American Academy of Pediatrics
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AAP-CA2 31st Annual Advances in Pediatrics Symposium

Sponsored by: UCLA Child and Family Health Leadership Training Program

Highlights

2020

The 2020 Virtual Advances in Pediatrics, broadcast from Tamkin Auditorium at UCLA on August 22, was a great success. We would like to thank the 102 who registered and attended our first-ever virtual conference. While we plan for 2021 to also be a virtual engagement, we are setting up the stage to give participants the choice of joining the conferences either remotely or with virtual presence: Sitting in the auditorium with the added advantage of virtual connectivity on your laptop - once pandemic restrictions subside. This document provides some highlights, as well as key takeaways from each speaker.

MINDFULNESS FOR CLINICIANS - Grant Christman, MD, MAcM, FAAP

Dr. Grant Christman initiated the morning with a session on mindfulness and guided meditation.

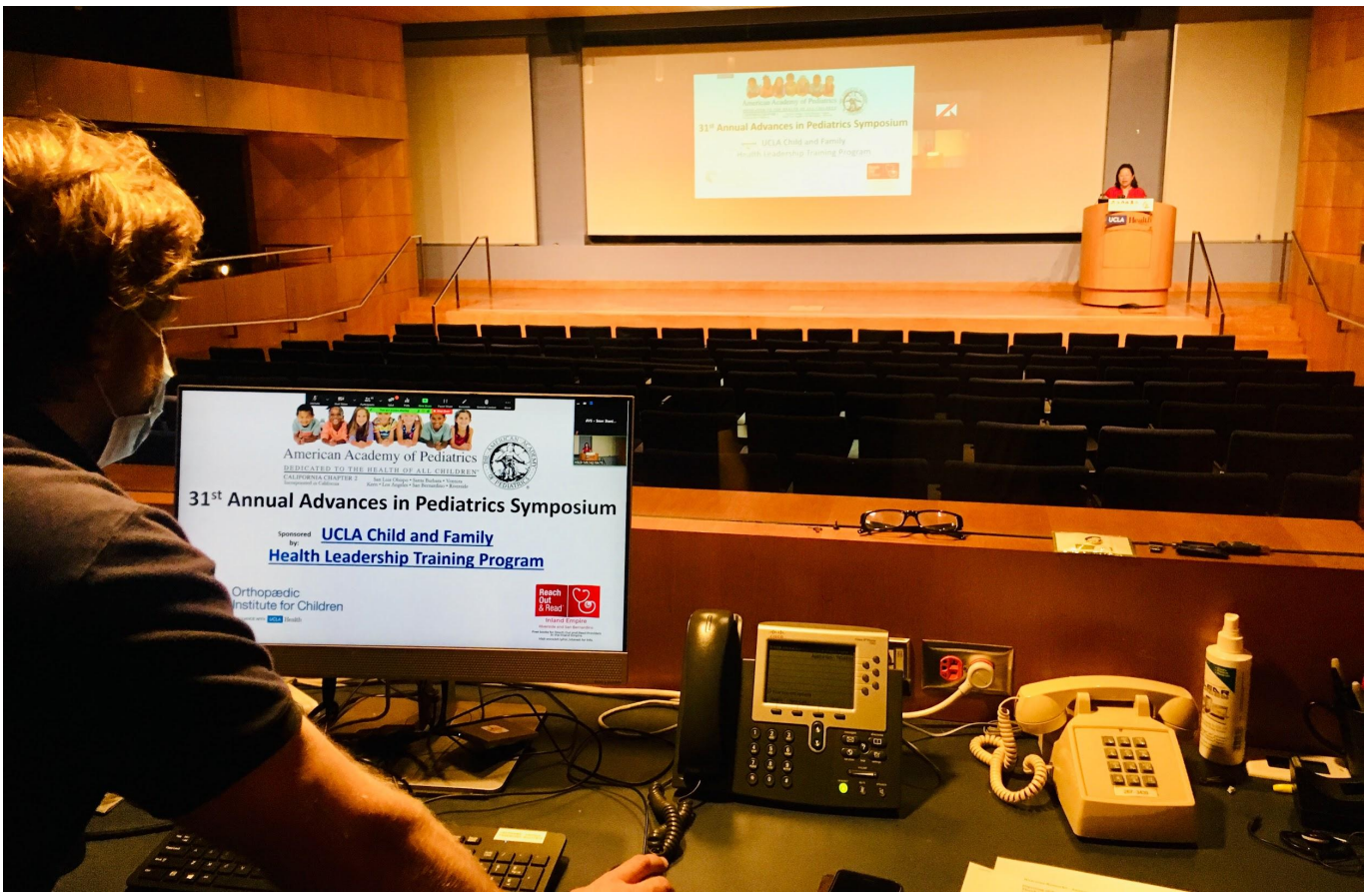
PEARL 1. Research studies show that mindfulness practice helps physicians promote wellness and empathy, reduce burnout, and improve the experience of their patients.

