Veterans Health Care System: Pharmacy Outcomes and Healthcare Analytics
Temple, TX

Learning Objectives:
1. Discuss anticoagulation guideline recommendations and associated scoring systems used with special attention to the differences in recommendations for the intermediate risk group.
2. Recognize the strengths/weaknesses/limitations/associated risks of both scoring systems individually with a special emphasis on the study population (CHADS2-VASc score=1 for HTN only).

Self-Assessment Questions:
1. Which of the following is an advantage of using the CHA2DS2-VASc risk stratification system as opposed to the CHADS2 system?
   A. Increased classification of patients into the intermediate risk category
   B. Inclusion of female gender, vascular disease, and patients age 65-74 into the risk assessment
   C. Increased risk value given to patients with a prior stroke
   D. All of the above
2. Which of the following therapies could be recommended for patients with nonvalvular Atrial Fibrillation (AF) and a CHA2DS2-VASc score of 1 according to the 2014 ACC/AHA AF Guidelines?
   A. No antithrombotic therapy
   B. Aspirin monotherapy
   C. Oral anticoagulation monotherapy
   D. All of the above

Answers:
1. B
2. D
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PLATFORM SESSION VIIC - AMBULATORY CARE I
APPLICATION OF THE 2013 AMERICAN COLLEGE OF CARDIOLOGY/AMERICAN HEART ASSOCIATION BLOOD CHOLESTEROL GUIDELINES IN HIV PATIENTS IN AN AMBULATORY CARE SETTING

Brittany M. Gorden
Xavier University of Louisiana College of Pharmacy
New Orleans, LA

Learning Objectives:

1. Identify the proportion of statin-eligible patients at UMCNO Infectious Disease Center who were prescribed a statin in accordance with the 2013 ACC/AHA cholesterol guidelines.
2. Identify patient factors associated with statin-prescribing practices at UMCNO Infectious Disease Center.

Self-Assessment Questions:

1. Which of the following is one of the four statin benefit groups as recommended by the 2013 ACC/AHA Blood Cholesterol guidelines?
   a. LDL ≥ 200 mg/dL
   b. Diabetes & age 21-75 years old
   c. Age 40-75 years old; 10 year ASCVD risk ≥ 7.5%; LDL 70-149 mg/dL
   d. B & C
   e. All of the above.

2. Several studies have shown that HIV infected patients are at an equivalent risk for cardiovascular events when compared to their non-infected counterparts.
   a. True
   b. False

Answers:

1. C
2. B
THE IMPACT OF A PEER-LED AND INTERPROFESSIONALLY DEVELOPED COMMUNITY WEIGHT LOSS INTERVENTION PROGRAM: A PILOT STUDY

Jasmine Bailey
Xavier University of New Orleans
New Orleans, Louisiana

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Examine the effects of a peer-led, interprofessionally developed weight loss program on participant’s weight, body mass index, and waist circumference.
2. Analyze changes in eating behaviors of participants.
3. Assess if the program impacts participants’ physical activity, self-efficacy, and social support.

Self-Assessment Questions:

1. Losing ______ % of baseline weight over six months will lower your risk for heart disease and other conditions.
   a. 2%
   b. 10%
   c. 4%
   d. 4.5%

2. If a clinic decides to start at a peer-led and interprofessionally developed weight loss program what should be expected?
   a. The majority of participants eating habits, physical activity and self-efficacy will improve
   b. A clinically meaningful weight loss in most of the participants
   c. Gain social support from peers
   d. All of the above

Answers:

1. B
2. D
MEDICATION ADHERENCE RATES UTILIZING A COMMUNITY PHARMACY-BASED MOBILE APPLICATION

Brantley M. Underwood
Southwestern Oklahoma State University/Walgreen Co
Oklahoma City, OK

Learning Objectives:

1. Describe the benefits of using a mobile application as a medication reminder tool for patients.
2. Compare adherence rates from this study to national averages from the National Community Pharmacists Association or evidence-based clinical guidelines.

Self-Assessment Questions:

1. All of the following are the benefits of using a mobile application as a medication reminder tool EXCEPT?
   A. Easy to update as medication regimens change
   B. Active participation by patients in their healthcare
   C. Alerts that can become annoying or a nuisance
   D. Potential improvements in patient’s overall health

2. Overall, the United States received what letter grade for adherence based upon the National Report Card from the National Community Pharmacists Association?
   A. A+
   B. B-
   C. C+
   D. F

3. Challenges of using a mobile application for medication reminders include which of the following? (Select all that apply)
   A. Lengthy setup time for the application
   B. Compatibility with various devices and operating systems
   C. Accidental disclosure of patients’ medications on their device
   D. Security of patient’s HIPAA information

Correct answers are bolded.
PATIENTS’ PERCEPTION OF COMMUNITY PHARMACISTS AS HEALTHCARE PROVIDERS AND ITS RELATION TO WILLINGNESS TO PARTICIPATE IN PHARMACIST-PROVIDED SERVICES

Vincent Ekenga
Xavier University of Louisiana
New Orleans, LA

Learning Objectives:

(1) Identify patients’ perception of community pharmacists as healthcare providers.
(2) Identify contributing factors to patient perceptions of community pharmacists as healthcare providers.
(3) Identify correlations between patient perception of community pharmacists and patient willingness to participate in pharmacist-provided services.

Self-Assessment Questions:

1. Based on the results of this project, do most patients currently perceive community pharmacists to be healthcare providers?
   a. Yes
   b. No

2. Based on the results of this project, areas of pharmacist care perceived most negatively by patients include all of the following except_______?
   a. Obtaining medical history
   b. Providing medical condition education
   c. Identifying medication related problems
   d. Contributing to disease prevention

3. Federal recognition of pharmacists as healthcare providers would allow pharmacists to do which of the following?
   I. Expand scope of practice
   II. Initiate therapy for chronic diseases
   III. Prescribe birth control
   IV. Bill Medicare for covered services
   a. I only
   b. IV only
   c. III, IV
   d. All the above

Answers:

1. A
2. C
3. B
THE ROLE OF PHARMACIST-MANAGED SMOKING CESSATION PROGRAM IN A COMMUNITY CHARITY CLINIC: A RETROSPECTIVE COHORT STUDY

Erin Davidson
Baylor Scott and White Community Pharmacy Residency
Dallas, TX

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Evaluate the role of pharmacists in tobacco cessation services in a community-based setting
2. Review the evidence-based approaches to tobacco cessation therapies
3. Discuss smoking cessation rates in patients receiving pharmacological and/or non-pharmacological recommendations

Self-Assessment Questions:

1. Which of the following therapies is the most effective for smoking cessation per the Treating Tobacco Use and Dependence: 2008 Update:
   A. Nicotine replacement therapy alone
   B. Behavioral therapy alone
   C. Non-nicotine replacement pharmacotherapy
   D. Combination of pharmacotherapy and behavioral therapy

2. Studies have shown that pharmacists have comparable success rates in smoking cessation at other non-physician healthcare providers.
   A. True
   B. False

Answers:
1. D
2. A

ANALYZING THE FEASIBILITY OF A PHARMACY MANAGED ANEMIA CLINIC

Anthony Gall
Memorial Hermann Hospital System
Houston TX

Learning Objectives:

1. Identify adverse outcomes related to anemia
2. Recognize treatment modalities for anemic patients
3. Determine processes and challenges involved in implementing a program

Self-Assessment Questions:

1. According to the World Health Organization, what is the definition of anemia in males and females?
   a. Males < 13.0 g/dL; Females < 13.0 g/dL
   b. Males < 13.0 g/dL; Females < 12.0 g/dL
   c. Males < 14.0 g/dL; Females < 12.0 g/dL
   d. Males < 12.0 g/dL; Females < 13.0 g/dL
   e. Males < 14.0 g/dL; Females < 12.0 g/dL

2. For surgery patients, what level must the hemoglobin be in order to receive epoetin alfa?
   a. <10 g/dL
   b. <11 g/dL
   c. <12 g/dL
   d. ≤13 g/dL
   e. >10 g/dL and ≤13 g/dL

Answers:
1. B
2. D
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PLATFORM SESSION IXA - INFECTIOUS DISEASE I
IMPACT OF EARLY INITIATION OF HYDROCORTISONE THERAPY IN SEVERE SEPSIS AND SEPTIC SHOCK PATIENTS
Phuong Kim Abbott
Oklahoma City VA Health Care System
Oklahoma City, Oklahoma

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Distinguish between sepsis, severe sepsis, and septic shock
2. Evaluate whether steroid therapy is indicated in patients according to the 2012 Surviving Sepsis Campaign guidelines

Self-Assessment Questions:

1. Which of the following are true statements:
   
   I. Sepsis is defined as the presence of infection together with systemic manifestations of infection
   II. Severe sepsis is defined as sepsis plus sepsis-induced organ dysfunction or tissue hypoperfusion
   III. Septic shock is defined as sepsis-induced hypotension persisting despite adequate fluid resuscitation

   a) I only
   b) III only
   c) I and III
   d) I, II, and III

   ANSWER: D

2. True or false: The 2012 Surviving Sepsis Campaign guidelines recommend 200mg/day of IV hydrocortisone as a treatment for adult septic shock patients after they have received adequate fluid resuscitation and/or vasopressor therapy and hemodynamic stability has been restored.

   ANSWER: False
EVALUATING THE IMPACT OF PHARMACIST INTERVENTION ON STAPHYLOCOCCUS AUREUS BACTEREMIA UTILIZING REAL-TIME SURVEILLANCE SOFTWARE

Chia-Lin Chang
Methodist Hospital
San Antonio, Texas

Learning Objectives:

At the conclusion of this presentation, the participants should be able to:

1. Assist physicians in treatment of Staphylococcal bacteremia according to the guidelines
2. Select appropriate antimicrobial therapy for Staphylococcal bacteremia

Self-Assessment Questions:

1. Within how long should you obtain a repeat blood culture after the first positive?
   - a. 1 week
   - b. 6 days
   - c. 2-4 days
   - d. Never, why should I

2. What is the purpose of the obtaining a repeat blood culture?
   - a. To do unnecessary testing
   - b. Documenting clearance
   - c. I don’t know

3. How long should you treat for bacteremia?
   - a. 1 week
   - b. 14 days total
   - c. 14 days from the first documented negative blood culture

Answers:

1. C
2. B
3. C

EVALUATION OF A PHARMACIST-MANAGED VANCOMYCIN CONSULT SERVICE VERSUS STANDARD OF CARE AT A LARGE ACADEMIC MEDICAL CENTER

Wenting W. Guo
CHI St. Luke’s Health-Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:

1. Identify the common indications for vancomycin use
2. Define the appropriate vancomycin trough parameters

Self-Assessment Questions:

1. Which of the following organisms does vancomycin NOT have activity against?
   - a. Viridans Streptococci
   - b. MRSA
   - c. Pseudomonas
   - d. Coagulase negative staph

2. For which of the following indications is a goal vancomycin trough of 10-15 mcg/mL ideal?
   - a. Osteomyelitis
   - b. Skin and soft tissue
   - c. Endocarditis
   - d. Bacteremia

Answers:

1. C: Pseudomonas
2. B: Skin and soft tissue
THE EFFECT OF PROLONGED POSTOPERATIVE ANTIBIOTIC UTILIZATION ON PATIENT OUTCOMES
Krista Williams
Xavier University of Louisiana College of Pharmacy/
University Medical Center
New Orleans, LA

