

Learning Objectives & Summary Descriptions
Tuesday, September 28, 2021
Session I

Session I - Didactic

The Grey Matters: Pediatric Stroke and Stroke Mimickers

Rebekah Mannix MD, MPH

Description: Pediatric stroke is often undiagnosed or misdiagnosed. Approximately 60% of children who survive pediatric stroke will have permanent neurologic deficits. As such, diagnostic evaluation and clinical management of pediatric stroke patients is both difficult and vital. This presentation will describe an evidence guided approach to the work up, diagnosis and management of children at risk for stroke.

Goals and Objectives

Upon completion of this session, participants will be able to:

1. Apply a thoughtful evidence-guided management approach to children presenting with stroke
2. Review stroke mimics, which are more common than stroke in the pediatric population
3. Discuss indications for imaging and diagnostic testing in the acute care setting
4. Investigate the evidence for intervention strategies designed to mitigate the long term effects of pediatric stroke
5. Emphasize the importance of a multidisciplinary team to manage pediatric stroke patients

Sepsis Updates

Matthew Eisenberg, MD, MPH

Description: This presentation will review current definitions of severe sepsis and septic shock, highlight recommendations for identification and treatment of children with sepsis in the emergency department, and focus on updated practice guidelines and areas of controversy in pediatric sepsis care.

Goals and Objectives

Upon completion of this session, participants will be able to:

1. Discuss the challenges of recognizing sepsis in children when compared to adults
2. Appreciate the current definitions of sepsis, severe sepsis and septic shock in children
3. Discuss the current recommendations for treatment of children with septic shock in the emergency department and the evidence behind these recommendations
4. Recognize areas of uncertainty and controversy in these treatment recommendations

Session I – Small Group Discussion

Fever Without Source

Katie Dorney MD

Mark Neuman, MD, MPH

Lise Nigrovic MD, MPH

Description: Case based presentations of fever without source which will be used as a springboard to discuss the approach to the management and treatment of the febrile neonate and young infant.

Goals and Objectives

Upon completion of this session, participants will be able to:

1. Apply a thoughtful evidence-guided management approach to febrile infants
2. Describe an approach to empiric testing and treatment for HSV infection in the first month of life
3. Discuss the risk stratification algorithms that can be used to determine risk of invasive bacterial infection in the second month of life
4. Identify updates on UTI diagnosis, management and treatment decisions in febrile infants

Critically Ill Children 1

Ali Baker, MD

Matthew Eisenberg, MD, MPH

Lois Lee, MD, MPH

Description: This will be an interactive, case-based discussion on the management of critically ill children. We will present three critically ill patients and discuss the initial approach to stabilization, evaluation and management. For each disease process, we will explore in greater depth the pathophysiology and challenges of management in children.

Goals and Objectives

Upon completion of this session, participants will be able to:

1. Recognize unique aspects of the presentation of critical illness in children
2. Apply a thoughtful approach to the initial stabilization of critically ill children
3. Describe the pitfalls of some management decisions that can occur when caring for critically ill patients
4. Discuss management strategies for critically ill children in different emergency care settings

What I wish I learned in Emergency Medicine Residency

Sarah Cavallaro, MD

Ashley Foster, MD

Description: In this session we will explore cases of sick children in order to highlight when management parallels and when it drastically diverges from adult care. This discussion will be led by two board certified emergency medicine physicians who underwent pediatric emergency medicine fellowship training.

Goals and objectives

Upon completion of this session, participants will be able to:

1. Compare approach and management differences in children versus adults
2. Adapt general EM knowledge to pediatric specific presentations
3. Identify high risk pathology in pediatric patients
4. Construct an approach to a neonate in distress

I Wish I Had a Do-Over

Andrew M. Fine MD, MPH

Alexander Hirsch MD

Description:

In this case-based small group, we will share several common presentations with an unexpected outcome. For each case, examination through the “retrospectroscope” revealed important clues that could have changed the evaluation and outcome. The session will include an interactive discussion of how to balance the costs and harms of an expanded emergency evaluation versus the risk of missing the diagnosis.

