



AAP-CA2 30th Annual Advances in Pediatrics Symposium

PEARLS

2019

Thank you for attending the Symposium at the Sheraton Universal Hotel on March 2, 2019. In this document you will find the conference Pearls - a compilation of takeaway points submitted by each speaker. Please review the entire document, then access the Reflective Statements exercise to provide your responses. Reviewing the Pearls, followed by completion of the Reflective Statements constitute compliance with the American Board of Pediatrics requirement for MOC Part 2 credit. Deadline for completion is 3/15/2019.

MINDFULNESS FOR CLINICIANS - Paula J. Whiteman, MD, FACEP, FAAP



PEARL 1. Burnout is more common among physicians than among other US workers. Burnout may lead to depression and suicide.

Reference Article - [Burnout and Satisfaction With Work-Life Balance Among US Physicians Relative to the General US Population](#)

PEARL 2. Resilience is multifactorial. Applying the concept of 'strategic stopping' allows one to stop and recharge as opposed to continuing to endure stressors. Resilience allows one to develop the capacity to recover from difficult situations and includes learning self-management skills. Feeling that one has a connection to meaning and purpose is another tool of resilience.

PEARL 3. Mindfulness decreases burnout and increases job satisfaction. Clinicians who engage in mindfulness have more satisfied patients.

ADOLESCENT DEPRESSION AND ANXIETY - Diane Tanaka, MD



PEARL 1. Depression affects up to 20% of teens, by the time they reach late adolescence. Given the negative impact that untreated adolescence can have on their academic and social functioning, I will screen for depression in my patients, utilizing one of the evidence-based screening tools, such as PHQ2 or PHQ9.

Discussion: The age of onset of depression has been decreasing. As a result, pediatric providers are likely to provide care to young people living with depression. The scientific literature has found that many pediatric patients suffer from depression for years, prior to being evaluated by a physician. Once diagnosed, there are evidence-based treatments for depression, including psychotropic medications and mental health interventions, including cognitive behavioral therapy and interpersonal therapy. As mild depression can be treated by increasing affected patient's participation in pleasurable activities and good sleep hygiene, it is imperative that pediatric providers screen for depression in their practices. And, as suicide can be the lethal outcome of untreated moderate to severe depression, it is critical that these young people are identified and referred to appropriate mental health services.

Reference: Korczak D & Monga S Depression and anxiety disorders Neinstein's Adolescent and Young Adult health Care, A practical guide 2016 (69), pgs 578-587

PEARL 2. Recognize that anxiety is the most common psychiatric disorder in youth. Therefore, asking your patient how their anxiety affects their ability to socialize with peers and how problematic it is for them, will help to identify if your patient is suffering from anxiety.

Discussion: The median age for anxiety disorders in the pediatric population is age 6 years. It is the most common psychiatric disorder in youth. Unfortunately, this diagnosis is often missed, especially among younger teens. Females are more affected by anxiety than males, by a ratio of 2:1. Inquiring if a parent suffers from an anxiety disorder can be helpful in raising your index of suspicion that the child or teen, also suffers from anxiety. Utilization of evidence-based screening tools, such as the generalized anxiety disorder tool and the SCARED tool, can assist in identifying adolescents that have a high probability to have an anxiety disorder. Cognitive behavioral therapy and SSRIs have been shown to be effective in treating anxiety disorders.

Reference: Wehry AM et al Assessment and Treatment of Anxiety Disorders in Children and Adolescents Curr Psychiatry 2015 July; 17(7)

ADVERSE CHILDHOOD EXPERIENCES - Alice Kuo, MD, PhD, MBA, FAAP, FACP



A history of ACEs is common among nearly two-thirds of all adults (in a Kaiser sample).

ACEs have been observed to be associated with worse adult health outcomes, including cardiovascular disease, mental health issues, and high-risk behaviors.

