



CME Sponsors: American Medical Seminars, Inc.  
 Activity Title: Infectious Diseases: Adult and Pediatric Issues  
 Activity Dates: January 20-24, 2020  
 Presenting Faculty: John K. Crane, M.D., PhD ; Stephen J. Gluckman, M.D., F.A.C.P., F.I.D.S.A.  
 and Michael J. Muszynski, M.D., F.A.A.P.

### NARRATIVE DESCRIPTION

Following this course, the participant should be able to recognize the epidemiology and classify commonly presenting infectious diseases; determine the clinical manifestations, pathogenesis and methods of diagnosing the presenting diseases; and apply the current recommendations of pharmacologic management, referral or follow-up and prevention. This activity is expected to result in improved competence in making appropriate diagnosis and providing effective treatment and referral or follow-up care with the overall goal of improving patient outcomes.

The emphasis will be on aligning physician behavior with current guidelines and evidence-based medicine, as indicated within each topic's specific objectives. Since Infectious Diseases is a specialty field of medicine that affects all areas of Primary Care to include FM, IM, EM and Pediatrics, this course was designed to cover the spectrum of Infectious Diseases essential to all practicing physicians.

### SPECIFIC OBJECTIVES

#### DAY 1

##### Immunizations for Adults.

Upon completion of this session, the participant should be able to: <sup>GL, COMP</sup>

1. Differentiate between myths and facts concerning vaccine administration.
2. Based on ACIP up-to-date guidelines, evaluate indications, contra-indications, efficacy and side effects of adult immunizations.
3. Recommend immunizations indicated for different risk groups such as health care providers, college students and inhabitants of long term care facilities.

##### Chronic Fatigue Syndrome.

Upon completion of this session, the participant should be able to: <sup>EBM, COMP</sup>

1. Demonstrate how to diagnose CFS and how to distinguish it from chronic fatigue.
2. Relate the history of CFS.
3. Determine the management and how not to mismanage, a patient with CFS as per the current Institute of Medicine Diagnostic Criteria.

##### The Child with "Too Many" Infections.

Upon completion of this session, the participant should be able to: <sup>COMP</sup>

1. Perform an office-based evaluation of the child with frequent infections.
2. Recognize the presentation of the most common causes of recurrent infections in childhood,

decide when to consider immune deficiency states, then determine the management issues for physician providing pediatric healthcare.

##### Acute Flaccid Myelitis.

Upon completion of this session, the participant should be able to: <sup>EBM, GL, COMP</sup>

1. Recognize the clinical manifestations of AFM and apply the clinical, laboratory, and case classification criteria as defined by the Centers for Disease Control (CDC).
2. Compare other known neurological entities in the differential diagnosis of a patient with suspected AFM.
3. Recommend appropriate diagnostic testing for AFM and reporting method to health authorities.
4. Apply the interim considerations for clinical management of AFM according to the latest expert opinion defined by CDC.

#### DAY 2

##### Fever in Infants.

Upon completion of this session, using the evidence-based guidelines from EBM publications, the participant should be able to: <sup>EBM, GL, COMP</sup>

1. Identify the common bacterial pathogens associated with fever in infants < 8 weeks of age as compared to older infants.
2. Discuss the rationale for current diagnostic evaluation in these patients.
3. Apply the appropriate treatment options for this patient population.

##### Bites! Dogs, cats, critters, humans, and alligators.

Upon completion of this session, the participant should be able to: <sup>EBM, GL, COMP</sup>

1. Stratify management of bite wounds according to risk and potential infectious etiologies based upon animal type, bite location, bite severity, and hospitalization risk factors.
2. Apply recommendations for wound management in bite injuries and targeted antimicrobial therapy when infection occurs.
3. Utilize appropriate antimicrobial and other important prophylaxis for bite wound and apply these according to evidence-based recommendations.
4. Counsel patients and families on bite wound prevention.

##### Fever of Unknown Origin.

Upon completion of this session, the participant should be able to: <sup>EBM, COMP</sup>



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1. Discuss the pathogenesis of fever and its physiologic importance.
2. Describe the major causes of FUO's.
3. Integrate normal temperature regulation and the relevance of this to disease states.
4. Formulate an approach to FUO for a given patient based upon the multicenter and expert panel reviews published and referenced.

