



Section on Anesthesiology & Pain Medicine

NEWSLETTER Fall 2018

American Academy of Pediatrics



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Chairperson's Report

Raeford Brown, MD, FAAP

There is much to report to the membership. The Executive Committee of the Section has been active, both within and outside of the Academy; all in the interest of our patients and our colleagues. The work that is being done is intense and focused on something that we all can agree on; children deserve the best care available. There are so many opportunities for personal and professional growth within the Academy. I continue to believe that there is no better venue for those early in their careers to stand out than in the AAP.

I will try to touch on the ongoing work, although there are so many projects in development that I undoubtedly will miss some along the way.



Raeford Brown

Pediatric Pain Medicine

When the story of the development of pediatric pain medicine is written, the Section on Anesthesiology and Pain Medicine (SOA) will be among the leaders responsible for its birth. In the last twenty years, the membership of the section has played an essential role in the continuing growth of this vital aspect of pediatric medical care. Connie Houck, Rita Agarwal, Jeff Koh, Corrie Anderson, Joe Tobias, and others have worked tirelessly to integrate the treatment of acute and chronic pain into the practice of pediatrics. Their efforts are coming to fruition now as the current leadership of the Section moves ahead to create the infrastructure necessary for a mature subspecialty.

In the months to come, the Section will finish a major revision of the AAP Acute Pain statement and will publish the first Chronic Pain statement from the Academy. The Section also hopes to begin the work of creating Clinical Practice Guidelines for opioid prescribing in children. Affiliations with the Society for Pediatric Pain Medicine, the International Association for the Study of Pain, and the American Pain Society have produced a workgroup to assess the need for more pediatric pain medicine practitioners and to suggest a pathway for the creation of pediatric pain medicine board certification in the future. The existence of significant untreated pain in the pediatric population suggests that there are currently an insufficient number of trained clinicians to provide the sophisticated care required. Our goal is to assure that this public health issue is recognized and rectified in our lifetime.

Pediatric Anesthesiology Quality

In conjunction with the Society for Pediatric Anesthesia, leaders from the Section are involved in a joint effort with the American College of Surgeons to use data from the National Surgical Quality Improvement Program (NSQIP-Pediatric) and the Children's Surgery Verification Program (ACS CSV) to develop multidisciplinary perioperative safety standards. The goal will be to integrate the principles from Wake Up Safe with the safety data monitoring and quality improvement programs of NSQIP-Pediatric and ACS CSV to improve pediatric anesthesiology care. Anita Honkanen, our Chair-Elect, is representing the SOA, and Jim Fehr, from the SPA and the SOA is the overall lead. Connie Houck serves as the liaison to this subcommittee from the ACS CSV Verification Committee. I will provide an update of the activities of this group in a subsequent commentary.

Pediatric Sedation Safety

For more than 25 years, the Section on Anesthesiology and Pain Medicine has played an integral role in the development of statements on safe sedation for children. Charlie

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Coté took the early lead in the development of our knowledge and has continued to be involved in the ongoing assessment of current practice. His work, along with Rita Agarwal's efforts have been extraordinary. Rita has led an effort in California to try to better protect children undergoing sedation in dental offices. She has worked collaboratively with other sections and leaders within the AAP and within other national organizations, including Annie Kaplan, the author of Caleb's Law, Chris Calvin, Jimmy Tom from the American Society of Dentist Anesthesiologists and others, to pass legislation that would protect children from injury or death in dental offices. Her efforts have been recognized within the AAP, by the general public and have raised the level of conversation concerning this safety issue throughout the country. Thank you, Dr. Agarwal!

Statements from the American Academy of Pediatrics

Statements from the American Academy of Pediatrics play an essential role in defining what state-of-the-art pediatric healthcare looks like. Revised by thought leaders in the field on a regular basis, this guidance assures the continued advancement of the field of pediatrics. Our Section has played an outsized role in creating and reviewing these policies.

Currently, the Section is working with the Society for Pediatric Anesthesia to begin thinking about the development of a statement on safe perioperative care for children and adolescents after a concussion. Mary Landrigan-Ossar is leading this effort for our Section. Also, work is still proceeding on statements on Safety Considerations for Pediatric Use of Oxymetazoline (Joe Tobias) and Peri-operative Management of Children with Sleep Disordered Breathing/ Obstructive Sleep Apnea (Anita Honkanen). Courtney Hardy recently worked with Dr. Mary Fallat from the Section on Surgery to revise the statement entitled *Interpretation of Do Not Attempt Resuscitation Orders for Children Requiring Anesthesia and Surgery*. This revised clinical report was published in May 2018 in *Pediatrics* (for more information on this, see page 3).