Goals and objectives

Upon completion of this session, participants will be able to:

1. Formulate the differential diagnosis for several common pediatric clinical presentations
2. Recognize “red flag” signs and symptoms that may prompt the need for expanded evaluation
3. Appraise the balance between the risk of missing rare clinical diagnoses against the harm of unnecessary diagnostics and workup

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Session II

Session II - Didactic

COVID-19 Complications Panel Discussion

Jason Levy, MD, RDMS

Kristin Moffitt, MD

Jane Newburger, MD, MPH

Mary Beth Son, MD

Description: The Novel SARS COVID-19 virus pandemic is a once in a lifetime event and we continue to live in an unprecedented era. Emergency Departments stand on the very front line, necessitating a nimbleness of care and ability to adjust with the constantly changing evidence. Additionally, there have been unique and challenging COVID-19 disease presentations in the pediatric population. This panel discussion will consist of brief presentations by leading experts in complications related to pediatric COVID-19 infection followed by a question and answer session.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Discuss and review the Emergency Department readiness and responsiveness to the COVID-19 pandemic
2. Review cardiac manifestations related to COVID-19 including vaccine related myocarditis
3. Discuss epidemiology, clinical characteristics and acute management of MIS-C
4. Review what is known about “Long COVID” in children and adolescents
5. Describe the current state of pediatric COVID vaccines and future vaccine considerations

Session II – Small Group Discussion

Difficult Diagnoses 1

Andrew Capraro, MD

Martin Pusic, MD, PhD

Description: What makes a diagnosis difficult? And is there anything we can do about it? In this session, we will use difficult cases from our experience to draw larger lessons on approaches to diagnosis that can stand you in good stead, no matter how difficult the diagnosis.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Explore the idea of the “difficult diagnosis”
2. Define some common traps in the diagnostic process
3. Propose good habits that, when invoked faithfully, can prevent difficult diagnoses from tripping us up.
4. Discuss and rank comic book heroes of the 1970’s as it (obliquely) pertains to difficult diagnoses

Procedural Sedation Boot Camp

Eric Fleegler MD MPH

Kyle Nelson MD, MPH

Andrew Miller MD

Description: This workshop explores all aspects of procedural sedation in settings outside the operating room from basic to advanced concepts including both pharmacological and non-pharmacological approaches to managing acute anxiety and pain in children undergoing medical procedures to the logistics of developing a sedation service.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Describe the procedural sedation pharmacopeia
2. Discuss sedation options and strategies for the most common procedures
3. Discuss the most common adverse events in procedural sedation and management
4. Explain the recognition and management of respiratory adverse events in procedural sedation

Clinical Pathways: Appendicitis and Facial Nerve Palsy

Richard Bachur, MD

Debra Weiner, MD, PhD

Description: 45-minute Interactive review and discussion of two evidence-based clinical guidelines: Suspected appendicitis and Facial Nerve Palsy. We will focus on the current evidence as well as key decisions for each guideline. Learners will be encouraged to participate including how to apply these guidelines in their home institutions.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Recognize the key parameters for risk stratification among children being evaluated for appendicitis
2. Manage a child with new onset facial palsy
3. Adapt and apply the BCH ED Guidelines for different care environments

Learning Objectives & Summary Descriptions
Wednesday, September 29, 2021
Session III

Session III - Didactic

Visual Diagnoses

Amanda Stewart, MD, MPH

Description: In this session we will review high yield images that can lead a clinician to a diagnosis, including physical exam findings, radiology images, and more. We will briefly discuss the conditions and management associated with each image, as well as the key findings that can raise suspicion for the diagnosis. Physical exam findings will be presented in an inclusive manner, including presenting findings on a range of skin tones, to ensure that clinicians can make appropriate diagnoses in all patients that they care for.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Ensure that clinicians can diagnose select pediatric conditions based on presenting visual cues
2. Describe appropriate management for included illnesses
3. Appreciate the breadth of presenting chief complaints in pediatric emergency medicine

Pediatric Renal Emergencies

Todd Lyons MD, MPH

Description: Renal emergencies in children require a systematic approach to their work-up and management that differs significantly from adult patients. This session will utilize cases as a starting point to discuss an approach to the evaluation of a child with acute kidney injury including the differential diagnosis, work-up, and management. It will also review the approach to the child with hypertension, including hypertensive urgency and emergency.