Learning Objectives:
• Define parameters for infection determination in trauma and surgery patients (including surgical and nosocomial infections)
• Describe the methodology of retrospective chart review of surgical patients having received antibiotics for greater than 72 hours who are culture negative
• Determine correlation of prolonged broad spectrum antibiotic use in surgical patients and C. diff and VRE occurrences, Length of Stay, non C diff diarrhea, and nephrotoxicity
• Demonstrate need for protocol driven de-escalation of antibiotics in surgical patients

Self-Assessment Questions:
1. According to the CDC, what estimated percentage of antibiotics is prescribed inappropriately?
   a. 10%
   b. 50%
   c. All antibiotics are prescribed appropriately
   d. 100%
2. True or False: Piperacillin/tazobactam covers MRSA and has anti-pseudomonal activity
   a. True
   b. False

Answers:
1. B
2. False

DIPPING INTO THE CLOSTRIDIUM DIFFICILE POOL
Ryan Keul
Scott & White Memorial Hospital
Temple, Texas

Learning Objectives:
1) Describe the epidemiology of Clostridium difficile infection in the United States
2) Identify modes of transmission for Clostridium difficile in institutional settings
3) Evaluate alcohol based dispensers (ABDs) as potential fomites for Clostridium difficile spores

Self-Assessment Questions:
1. *Clostridium difficile* is the most common microbial cause of healthcare-associated infections in the USA.
   a. True
   b. False
2. Previous studies have shown that up to ____% of *Clostridium difficile* spores are spread from person to person after a single handshake.
   a. 5
   b. 10
   c. 12
   d. 30
3. Alcohol based hand sanitizer is effective in killing *Clostridium difficile*.
   a. True
   b. False

Answers:
1. a
2. d
3. b
EVALUATION OF DAPTOMYCIN DOSAGE ON CLINICAL OUTCOMES IN VANCOMYCIN-RESISTANT ENTEROCOCCAL INFECTIONS AT A VETERANS AFFAIRS ACADEMIC TEACHING HOSPITAL
Ian Dunne
Michael E. DeBakey Veterans Affairs Medical Center
Houston, TX

Learning Objectives:
At the conclusion of this presentation, participants should be able to:
1. Discuss various indications for daptomycin and the corresponding weight-based dosages.
2. Evaluate the appropriateness of daptomycin dosing for organism, type of infection, and MIC data based on recent literature and updated guidelines.
3. Assess safety data and information with regards to higher weight-based dosing of daptomycin.

Self-Assessment Questions:
1. Which of the following is not an FDA approved indication for daptomycin?
   A. Infective endocarditis (right-sided, native valve) due to S. aureus
   B. Infective endocarditis (right-sided, native valve) due to Enterococcus
   C. Bloodstream infections due to S. aureus
   D. Skin and skin structure infections, complicated
2. There is evidence supporting safety for daptomycin at doses greater than 8 mg/kg/day.
   A. True
   B. False

Answers:
1. B
2. A

NASAL MRSA PCR TESTING REDUCES DURATION OF MRSA-TARGETED THERAPY IN PATIENTS WITH SUSPECTED MRSA PNEUMONIA
Nidhu Baby
Texas Health Presbyterian Hospital Dallas
Dallas, Texas

Learning Objectives:
1) Discuss the correlation between MRSA nasal screening results and respiratory cultures in patients with pneumonia.
2) To analyze the impact of pharmacist-ordered MRSA PCR testing on duration of anti-MRSA antibiotic therapy at Texas Health Presbyterian Hospital Dallas

Self-Assessment Questions:
1. Which of the following is true regarding MRSA PCR screening?
   a. MRSA PCR has high positive predictive value
   b. MRSA PCR has been validated in other indications such as bacteremia and cellulitis
   c. MRSA PCR has high negative predictive value
2. Which of the following statistically significant results were found in the retrospective analysis of patients at Texas Health Presbyterian Dallas?
   a. Reduced hospital length of stay
   b. Reduced incidence of acute kidney injury
   c. Increased mortality
   d. Increased time to clinical improvement

Answers:
1. C
2. B
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PLATFORM SESSION IXB - INFECTIOUS DISEASE II
Learning Objectives:

1. To describe the epidemiology of causative agents of bloodstream infections in patients with cirrhosis at a large tertiary center.
2. To identify risk factors for multidrug resistant organisms in cirrhotic patients with bloodstream infection.
3. To identify risk factors for 30-day mortality in cirrhotic patients with bloodstream infection.

Self-Assessment Questions:

1. Cirrhotic patients are at higher risk of infection than non-cirrhotic patients.
   a. True
   b. False

2. Which of the following was a most common gram-positive organism found in bloodstream infections among cirrhotic patients?
   a. Streptococcus pyogenes
   b. Staphylococcus aureus
   c. Enterococcus faecium
   d. Neisseria gonorrhoeae

3. Which of the following were found to be risk factors for multidrug resistant organisms in cirrhotic patients with bloodstream infection?
   a. Use of 1st generation cephalosporins within 30 days; female sex
   b. Age >60; nosocomial infection
   c. Female sex; hepato-cellular carcinoma
   d. Use of 3rd generation cephalosporins within 90 days; nosocomial infection

Answers:

1. A.
2. B.
3. D.
IMPACT OF THE VERIGENE GRAM-POSITIVE BLOOD CULTURE ASSAY ON TIME TO APPROPRIATE ANTIBIOTIC THERAPY FOR STAPHYLOCOCCUS AUREUS BACTEREMIA AT AN ACADEMIC MEDICAL CENTER
R. Scott Ferren
UTMB Health
Galveston, TX

Learning Objectives:

1. Compare the time to appropriate antibiotics before and after implementation of the Verigene assay in patients with S. aureus bacteremia
2. Evaluate the impact of the Verigene assay in the absence of an active antimicrobial stewardship program

Self-Assessment Questions:

1. Which antibiotic is considered the drug of choice for the treatment of MSSA bacteremia?
   a. Nafcillin
   b. Vancomycin
   c. Gentamicin
   d. Levofloxacin

2. How long does it take the Verigene BC-GP test to identify an organism?
   a. 1-1.5 hours
   b. 2-2.5 hours
   c. 3-3.5 hours
   d. 5-5.5 hours

3. Which intervention(s) has been shown to improve time to appropriate antibiotics in patients with a documented bacteremia?
   a. Antimicrobial stewardship program
   b. Rapid diagnostic testing systems
   c. A & B
   d. None of the above

Answers

1. A
2. B
3. C
INPATIENT MONITORING OF PROCALCITONIN TO DETERMINE APPROPRIATE ANTIBIOTIC TREATMENT OF RESPIRATORY TRACT INFECTIONS IN AMERICAN INDIANS AND ALASKA NATIVES AT A 72-BED HOSPITAL
Valerie Barnett
Chickasaw Nation Medical Center
Ada, OK

Learning Objectives:
• Distinguish properties of procalcitonin that qualify characteristics of infection
• Determine appropriate initiation and discontinuation of antibiotic treatment utilizing procalcitonin

Self-assessment Questions:
1. Name qualities of procalcitonin that make it ideal for antibiotic management compared to other biomarkers
   I - Specific for bacterial infection
   II – Correlates to severity of infection
   III – Sensitive to inflammation
   A.) I & II
   B.) II & III
   C.) I & III
   D.) All of the above

2. A patient is being treated for community-acquired pneumonia. The last procalcitonin levels are:
   • 0.63 ng/ml @ 06:00 12/03/15
   • 0.26 ng/ml @ 06:37 12/05/15
   • 0.07 ng/ml @ 06:14 12/08/15
   Given that an abnormal procalcitonin is ≥ 0.25 ng/ml. What is the best recommendation on 12/08/15?
   A.) Continue antibiotics
   B.) Stop antibiotics
   C.) Switch to narrow-spectrum antibiotics

Answers:
1. A
2. B
ASSESSMENT OF ANTIMICROBIAL USE IN THE INFANT SPECIAL CARE UNIT UTILIZING THE CENTERS FOR DISEASE CONTROL AND PREVENTION 12 STEP CAMPAIGN

Hoang A. Huynh
UTMB Health
Galveston, TX

Learning Objectives:
1. Describe the challenges of appropriate antibiotic use in the Infant Special Care Unit (ISCU)
2. Determine if the Centers for Disease Control and Prevention 12 Steps Campaign can be utilized to initiate an antimicrobial stewardship program in the ISCU

Self-Assessment Questions:
1. Which of the following Centers for Diseases Control and Prevention steps is not a focus for assessing antibiotic use in this project?
   a. Step 8. Treat infection, not colonization or contamination
   b. Step 6. Practice antimicrobial control
   c. Step 4. Target the pathogen
   d. Step 2. Get the devices out

2. Diagnosing sepsis is a challenge in neonatal intensive care units because noninfectious clinical syndromes may present as sepsis-like clinical picture.
   a. True
   b. False

Answers:
1. Step 2. Get the devices out
2. True
EVALUATION OF PROPHYLACTIC ANTIBIOTIC REGIMENS ON RECURRENCE AND MORTALITY IN SPONTANEOUS BACTERIAL PERITONITIS

Shelley S. Glaess
University of the Incarnate Word Feik School of Pharmacy
The University of Texas Health Science Center at San Antonio
South Texas Veterans Health Care System
San Antonio, TX

Learning Objectives:

At the completion of this activity, participants should be able to:

1. Describe the evolving epidemiology of spontaneous bacterial peritonitis (SBP).
2. Evaluate SBP recurrence and mortality among prophylactic antibiotic regimens used for secondary SBP prophylaxis.
3. Identify patient-specific characteristics associated with SBP recurrence and mortality.

Self-Assessment Questions:

1. All of the following are common pathogens traditionally associated with spontaneous bacterial peritonitis (SBP) EXCEPT
   a. Escherichia coli
   b. Klebsiella pneumoniae
   c. Staphylococcus aureus
   d. Streptococcus pneumoniae

2. Current recommendations from the American Association for the Study of Liver Diseases (AASLD) guidelines discourage the use of _________ dosing of antibiotics due to concerns of _________ resistance.
   a. daily; decreasing
   b. daily; increasing
   c. intermittent; decreasing
   d. intermittent; increasing

Answers:

1. Staphylococcus aureus (c)
2. intermittent; increasing (d)
EVALUATING DIFFERENCES IN MORTALITY WITHIN THE SUSCEPTIBLE MINIMUM INHIBITORY RANGE: COMPARISON OF PATIENTS WITH POSITIVE PSEUDOMONAS AERUGINOSA CULTURES WHO ARE TREATED WITH PIPERACILLIN/TAZOBACTAM OR CEFEPIME

Brooke Herndon
Michael E. DeBakey Veterans Affairs Medical Center
Houston, TX

Learning Objectives:

1. Discuss the minimum inhibitory concentrations (MIC) of specific antibiotics to \textit{Pseudomonas aeruginosa} (PsA)
2. Evaluate literature published discussing mortality differences between cefepime and piperacillin/tazobactam (pip/tazo)
3. Assess differences in mortality between patients with PsA infections treated with cefepime or pip/tazo when both agents are reported susceptible

Self-Assessment Questions:

1. According to the CLSI 2016 guidelines, what are the minimum inhibitory concentrations for piperacillin/tazobactam and cefepime to remain within the susceptible range?
   a. \( \leq 16 \) and \( \leq 8 \)
   b. \( \leq 8 \) and \( \leq 16 \)
   c. \( \leq 16 \) and \( \leq 32 \)
   d. \( \leq 32 \) and \( \leq 64 \)