**Meningitis: Commonly Asked Questions.**

Upon completion of this session, the participants should be able to: <sup>GL, COMP</sup>

1. Interpret normal CSF parameters.
2. Interpret abnormal CSF findings and apply them to the proper management of patients.
3. Relate an understanding of some of the more controversial clinical areas associated with the management of meningitis such as:
  - a. The IDSA guidelines on the use of steroids;
  - b. Who requires a CT scan prior to a lumbar puncture;
  - c. The effect of prior antibiotic treatment on the interpretations of CSF.
4. Discriminate the causes of aseptic meningitis with specific emphasis on the non-viral, treatable etiologies.

**DAY 3**

**What Every Primary Care Provider Should Know About HIV.**

Upon completion of this session, the participant should be able to: <sup>GL, EBM, COMP</sup>

1. Relate the present epidemiology of HIV.
2. Develop an up-to-date understanding of the prognosis for a newly infected person.
3. Assess the major viral and host factors that determine the present approach to the management of a person infected with HIV as per the NIH, CDC & IDSA Guidelines.
4. Determine risk to health care workers and develop a plan to manage an exposed health care worker as per the current CDC and USPSTF Guidelines.

**Sexually Transmitted Diseases.**

Upon completion of this session, the participant should be able to: <sup>GL, COMP</sup>

1. Relate the present epidemiology of STDs in this country.
2. Develop a differential diagnosis and a diagnostic and treatment approach for the following STD syndromes based on CDC guidelines:
  - a. Urethritis;
  - b. Vaginitis;

- c. Genital ulcer(s).
3. Specify the diagnosis and management of syphilis, gonorrhea, chlamydia, herpes simplex, and HPV.
4. Relate the proper use of a condom so that they may properly educate patients.

**Pediatric Urinary Tract Infections.**

Upon completion of this session, using the evidence-based guidelines from the AAP, the participant should be able to: <sup>EBM, GL, COMP</sup>

1. Determine the clinical situations in which urinary tract infections should be considered.
2. Appraise diagnostic methods for urinary tract infection, characterize their reliability and application, and recognize their limitations.
3. Employ the most appropriate treatment options.
4. Assess the controversies concerning follow-up and prevention strategies.

**The Age of MRSA.**

Upon completion of this session and using the evidence-based guidelines from the CDC, the Pediatric Infectious Diseases Society, and EBM publications, the participant should be able to: <sup>EBM, GL, COMP</sup>

1. Describe the emergence and development of drug resistance that led to MRSA.
2. Discuss the prevalence differences and clinical diagnosis and treatment of community and hospital associated MRSA.
3. Recognize the importance of accurate and timely diagnosis when confronted with the possibility of MRSA.
4. Stratify management according to clinical scenario and severity.
5. Apply practical and proven preventative measures to reduce the risk and incidence of MRSA.

**DAY 4**

**Epidemics in the News.**

Upon the completion of this session, the participant should be able to relate the following about each of these four presently active viral epidemics: <sup>GL, EBM, COMP</sup>

- a. Ebola Zaire;
- b. MERS-CoV;
- c. Chikungunya;
- d. Pertussis;
- e. Measles;
- f. Zika;



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1. Appraise how the transmission mechanisms and risk of infection has impacted the incidence of these viruses in the U.S.
2. Recognize and determine, through appropriate WHO and CDC resources, the geographic distribution of each viral illness.
3. Determine the various presentations and differentiate the clinical syndromes from other common infectious processes in patients presenting to a primary care practice.
4. Determine the features and predictors to formulate an approach to each illness that will help guide your diagnostic testing decisions for making an appropriate diagnosis as per the current CDC and WHO Guidelines.
5. Assess the risk to health care workers and other patients while determining public health implications in an effort to deploy appropriate resources and methods of Infection control as per the CDC and WHO recommendations and Guidelines.

#### Common Issues Surrounding Tick Borne Illnesses in the U.S.

Upon completion of this session, the participant should be able to: <sup>GL, EBM, COMP</sup>

1. Determine the major tick vectors in the United States and their associated diseases.
2. Relate the proper technique for tick removal.
3. Differentiate the clinical presentations, diagnosis and treatment of the major tick borne diseases in the United States: Lyme disease, babesiosis, ehrlichiosis, and Rocky Mountain spotted fever as per the CDC and IDSA Guidelines.