Advocacy

The focus of AAP advocacy efforts in 2018 has been protecting children from guns and opioids and protecting immigrant children. All of these issues were the subject of intense discussion at the AAP's annual leadership forum this March. As a result, resolutions supporting gun control, calling for opioid prescribing guidelines,

and speaking out against the separation of children and their parents at the border were passed and will be the focus of further study by the Board of Directors of the AAP (Articles on this year's top 10 resolutions appeared in AAP News in April and July and are re-printed on pages 9-14 of this newsletter). As the Academy grows in numbers and importance, the voice of the membership is being focused directly on child safety, and the SOA is playing a role in that.

Presentations by the Section

The section provides many educational presentations for our surgical and medical colleagues every year. This includes lectures at the AAP's National Conference and Exhibition, the ASA's annual meeting, the joint winter meeting of the SPA/AAP, the CCAS, and the SPPM. Providing information that addresses the current state of the art to our colleagues improves the quality of care that all provide.

This past spring Lisa Wise-Faberowski and I presented during a panel presentation at the meeting of the Society for Pediatric Otolaryngology and the Section on Otolaryngology of the AAP. The topic was the neurotoxicity of general anesthetic agents. In addition, I have been asked to represent the Section at the Stoelting Conference in Phoenix in September. This is an annual examination of issues related to the safety of patients during the perioperative period and is sponsored by the Anesthesia Patient Safety Foundation. The issue of neurotoxicity related to anesthetics is also being highlighted at the ASA in October. Smart Tots (Lena Sun), the Society for Pediatric Anesthesia (Randy Flick), and our AAP Section on Anesthesiology (Rae Brown) will provide a comprehensive update via panel presentation. It's also worth noting that Multimodal Pain Management in Children will be discussed in a separate panel.

This continues to be an exciting time in the life of the Section. I hope that you will encourage your colleagues that are not currently members of the AAP to join and work with us to provide the best perioperative care for our patients.

Rae Brown, MD, FAAP
Chair, Section on Anesthesiology and Pain Medicine
The American Academy of Pediatrics

AAP Clinical Report: Coordinating Care of a Hospitalized Child

The American Academy of Pediatrics provides guidance on how physicians can improve their coordination of care for hospitalized children in a clinical report published in the August 2018 issue of *Pediatrics*. The report, "[Physician's Role in Coordinating Care of Hospitalized Children](#)," published online July 30, acknowledges the challenges posed at various hospitals, where processes of care may differ from one facility to the next. In some hospitals, a team of medical professionals and specialists are responsible for a child's care, while at others, the primary physician serves as the main care provider. Patients with multiple special health care needs may be vulnerable to fragmentation of care that can result in communication lapses. The AAP recommends that physicians responsible for the hospital admission coordinate the patient's care throughout the stay and upon discharge through direct communication with the child's primary care physician. The admission to the hospital also provides an opportunity to review the general health background of the child, who may not have access to primary care, according to the report. Recognizing that the hospitalization of a child is a stressful event for the child and child's family, the AAP report states that the physician's role is to minimize trauma while maximizing the benefits gained by hospitalization.

GET INVOLVED! AAP Mentorship Program

The AAP Mentorship Program (aapmentorship.chronus.com) is an online member benefit that presents topical themes to inspire conversation and encourage connections. This month's theme is "Women in Medicine". We are especially interested in hearing from experienced members about how they have for negotiated salaries and benefits, identified leadership opportunities, and supported personal wellness.

Women in Medicine: October Mentorship Topic

What issues do women face today? In pediatrics? As physicians? This month, connect with colleagues across the country to share experiences, learn from and support one another. [Join the conversation](#) that's already underway in the [AAP Mentorship Program](#).

Dr. Nancy Glass to Receive 2019 Robert M. Smith Award in Her Home Town of Houston, Texas

By Arvind Chandrakantan

My first introduction to Nancy was when I began working at Texas Children's Hospital (TCH) two years ago. I showed up for a regular clinical day and was in and out of the office. Nancy's office was right across from mine, and she was there when I showed up - at 6:30am on a non-clinical day - and was still there at 8:00pm when I left. I asked her about it, and she told me something I will never forget, "Your non-clinical time is precious; make the most of it. When it goes away you never know when your next one will come." To say that Nancy has made excellent use of her non-clinical time would be an understatement. Nancy Glass has had an absolutely magnificent career as a clinician-educator, and I am honored to have the opportunity to share some details about her life's work.