PEARL 2. A simple sitting meditation practice involves focusing on the sensations associated with the breath, noticing when the mind wanders, appreciating the noticing, and returning the attention to the breath.

Appreciation and self-compassion are vital to building the habit of practice and not beating yourself up when your mind wanders.

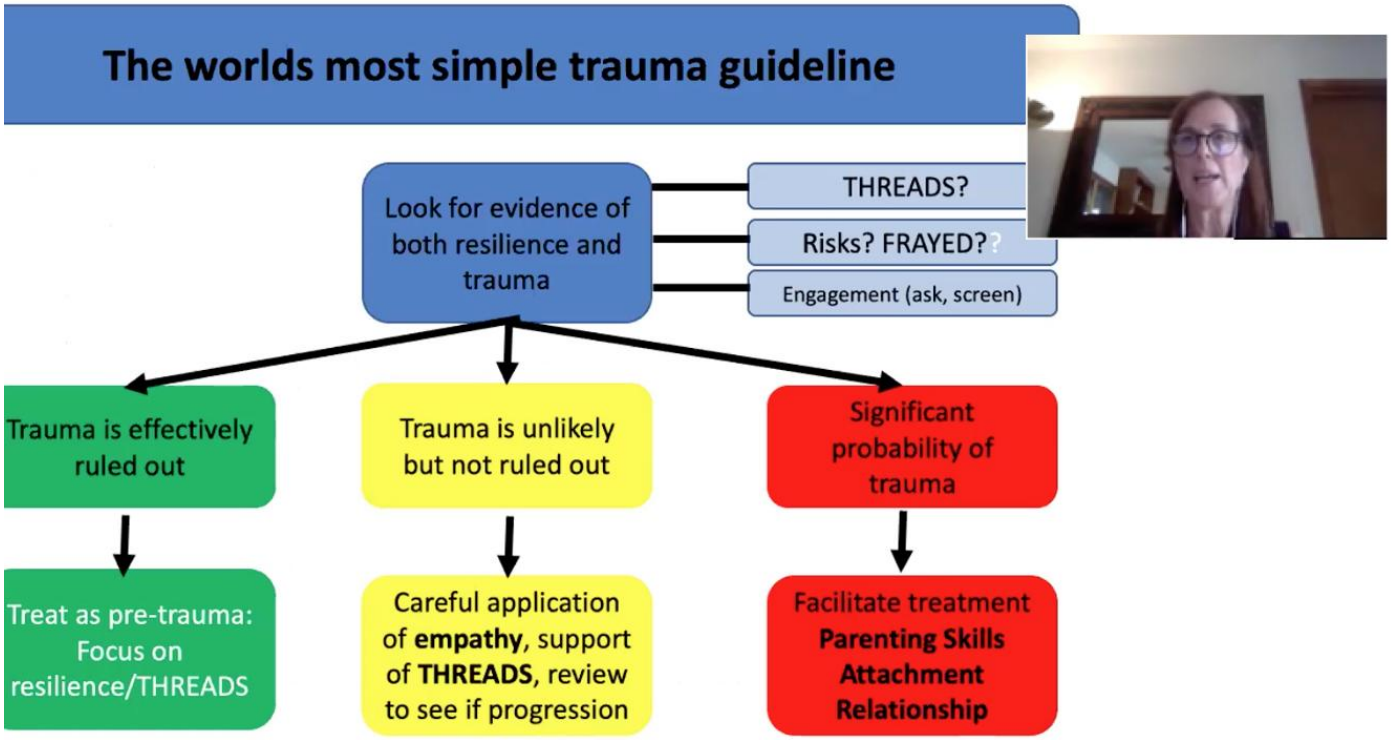
PEARL 3. Engaging in informal mindfulness practices throughout the day helps build overall capacity for mindfulness. Responding mindfully to difficult emotions during patient care encounters is one example of informal practice.