ACEs can have multi-generational effects through the dysregulation of physiologic processes which carry through adulthood and can be passed down to offspring.

ACEs can be prevented and treated, as demonstrated through evidence-based programs.

In addition to screening for ACEs in primary care offices, a concerted effort at the policy level is needed to address ACEs in the population.

CHILDREN SEEKING SAFE HAVEN: THE HEALTH IMPACT OF MIGRATION ACROSS OUR SOUTHERN BORDER - Julie M. Linton, MD, FAAP



The Flores Settlement requires the government to prioritize child welfare when assuming custody of immigrant children seeking safe haven in the US.

There are 6 states (CA, OR, WA, IL, NY, MA) and the District of Columbia who offer medical coverage for children, regardless of immigration status.

The four most common forms of legal relief available to immigrant children arriving on our southern border are special immigrant juvenile status, asylum, U visas, and T visas.

Immigrant children, regardless of immigration status, have the right to free public K-12 education (*Plyler v. Doe*, 1982).

(Breakout Session 1 of 3) ADOLESCENT MARIJUANA USE - Diane Tanaka, MD



PEARL 1. I will be aware that there are medical benefits to the use of cannabinoids, which are not psychoactive. Treatment of chronic pain has been found to have the best evidence to support its use for this reason.

Discussion: As more and more States are passing medical marijuana and/or recreational marijuana laws, increasing number of teens view marijuana as not harmful. With the increasing number of marijuana dispensaries, it has become easier than ever, to acquire marijuana. The ease of access to marijuana, as well as laws that state that the substance is “legal”, has led to 75% of adolescents viewing marijuana use as safe. Research has found that the use of cannabinoids, which are phytocannabinoids and are not psychoactive, is effective in the treatment of chronic pain. Understanding the difference between cannabinoids and marijuana (which contains the psychoactive substance, delta- 9-tetrahydrocannabinol) will assist me in counseling my patients appropriately on the use of cannabinoids to treat pain.

Reference: Ammerman, S and Tau, G Weeding out the Truth: Adolescents and Cannabis J Addict Med 2016 March/April 10(2): pgs 75-82

PEARL 2. Previously, medical providers felt that marijuana was not physically addictive and is medically safe to use. Currently, marijuana dependence is listed as a condition in the DSM-V. Cannabis withdrawal syndrome is also listed in the DSM-V. Negative health effects from marijuana have now been described, including cardiovascular emergencies and adverse lung conditions.

Discussion: Over the past forty years, the potency of marijuana has increased from one percent THC to twenty percent THC. With the development of marijuana extracts, the potency of THC ranges from 50% to 99%. As a result of this significantly increased potency, marijuana dependence is now identified and is listed in the DSM-V. Further proof of the ability to become physically addicted to marijuana, cannabis withdrawal syndrome is described in the DSM-V and includes symptoms of irritability, anxiety, and sleep difficulties. Because marijuana is smoked via deep inhalation, tar deposition in the lungs is increased four times over cigarette smoking. As a result, increased episodes of bronchitis, lung barotrauma (with resulting pneumothorax or pneumomediastinum) have been described in the medical literature. Cardiovascular emergencies in adolescents and young adults have been documented, as well. These emergencies consist of myocardial infarctions, sudden cardiac death, and ischemic strokes. Because of these significant and severe outcomes from chronic and heavy marijuana use, it is important

that pediatric providers adequately counsel their patients on the potential negative health outcomes from their marijuana use.

Reference: Volkow ND et al Adverse Health Effects of Marijuana Use N Engl J Med 2014, June: 370(23): pgs 2219-2227

(Breakout Session 2 of 3) PEDIATRIC EMERGENCIES - INTERESTING CASES - Solomon Behar, MD, FACEP, FAAP



Retained foreign bodies, especially button batteries, can lead to the life threatening complication of an aortoesophageal fistula

Sympathomimetic toxicity can both cause seizures and mimic seizure-like activity

Endoscopy is the favored method if finding a source of GI *bleeding*, whereas imaging and labs are often more helpful in determining causes of GI related *pain*.