2. Currently available literature supports the notion that outcomes with \textit{Enterobacteriaceae} bacteremia are worse with MIC values close to the breakpoint.
   a. True
   b. False

Answers:

1. A
2. B
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PLATFORM SESSION IXC - INFECTIOUS DISEASE III
Learning Objectives:

At the completion of this program, the participant will be able to:

- Outline previous literature regarding vancomycin trough values in overweight and obese pediatric patients
- Justify the thought process related to adjusting vancomycin dosing in critically ill pediatric patients with various body mass index percentiles

Self-Assessment Questions:

1. Vancomycin is the drug of choice for invasive methicillin-resistant *Staphylococcus aureus* in pediatric patients.
   a. True
   b. False
2. In previous literature, obese children have been seen to obtain higher initial trough levels in comparison to children of normal body weight.
   a. True
   b. False
3. In general, critically ill children easily reach target trough concentrations with current guideline dosage recommendations.
   a. True
   b. False

Answers:

1. A. True
2. A. True
3. B. False
EVALUATING THE USE OF ANTIBIOTICS IN PATIENTS WITH A PENICILLIN OR CEPHALOSPORIN ALLERGY

Linda Paul
Baptist Health System
San Antonio, Texas

Learning Objectives:
1. Identify broad spectrum antibiotics commonly used in penicillin or cephalosporin allergic patients
2. Utilize narrow spectrum cost effective alternatives for patients with penicillin or cephalosporin allergy
3. Assess whether patients had a true allergic reaction based on information documented in their medical record

Self-Assessment Questions:
1. What percentage of United State population is considered allergic to penicillins?
   a. 10%
   b. 30%
   c. 50%
   d. 70%
2. Cross reactivity between penicillins and cephalosporins vary depending on the side chain and the generation of the cephalosporin.
   a. True
   b. False
3. Patients with documentation of a mild allergic reaction to penicillin could receive:
   a. Third or fourth generation cephalosporin
   b. Carbapenem
   c. Aztreoam
   d. All of the above

Answers:
1. A
2. A
3. D
Learning Objectives:

- Review data regarding antimicrobial stewardship practices in the Emergency Department setting.
- Evaluate antimicrobial prescribing practices, particularly in response to positive culture results.
- Design a program to improve the timeliness and appropriateness of antimicrobial prescribing in the emergency department.

Self-Assessment Questions:

1.) Nationally, what percentage of patients who present to the ED are prescribed an antibiotic?
   a. 12.9%
   b. 16.7%
   c. 7.8%
   d. 22.2%

2.) The majority of antibiotics that were inappropriate per culture results were inappropriate due to:
   a. Susceptibility
   b. Duration
   c. Antibiotic selection
   d. Strength and/or Frequency

3.) Based on the information obtained, what would be the best use of a clinical pharmacist on an emergency department antimicrobial stewardship team? (select all that apply)
   a. Rounding with an ID team on patients presenting to the ED with an infection
   b. Creating decision support pathways to help guide prescribing practices
   c. Reviewing positive cultures to determine the appropriateness of therapy
   d. Prospective order review (reviewing all orders for appropriate dose, frequency, and Drug-drug interactions)

Answers:
1.) A
2.) B
3.) B,C,D
Learning Objectives:

1. Explain the current practices for treating chorioamnionitis
2. Compare the pharmacoeconomic impact of chorioamnionitis treatment regimens

Self-Assessment Questions:

1. Which of the following are current practices for treating chorioamnionitis?
   a. Treating with antibiotics until the patient is 24 hours afebrile
   b. Treating with antibiotics for 48 hours postpartum
   c. Treating with one additional dose of antibiotics postpartum
   d. All of the above

2. According to the results from Chorioamnionitis Treatment: A Pharmacoeconomic Perspective, which of the following is correct?
   a. Chorioamnionitis was successfully treated in 99.4% of patients.
   b. Ampicillin and gentamicin regimen was associated with an increase risk in mortality.
   c. The most common regimen was ampicillin and gentamicin for 72 hours postpartum.
   d. Cefotetan was the most cost-effective regimen for treating chorioamnionitis.

3. According to Chorioamnionitis Treatment: A Pharmacoeconomic Perspective, what were the authors’ conclusions in treating chorioamnionitis?
   a. It can be concluded that these regimens are all efficacious without the need for further study.
   b. Ampicillin 2g every 6 hours and gentamicin 1.5 mg/kg every 8 hours may be considered a cost-effective option for treating chorioamnionitis.
   c. The use of a single agent antibiotic is cost-effective, but associated with an increase of failure rates.
   d. Cefotetan was the most cost-effective for treating chorioamnionitis.

Answers:
1. d
2. a
3. b
Learning Objectives:

1. Explain the indications and mechanism of action of linezolid
2. Determine the reported incidence of thrombocytopenia associated with linezolid
3. Describe the risk factors associated with the development of linezolid-induced thrombocytopenia

Self-Assessment Questions:

1. Linezolid demonstrates activity against clinically relevant gram positive organisms such as vancomycin-resistant Enterococcus and methicillin-susceptible and resistant strains of Staphylococcus aureus.
   a. True
   b. False
2. Which of the following variables have previously been associated with thrombocytopenia due to linezolid use?
   a. Decreased creatinine clearance (CrCl < 30 mL/min)
   b. Higher daily per kg dose
   c. Longer duration of therapy (> 14 days)
   d. All the above

Answers:
1. A
2. D

Learning Objectives:

1. Explain the interpretation of mean inhibitory concentration (MIC) value provides guidance in selecting therapeutic alternatives for improving clinical effectiveness
2. Identify the need to establish risk factors strongly associated with extended spectrum beta-lactamase-producing (ESBL) Enterobacteriaceae infections for clinical practice standardization.

Self-Assessment Questions:

1. MIC interpretation has provided guidance for improving clinical outcomes such as hospital mortality in which class of antibiotics? Select all that apply.
   a. Penicillinase resistant penicillins
   b. 3rd generation cephalosporin
   c. 4th generation cephalosporin
   d. Aminoglycosides
2. What are significant risk factors currently associated with ESBL?
   a. Prior antibiotic therapy in the preceding 60 days
   b. Current hospitalization less than 2 days
   c. Recent contact with health care providers
   d. High prevalence of resistance in the facility/community

Answers:
1. C
2. D
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PLATFORM SESSION XA - INFECTIOUS DISEASE IV
INCIDENCE OF ACUTE KIDNEY INJURY WITH VANCOMYCIN AND BETA-LACTAM ANTIBIOTICS IN ADULT HOSPITALIZED PATIENTS

Jessica Guastadisegni
Memorial Hermann Memorial City Medical Center
Houston, TX

Learning Objectives:

1. To evaluate whether the addition of piperacillin/tazobactam leads to increased incidence of acute kidney injury in adult hospitalized patients receiving vancomycin
2. To assess the rates of nephrotoxicity associated with meropenem and cefepime when used in combination with vancomycin

Self-Assessment Questions:

1. Which is a correct match of acute kidney injury type and etiology?
   a. Interstitial nephritis – B-lactams
   b. Acute tubular necrosis – vancomycin
   c. Prerenal azotemia – dehydration
   d. All of the above

2. Which of the following agents can cause nephrotoxicity?
   a. Aminoglycosides, vancomycin, NSAIDS
   b. Loop diuretics, vasopressors, amphotericin B
   c. Sulfamethoxazole/trimethoprim, linezolid, beta-blockers
   d. A and B

3. At what concentration is vancomycin considered therapeutic?
   a. 10-20 mcg/mL
   b. 15-25 mcg/mL
   c. 15-20 mcg/mL
   d. A and C

Answers:

1. D
2. D
3. D
LEARNING OBJECTIVES:

1. Question the methods for measuring and evaluating the success of an antibiotic stewardship program
2. Define quality indicators (QIs) that can be used to measure and support key antibiotic stewardship goals and strategies
3. Justify actionable metrics that can be used to help measure site-specific antibiotic use and appropriateness

SELF-ASSESSMENT QUESTIONS:

1. Which of the following is considered to be the superior measure in calculating the aggregate sum of days for a particular antibiotic?

   a. Length of Therapy (LOT)
   b. Defined Daily Dose (DDD)
   c. Days of Therapy (DOT)
   d. DOT/1000 PD

2. Which of the follow metrics can be used in estimating antibiotic combination therapy?

   a. DOT/1000 Patient days
   b. LOT/1000 Patient days
   c. DOT/LOT
   d. LOT/DOT

ANSWERS:

1. C
2. C

PREDICTING VANCOMYCIN TROUGHS: A COMPARISON OF TWO PHARMACOKINETIC MODELS VERSUS A VANCOMYCIN DOSING NOMOGRAM

Jennifer Jiang
Central Texas Veterans Health Care System
Temple, TX

LEARNING OBJECTIVES:

At the conclusion of this presentation, participants should be able to identify differences between three vancomycin pharmacokinetic models.

SELF-ASSESSMENT QUESTIONS:

1. What is the goal trough range for vancomycin for complicated or severe infections caused by S. aureus?

   a. 5-10 mcg/mL
   b. 10-15 mcg/mL
   c. 15-20 mcg/mL
   d. 20-25 mcg/mL

2. Which method used in this study was most accurate in predicting vancomycin troughs?

   a. Bauer
   b. Nomogram
   c. Matzke

ANSWERS:

1. C
2. A
IMPACT OF AN EMERGENCY DEPARTMENT’S PHARMACIST-DRIVEN CULTURE FOLLOW-UP PROGRAM
Laura C. Johnson, PharmD
Trinity Mother Frances Hospital
Tyler, TX

Learning Objectives:

• Summarize the importance of antimicrobial stewardship practices in the emergency department
• Describe the structure and workflow of an emergency department pharmacist-managed culture follow-up program
• Evaluate the impact of a pharmacist-driven culture follow-up program on treatment failure rates
• Assess the strengths and weaknesses of study design and reported data
• Apply study results to form recommendations for future clinical practice

Self-Assessment Questions:

1. Infectious Diseases Society of America (IDSA) guidelines recommend that a clinical pharmacist should be a part of the antimicrobial stewardship team.
   a. True
   b. False

2. Which pathogen is the widely considered the most common cause of urinary tract infections?
   a. Klebsiella pneumoniae
   b. Escherichia coli
   c. Enterococcus faecalis
   d. Enterobacter aerogenes

Answers:
1. A
2. B
Learning Objectives:

1. Define the incidence of nephrotoxicity associated with vancomycin and piperacillin-tazobactam administered over two different infusion rates
2. Characterize nephrotoxicity associated with concomitant vancomycin and piperacillin-tazobactam
3. Assess risk factors for nephrotoxicity associated with vancomycin and piperacillin-tazobactam

Self-Assessment Questions:

1. All of the following are associated with extended infusion piperacillin-tazobactam compared to standard infusion EXCEPT:
   a. Increased efficacy against Pseudomonas in critically ill patients
   b. Lower drug expenditures
   c. Increased infusion related reactions
   d. Improved pharmacodynamics
2. True or false: previous randomized controlled trials have shown there is an increased risk of nephrotoxicity associated with concomitant vancomycin and piperacillin-tazobactam use.
   a. True
   b. False
3. Which of the following is true concerning nephrotoxicity associated with concomitant vancomycin and piperacillin-tazobactam?
   a. Obese patients are at higher risk of acute kidney injury
   b. Dose of the antibiotics is not a risk factor
   c. Risk increases if patient is admitted to the intensive care unit
   d. Both a & c

Learning Objectives:

1. Investigate current trends in dosing obese patients treated in the emergency department
2. Determine dosing strategy most often associated with attainment of goal trough levels

Self-Assessment Questions:

1. Vancomycin troughs in the range of 10-20 is associated with an AUC/MIC of 400
   a. True
   b. False
2. Loading vancomycin in normal weight patients in the emergency department has been associated with earlier trough attainment
   a. True
   b. False

Answers:
1. True
2. True
RECURRENT CLOSTRIDIUM DIFFICILE INFECTION IN PATIENTS WITH CONTINUED PROTON PUMP INHIBITOR THERAPY

Angela Perhac
University Health
Shreveport, LA

Learning Objectives:

• Explain the pathogenesis of Clostridium difficile (C. diff)
• Determine risk factors for recurrent C. diff infections
• Analyze the recurrence rates of C. diff infection in those patients on continued proton pump inhibitor (PPI) therapy

Self-Assessment Questions:

1. Which of the following is NOT true about C. diff?
   A. C. diff is a gram positive bacteria
   B. The main symptom of infection is severe diarrhea
   C. Hand sanitizer does not get rid of C. diff from hands/surfaces
   D. All of the above are true

2. What is the recurrence rate of C. diff infection in the general population?
   A. 5%
   B. 20%
   C. <1%
   D. 45%

Answers

1. D
2. B
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PLATFORM SESSION XB - INFECTIOUS DISEASE V
Learning Objectives:

1. Review the purpose of an antimicrobial stewardship program and the types of stewardship interventions.
3. Explain the antimicrobial stewardship program at Our Lady of the Lake Regional Medical Center (OLOLRMC).