Goals and Objects

Upon completion of this session, participants will be able to:

1. Describe the differential diagnosis of a child presenting with acute kidney injury
2. Develop a systematic approach the work-up a child with acute kidney injury
3. Recognize hypertensive urgency and emergency in children
4. Discuss a systematic approach the evaluation and management of hypertensive emergency and urgency in children

Session III – Small Group Discussion

Dermatologic Emergencies

Theresa Becker, DO

Galina Lipton, MD

Description: In this session we will review several pediatric dermatology cases that require prompt recognition in the emergency department or acute care setting. In addition, we will review cutaneous findings reported after COVID-19 infection and COVID-19 vaccination.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Review how to diagnose the most serious dermatologic diseases encountered in the pediatric emergency department
2. Identify diseases based on cutaneous morphology
3. Recognize systemic effects associated with dermatologic conditions, if relevant
4. Recognize dermatologic findings associated with COVID-19 infections
5. Discuss a treatment plan for patients with emergent dermatologic conditions

Pediatric Behavioral Health Emergencies

Caitlin Farrell, MD

Joyce Li, MD, MPH

Description: In this interactive session, we will review pediatric behavioral health conditions that can present in the ED setting using a case base approach. We will describe unique aspects of pediatric behavioral health to better understand how to approach this patient population with additional focused discussion on the presentation of young children with behavioral dysregulation and the agitated autistic patient. We will discuss resources available to help with the care of these patients. Lastly, we will review potential adverse events associated with restraints.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Recognize the unique pediatric aspects of behavioral health conditions.
2. Discuss approach to a young child with behavioral dysregulation.
3. Discuss approach to autistic patient presenting with agitation.
4. Recognize potential adverse events associated with restraints.

Clinical Pathways

Anne Stack, MD

Megan Hannon, MD

Rebekah Mannix, MD, MPH

Session Description: Interactive review and discussion of two Emergency Medicine Clinical Pathways: Cervical Spine Injury and Ankle Injury

Clinical Pathway: Ankle Injury

Megan Hannon MD

Description: Ankle injuries are among the most common reasons for ED visits in children with orthopedic injuries. Evaluation and management are based on understanding the unique features of the immature pediatric skeleton and new methods of immobilization.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Participants will be knowledgeable of the BCH guidelines for pediatric ankle injuries.
2. Participants should be able to describe the ankle injuries most commonly seen in the pediatric ED patient.
3. Participants will be able to manage injuries with the most up to date approaches.

Clinical Pathway: Cervical Spine Injury

Rebekah Mannix MD, MPH

Description: Significant cervical spine injury (CSI) is rare in children, occurring in only 1% to 2% of children undergoing cervical spine radiography after blunt trauma. Although most children with CSI have readily apparent signs or symptoms of injury, the risks of missing CSI can be grave. Given the need to avoid ionizing radiation such as computed tomography in this vulnerable age group, clinicians face a quandary as to how to evaluate the unlikely possibility of CSI in the vast majority of injured children. This presentation will describe an evidence guided approach to the work up, diagnosis and management of children at risk for CSI.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Apply a thoughtful evidence-guided management approach to children presenting with blunt trauma and risk of cervical spine injury
2. Review high risk features warranting cervical spine imaging in children with blunt trauma
3. Discuss indications for and test characteristics of various cervical spine imaging modalities imaging and diagnostic testing in the acute care setting
4. Emphasize the importance of a multidisciplinary team to manage pediatric CSI patients

Critically Ill Children 2

Michele Burns MD, MPH

Ashley Marchese, MD

Description: In this session, we will discuss the management of critically ill children in the Emergency Department. We will review the approach to care of the undifferentiated ill neonate, followed by treatment strategies for the adolescent overdose patient.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Apply a thoughtful management approach to critically ill children
2. Discuss diagnoses specific to the critically ill neonate
3. Develop a differential diagnosis for a toxicology patient presenting with bradycardia and hypotension
4. Review mechanisms of action for important antidotes after cardiovascular medication ingestion