(Breakout Session 3 of 3) CHILDREN IN IMMIGRANT FAMILIES, HOW TO BE AN ADVOCATE - Julie M. Linton, MD, FAAP



Children in immigrant families are children who are born outside of the U.S. or have at least a parent who was born outside of the U.S.

Restrictive immigration policies and increased immigration enforcement are associated with negative health outcomes.

Advocacy can occur in multiple domains (high quality health care, medical education, research and public health, community engagement, and legislative and policy advocacy) and at many levels (individual, clinic, community, regional, national, and the public sphere).

REDUCING ENVIRONMENT-ASSOCIATED TEMPERATURE INSTABILITY DURING TRANSPORTS TO NURSERY - Daniel Cho, MD



Resident led QI initiatives can be effective. Don't let your status as a medical trainee hold you back. Be confident about identifying ways to improve how we practice medicine and seek out mentors to help accomplish your goal.

Neonatal sepsis should be always one of your top differential diagnoses for any clinical change in the nursery or the NICU. Neonatal sepsis risk factors include: GBS status, rupture of membranes (>18 hrs), chorioamnionitis (and if it was effectively treated with antibiotics), and gestational age.

PEDIATRIC EMERGENCIES IN THE OFFICE SETTING - Solomon Behar, MD, FACEP, FAAP



The most common emergencies encountered in the pediatric office setting are respiratory, seizures, and behavioral crises

Intranasal antiepileptic medications such as midazolam are a fast, easy to administer, and effective method of breaking an active seizure.

Oxygen , suction, and a bag-valve mask (with masks of age appropriate size) can be life-saving tools to have in the office during a respiratory emergency

ZIKA VIRUS UPDATE - Karin Nielsen - Saines, MD, MPH Understanding Zika Virus



PEARL 1. Zika virus (ZIKV), a mosquito-borne flavivirus, gained recognition over the past few years as an important new etiology of congenital infection. Previously considered only a minor menace of little consequence, ZIKV emerged as a formidable opponent, posing a major threat to global health security, particularly for pregnant women and their infants. From February to November 2016, the World Health Organization (WHO) declared ZIKV a “Public Health Emergency” due to concerns that infection in pregnancy leading to congenital anomalies such as microcephaly and other neurologic complications.

The WHO and the CDC consider ZIKV to be the first major infectious disease associated with congenital birth defects discovered in over a half a century, joining a pantheon of infections such as rubella, cytomegalovirus, lymphocytic choriomeningitic virus, toxoplasmosis, syphilis and others. As a result, it is critical that pediatricians understand its epidemiology, clinical presentation, clinical sequelae, and management.

Discussion: The 2015-2016 catastrophic Brazilian ZIKV epidemic demonstrated the potential for ZIKV to induce devastating neurologic disorders such as Guillain-Barre syndrome and congenital abnormalities, particularly microcephaly. Extensive global research since then led to our enhanced understanding of many clinical aspects of ZIKV infection. Although the epidemic has passed, ZIKV remains endemic in many areas of the world where its vector *Aedes aegypti* circulates. New outbreaks have been identified recently in India and in Angola. We currently have a better understanding of the spectrum of abnormalities that may occur in infants after maternal ZIKV infection in pregnancy. They may range from mild to severe but primarily affect the central nervous system although cardiac malformations have also been identified. Interestingly there are many features of ZIKV that resemble rubella infection such as the clinical manifestations of acute illness and fetal repercussions. The CDC created the term “congenital Zika syndrome” (CZS) to refer to the infants most severely affected by ZIKV which include severe microcephaly, brain structural abnormalities, ocular findings, congenital contractures and neurologic impairment. There are currently over 4000 infants with laboratory-confirmed CZS worldwide, the majority in Brazil. CZS however is the tip of the iceberg, as research has demonstrated that there are infants with more subtle manifestations of ZIKV who are seemingly normal at birth but later show signs of neurodevelopmental delay or neurosensory organ repercussions.