Self-Assessment Questions:

1. What can antimicrobial stewardship programs help accomplish?
   a. Minimization of the development of antimicrobial resistance
   b. Selection of appropriate antimicrobials
   c. Prevention of antibiotic overuse
   d. All of the above

2. *Staphylococcus aureus* is a fast growing microorganism that is typically results in positive cultures within 12-36 hours.
   a. True
   b. False

Answers:

1. d
2. a
ANTIBIOTIC TIMING AND ITS EFFECT ON HOSPITAL LENGTH OF STAY IN PATIENTS WITH FEBRILE NEUTROPENIA
Herman Joseph Johannesmeyer
Texas Tech University Health Sciences Center
Lubbock, TX

Learning Objectives:

• Describe basic pathophysiology of febrile neutropenia
• Summarize the current, accepted guidelines recommendations in the treatment of febrile neutropenia, particularly with regards to antibiotic timing
• Compare and contrast outcomes of patients that receive timely antibiotics versus those that receive delayed antibiotics in febrile neutropenia

Self-Assessment Questions:
1. Why do patients with febrile neutropenia often present asymptomatically?
   a. Nephrotoxicity
   b. Bone marrow suppression
   c. Chemotherapy induced GI toxicities
   d. Peripheral nerve damage
2. Which of the following antibiotic regimens is a guideline-appropriate therapy for febrile neutropenia?
   a. Cefepime 2 g IV q8h
   b. Vancomycin dosed per protocol
   c. Ciprofloxacin 400 mg IV q12h
   d. Amoxicillin 500 mg PO q8h
3. Previous data has shown that for each hour antibiotics are delayed patient outcomes are affected by:
   a. A 10% increase in mortality
   b. A 12 hour lengthening of time to clinical stability
   c. A 30% increase in need for intensive care unit admission
   d. An 8 hour lengthening of hospital length of stay

Answers:
1. B
2. A
3. D
EVALUATION OF PHYSICIAN PRESCRIBING PATTERNS FOR ANTIBIOTICS IN THE TREATMENT OF CELLULITIS
Michael Ezebuenyi
Xavier University of Louisiana/University Medical Center
New Orleans, Louisiana

Learning Objectives:
At the end of the presentation, the participant will be able to:

• Discuss current IDSA guideline recommendations for antibiotic therapy in skin and soft tissue infections
• Identify adherence rate to guideline recommended antibiotics in the treatment of cellulitis in a 270-bed hospital facility
• Advocate for evidence-based antimicrobial therapy use in the treatment of cellulitis

Self-Assessment Questions

1. The most common causative pathogens for cellulitis are
   a. Streptococcus species
   b. Pseudomonas aeruginosa
   c. Staphylococcus aureus
   d. A and C
   e. All of the above

2. Current IDSA guideline recommended antibiotic treatment for cellulitis is
   a. 5 – 14 days
   b. 21 days
   c. 4 weeks
   d. All of the above

Answers:
1. D
2. A
EFFECTS ON ANTIBIOTIC PRESCRIBING AFTER PHYSICIAN AND NURSE EDUCATION ON UPPER RESPIRATORY INFECTIONS
Chantal Kneifel
West Texas Veteran Affairs Health Care System
Big Spring, Texas

Learning Objectives:
At the completion of this presentation, the participant will be able to:
1. Identify three factors that contribute to the inappropriate use of antibiotics
2. Explain two methods used to decrease antibiotic resistance
3. List four types of acute upper respiratory infections in which antibiotics are not indicated

Self-Assessment Questions:

1. Common etiology of upper respiratory infections include all of the following except:
   a. Influenza A and B
   b. Respiratory syncytial virus
   c. Haemophilus influenzae
   d. Rhinovirus

2. Strategies for an effective antimicrobial stewardship program includes which of the following?
   a. Educate providers on current guidelines, etiology of infection, and appropriate treatment recommendations
   b. Educate nurses on current guidelines, etiology of infection, and treatment recommendations
   c. Educate patients on cause of infection and when antibiotics are indicated
   d. A and C
   e. A, B and C

3. What are risks associated with the inappropriate use of antibiotics?
   a. Azithromycin resistance to Streptococcus pneumoniae
   b. Increase duration of symptoms resulting longer treatment duration
   c. Trimethoprim/sulfamethoxazole induced hyperkalemia leading to arrhythmia
   d. A and C

Answers:
1. C
2. E
3. D
EVALUATING THE EFFICACY AND SAFETY OF PROBIOTICS FOR PRIMARY PREVENTION OF NOSOCOMIAL CLOSTRIDIUM DIFFICILE INFECTION (CDI)

Morgan Odom
INTEGRIS Baptist Medical Center
Oklahoma City, OK

Learning Objectives:

1. Identify the role probiotics have in reducing nosocomial Clostridium difficile infection.
2. Evaluate potential threats probiotics pose to the immunocompromised individual.
3. Advocate for or against probiotic use in the prevention of nosocomial Clostridium difficile infection.

Self-Assessment Questions:

1. Which of the following probiotic mechanisms are NOT hypothesized to be effective in the management of CDI?
   a. Disruption of normal gastrointestinal flora
   b. Antimicrobial and antitoxin properties
   c. Immunomodulatory effects

2. Probiotics are considered dietary supplements NOT regulated by the FDA.
   a. True
   b. False

3. Which of the following is the most important modifiable risk factor for the development of Clostridium difficile infection (CDI)?
   a. Elderly
   b. Cancer chemotherapy
   c. Antimicrobial exposure

Answers:

1. A
2. B
3. C
DETERMINATION OF SUSCEPTIBILITY OF PSEUDOMONAS AERUGINOSA AND EXTENDED SPECTRUM Beta-LACTAMASE ENTEROBACTERIACEAE BACTERIAL ISOLATES TO CEFTAZIDIME/AVIBACTAM AS COMPARED TO CEFTAZIDIME: AN INTERNAL MIC DISTRIBUTION STUDY

Katrina Keith, Pharm. D.
Hendrick Medical Center/Texas Tech Health Sciences Center
Abilene, TX

Learning Objectives:

1. To identify the pharmacologic profile and FDA-approved indications for ceftazidime and ceftazidime/avibactam
2. To analyze and compare the in vivo activity of ceftazidime/avibactam and ceftazidime against Pseudomonas aeruginosa and extended-spectrum beta-lactamase Enterobacteriaceae infections
3. To evaluate ceftazidime/avibactam and ceftazidime and determine their role, including current and future role, in the management of Pseudomonas aeruginosa and extended-spectrum beta-lactamase Enterobacteriaceae infections

Self-Assessment Questions:

1. Which of the following is an approved indication of ceftazidime/avibactam?
   a. Skin structure and soft tissue infections
   b. Complicated intra-abdominal infections
   c. Hospital-acquired and ventilator-acquired pneumonia
   d. Bacterial meningitis

2. What is the MIC breakpoint according to CSLI that indicates a Pseudomonas aeruginosa isolate that is susceptible to ceftazidime/avibactam?
   a. > 8/4 mcg/mL
   b. ≤ 4/2 mcg/mL
   c. ≤ 8/4 mcg/mL
   d. ≤ 16/4 mcg/mL

3. According to the presentation, what is the predicted possible future role of ceftazidime/avibactam in clinical practice?
   a. ESBL infections
   b. Pseudomonas infections
   c. Clostridium difficile infections
   d. MRSA infections

Answers:

1. b
2. c
3. a
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PLATFORM SESSION XC - DIABETES I
EVALUATION OF A MOBILE TELEHEALTH SUPPORT FOR SELF-MONITORING OF BLOOD GLUCOSE IN PRIMARY CARE CLINIC PATIENTS WITH DIABETES- A PILOT STUDY

Sandy Diec
Baylor Scott & White
Temple, TX

Learning Objectives:

1. Define tele-monitoring and its potential applications for the management of diabetes mellitus
2. Identify the benefits and challenges of telehealth support in diabetes management
3. Describe the potential role for pharmacist involvement in telehealth services for the management of diabetes

Self-Assessment Questions:

1. Which of the following is a potential challenge to the adoption of telehealth services?
   a. Lack of computer training
   b. Inadequate reimbursement
   c. Privacy concerns
   d. All of the above

2. Which of the following statements about telemonitoring for the management of diabetes is CORRECT?
   a. Telemonitoring is the recording and tracking of medical data at a distance
   b. Telemonitoring has the potential to remove geographic barriers
   c. Telemonitoring has the potential to remove time barriers
   d. All of the above

3. Which of the following is NOT a role pharmacist can play in telehealth services for the management of diabetes?
   a. Encourage effective and continuous patient engagement
   b. Increase the need for non-scheduled health services
   c. Provide a convenient educational channel
   d. All of the above are roles pharmacist can play in telehealth services

Answers:

1. D
2. D
3. B
Learning Objectives:

At the completion of this program, the participant will be able to:

1. Evaluate the change in hemoglobin A1c (HbA1c) levels from the first encounter with a Clinical Pharmacy Specialist to study conclusion in patients with diabetes.
2. Identify barriers that a Clinical Pharmacy Specialist may face when managing diabetes medications to achieve glycemic control.
3. To assess the percent of patients who reach American Diabetes Association goal HbA1c after at least three encounters with a Clinical Pharmacy Specialist.