8:00 AM at Tamkin Auditorium.



AAP-CA2 immediate past president, Alice Kuo, MD, PhD, MBA, FAAP stood at the podium to kick off the meeting to an unprecedented empty room, with all attendees joining virtually via Zoom. UCLA Audio Visual Operations team member Sean Stanley in charge of the broadcast.

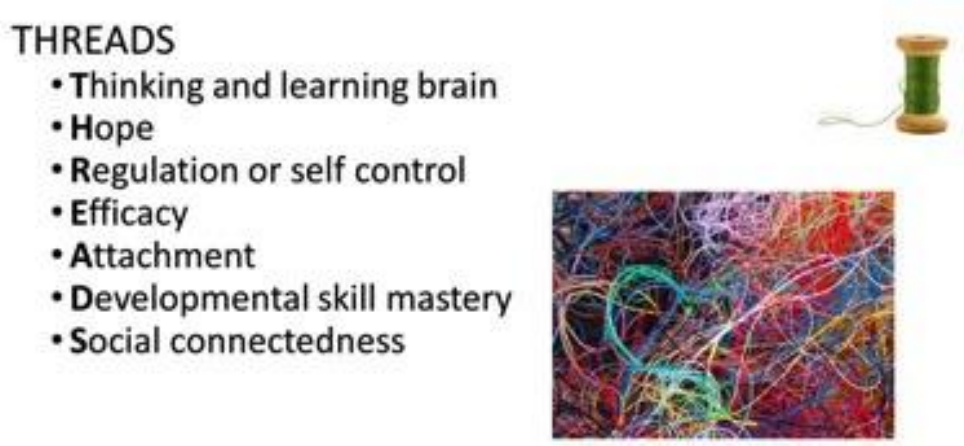
CHILDHOOD TRAUMA & RESILIENCE - Moira Szilagyi, MD, PhD, FAAP



PEARL 1.

ACEs are traumas that occur within families and so undermine the primary attachment relationship and can thus impact all aspects of development, health, mental health and social well-being. Experts use the term Developmental Trauma Disorder to describe the multiple sequelae of such complex trauma.

Childhood trauma, especially the ACES fray the THREADS of Resilience.



PEARL 2. FRAYED describes the common symptoms we see in developmental trauma disorder:

- **F**rets and **F**ear
- **R**egulations disorders
- **A**ttachment concerns
- **Y**elling and **Y**awning
- **E**ducation and developmental delays
- **D**efeat, **D**issociation, **D**epression

PEARL 3. Trauma-informed care is defined by the National Child Traumatic Stress Network as medical care in which all parties involved assess, recognize and respond to the effects of traumatic experiences on children, caregivers and healthcare personnel. Simple tools include the 3Rs (Reassurance of safety, Routines and building Regulation skills; teaching parent to be an Emotional Container; developing the Language of Emotions).