#### Skin and Soft Tissue infections.

Management of skin and soft tissue infections continues to be common in primary care. They can range from uncomplicated which is managed in the outpatient setting to problematic requiring inpatient care, An evidence-based approach to diagnosis and treatment from JAMA dermatology, Clinical Infectious Diseases, CDC guidance published in the MMWR, and NEJM will be reviewed. Upon completion of this session, the participant should be able to: <sup>COMP, EBM, GL</sup>

1. Differentiate between skin and soft tissue infections that require antibiotic coverage for anaerobes and those that do not.
2. Accurately diagnose venous stasis dermatitis as a non-infectious entity.
3. Correctly formulate treatment plans for animal and human bites.
4. Identify 2 or more non-infectious diagnoses that resemble "bilateral cellulitis"

#### TB: Latent and Active; and Non-TB Mycobacteria.

Primary care providers play a significant part in achieving the target of TB elimination because of their access to high-risk populations in their practices. Using guidelines from the CDC, ATS and IDSA, an evidence-based approach on diagnosis and treatment will be reviewed. Upon completion of this session, the participant should be able to: <sup>EBM, GL, COMP</sup>

1. Accurately explain to patients, family members, and other health care personnel the difference between active TB and latent TB
2. Skillfully incorporate the use of interferon gamma release assays (IGRA's) into testing for latent or active TB.
3. Give an example of a special population for which a tuberculin skin test (TST) might still be used instead of an IGRA.
4. Understand the changing epidemiology of non-TB mycobacteria in the U.S

#### DAY 5

##### Gastroenteritis.

Upon completion of this session, the participant should be able to: <sup>GL, COMP</sup>

1. Relate the major pathogenic mechanisms that result in diarrhea.
2. Differentiate the major pathogens responsible for acute gastroenteritis.
3. Utilize an efficient approach in the evaluation of a patient with acute gastroenteritis as the normal host and in persons with HIV or recent travel.
4. Diagnose and treat various common causes of gastroenteritis as per the current ACG guidelines.

##### The Alphabet Soup of Viral Hepatitis.

Upon completion of this session, the participant should be able to: <sup>EBM, GL, COMP</sup>

1. Compare and contrast viral hepatitis A through E. Similarities and differences will be stressed, particularly the risks of developing chronic infection and the complications of chronic infection.
2. Distinguish the significant features of hepatitis A through E and interpret the various hepatitis serologies.
3. Select appropriate patients for treatment.
  - a. Established and new treatment options will be covered as per the CDC and USPSTF Guidelines.
4. Select appropriate strategies and options for patients to prevent the acquisition of hepatitis.



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## **Infectious Complications of the Opioid Addiction Crisis.**

With the rise of the Opioid Crisis, comes an increase in infectious complications from IV drug users who will require long-term antibiotics. An evidence-based approach to diagnosis and treatment from The Journal of Infectious Disease will be reviewed. Upon completion of this session, the participant should be able to: <sup>EBM, COMP</sup>

1. Be able to describe which categories of infections can be prevented by providing IV drug users access to clean needles and syringes which cannot.
2. Demonstrate how to recognize common bacterial complications of IV drug use such as injection site abscesses, septic thrombophlebitis, and endocarditis.
3. Use accurate history taking of injection practices of IV opiate users to recognize/stratify the risk of infection with oral pathogens and anaerobes.

## **Infection Prevention and Antibiotic Stewardship.**

Antimicrobial resistance continues to be a very prominent concern in all aspect of medicine. Antibiotic stewardship is extremely important to reduce the continued development of resistance and improve patient outcomes.

Upon completion on this session, using an evidence-based approach, based on guidelines from IDSA, the participant should be able to: <sup>GL, EBM, COMP</sup>

1. Incorporate "Diagnostic Stewardship" into action plans toward Antibiotic Stewardship.
2. Use a Hospital or Health-System Antibiogram to avoid unwise use of antibiotics.
3. Distinguish between antibiotics carrying the highest risk of triggering C. difficile infection vs. lower-risk antibiotics.
4. Describe how antibiotic stewardship in the hospital can be extended to nursing homes, outpatient clinics, and the wider community.