Self-Assessment Questions:

1. Pharmacist integration into a patient's diabetes care may result in which of the following
   a. Increase in adherence to medications
   b. Improvement in health-related quality of life
   c. Decrease in medication and disease-related problems
   d. A & B
   e. A, B, & C

2. The estimated risk of diabetes related mortality increases about how much for each 1% increase in HbA1c?
   a. 1%
   b. 10%
   c. 25%
   d. 40%
   e. 50%

3. Patients with diabetes struggle with numerous barriers to insulin use including
   a. Anxiety-related psychological insulin resistance
   b. Fear of injection pain
   c. Belief that insulin represents a failure of self-care practices
   d. Lack of perceived benefit
   e. All of the above

Answers:

1. E
2. C
3. E
EFFECT OF VISIT FREQUENCY OF PHARMACIST-LED MEDICATION MANAGEMENT PROGRAM (MMP) VISITS ON DIABETES CLINICAL OUTCOMES

Amy Frederick
Baylor Scott & White Health
Temple, TX

Learning Objectives:

- Define the pharmacist’s role in improving diabetes, hypertension, and dyslipidemia clinical outcomes
- List common disease states monitored in a pharmacist-led medication management program
- Identify the effect of visit frequency on chronic disease state outcomes

Self-Assessment Questions:

1. Given current available research, which of the following have pharmacist led visits been shown to effect?
   a. Adherence to current medication therapy
   b. Compliance with visits to primary care physicians
   c. Disease progression, including disease severity and outcomes
   d. Visit frequency
   e. A and C

2. Diabetes, hypertension, dyslipidemia, asthma, and heart failure are the only disease states able to be monitored through a pharmacist-led medication management program
   a. True
   b. False

Answers:
1. E.
2. False

COMPARISON OF A MULTI-MODAL BLOOD GLUCOSE CONTROL PLAN IN DIABETIC OPEN VASCULAR SURGERY PATIENTS

Meghan Thibeaux
Memorial Hermann Southwest Hospital
Houston, TX

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Discuss potential consequences of uncontrolled blood glucose in the acute care setting
2. Evaluate strategies for blood glucose control in the acute care setting
3. Compare clinical outcomes before and after implementation of a multi-modal blood glucose control plan in diabetic open vascular surgery patients

Self-Assessment Questions:

1. What is the blood glucose goal for intensive care units according to the current guideline recommendation?
   a. <110 mg/dL
   b. <140 mg/dL
   c. <180 mg/dL
   d. <200 mg/dL

2. Which of the following are complications associated with hyperglycemia in diabetic surgery patients?
   a. Increased hospital savings
   b. Increased infection rates
   c. Increased hospital length of stay
   d. B and C

Answers:
1. C
2. D
A COMPARISON OF CLINICAL OUTCOMES FOR TWICE DAILY ADMINISTRATION OF INSULIN DETEMIR AND INSULIN GLARGINE

Ryan Hadley
Veterans Affairs North Texas Health Care System
Dallas, TX

Learning Objectives:

At the conclusion of this presentation participants should be able to:

1. Recognize patients who would benefit from basal insulin twice daily dosing.
2. Analyze data analysis and literature regarding twice daily dosing of basal insulin.
3. Select an appropriate twice daily dosing for patient with insulin wearing off.

Self-Assessment Questions:

1. What is the process called when insulin is unable to decrease plasma glucose levels?
   - a. Insulin glucose deficiency
   - b. Insulin resistance
   - c. Impaired insulin production
   - d. Hyperactive insulin metabolism

2. What factors below contribute to insulin resistance?
   - a. Defective insulin-mediated cell signaling pathways
   - b. Decreased muscle glycogen syntheses
   - c. Reduced numbers of skeletal muscle, liver, and adipose tissue insulin receptors
   - d. All of the above

3. What is the most common time for basal hypoinsulinemia in a once daily regimen?
   - a. Around time of injection
   - b. 4 hours after injection
   - c. 8 hours before injection
   - d. 4 hours before injection

Answers:

1. B
2. D
3. A
IMPACT OF PHARMACIST LED DIABETIC EDUCATION ON 30-DAY READMISSION RATES
Kathleen Ubina
Methodist Dallas Medical Center
Dallas, Texas

Learning Objectives:
1. Identify risk factors associated with 30 day readmissions rates in diabetic patients
2. Determine if pharmacist-led diabetic education can reduce 30 day re-admission rates in diabetic patients
3. Discuss potential improvements to the current diabetes education process

Self-Assessment Questions:

1. Diabetes is one of the disease states targeted in the CMS Hospitals Readmission Reduction Program.
   a. True
   b. False
   Answer: B

2. Which of the following are considered risk factors for readmission?
   a. 5 or more medications
   b. ICU stay
   c. Poor health literacy
   d. All of the above
   Answer: D

3. Compared to non-diabetics, patients with diabetes are more likely to be readmitted to the hospital within 30 days.
   a. True
   b. False
   Answer: A
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PLATFORM SESSION XIA - INFECTIOUS DISEASE VI
Learning Objectives:

At the conclusion of this presentation, participants will be able to:

1. Assess and evaluate the appropriateness of empiric antibiotic therapy in Spinal Cord Injury patients with urosepsis and their clinical outcomes
2. Determine if an increased time to first dose of empiric antibiotic therapy is associated with worsened clinical outcomes
3. Assess appropriate antibiotic dosing based on renal function and MIC data.

Self-Assessment Questions:

1. Which of the following is the most accurate in regards to the primary outcome of time to first dose antibiotics?
   a. Those who decompensated had a shorter median time to first dose antibiotic(s) compared to those that did not decompensate
   b. Those who decompensated had a longer median time to first dose antibiotic(s) compared to those that did not decompensate
   c. The difference between the two groups was not statistically significant
   d. A and C
   e. B and C

2. Which of the following is characteristic of the microbiology of Spinal Cord Injury (SCI) patients in this study?
   a. There was no difference between SCI patients and the institution’s general population in susceptibility patterns for the most common pathogens
   b. Enterococcus was the most commonly isolated microorganism in our patient population
   c. Proteus was the most commonly isolated microorganism in our patient population
   d. Klebsiella was the most commonly isolated microorganism in our patient population

3. True or False: Majority of the vancomycin trough levels after steady state were sub-therapeutic for our study population

Answers:

1. B
2. C
3. False
Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Name the three organisms that are most commonly cited for causing infections in splenectomized patients.
2. Describe the current recommendations regarding vaccinating patients after splenectomy.
3. Describe the significance of conducting this study.

Self-Assessment Questions:

1. Which of the following groups of bacteria are more commonly associated with overwhelming infections in splenectomized patients?
   a. Space bugs
   b. Encapsulated bacteria
   c. Enterobacteriaceae
   d. Spirochetes

2. Which of the following statements are true according to Surgical Infection Society Guidelines?
   a. Antibiotic prophylaxis is not recommended for children with functional or anatomic asplenia if they have received pneumococcal immunization.
   b. Patient undergoing emergency splenectomy should receive immunizations 30 days post-operatively.
   c. Surgical Infection Society does not have a vaccination recommendation for splenectomized patients.
   d. Splenectomized patients should receive PPSV23, Hib, and Meningococcal vaccines.

Answers:

1. B
2. D
Learning Objectives:

At the completion of this program, the participant will be able to:

1. Identify potential barriers to implementation for a clinical pharmacy consult service at a large, teaching hospital
2. Evaluate the effectiveness of a pharmacy-to-dose vancomycin consult service after implementation

Self-Assessment Questions:

1. Based on previous literature, benefits of pharmacy-managed consult services include all of the following, EXCEPT:
   a. Decreased drug costs
   b. Decreased laboratory costs
   c. Significant delays in patient therapy
   d. Decreased medication errors

2. Which of the following represents a barrier to implementation of clinical pharmacy services in a large teaching hospital?
   a. Staff education and training
   b. Gaining protocol approval by appropriate committees
   c. Assessing competency after staff training
   d. All of the above are barriers to implementation

3. Vancomycin dosing and clearance depends on individual patient characteristics
   a. True
   b. False

Answers:

1. C
2. D
3. A
EVALUATION OF A PHARMACIST MANAGED VANCOMYCIN DOSING PROTOCOL IN HEMODIALYSIS PATIENTS AT A TEACHING TERTIARY CARE FACILITY

Kerry Anne Rambaran
Texas Tech University Health Sciences Center
Lubbock, TX

Learning Objectives:

• Explain the importance of a vancomycin dosing protocol in hemodialysis patients
• Assess utilization and monitoring of vancomycin use in hemodialysis patients
• Identify problems associated with inappropriate utilization/dosing of vancomycin in hemodialysis patients

Self-Assessment Questions:

1. Which of the following is an ideal loading dose of vancomycin in HD patients?
   a. 10 mg/kg
   b. 15 mg/kg
   c. 20 mg/kg
   d. 30 mg/kg

2. Which of the following is an ideal pre-hemodialysis level for non-severe infections?
   a. 5-10 mcg/mL
   b. 10-15 mcg/mL
   c. 10-20 mcg/mL
   d. 15-20 mcg/mL

3. Which of the following is an ideal pre-hemodialysis level for non-severe infections?
   a. 5-10 mcg/mL
   b. 10-15 mcg/mL
   c. 10-20 mcg/mL
   d. 15-25 mcg/mL

Answers:
1. C 20 mg/kg
2. C 10-20 mcg/mL
3. D 15-25 mcg/mL
EVALUATION OF EMPIRIC ANTIMICROBIAL THERAPY FOR URINARY TRACT INFECTIONS IN THE EMERGENCY DEPARTMENT
Amrit Sheena
Memorial Hermann Hospital System
Houston, TX

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Identify the clinical significance of empiric antimicrobial therapy for urinary tract infections in the emergency department.
2. Describe the results and conclusions of the research study.

Self-Assessment Questions:

1. Current IDSA guidelines recommend which of the following for first line therapy of uncomplicated urinary tract infections (UTIs)?
   a. Nitrofurantoin
   b. Levofoxacin
   c. Trimethoprim-Sulfamethoxazole
   d. A and C

2. Which of the following have heightened the importance of appropriate empiric antimicrobial therapy selection for UTIs in the Emergency Department (ED)?
   a. Large population of patients diagnosed with UTI’s in the ED
   b. Increasing incidence of multi-drug resistant organisms (MDROs)
   c. The vast data supporting this importance
   d. A and B

3. Evaluating patient specific risk factors to that may increase the risk of MDR) UTIs can increase the incidence of appropriate empiric antimicrobial therapy in the ED?
   a. True
   b. False

Answers:

1. D
2. D
3. A
Learning Objectives:

1. Review the guideline recommendations for the management of urinary tract infections (UTI) in children less than 24 months of age
2. Assess the appropriateness of antibiotic therapy for UTI based on microbiological data
3. Examine the place in therapy of cefdinir for the treatment of UTI in a pediatric patient

Self Assessment Questions:

1. Which of the following is an advantage of oral administration of antibiotics compared to parenteral administration in a pediatric patient?
   a. Oral antibiotics can be given at home by the child’s parent or caregiver
   b. Oral administration is less painful than the IV route
   c. There is decreased infection risk associated with line placement
   d. All of the above

2. Which of the following is an orally available third generation cephalosporin?
   a. Ciprofloxacin
   b. Ceftriaxone
   c. Cefdinir
   d. Ceftaroline

3. All patients less than 24 months of age should be treated with intravenous antibiotics for urinary tract infections.
   a. True
   b. False

Answers:
1. D
2. C
3. B
POSTOPERATIVE ABSCESS RATES IN CHILDREN WITH PERFORATED APPENDICITIS: A DIRECT COMPARISON OF PIPERACILLIN/TAZOBACTAM AND CEFTRIAXONE PLUS METRONIDAZOLE

Molly McNaull
Seton Healthcare Family
Austin, TX

Learning Objectives:

1. Describe Infectious Diseases Society of America treatment guideline recommendations on the antibiotic management of perforated appendicitis.
2. Compare and contrast two commonly used antibiotic regimens, piperacillin/tazobactam and ceftriaxone plus metronidazole, in the treatment of perforated appendicitis.
3. Analyze the results of a retrospective study comparing the postoperative abscess rates associated with piperacillin/tazobactam and ceftriaxone plus metronidazole.