BREAKOUT SESSION 1

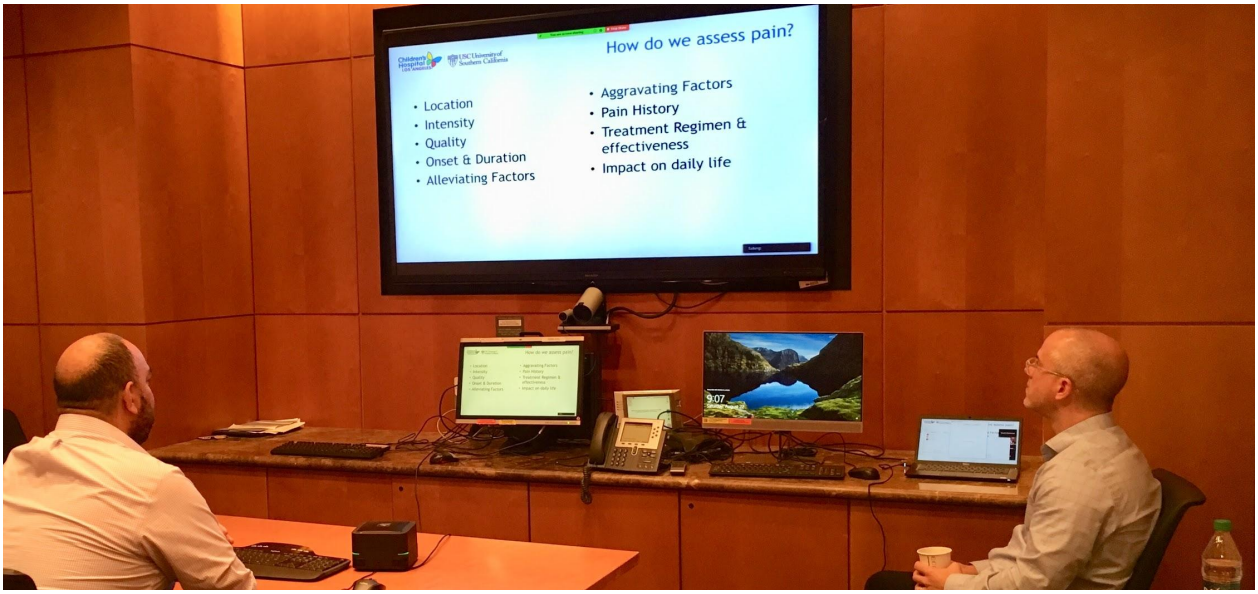
ASTHMA UPDATE - Roberta M. Kato, MD

PEARL 1: Hospitalization rates among children with SARS-CoV-2 infection is low (8 per 100,000). Discussion: In a review of 14 states (one being California) in the COVID-19 Associated Hospitalization Surveillance Network the hospitalization rate from March through July 2020 for children was 8 per 100,000 in comparison to 165 per 100,000 for adults. Of 576 children hospitalized, 30 had asthma (1). In a review of a New York City hospital system, the rate of asthma was 24% among patients hospitalized under the age of 21 years old (2)

PEARL 2: Children 0-4 years of age with recurrent wheeze associated with respiratory illnesses who are asymptomatic between illnesses can be treated with short courses of inhaled corticosteroids with short acting beta agonist (SABA). Discussion: The NIH Focused update recommends that recurrent wheeze is more appropriately treated with both an inhaled corticosteroid and SABA rather than a SABA alone in children 0-4 years of age.

PEARL 3: The NIH focused review strongly recommends single maintenance and reliever therapy (SMART) for children 4 years and older with moderate to severe persistent asthma.
Discussion: SMART therapy is the use of an inhaled corticosteroid-formoterol inhaler for both a daily controller and quick-relief therapy. Initiating SMART therapy for moderate to severe persistent asthma is a strong recommendation with high certainty for children 12 years and older and moderate certainty for ages 4-11 years. The use of a short acting beta agonist as needed without an inhaled steroid is associated with an increased risk of asthma exacerbations and mortality.

PAIN MANAGEMENT & OPIOIDS - Christopher J. Russell, MD, MS, FAAP



Dr. Russell with session moderator, AAP-CA2 Vice President Grant Christman, MD, FAAP.

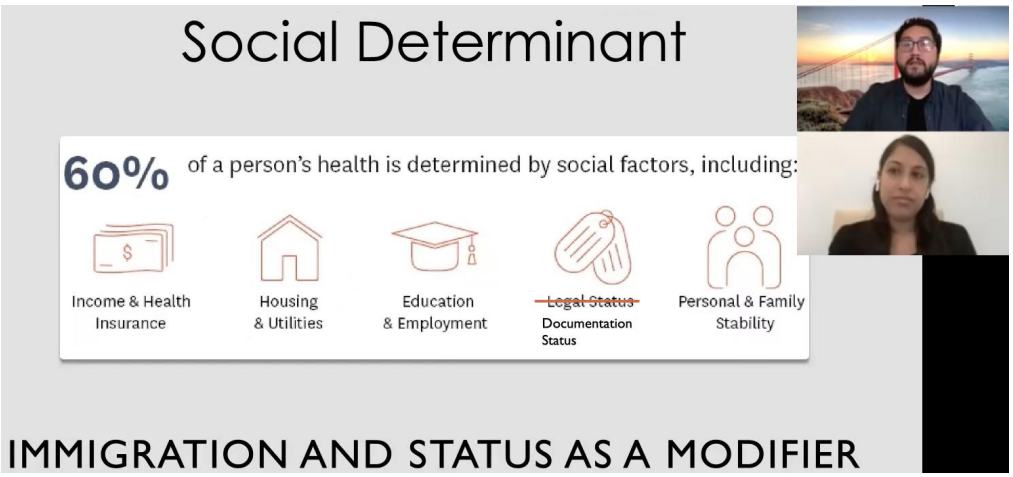
PEARL 1. Acetaminophen-opioid combinations (particularly acetaminophen-codeine) are NOT recommended for acute pain management. Combination medications increase risk of acetaminophen overdose, as many parents are unaware that combination medications contain acetaminophen. Specific challenges associated with codeine include that up to 10% of patients cannot metabolize codeine into morphine, which provides no analgesic relief. Up to 2% of patients are ultra-rapid metabolizers of codeine and have opioid-induced respiratory arrest at “appropriate” dosing.