Learning Objectives & Summary Descriptions
Wednesday, September 29, 2021
Session IV

Session IV - Didactic

PALS: Updates and High Yield Review

Andrew Miller, MD

Description: This session will review the most updated Pediatric Advanced Life Support (PALS) approach to pediatric resuscitation. It will focus on recent updates informed by the latest evidence and on understanding the management principles that underlie PALS recommendations. This session is accompanied by an interactive discussion that will follow the presentation to apply the newly acquired knowledge to participant's questions surrounding pediatric resuscitation.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Explain the rationale and evidence behind the 2020 updates to PALS guidelines
2. Analyze how key management principles of pediatric resuscitation are reflected in PALS recommendations
3. Apply new PALS knowledge to specific clinical questions

Emerging Threats in Toxicology

Michael S. Toce, MD MS

Description: In this session we will discuss the rising rates of stimulant overdose in New England with a focus on the emergency management of patients with sympathomimetic toxidrome. Additionally, we will describe the clinical presentation and management of anti-epileptic drug (AED) overdoses. AEDs are increasingly used to treat psychiatric conditions, exposing many children to potentially harmful medications, including adolescents at high-risk for self-harm.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Discuss the epidemiology of stimulant abuse and overdoses in Massachusetts, New England, and the United States
2. Distinguish sympathomimetic toxidrome from anti-cholinergic toxidrome and serotonin syndrome
3. Develop a strategy to manage patients who present with significant agitation and evidence of sympathomimetic toxidrome
4. Review the pharmacology of AEDs
5. Acquire the skills to treat children who presents with AED overdose with a focus on the management of AED-induced seizures

Session IV – Small Group Discussion

Difficult Diagnoses 2

Alexander Hirsch MD

Joel Hudgins MD

Kate Dorney MD

Description: This session reviews several challenging cases of some of the most fascinating presentations from the past year. Through case review of actual patients from our emergency department, we explore expanded differential diagnoses and management strategies for both common and uncommon presentations.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Establish a differential diagnosis for pediatric patients presenting with stridor
2. Describe a diagnostic approach and initial management strategy for ill-appearing infants
3. Identify the red flag abdominal symptoms which should prompt an expedited and expanded workup

Journal Watch

Andrew Fine, MD, MPH

Mark Neuman, MD, MPH

Lise Nigrovic, MD, MPH

Description: Competing demands and a steady stream of information saturate our paper and electronic mailboxes every day. To stay current with the most vital and practice-changing literature is a ongoing challenging. Your CME faculty present coherent synopses of recent manuscripts that are most relevant to the way you care for children. Topics this year include recent advances in management of fever, appendicitis, and gastroenteritis, among other topics.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Appraise the implications and limitations of recent advances in the pediatric emergency medicine literature.
2. Translate and implement the findings of these studies into the clinical care they provide for children.

Pediatric Cardiac Emergencies

Sarita Chung MD

Todd Lyons MD, MPH

Description: While cardiac emergencies in children are rare, early identification and treatment can be life-saving. In this interactive case-discussion session, we will utilize cases to discuss the presentation and differential diagnosis of acute cardiac emergencies, the emergency department work-up of potential cardiac emergencies, stabilization and management of acute cardiac emergencies as well as outcomes.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Recognize the presentation of emergent cardiac conditions in children.
2. Describe the differential of a child with concern for an emergent cardiac condition
3. Describe the emergency department management of a child with an emergent cardiac condition
4. Understand the anatomy and physiology of complex congenital heart disease

Virtual Airway Boot Camp

Kelsey Miller, MD

Joshua Nagler, MD, MHPed

Description: In the virtual airway boot camp, we will use small group case discussions, multimedia presentations of native pediatric airways, and procedural demonstrations to provide exposure and foster comfort with advanced airway management in children. Participants will rotate through 4 interactive “stations” focused on: 1) anatomic and physiologic differences in children; 2) pediatric rapid sequence intubation; 3) laryngoscopic technique (direct and video laryngoscopy); and 4) rescue approaches (supraglottic and surgical airways).