Self-Assessment Questions:

1. Which of the following antibiotic regimens are appropriate for the treatment of perforated appendicitis in pediatric patients according to the Infectious Diseases Society of America guidelines for complicated intra-abdominal infections?
   a. Piperacillin/tazobactam
   b. Ceftriaxone and metronidazole
   c. Ertapenem
   d. All the above
   e. Only A and B

2. True or False: Treatment of perforated appendicitis requires at least 7 days of intravenous antibiotics
   a. True
   b. False

Answers:

1. D
2. B
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PLATFORM SESSION XIB - ANTICOAGULATION I
Learning Objectives:

1. To describe the general risk factors associated with venous thromboembolism (VTE) in oncology patients.
2. To review VTE recurrence with different anticoagulants in oncology patients.

Self-Assessment Questions:

1. General risk factors associated with venous thromboembolism in cancer patients include all the following except:
   a. Increasing age
   b. Mobility
   c. Indwelling central venous catheters
   d. Newly diagnosed malignancy

2. The CLOT Trial showed that a low-molecular weight heparin was more effective in reducing the risk of recurrent thromboembolism than an oral anticoagulant in cancer patients.
   a. True
   b. False

Answers:

1. B
2. A
IMPACT OF TELEHEALTH WARFARIN EDUCATION ON PATIENT RETENTION: A RANDOMIZED CONTROLLED QUALITY IMPROVEMENT STUDY
Krista Heinrich
Health Texas Providers Network in association with Baylor Scott and White Health Pharmacies
Dallas, Texas

Learning Objectives:
1. Evaluate the effectiveness of telehealth warfarin education on patient knowledge retention
2. Discuss the impact of telehealth warfarin education on adherence, adverse events, and time in therapeutic range

Self-Assessment Questions:
1. What is the current gold standard for warfarin education given to patients?
   a. There is no gold standard
   b. Written brochure or pamphlet
   c. Verbal counseling
   d. Verbal counseling in addition to a written brochure or pamphlet

2. The thought of utilizing telehealth warfarin education through an iPad® video is to show all of the following EXCEPT:
   a. Increased time for patient to be within therapeutic INR range
   b. Decreased medical costs associated with bleeding due to warfarin therapy
   c. Increased adherence to warfarin therapy with less skipped doses or double doses
   d. Decreased utilization of venipuncture order sets during INR follow up appointments

Answers
1. A
2. D
LOW MOLECULAR WEIGHT HEPARINS IN PATIENTS WITH END-STAGE RENAL DISEASE
Bradley G. Burk
University Health
Shreveport, LA

Learning Objectives:

By the end of this presentation, the pharmacist should be able to…

1. List the current recommendations for use of low molecular weight heparins in patients with renal dysfunction
2. Explain the controversy surrounding the use of low molecular weight heparins in patients with end-stage renal disease
3. Analyze patient information regarding anticoagulation in ESRD patients and recommend therapeutic options

Self-Assessment Questions:

1. Which of the following agents does NOT require dosage adjustment for renal impairment (CrCl <30 mL/kg/min)?
   a. Enoxaparin
   b. Dalteparin
   c. Unfractionated Heparin
   d. All of the above require dosage adjustment for renal impairment

2. Which one of the following lab tests is used to examine the extent of anticoagulation from the LMWHs?
   a. APTT
   b. Anti-Xa
   c. INR
   d. Anti-thrombin

3. Which agent(s), if given in combination with a LMWH, would be expected to further increase a patient’s risk of bleeding?
   a. Warfarin
   b. NSAIDs
   c. SSRIs
   d. All of the above can increase bleeding risk

Answer Key: 1. D, 2. B, 3. D
EVALUATION OF AN INSTITUTIONALLY-APPROVED GUIDELINE FOR THE MANAGEMENT OF ANTICOAGULANTS IN THE PERIOPERATIVE SETTING AT AN ACADEMIC MEDICAL CENTER

Matthew Jirasek
Scott & White Memorial Hospital
Temple, Texas

Learning Objectives:

1. Describe pertinent pharmacokinetic parameters of warfarin, rivaroxaban and apixaban
2. Define the incidence of perioperative major bleeding for both high and low bleeding risk procedures

Self-Assessment Questions:

1. What is the rate of major bleeding associated with a high risk procedure?
   a. 0-2%
   b. 2-4%
   c. 4-8%

2. The onset of action of the factor-Xa inhibitors (e.g., rivaroxaban) is similar to that of warfarin, therefore, they should be managed in a similar manner to warfarin in the perioperative setting.
   a. True
   b. False

3. Considering apixaban’s half-life of 12 hours, approximately how long should it be held prior to a procedure with a high risk of bleeding (assuming normal renal function)?
   a. Hold 5 days prior to the procedure
   b. Hold 24 hours prior to the procedure
   c. Hold 48 hours prior to the procedure

Answers:

1. B
2. B
3. C
PREVALENCE OF DRUG-DRUG INTERACTIONS WITH THE NOVEL ORAL ANTICOAGULANTS
(NOACS)
Rebekka Adamson
Seton Healthcare Family
Austin, TX

Learning Objectives:

1. Differentiate the pharmacokinetic (PK) properties of dabigatran, rivaroxaban, and apixaban
2. Predict PK, pharmacodynamic (PD), and disease-drug interactions with the NOACs
3. Assess the objectives, hypothesis and methodology, of the present study
4. Explain the impact and clinical significance of the proposed research topic.

Self-Assessment Questions:

1. Which of the following novel oral anticoagulants does NOT undergo hepatic metabolism and, therefore, does NOT interact with the cytochrome P-450-enzyme system?
   a. Dabigatran
   b. Rivaroxaban
   c. Apixaban
   d. Edoxaban
   e. All of the above undergo hepatic metabolism.

2. Which of the following patient characteristics may cause an increase in NOAC exposure?
   a. Increased total body weight
   b. Impaired renal function
   c. Young age
   d. All of the above may cause an increase in NOAC exposure.

3. All drugs that may cause alterations in NOAC exposure are identified in the prescribing information of each drug.
   a. True
   b. False

Answers:

1. A
2. B
3. False
Learning Objectives:

At the conclusion of this presentation, the audience should be able to:

1. Identify certain weaknesses in patient care that lead to bleeding events while a patient is taking warfarin and rivaroxaban
2. Obtain information on prescribing patterns of warfarin and rivaroxaban in a county hospital setting.

Self-Assessment Questions:

1. Which of the following is not considered major bleeding?
   a. Intrarticular
   b. Intraspinal
   c. Intranasal
   d. Intracranial

2. Why would a patient switch from rivaroxaban to warfarin?
   a. Patient has a creatinine clearance of 14 mL/min
   b. Patient has an INR of 1.5
   c. Patient has a high vitamin K diet
   d. Patient has a blood pressure of 148/95

Answers:

1. C
2. A
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PLATFORM SESSION XIC - ANTICOAGULATION II
ASSOCIATION BETWEEN THE INCIDENCE OF VENOUS THROMBOEMBOLISM AND BODY MASS INDEX CLASSIFICATION
Leigh Gomez
Memorial Hermann-Texas Medical Center
Houston, TX

Learning Objectives:
- Describe existing evidence suggesting increased venous thromboembolism (VTE) risk in obese patients
- Compare incidence of venous thromboembolism in patients per body mass index (BMI) category
- Evaluate whether there is a positive linear association between increasing BMI and incidence of VTE

Self-Assessment Questions:

1. Which of the following have been shown to be risk factors for VTE?
   a. Increased body weight
   b. Above normal BMI
   c. Above normal waist circumference
   d. All of the above

2. The majority of existing data finding incremental increases in VTE with increasing BMI category primarily studied post-menopausal females or outpatient populations.
   a. True
   b. False

Answers:
1. D
2. A
INCIDENCE OF ADVERSE EVENTS WITH FULL DOSE ENOXAPARIN IN MODERATE RENAL IMPAIRMENT

Stephanie Kuhl
Memorial Hermann – Texas Medical Center
Houston, TX

Learning Objectives:

1. Describe the pharmacokinetic advantages and disadvantages of enoxaparin compared to heparin
2. Evaluate the incidence of bleeding and thrombotic events due to enoxaparin in moderate renal dysfunction versus normal renal function
3. Compare bleeding and thrombosis event rates in patients being bridged to warfarin versus receiving enoxaparin as primary anticoagulation

Self-Assessment Questions:

1. When compared to unfractionated heparin, enoxaparin:
   a. Has a shorter half-life and is renally eliminated
   b. Has a longer half-life and is hepatically eliminated
   c. Has a longer half-life and is renally eliminated
   d. Has the same half-life but longer duration of action

2. Previous studies have shown the rates of major bleeding change how much in moderate renal function when compared to normal renal function?
   a. Increased by 42-50%
   b. Increased by 1-16%
   c. Decreased by 0-5%
   d. Are the same between groups

Answers:

1. C
2. B
ANTICOAGULATION QUALITY ASSESSMENT IN PATIENTS WITH NONVALVULAR ATRIAL FIBRILLATION (NVAF) AND COMPARISON WITH MAJOR TRIALS OF DIRECT-ACTING ORAL ANTICOAGULANTS
Capt Ryan B Shaver
San Antonio Military Medical Center
San Antonio Texas

Learning Objectives:

1. Demonstrate the ability to calculate time in therapeutic range (TTR) using three commonly used methods.
2. Evaluate limitations of these methods and assess if any differences exist in the calculated TTR's.
3. Analyze potential differences in TTR at San Antonio Military Medical Center (SAMMC) compared to the direct-acting oral anticoagulant trials.

Self-Assessment Questions:

1. The four large DOAC trials (ARISTOTLE, RE-LY, ENGAGE-AF TIMI and ROCKET-AF) used what method for calculating time in therapeutic range (TTR)?
   a. Traditional
   b. Cross Section
   c. Rosendaal
   d. None of the above

2. Which method for calculating TTR involves calculating the percentage of each patients’ visits in therapeutic range?
   a. Traditional
   b. Cross Section
   c. Rosendaal
   d. None of the above

3. Which method for calculating TTR is essentially a snapshot, calculating the percent of visits in range at a point in time?
   a. Traditional
   b. Cross Section
   c. Rosendaal
   d. None of the above

Answers:

1. C. Rosendaal
2. A. Traditional
3. B. Cross Section
ADHERENCE RATES OF DIRECT ORAL ANTICOAGULANTS (DOACS): COMPARISON OF ONCE-DAILY VERSUS TWICE-DAILY DOSING AMONG CENTRAL TEXAS VETERANS HEALTH CARE SYSTEM PATIENTS

Brendon H. Hogan
Central Texas Veterans Health Care System
Temple, TX

Learning Objectives:

At the conclusion of this presentation audience should be able to conclude that medication possession ratio of twice-daily dosing regimens of direct oral anticoagulants does not differ from once-daily dosing regimens at CTVHCS.