PEARL 2. Proactively manage opioid-induced side effects: For prevention of opioid-induced constipation (OIC) in hospitalized children, consider using a standing (versus as needed) medication. OIC treatments include osmotic agents, pro-motility agents, stool softeners and mu-receptor antagonists. Avoid stool softeners (e.g., docusate) as monotherapy for OIC. Diphenhydramine should not be used to treat opioid-induced pruritus; instead, consider use of low-dose naloxone infusions or nalbuphine.

Opioid-induced nausea/vomiting can be treated with serotonin 5-HT3 receptor , dopamine-2 receptor, and antihistamine H1 receptor antagonists; opioid-antagonists cannot be used for nausea/vomiting because any medication crossing the blood-brain barrier to block opioid mu-receptors would also block the analgesic effects of opioids.

PEARL 3. Racial/ethnic disparities in the treatment of pediatric pain continue to exist. Biases include that non-White patients are more tolerant of pain and more easily addicted to opioids. This leads to under-treatment of pain in non-White patients. For example, Non-Hispanic Black children with bone fractures are less likely to receive opioid medications or achieve optimal pain control.

BEYOND THE WALL: POLICY AND THE HEALTH OF IMMIGRANT CHILDREN - Raul Gutierrez, MD, FAAP



Dr. Gutierrez delivered his talk from San Francisco, CA. Dr. Sural Shah moderated this session remotely.

Video Links:

- She survived extreme abuse. Jeff Sessions personally intervened to send her back.
- Children on the Run in Central America

PEARL 1. **Immigration and Immigration status are social determinants of health.**
Immigration is both a consequence of the social determinants of health and a social determinant of health in its own right. Sociopolitical conditions and legal constructs surrounding migration fuel inequities and expose immigrant communities to increased health risks and adverse health outcomes. Immigration status impacts lifestyle factors, social influences, living and working conditions, socioeconomic status, education, and more. **Reference:** Immigration as a Social Determinant of Health | Annual Review of Public Health

PEARL 2. Immigration policies are at the root of health inequities

Restrictive migration policies have the potential to cause health harms. Various studies have shown correlations between such policies and harms on physical health and mental health as well as impacts on whole communities. The collateral damage has impacts on US born children in mixed status families as well as intergenerational harm. Many policies lead to limited access to health care, education, and safe and dignified working and living conditions. Likewise, inclusive policies have the potential offer protective effects on health and address inequities informed by societal, political, and economic conditions.

Reference: Protecting unauthorized immigrant mothers improves their children's mental health

PEARL 3. Medicolegal partnerships are important for advocacy

The intersection of immigration, law, and medicine offers various strategies when advocating for immigrant families and communities. Medical expertise can be pivotal when offered as a written and/or oral testimony for cancellations of removal or forensic evaluations in asylum cases, for example. Such partnerships also offer quicker access to legal aid and know your rights information. These eases the stress and burden of navigating the complex immigration legal system and provides some relief of uncertainty.

Reference: A Harvard Kennedy School Student Publication

(From left) Dr. Grant Christman, Dr. Alice Kuo and Dr. Paula Whiteman at the atrium of Tamkin Auditorium, socially distancing between sessions.