References: Zika Virus Infections. Feigin and Cherry’s Textbook of Pediatric Infectious Diseases, 8th edition, © 2019 Elsevier Inc, Philadelphia, PA. Chapter 176H: 1687-1719. Adachi K, Nielsen-Saines K. Zika Clinical Updates: Implications for Pediatrics. Current Opinion in Pediatrics. 2018; 30(1):105-116. Moreira ME, Nielsen-Saines K et al. Neurodevelopment in infants exposed to ZIKV in utero. The New England Journal of Medicine. 2018 Dec 13;379 (24):2377-2379.

Identifying and Diagnosing Zika Virus (ZIKV)

PEARL 2. As with many other infections, ZIKV may cause an acute febrile, exanthematous illness that may be clinically indistinguishable from many other infections, especially due to arboviruses such as dengue and

chikungunya, which are also transmitted by the same *Aedes* mosquito species. Laboratory diagnosis of ZIKV outside the window period of acute infection can be challenging because of serologic cross-reactivity with dengue viruses 1-4.

Discussion: The most commonly reported symptoms of acute ZIKV infection includes rash, transient fever, arthralgia, and conjunctivitis. Acute ZIKV infection is typically considered mild. Fever is present in less than a third of cases, is low-grade and is short-lived, and the infection tends to subsist for approximately 2-7 days. The exanthem of ZIKV is typically described as a nonspecific, diffuse, macular or macular-papular pruriginous eruption appearing 3 days to 2 weeks after initial infection. The rash often starts on the trunk and descends to include the lower extremities, usually sparing palms and soles. ZIKV may cause asymptomatic infection, the frequency of symptomatic versus asymptomatic infection is not clearly known but is quoted as 80% based on dengue studies, a similar flavivirus. Postnatal infection with ZIKV in children has a clinical course similar to that of adults. ZIKV may be diagnosed by ZIKV PCR of blood or urine during the acute phase of infection generally within a 2 week window period. Serologic diagnosis can be made with IgM which lasts approximately 3 months after infection. Following IgG antibodies will be detected. In endemic areas where dengue viruses circulate serologic diagnosis is a problem because cross-reactivity with these other flaviviruses may render false positive results. Plaque reduction neutralization tests can be used to differentiate ZIKV from dengue viruses but they are cumbersome and expensive. A clinical diagnosis of ZIKV is often made in endemic areas, one proposed clinical definition to differentiate Zika from other cocirculating arboviral infections includes rash with pruritus or conjunctival hyperemia, without any other general clinical manifestations such as fever, petechia or anorexia.

References: Zika Virus Infections. Feigin and Cherry's Textbook of Pediatric Infectious Diseases, 8th edition, © 2019 Elsevier Inc, Philadelphia, PA. Chapter 176H: 1687-1719. Adachi K, Nielsen-Saines K. Zika Clinical Updates: Implications for Pediatrics. Current Opinion in Pediatrics. 2018; 30(1):105-116. Braga JU et al. (2017), Accuracy of Zika virus disease case definition during simultaneous Dengue and Chikungunya epidemics. PLoS ONE 12(6): e0179725.

VACCINE PREVENTABLE ILLNESS IN LA COUNTY - AN UPDATE - Franklin Pratt, MD, MPHTM, FACEP



PEARL 1: 2019 “Recommended Child and Adolescent Immunization Schedule” from CDC without substantive change in immunization content and schedule. There was clarification re:

- Tdap. Tdap still given to 11-12 y.o.... EVEN IF.... they received dose at ages 7-10... AND... given as catch-up at ages 13-18 yrs... OR... PREGNANT adolescent.
- Hepatitis A vaccine recommended for all homeless children 1 y.o. or older.
- Measles and Hep A vaccine should be considered for international travelers 6m and older.
- A newly licensed, two-dose Hepatitis B vaccine (Heplisav-B), recommended for 18 y.o. and older. The two doses are 28 days apart with immune protection available after one month.
- LAIV added to influenza vaccine list.