Self-Assessment Questions:

1. Which of the following are potential reasons for DECREASED adherence with DOACs?
   A. Frequent monitoring required for their use
   B. Twice-daily dosing regimens
   C. Infrequent monitoring required for their use (as compared to warfarin)
   D. Both B and C
   E. None of the above

2. Studies have shown no statistically significant difference between once-daily and twice-daily dosing regimens.
   A. True
   B. False

3. Compliance with DOACs is essential for which of the following reason(s)?
   A. Their long half-life
   B. Their medical indication (why prescribed)
   C. Established laboratory monitoring to evaluate efficacy
   D. All of the above

Answers:
1. D
2. A
3. B
DISCORDANCE BETWEEN APTT AND ANTI-XA LEVELS DURING HEPARIN INFUSION: OUTCOMES IN CIRRHOTIC AND RENAL FAILURE PATIENTS

Alyssa Sinkov
Baylor Scott & White All Saints Medical Center – Fort Worth
Fort Worth, TX

Learning Objectives:

- Compare and contrast the utility of measuring anti-Xa and aPTT levels to assess anticoagulation in patients on unfractionated heparin
- Discuss potential patient populations who may benefit from measuring both anti-Xa and aPTT
- Explain the pathophysiology behind hypocoagulability in cirrhosis and hypercoagulability in end-stage renal disease
- Describe objectives, inclusion and exclusion criteria, and methods for the study
- Analyze and discuss the characteristics and outcomes of the patients in the study
- Formulate a conclusion based on analysis of the collected data

Self-Assessment Questions:

1. Which of the following are reasons why measuring anti-Xa is preferred over measuring aPTT in patients on a heparin infusion?
   a. The standard method of targeting aPTT at 1.5-2.5 times the control was based on a post hoc analysis of an observational study in rabbits
   b. aPTT level is measured using different reagents that must be calibrated individually
   c. aPTT primarily measures the intrinsic pathway of the clotting cascade while anti-Xa best measures the functional activity of heparin
   d. All of the above

2. What is thought to be a consequence of discordant anti-Xa and aPTT levels during heparin infusion?
   a. Increased risk of major bleed
   b. Decreased risk of thromboembolism
   c. Increased risk of thromboembolism
   d. A & C

3. Which two patient populations present a clinical dilemma in which they may be simultaneously prothrombotic and hemorrhagic?
   i. End-stage renal disease
   ii. Congestive heart failure
   iii. Cirrhosis
   a. i, ii
   b. ii, iii
   c. i, iii
   d. None of the above

Answers:

1. D
2. D
3. C
INITIATION OF TARGET-SPECIFIC ORAL ANTICOAGULANTS FOR ATRIAL FIBRILLATION AND VENOUS THROMBOEMBOLISM: IMPACT ON TIME TO HOSPITAL DISCHARGE

Kim Vo
Central Texas Veterans Health Care System
Temple, TX

Learning Objectives:

1. List the FDA approved indications for each target-specific anticoagulants
2. Identify key data factors affected by oral anticoagulants

Self-Assessment Questions:

1. What is the FDA approved indication for Apixaban?
   a. Reduce the risk of stroke in non-valvular atrial fibrillation
   b. Prophylaxis of DVT following hip or knee replacement surgery
   c. Treatment of a VTE
   d. All of the above

2. Some studies have associated DOACs with a prolonged hospital length of stay compared to warfarin.
   a. True
   b. False

Answers:

1. D
2. B
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PLATFORM SESSION XIIA - HEME/ONC I
Efficacy of 6 mg Single Fixed-Dose Rasburicase for Prophylaxis and Treatment of Tumor Lysis Syndrome in a Hospital Network of Adult and Pediatric Hematology/Oncology Patients

Lindsay Edmondson, PharmD
Seton Healthcare Family
Austin, Texas

Learning Objectives:

At the conclusion of this presentation, participants should be able to:

1. Explain the mechanism, epidemiology, and treatment options for tumor lysis syndrome
2. Analyze the results of this retrospective study to determine the efficacy of a 6 mg single fixed-dose of rasburicase for prophylaxis and treatment of tumor lysis syndrome

Self-Assessment Questions:

1. What is the mechanism of rasburicase to treat tumor lysis syndrome?
   a. Promotes excretion of uric acid by improving renal blood flow and glomerular filtration
   b. Promotes conversion of uric acid to allantoin, which is a soluble metabolite
   c. Inhibits xanthine oxidase which prevents the conversion of hypoxanthine to xanthine and xanthine to uric acid
   d. Prevents uric acid formation by promoting purine catabolism

2. What is the FDA approved dosing of rasburicase?
   a. 0.2 mg/kg once daily for five days
   b. 2 mg daily for five days
   c. Single dose of 0.15 mg/kg
   d. Single fixed-dose of 6 mg

3. What are the anticipated benefits of dosing rasburicase as a single fixed-dose? (Circle two)
   a. Improved efficacy
   b. Significant decrease in cost
   c. Decrease in acute kidney injury
   d. Decrease in unnecessary drug exposure

Answers:

1. B
2. A
3. B and D
Learning Objectives:

At the conclusion of this study participants will be able to

Evaluate IBRANCE® (palbociclib) plus letrozole as second or third line therapy in postmenopausal women and IBRANCE® (palbociclib) plus Zoladex® (goserelin) or Faslodex® (fulvestrant) in premenopausal women.

Self-Assessment Questions:

1. The study showed IBRANCE® (palbociclib) to be efficacious as second or third line therapy in pre and post menopausal women with advanced ER-positive breast cancer who are treatment experienced and naive.
   a. True
   b. False

2. __________ occurred as an adverse effect as a result of IBRANCE® (palbociclib)+letrozole use in some patients.
   a. Mucositis
   b. Gout
   c. Neutropenia
   d. Vomiting

Answers:
1. A
2. C
EVALUATION OF THE INITIATION OF RAPID RITUXIMAB INFUSION AT AN ACADEMIC MEDICAL CENTER
Lei Matthew
University Health Shreveport
Shreveport, LA

Learning Objectives:
At the conclusion of this presentation, participants should be able to:

1. Describe the nature and incidence of rituximab associated infusion reactions
2. Discuss the implementation and incidence of infusion reactions associated with rapid infusion rituximab.

Self-Assessment Questions:
1. Rapid infusion rituximab is associated with lower rates of infusion reactions compared to standard infusions of rituximab.
   a. True
   b. False

2. A 45 year old male with follicular lymphoma is admitted to clinic for his second cycle of R-CHOP and develops flushing, dyspnea and shaking chills thirty minutes into infusion with rituximab. The infusion is interrupted and standard pre-medications are re-administered. The infusion reaction resolves two hours thereafter and the rituximab infusion is restarted and completed. Is the patient a candidate for rapid infusion rituximab for the next cycle of R-CHOP?
   a. Yes, the infusion reaction resolved with re-administration of standard premedications.
   b. Yes, the infusion was briefly interrupted.
   c. No, the infusion was briefly interrupted.
   d. No, the infusion reaction required re-administration of standard premedications.

Answers:
1. B
2. C

EVALUATING THE APPROPRIATENESS OF CURRENT MONITORING PRACTICES FOR EVEROLIMUS, IMATINIB, AND SORAFENIB AT HARRIS HEALTH SYSTEM
Trang T. Phan
Harris Health System
Houston, TX

Learning Objectives:
1. Describe the common adverse events associated with everolimus, imatinib, and sorafenib.
2. Identify the appropriate follow-up period for patients on everolimus, imatinib, and sorafenib.

Self-Assessment Questions:
1. Which of the following is a common adverse effect of sorafenib?
   a. Stomatitis
   b. Hand foot skin reaction
   c. Hypotension
   d. Ootoxicity

2. Which of the following is an appropriate follow-up visit after initiation of therapy for everolimus?
   a. 2 weeks
   b. 1 month
   c. 2 months
   d. 3 months

Answers:
1. B – Hand foot skin reaction
2. A – 2 weeks
Learning Objectives:

1) Outline the mechanism of vincristine metabolism and the incorporation of CYP3A4/5 and CEP72
2) Summarize the current literature supporting the variability in the pharmacokinetics of vincristine among patients, specifically between ethnicities
3) Analyze the association between CYP3A4/5 and CEP72 genotype and the characteristics of neurotoxicity in pediatric Hispanic patients with ALL

Self-Assessment Questions:

1. Which best describes the mechanism of vincristine metabolism?
   a. Metabolized extensively in the liver by CEP72 to the major metabolite M1
   b. Metabolized extensively in the liver by CYP3A4 to the major metabolite M1
   c. Metabolized extensively in the liver by both CY3A4 and CYP3A5, with CYP3A5 exhibiting approximately 14 times more efficiency
   d. Metabolized extensively in the liver by both CY3A4 and CYP3A5, with CYP3A4 exhibiting approximately 14 times more efficiency

2. In current literature, African Americans exhibit a higher expression of CYP3A5*1, with less incidence of neurotoxicity when compared to Caucasians.
   a. True
   b. False

3. The current literature shows that Hispanic patients most closely align with which of the following statements:
   a. There is minimal literature showing the enzyme expression in Hispanic patients, but CYP3A5*3 is the most common
   b. Hispanic children with ALL have the highest rates of vincristine related neurotoxicity
   c. Hispanic children with ALL have among the highest rerate of ALL survival
   d. There is minimal literature showing the enzyme expression in Hispanic patients, but CYP3A5*1 is the most common

Answers:

1. C
2. A
3. A
RISK FACTORS FOR CLOSTRIDIUM DIFFICILE-ASSOCIATED DIARRHEA IN ADULT CANCER PATIENTS WITHOUT RECENT ANTIBIOTIC EXPOSURE

Brian Le
UT Southwestern Medical Center
Dallas, Texas

Learning Objectives:

1. Identify risk factors, other than antibiotics use, which can contribute to Clostridium difficile-associated diarrhea (CDAD) in adult cancer patients.
2. Determine the incidence rate of CDAD in our oncology patient population.
3. Assess the outcomes of initial CDAD therapy.

Self-Assessment Questions:

1. Clostridium difficile can be killed using alcohol-based hand sanitizers.
   a. True
   b. False

2. What is the single most important risk factor for the development of Clostridium difficile-associated diarrhea?
   a. Cancer
   b. Antibiotics
   c. Chemotherapy
   d. Proton pump inhibitors

3. Which of the following is not a parameter needed to assess the severity of Clostridium difficile infection?
   a. White blood cell count
   b. Age
   c. Serum creatinine
   d. Serum albumin

Answer:

1. B
2. B
3. B

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INCIDENCE OF ACUTE KIDNEY INJURY IN PEDIATRIC ONCOLOGY PATIENTS RECEIVING COMBINATION THERAPY WITH VANCOMYCIN AND PIPERACILLIN-TAZOBACTAM OR CEFEPIME

Alaina Burns
Children’s Health, Children’s Medical Center of Dallas
Dallas, Texas

Learning Objectives:
1) Describe nephrotoxicity during combination therapy with piperacillin-tazobactam and vancomycin.
2) Investigate the incidence of nephrotoxicity with piperacillin-tazobactam and vancomycin in pediatric oncology patients compared to the incidence reported in adult literature.
3) Identify potential risk factors associated with increased nephrotoxicity during vancomycin therapy.