BREAKOUT SESSION 2

IMPLICIT BIAS - Paula J. Whiteman, MD, FACEP, FAAP

PEARL 1. An example of "implicit bias" is easily demonstrated in the Van Jones's video by the automatic connection of when you think of peanut butter immediately pairing it with jelly, not ketchup.
Van Explains It All - Implicit Bias - The Van Jones Show | 6/3/18

PEARL 2. Examples of implicit bias from patients directed to providers.
Video on Patient Bias

PEARL 3. One can measure their bias by utilizing the Implicit Association Test link:
https://implicit.harvard.edu/implicit/takeatest.html

THE CARE OF THE FEBRILE NEONATE AND YOUNG INFANT - Vivian Lee, MD

Dr. Lee presenting her lecture, with Dr. Christman as the session moderator.

PEARL 1: Since the commonly cited Rochester, Boston and Philadelphia risk stratification criteria were first published more than 25 years ago, the epidemiology of serious bacterial infections (SBIs) in young febrile infants and advances in technology have evolved greatly. These criteria also prioritize eliminating errors of omission (e.g., delaying diagnosis of SBI) over errors of commission and do not account for the potential negative consequences of over-testing and overtreatment.

Understanding the prevalence of SBIs and invasive bacterial infections (IBIs) can inform pediatricians of pretest probabilities to assist in clinical decision-making.

Discussion

While these criteria were designed to identify patients at low risk for serious bacterial infections (SBIs), studies now show that over time, fewer infants meet "low risk" criteria[1], infants who have invasive bacterial infections (IBIs) can be misclassified as "low risk", and the majority of those who are "not low risk" do not end up having IBI. Given the relatively low prevalence of IBIs, reliance on these criteria subjects many infants to potentially unnecessary testing, treatment, and hospitalization.

Prevalence: Urinary tract infections (UTIs) are the most common SBI, found in 8-13% of infants 0-60 days who present with fever. One recent large prospective multicenter study of over 1800 infants less than 60 days old found a prevalence of 1.4% with bacteremia, and 0.5% with bacterial meningitis. A recent meta-analysis found the risk for IBIs decreases by about half in the second month of life: they noted a prevalence of bacteremia of 3% and meningitis of 1% in neonates 0-28 days, and 1.6% and 0.4%, respectively, in febrile infants in the second month of life. Concomitant UTI and meningitis, especially in the second month of life, is extremely rare and has led to reconsideration of a positive urinalysis as an independent risk factor for meningitis.

Bacterial pathogens: *E. coli* is the most common cause of SBIs (with the high prevalence of UTIs) and also a top cause of IBIs. While universal intrapartum antibiotic prophylaxis (IAP) has significantly decreased early onset disease, Group B *Streptococcus* remains a common pathogen due to late and very late onset disease.

Detection of pathogens: Multiplex polymerase chain reaction (PCR) technology has allowed us to detect bacterial and viral pathogens accurately and rapidly. This can be helpful in cerebrospinal fluid testing, where it can potentially rule out bacterial or HSV meningitis within a few hours, or detect *enterovirus* which decreases the likelihood of a concomitant IBI. Detection of a respiratory viral pathogen decreases but does not eliminate one's risk for SBI, specifically UTI and bacteremia, and has not been found to independently decrease the risk of meningitis.

Inflammatory markers: White blood cell and absolute neutrophil counts have shown decreasing sensitivity over time, perhaps related to the shift in epidemiology. Procalcitonin, though not widely available, appears to be the most accurate inflammatory marker for detection of bacterial infections.

PEARL 2: Well-appearing febrile infants who are hospitalized for evaluation of serious bacterial infection can safely be discharged once bacterial cultures have been confirmed negative for 24 hours, if adequate follow-up is assured.

Discussion

Many institutions now use automated continuous blood culture monitoring, and multiple studies evaluating time to culture positivity in well-appearing febrile young infants have noted low risk of positive cultures beyond 24 hours. In a multicenter retrospective study of 392 infants 0-90 days with positive blood cultures, the mean time to positivity (TTP) was 15.4 hours, with 91% positive by 24 hours, 96% by 36 hours, and 99% by 48 hours. Considering a prevalence of bacteremia from 0.9-2%, the number needed to treat (NNT), or the number to keep hospitalized to capture one additional patient with bacteremia, could be up to 11,111 if monitored beyond 48 hours. Some hospitals have implemented 24- or 36-hour discharge times in clinical practice guidelines and have noted decrease in length of stay and costs without change in readmission rate or missed SBIs, supporting earlier discharge as a safe and cost-saving practice.