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Describe how anatomic and physiologic differences in children affect airway management
2. Understand best practice related to rapid sequence intubation in children
3. Recognize optimal technical approaches for direct and video laryngoscopy and endotracheal intubation
4. Identify approaches to rescue techniques including placement of supraglottic airways and performance of surgical airways in children.

Learning Objectives & Summary Descriptions
Thursday, September 30, 2021
Session V

Session V - Didactic

Orthopedic Pearls

Megan Hannon, MD

Description: In this session, we will delve into several topics central to pediatric orthopedic emergency medicine. We will have a case based didactic session on setting specific management of several common fractures types.

Goals and Objectives

Upon completion of this session, participants will be able to:

1. Understand key points of pediatric radiographs
2. Identify the most common fracture types on radiographs
3. Understand acute management of the common fractures

Radiology Diagnoses

Joel Hudgins, MD, MPH

Description: This session will use example cases to discuss differences in pediatric and adult anatomy and highlight commonly missed radiologic diagnoses. Images will be a combination of actual cases from our emergency department as well as examples from our radiology faculty. We will use these images to help attendees use a systematic approach to reading pediatric radiology studies, particularly x-rays.

Goals and objectives

Upon completion of this session, participants will be able to:

1. Appreciate differences between pediatric and adult anatomy
2. Identify commonly missed radiologic diagnoses
3. Establish a systematic approach for reading pediatric radiology studies

Session V – Small Group Discussion

**What I Wish I Learned in Emergency Medicine Residency
(Repeated content from Session I)**

Sarah Cavallaro, MD

Ashley Foster, MD

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1. Compare approach and management differences in children versus adults
2. Adapt general EM knowledge to pediatric specific presentations
3. Identify high risk pathology in pediatric patients
4. Construct an approach to a neonate in distress

I Wish I Had a Do-Over

(Repeated content from Session I)

Andrew M. Fine MD, MPH

Alexander Hirsch MD

Description:

In this case-based small group, we will share several common presentations with an unexpected outcome. For each case, examination through the “retrospectoscope” revealed important clues that could have

changed the evaluation and outcome. The session will include an interactive discussion of how to balance the costs and harms of an expanded emergency evaluation versus the risk of missing the diagnosis.

Goals and objectives

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2. Recognize “red flag” signs and symptoms that may prompt the need for expanded evaluation
3. Appraise the balance between the risk of missing rare clinical diagnoses against the harm of unnecessary diagnostics and workup

Clinical Pathways: Gastroenteritis and Febrile Infant

Jason Levy MD, RDMS

Katie Dorney MD

Description: Vomiting/dehydration and fever are exceedingly common pediatric complaints seen in the Emergency Department. Standard approaches for assessment, management and follow up can streamline care and throughput as well as reduce variability in care. Each session will review and highlight the Gastroenteritis/Dehydration and Infant with Fever Clinical Pathways, focusing on relevant and supporting data, risk assessment and treatment strategies.

Goals and objectives

Upon completion of this session, participants will be able to:

1. Discuss relevant evidence and its application in the evaluation and assessment of dehydration.
2. Review various rehydration options and approaches to management.
3. Develop an approach to managing the neonate with fever.
4. Describe an approach to risk stratification of serious bacterial infection in 1-2 month old febrile infants.

Neonatal Emergencies

Jeffrey T. Neal, MD

Sara Schutzman, MD

Description: This 45-minute small-group session utilizes a case-based format of neonatal emergencies to educate participants about the evaluation, differential diagnosis and initial stabilization of ill-appearing neonates.

Goals & Objectives

Upon completion of this session, participants will be able to:

1. Describe the physiological and anatomical differences between neonates and older children
2. Establish a differential diagnosis for life-threatening diseases that may present in the first month of life
3. Discuss an approach to the evaluation and management of ill-appearing neonates