Self-Assessment Questions:
1. Which of the following antimicrobials have been associated with acute interstitial nephritis?
   a. Gentamicin
   b. Piperacillin-tazobactam
   c. Sulfamethoxazole-trimethoprim
   d. Azithromycin
   e. None of the above

2. Patients receiving combination therapy with piperacillin-tazobactam and vancomycin have an increased incidence of acute kidney injury compared to patients receiving monotherapy with either piperacillin-tazobactam or vancomycin.
   a. True
   b. False

3. Which of the following has not been associated with an increased risk of nephrotoxicity in patients receiving vancomycin therapy?
   a. Pre-treatment BUN:Scr ratio > 20:1
   b. Duration of vancomycin therapy > 7 days
   c. Vancomycin serum trough concentrations > 15 mg/L
   d. Total daily vancomycin dose > 4 grams per day
   e. All of the above have been associated with an increased incidence

Answers:
1. B
2. A
3. E
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PLATFORM SESSION XIIIB - ANTICOAGULATION III
Learning Objectives:

1. Discuss key variations and uses for target specific anticoagulants (TSOAC)
2. Evaluate the combination of oral anticoagulation and antiarrhythmic drugs for patients
3. Assess the composite endpoint of ischemic or hemorrhagic stroke, systemic thromboembolism, major bleeding events, and/or death in patients on warfarin or a TSOAC, and concomitant amiodarone in a veteran population

Self-Assessment Questions:

1. Which oral anticoagulant medication has the lowest stroke or systemic embolism event rate based on clinical trials?
   a. warfarin
   b. rivaroxaban
   c. dabigatran
   d. apixaban

2. Which TSOACs currently has a FDA-approved specific reversal agent for immediate reversal of its anticoagulant effects?
   a. apixaban
   b. dabigatran
   c. rivaroxaban
   d. None of the above

3. What is the mechanism for the drug-drug interaction between amiodarone and apixaban?
   a. P-glycoprotein inhibition
   b. CYP3A4 inhibition
   c. CYP2C9 inhibition
   d. Both A and B

Answers
1. D
2. B (Idarucizumab)
3. D

Learning Objectives:

1. Recognize patients at risk for venous thromboembolism (VTE)
2. Identify previous studies of VTE prophylaxis in special populations using enoxaparin or heparin
3. Review preliminary data comparing heparin vs. enoxaparin in patients with renal insufficiency at a local teaching hospital

Self-Assessment Questions:

True or false: Both enoxaparin and heparin are indicated for VTE prophylaxis in patients with severe renal impairment.  
True

True or false: In previous studies, enoxaparin has been shown to be superior to unfractionated heparin in preventing VTE.  
True
Learning Objectives:

At the completion of this program, the participant will be able to:

1. Identify patient populations where dose recommendations lack clinical evidence with NOAC agents.
2. Evaluate the use of NOAC agents and VTE recurrence in obese patients at Ochsner Medical Center.

Self-Assessment Questions:

1. In what patient populations are dose recommendations lacking clinical evidence with NOAC agents?
   a. Patients $\geq$18 years of age
   b. Obese
   c. Males
   d. None of the above
2. In evaluating the use of NOACs in obese patients at Ochsner Medical Center, was there greater VTE recurrence in these patients?
   a. Yes
   b. No

Answers:
1. B
2. B

DEVELOPMENT AND IMPLEMENTATION OF HEPARIN-INDUCED THROMBOCYTOPENIA PROTOCOL AND IMPACT ON PATIENT CARE AND COST

Jacqueline Medina
Norman Regional Health System
Norman, Oklahoma

Learning Objectives:

1. To evaluate the risk of heparin induced thrombocytopenia with the use of the 4Ts score
2. To identify the limitations of the 4Ts score and PF4/Heparin Complex Immunoassay

Self-Assessment Questions:

1. What should be the first step in evaluating a patient with suspected HIT?
   a. Obtain a PF4 immunoassay
   b. Order an SRA lab
   c. Calculate a 4T score
   d. Discontinue heparin
2. Which of the following is not associated with a high probability of HIT
   a. A new confirmed thrombosis
   b. A platelet fall in days 1-3 after start of heparin
   c. A platelet fall greater than 50%
   d. No alternative explanation for platelet drop
3. An anti-PF4 heparin enzyme immunoassay can be used to determine if a patient will have HIT before the actual administration of heparin
   a. True
   b. False

Answers:
1. C
2. B
3. B
EVALUATION OF RIVAROXABAN AND APIXABAN PRESCRIBING PATTERNS AND ASSOCIATED OUTCOMES IN PATIENTS WITH ATRIAL FIBRILLATION AT A LARGE ACADEMIC MEDICAL CENTER

Nhu Quyen Dau
CHI St. Luke’s Health-Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:

- To evaluate the dosing of apixaban and rivaroxaban in patients with atrial fibrillation
- To identify the outcomes associated with apixaban and rivaroxaban prescribing patterns

Self-Assessment Questions:

1. Which of the following patients with atrial fibrillation would require a dose adjustment from 5 mg twice daily to 2.5 mg twice daily?
   a. 56 years old, weight = 100 kg, creatinine clearance < 30 mL/min
   b. 70 years old, weight = 80 kg, creatinine clearance < 50 mL/min
   c. 85 years old, weight = 56 kg, serum creatinine = 2 mg/dL
   d. 75 years old, weight = 66 kg, serum creatinine = 0.86 mg/dL

2. Which of the following is not an indication for apixaban or rivaroxaban?
   a. Valvular atrial fibrillation
   b. Nonvalvular atrial fibrillation
   c. Pulmonary embolism
   d. Deep venous thrombosis

Answers:

1. C
2. A

RISK FACTORS FOR THE DEVELOPMENT OF VENOUS THROMBOEMBOLISMS IN NEUROCRITICAL CARE PATIENTS

Minoosh Sobhanian
Memorial Hermann-Texas Medical Center
Houston, TX

Learning Objectives:

1. Describe the background/guideline recommendations for venous thromboembolism prophylaxis in critically ill patients
2. Evaluate major risk factors associated with development of VTE in neurocritical care patients
3. Determine time to onset of VTE incidence in neurocritical care patients

Self-Assessment Questions:

1. What of the following is not included in Virchow’s Triad?
   a. Venostasis
   b. Vascular endothelial injury
   c. Hypercoagulable states
   d. All of the above are included in Virchow’s Triad

2. True or false, Hemorrhagic strokes put the neurocritical care population at increased risk of developing venous thromboembolisms?
   a. True
   b. False

Answers:

1. All of the above are included in Virchow’s Triad
2. True
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PLATFORM SESSION XIIC - TRANSPLANT I
IMPACT OF UTILIZING TECHNOLOGY TO IMPROVE PHARMACIST-DRIVEN MEDICATION RECONCILIATION FOR TRANSPLANT PATIENTS

Joshua Blackwell
CHI St. Luke’s Health – Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:
1) Explain how the use of technology can impact a pharmacist-driven medication reconciliation process for transplant patients
2) Describe the perspective of health care providers related to the pharmacists roles within the discharge medication reconciliation process
3) Identify areas in the discharge medication reconciliation process where pharmacists can improve patient care

Self-Assessment Questions:

1. In 2000, the estimated costs due to medical errors were ________ and included ________ patient deaths.
   a. $15-30 billion; 40,000-90,000
   b. $16-35 billion; 36,000-80,000
   c. $17-29 billion; 44,000-98,000
   d. $18-30 billion; 30,000-100,000

2. Musgrave et. al. showed that having a formalized transplant pharmacist involved in the discharge process can significantly reduce the number of ADEs and improve the accuracy of patient documentation.
   a. True
   b. False

3. According to the American Society of Health System Pharmacists (ASHP) Pharmacy Forecast, __ of hospitals believe neighboring institutions will have their respective pharmacy department monitoring medication adherence and outcomes of discharged patients, particularly focusing on patients at high risk for early readmission.
   a. 36%
   b. 47%
   c. 40%
   d. 44%

Answers:
1. C
2. A
3. B
DOES AMLODIPINE PRESERVE RENAL FUNCTION IN HEART TRANSPLANT PATIENTS ON TACROLIMUS?

DongOuk Lee
Ochsner Medical Center
New Orleans, LA

Learning Objectives:

At the completion of this program, the participant will be able to evaluate whether amlodipine preserves renal function in heart transplant patients on tacrolimus

Self-Assessment Questions:
1. How do calcineurin inhibitors cause nephrotoxicity?
   A. Increased thromboxane and endothelin
   B. Decreased thromboxane and endothelin
   C. Increased nitric oxide and prostaglandin
   D. Decreased nitric oxide and prostaglandin
   E. A&D
   F. All of the above

2. What is the proposed mechanism of renal preservation with amlodipine in patients on calcineurin inhibitor?
   A. Constriction of afferent arteriole
   B. Dilation of afferent arteriole
   C. Constriction of efferent arteriole
   D. Dilation of efferent arteriole
   E. B&C

Answers:
1. E
2. B
ASSESSMENT OF CYTOMEGALOVIRUS PROPHYLAXIS IN A LIVER TRANSPLANT POPULATION AT A LARGE ACADEMIC MEDICAL CENTER

Elizabeth M. Lessmann
CHI St. Luke’s Health – Baylor St. Luke’s Medical Center
Houston, TX

Learning Objectives:
1. To describe the various cytomegalovirus (CMV) prophylactic regimens used in liver transplant patients
2. To identify the benefits and risks associated with the use of the various CMV prophylactic treatments

Self Assessment Questions:
1. Which CMV serology result would be considered high risk for CMV infection in liver transplant recipients?
   a. R+/D+
   b. R-/D-
   c. R-/D+
   d. R+/D-

2. When using valganciclovir for CMV prophylaxis in high risk liver transplant recipients, what is the general recommended duration of prophylaxis?
   a. 3 years
   b. 2 months
   c. 6 months
   d. Lifelong

3. What adverse effect must we monitor for when using valganciclovir for CMV prophylaxis in high risk liver transplant recipients?
   a. Leukocytosis
   b. Leukopenia
   c. Thrombosis
   d. Pulmonary edema

Answers:
1. C
2. C
3. B
SINGLE CENTER EVALUATION OF THREE ANTIFUNGAL STRATEGIES IN POST LUNG TRANSPLANT RECIPIENTS AND THEIR EFFICACY IN REDUCING THE OCCURRENCE OF INVASIVE FUNGAL INFECTIONS
Tiffany Le
INTEGRIS Baptist Medical Center
Oklahoma City, OK

Learning Objectives:

At the conclusion of this presentation, participants will be able to:

1. Describe the efficacy of three antifungal regimens in reducing the occurrence of invasive fungal infections.
2. Compare the advantages and disadvantages of common antifungal protocols.

Self-Assessment Questions:

1. What is the role of antifungal prophylaxis in post lung transplant recipients?
   a. Reduce the risk of fungal infections
   b. Minimize the risk of chronic rejection/graft loss
   c. Decrease morbidity and mortality due to invasive fungal infections
   d. All of the above

2. According to current published studies, what is/are the preferred antifungal prophylaxis agent(s)?
   a. An optimal antifungal prophylaxis regimen has not been established yet
   b. Voriconazole with nebulized amphotericin B
   c. Itraconazole with or without nebulized amphotericin B
   d. Nebulized amphotericin B

3. Which of the following disadvantage(s) is/are associated with voriconazole?
   a. Multiple drug-drug interactions
   b. Hepatotoxicity
   c. Neurotoxicity
   d. All of the above

Answers:

1. D
2. A
3. D
OUTCOMES OF A STEROID-FREE PROTOCOL IN LIVING DONOR LIVER TRANSPLANT RECIPIENTS
Sebastian Biglione
Baylor University Medical Center
Dallas, TX

Learning Objectives:

At the completion of this program, the participant will be able to:

1. Distinguish the pros and cons of steroid-containing and steroid-free immunosuppressive maintenance protocols in living donor liver transplant patients.
2. Compare glycemic control during post-operative course in transplant patients undergoing steroid-containing and steroid-free immunosuppressive maintenance protocol

Self-Assessment Questions:

1. Standard immunosuppressive therapy (during the maintenance phase of liver transplantation) can utilize a combination of: a calcineurin inhibitor, an antimetabolite and steroids.
   a. True
   b. False

2. Long term use of steroids has been linked to a variety of comorbidities post-transplantation, including metabolic syndrome and hyperglycemia.
   a. True
   b. False

Answers:

1. True
2. True