Nancy Glass



Arvind Chandrakantan

She received her undergraduate degree in Medieval German Literature from Rice University, and her MD from the Baylor College of Medicine (BCM). Her postgraduate training was at Baylor (Pediatrics), Children's National Medical Center (Pediatric Critical Care Medicine), and University of Texas Houston (Anesthesiology). She then spent 4.5 years at UT Houston practicing in Anesthesiology and Critical Care before coming with Burt Dunbar to Texas Children's Hospital to form the Pediatric Anesthesiology Department. This is where she would continue for the next 27 years, before becoming more and more deeply involved with Pediatric Palliative Care; she eventually became board certified in Hospice and Palliative Care in 2012.

Deciding that her education was still incomplete (or that she hadn't paid sufficient tuition to Rice), Nancy pursued her MBA at Rice University's Jones Graduate School of Management (completed in 2002) and received the Jones Citizenship Award. Currently, she is pursuing a Masters degree in Liberal Studies, also at Rice, which she hopes to complete in 2019.

Nancy's professional accomplishments are numerous. She served as the President for the Society for Pediatric Anesthesia from 2012 to 2014. She also served as an Oral Board examiner for

the American Board of Anesthesiology for 22 years, from 1995 to 2007. In addition to her Palliative Care board certification noted above, she is board certified in Pediatrics, Anesthesiology, and Pediatric Critical Care Medicine. She was the program director for the Pediatric Anesthesia fellowship at TCH from 2004 to 2010 and also led Anesthesia education. In addition, she has received numerous prestigious awards from the Baylor College of Medicine including the Fulbright & Jaworski Faculty Excellence Awards for Teaching and Evaluation and was inducted into the Baylor College of Medicine Academy of Distinguished Educators. She was also recently awarded the Baylor College of Medicine Master Clinician Award for Excellence in Patient Care, the highest clinical award at BCM.

In 2012, Nancy took on the role of physician for the pediatric hospice team at Houston Hospice, caring for both adults and children at the end of life, both inpatients and outpatients. She describes this as "A privilege, indeed, the purest form of medicine, the relief of suffering....." Over the last 2 years, Nancy has become more and more involved with Palliative Care and now works in the Palliative Care Section with Dr. Tammy Kang. She has also led annual medical missions to Antigua and Guatemala with the Houston based group, Faith in Practice, since 2012.

As for her personal life, Nancy has been married for 41 years to John Belmont, MD, PhD, who is a pediatrician-clinical geneticist-scientist. She describes him as the person "from whom I learned so much about how to deliver bad news with compassion, the kindest person I know, and my partner in adventures of all sorts!" Her daughter, Andrea, works in a law office in downtown Houston, and Nancy describes her as the "most generous person I know."

Nancy's passions are multi-faceted and extend well beyond clinical medicine. She loves music, especially chamber music and opera and supports several young local musicians. She also engages in bird-watching and photography and attributes her knitting hobby to Lynne Maxwell. She is a self-described #TractorQueen and loves being out in the country clearing walking trails on her big orange Kubota tractor!

These last lines will not be lost on anyone who knows Nancy...She is full of zest, energy, and enthusiasm for patients, trainees, and colleagues alike. Her continued passion for clinical medicine is the embodiment of the Robert Smith Award. Nancy has served as a mentor and role model for many of us in the field and has been a trailblazer- with and without her Kubota tractor!

New AAP Clinical Report on Do-Not-Resuscitate Orders Before Anesthesia and Surgery Co-Authored by SOA

When parents agree to a Do-Not-Attempt Resuscitation (DNAR) order, they are making a life-altering decision that affects end-of-life care for their child. They are acknowledging that cardiopulmonary arrest may occur as a direct consequence of their child's disease but are hoping for a death with dignity. In a clinical report published in the May 2018 issue of *Pediatrics*, the AAP recommends that hospitals formally address the extent to which DNAR orders apply in the operating room. The clinical report, "[Interpretation of Do-Not-Attempt-Resuscitation Orders for Children Requiring Anesthesia and Surgery](#)," updates previous recommendations published in 2004. Surgery and anesthesia might be required, such as to provide a support device that allows the child to leave the hospital, but each procedure introduces additional risks to a patient that need to be addressed by the medical team with parents. The clinical report calls for hospitals to require re-evaluation of DNAR orders before surgery to help the family decide whether to honor it in the operating room. Thanks to Section Executive Committee member, Courtney Hardy, for his work on this important project.