PEARL 3: Pediatricians should consider engaging in shared decision-making with families in cases where there is an uncertain benefit vs harm ratio, for example, whether to perform lumbar puncture in an otherwise well-appearing infant with low risk for IBI.

Discussion

Shared decision-making is a model that incorporates a patient and family's preferences to arrive at a joint decision when there are at least two viable management options. It requires the presentation of options, including potential harms and benefits. SDM requires parents to be adequately informed, and discussions should be tailored with communication appropriate to parental health literacy and consider the difficulty in processing complex information, especially as a sleep-deprived parent of a sick newborn. Information sheets, visual aids, and electronic decision tools may be helpful in explaining the options, risks and benefits.

VAPING & NICOTINE ADDICTION TREATMENT - Scott Hunter, MD, MHS

PEARL 1. In 2019 25.5% of high school seniors reported vaping nicotine in the past month. Vapes, or e-cigarettes are the most popular tobacco product used by adolescents and their popularity has skyrocketed in the past few years. In addition to the health risks of nicotine, there is substantial evidence that e-cigarette use increases the risk of use of combustible tobacco cigarettes.

PEARL 2. Prevention efforts are stymied by enforcement difficulties and advanced marketing technologies. E-cigarette sales are regulated like other tobacco products, however, there are far fewer restrictions on marketing, which continues to allow for television and radio advertisements. Furthermore, advanced marketing technologies expose many youth to e-cigarette advertisements such as through the use of "influencers" on social media, where regulating agencies have had difficulty with enforcement and where anti-smoking messaging has not kept pace.

Dr. Hunter delivers his lecture at Tamkin. Christine Thang, MD, FAAP was moderting this session remotely.

PEARL 3. Education or brief counseling is recommended to prevent initiation of tobacco product use including e-cigarettes among adolescents younger than 18 years. The benefit to providing behavioral interventions and FDA-approved pharmacotherapy in youth 18 years and older is well-established, and expert opinion supports the use of the same strategies in older adolescents.

RESIDENT RESEARCH AWARDS - ORAL PRESENTATION

ASSOCIATION BETWEEN CLINICALLY-IDENTIFIED PRENATAL FOOD INSECURITY AND PREMATURITY, PEDIATRIC UTILIZATION, AND POSTNATAL SOCIAL NEEDS - Vida S. Sandoval, MS3

PEARL 1. Childhood social needs, including food insecurity, endanger child development and health outcomes. Social needs will grow increasingly common in the economic wake of the coronavirus epidemic and prenatal care represents an early clinical opportunity to identify families at risk.

PEARL 2. Prenatal food insecurity was associated with several adverse perinatal and pediatric outcomes in our study including premature births, higher inpatient utilization, more missed immunizations, and continued social needs of the household in the postnatal and early childhood period.

PEARL 3. Identification of food insecurity and other social needs in the prenatal period may offer opportunities to intervene to reduce childhood health hazards.

S. MICHAEL MARCY, MD, FAAP MEMORIAL LECTURE

INFECTION PREVENTION & CONTROL DURING CORONAVIRUS PANDEMIC - Mobeen Rathore, MD, CPE, FAAP

Dr. Rathore presenting from Florida, with moderator Paula Whiteman, MD, FACEP, FAAP at Tamkin Auditorium. Dr. Cindy Baker began this session honoring the memory of Dr. S. Michael Marcy and his lifetime contributions to the pediatric profession.

PEARL 1. The basic principles of infection prevention and control remain the same even during the Coronavirus pandemic.

PEARL 2. Hand hygiene still remains the most important element of effective infection prevention and control. Although hand hygiene is still pivotal during the coronavirus pandemic masks and social distancing are also essential for prevention of transmission of coronavirus infection.

PEARL. Coronavirus infection prevention and control procedures require 6 feet of social distancing even though coronavirus is >5 microns

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MOC Part 2 Credit Completion Instructions

For conference attendees only

If you attended the symposium and are seeking MOC credit, please be sure to have completed the reflective statements exercise (Instructions emailed separately). Deadline for completion is 10/22/2020.