Reference: <https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html>

PEARL 2: Pertussis clusters occurring at number of schools in LA County. There are over 60 confirmed cases with 30-40 suspect cases. This could be a harbinger of the 4-5 year cycle of epidemic pertussis last seen in 2014. Given the high disease burden in a vaccinated population, the following recommendations were made by the Los Angeles County Department of Public Health:

- Consider pertussis in any child, adolescent, or adult who presents with a persistent cough illness, especially if it is associated with coughing paroxysms or whoop. Infants with pertussis may present with difficulty breathing and/or a cough.
- Consider pertussis in any individual with a cough who presents a notification from the Department of Public Health (DPH) or gives a history indicating a possible exposure to a pertussis case or to someone who had a persistent cough.
- Obtain specimens for confirmation of the diagnosis (see “Specimen Collection and Diagnosis” section below for details).

- Treat suspect cases with an appropriate antibiotic (azithromycin, erythromycin, clarithromycin, and trimethoprim-sulfamethoxazole) without waiting for laboratory confirmation. If treatment is deferred pending test results, instruct the patient not to return to school, work, or congregate activity until confirmed negative, even if clinical suspicion is low.
- Ensure that patients complete at least 5 days of antibiotic treatment before returning to school, work, or congregate activity.
- Ensure that household members and close contacts of pertussis cases receive antibiotic chemoprophylaxis, regardless of the contacts' immunization status
- Ensure the patient and household contact(s) are up-to-date with pertussis vaccines (see "Preventing Pertussis: Vaccine Recommendations" below).
- Report any suspected cases in LA County within 1 working day of identification. Do NOT wait for laboratory confirmation.

References:

<http://publichealth.lacounty.gov/lahan/>

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6348a2.htm>

PEDIATRIC TUBERCULOSIS IN LA COUNTY - AN UPDATE - Julie Higashi, MD, PhD



PEARL 1. Rifamycin based regimens are new and improved options for the treatment of latent tuberculosis infection in children. Both rifampin daily x 4 months in children <18 years and the 12 week isoniazid/rifapentine (3HP) regimen in children > 2 years have been shown to be safe and effective in children with better completion rates than isoniazid.

Reference Article: Diallo T, Adjobimey M, Ruslami R, Trajman A et al. Safety and Side Effects of Rifampin versus Isoniazid in Children. N Engl J Med. 2018 Aug 2;379(5):454-463. doi: 10.1056/NEJMoa1714284.

Borisov AS, Bamrah Morris S, Njie GJ, et al. Update of Recommendations for Use of Once-Weekly Isoniazid-Rifapentine Regimen to Treat Latent *Mycobacterium tuberculosis* Infection. MMWR Morb Mortal Wkly Rep 2018;67:723–726. DOI: <http://dx.doi.org/10.15585/mmwr.mm6725a5>

PEARL 2. In California, children who do not have risk factors for TB exposure identified on the California Department of Health risk assessment, or similar risk assessment endorsed by the local public health department do not require a TB test to complete their evaluation for school entry. Selected school districts may require mandatory TB testing, despite CDPH guidance to only test those at risk. Pediatricians can assist public health departments in reducing testing in low risk populations by notifying public health departments when school districts or schools in the local jurisdiction require mandatory TB testing.

For the Pediatric CDPH TB risk assessment with user guide:

<https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/TBCB-CA-Pediatric-TB-Risk-Assessment.pdf>

For the Los Angeles County pediatric TB risk assessment and user guide:

http://publichealth.lacounty.gov/tb/docs/PedsTBRiskAssessment_4-25.pdf

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