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AAP
experience
National Conference & Exhibition
November 2 – 6, 2018 | Orlando



SUNDAY, NOVEMBER 4 - JOIN US IN ORLANDO!!

Pediatric intensivists and pediatric anesthesiologists share a number of practice considerations. This program will delve into topics that affect the pediatric patients we share and allow attendees to broaden their perspective and ask questions. Discussion topics will include the difficult airway in the intensive care unit (ICU) from the anesthesiologist's perspective, acute vs chronic pain management, neurodevelopmental implications of anesthetic agents in the operating room and ICU, and special considerations of the palliative care patient from the anesthesiologist's perspective.

H2017 Joint Program: Section on Critical Care and Section on Anesthesiology and Pain Medicine

Anesthesia and the ICU: It's More Than Passing Gas

- 8:00AM **Introductions**
Moderators: Laura Ibsen, MD, FAAP; Courtney Hardy, MD, FAAP
- 8:15AM **Difficult Airway Management in the Pediatric ICU Setting**
Joseph Tobias, MD, FAAP
- 9:00AM **Acute and Chronic Pain Management in the ICU Setting**
Tarun Bhalla, MD, MBA, FAAP
- 9:45AM **Break**
- 10:00AM **Neurodevelopmental Implications in Pediatric Anesthesiology and Intensive Care Practice**
Lisa Wise-Faberowski, MD, FAAP
- 10:45AM **Special Considerations of the Palliative Care Pediatric Patient and the Implications of DNR Status in the Perioperative Environment**
Nancy Glass, MD, MBA, FAAP
- 11:30AM **Panel Q&A**
- 12:00PM **Adjourn**



Tarun Bhalla



Nancy Glass



Joseph Tobias



Lisa Wise-Faberowski

Updated Management Guidelines on Button Battery Ingestion in Children

Debnath Chatterjee, MD, FAAP, Monica A. Hoagland, MD, Richard J. Ing, MBBCh FCA(SA), Department of Anesthesiology, Children's Hospital Colorado, University of Colorado School of Medicine, Aurora, CO



Debnath Chatterjee



Monica A. Hoagland



Richard J. Ing

Button batteries (BB) are small, round metallic discs that come in different sizes and are found in many household items. Approximately 3500 BB ingestions are reported to the National Capital Poison Center every year and they can be potentially life threatening for young children (1). Although the rate of BB ingestion per million population has remained stable in children over the past 30 years, the rate of significant complications and death from BB ingestion has increased almost 7-fold (2). The cause behind this dramatic increase has been linked to the introduction of 20-mm 3-volt lithium batteries in 2006, which are larger and more powerful than their predecessors. Lithium has become the preferred cell type secondary to its longer shelf life, better stability at cool temperature, lighter weight and ability to carry twice the voltage. Among children < 6 years of age who swallowed a 20 mm lithium BB, 12.6% developed a major complication such as esophageal perforation, aorto-esophageal fistula, tracheoesophageal fistula, vocal cord paralysis or esophageal stricture (2).

When a larger diameter BB is swallowed by a young child or a patient with prior esophageal stricture, it can become lodged in the esophagus. The esophageal mucosa bridges the positive and negative terminals of the BB, thus completing the circuit and allowing current to flow. This leads to the generation of hydroxide radicals and an increase in local tissue pH, resulting in caustic injury and coagulative necrosis. A higher voltage BB causes more extensive damage. Even spent BB with a residual voltage of 1.2 volts can cause tissue damage. The window of opportunity for injury free removal is approximately 2 hours following ingestion (2). The negative or the narrower pole of the button is where the maximum amount of necrotic damage is seen. Litovitz and colleagues have developed the mnemonic "3 Ns" (negative, narrow and necrotic) to guide clinicians (2). Thus, the severity of the injury depends on the age of the child, orientation, size and voltage of the BB, duration of impaction and pre-existing esophageal pathology.

Children who have ingested a BB may be asymptomatic. Most ingestions are not witnessed and so a high index of suspicion is necessary to make the correct diagnosis. Dysphagia, irritability, drooling, fever and cough are common presenting symptoms. X ray imaging shows the characteristic double ring or halo sign to distinguish it from a coin which has a more homogenous appearance (Figure 1). However, this sign is not always reliable and if there is doubt about whether a coin or button battery was ingested, the presence of a button battery should be assumed. Following the diagnosis of an esophageal BB, a rapid assessment of the risk level must be performed, and all necessary personnel must be mobilized. Children < 5 years of age with an esophageal BB 20 mm in size are at the highest risk of morbidity and mortality. One of the dreaded complications following BB ingestion is an aorto-esophageal fistula that results in fatal hemorrhage. In fact, 80% of fatalities following BB ingestion were due to hemorrhage from an aorto-esophageal fistula (2). Approximately 70% of these cases present with a sentinel bleed in an otherwise stable patient. Therefore, a sentinel bleed should result in immediate escalation of care. Once the diagnosis of an esophageal BB is made, emergent endoscopic removal must be performed under general anesthesia. If the patient is stable and low-risk, this may be performed in the main operating room by gastroenterologists or general surgeons. If the patient is unstable or high-risk, particularly if there is a history of a sentinel bleed, the procedure may be better performed in the catheterization lab or cardiac operating room with cardiovascular surgeons or interventional cardiologists available. For these patients, additional intravenous access for volume and blood product resuscitation is advised. Following BB removal, the esophagus must be thoroughly examined to assess the severity of injury. Postoperatively, the patient should be admitted and monitored with serial magnetic resonance imaging or computerized tomography as the ongoing alkali damage may continue for days to weeks, during which time the patient remains at risk for a number of complications.

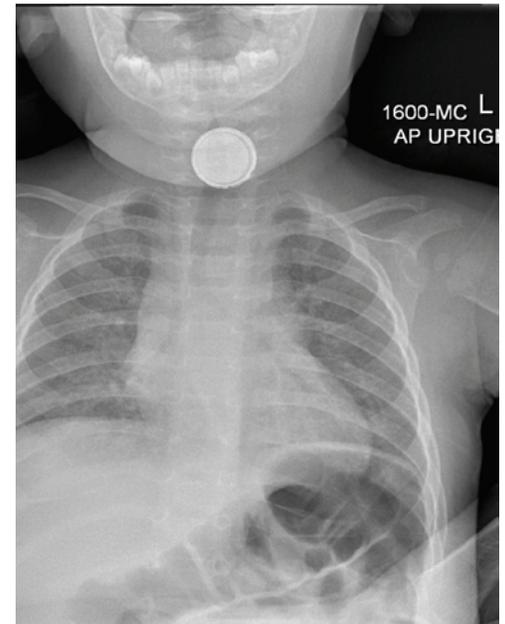


Figure 1: Chest x-ray showing the classic double ring or halo sign of a button battery lodged in the esophagus.

Primary prevention of BB ingestion is the ideal solution to this problem. However, BB ingestions continue to occur despite legislative intervention and educational campaigns directed at parents. Subsequently, several mitigation strategies to decrease damage following BB ingestion have been tested. In a cadaveric piglet esophagus model, neutralization of the highly alkaline tissue environment with common household acidic beverages such as lemon and orange juice showed promising results (3). In a follow up study, only honey and sucralfate neutralized the highly alkaline pH to clinically optimal and statistically significant levels compared to saline controls (4). In a separate in vivo piglet esophagus model, honey was the most effective, followed by sucralfate, at neutralizing the alkaline pH associated with BB exposure, resulting in more superficial and localized injuries (4). Honey is a highly viscous weak acid that coats the BB and sucralfate is a weakly acidic suspension used for the treatment of duodenal ulcer that forms a physical barrier around the BB. In addition, irrigating the piglet esophagus with 0.25% acetic acid after BB removal reduced the visible eschar (3).

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Based on these in vitro and in vivo animal studies, the National Capital Poison Center recently updated their guidelines which state that honey should be administered immediately and *en route* to the Emergency Department if a lithium BB may have been ingested within the prior 12 hours, the child is 12 months of age or older and is able to swallow (5). Ten mL of honey should be given by mouth every 10 minutes for up to 6 doses. Following x-ray confirmation of a BB, sucralfate should be administered (10mL every by mouth every 10 minutes for up to 3 doses) while awaiting endoscopic removal. It is important to note that neither honey nor sucralfate administration is a substitute for emergent BB removal. Therefore, presentation to the ED and subsequent endoscopy should not be delayed for the administration of these substances. Following BB removal, the

esophagus should be irrigated with 50-150mL of 0.25% acetic acid if there is no evidence of esophageal perforation on endoscopy

With these revised guidelines, anesthesiologists are going to encounter more children who have ingested significant amounts of honey and/or sucralfate prior to endoscopic BB removal. In our opinion, the risk of ongoing esophageal injury far outweighs the risk of pulmonary aspiration in this situation and therefore the case should not be delayed. To mitigate the risk of pulmonary aspiration, a rapid sequence induction is highly recommended to facilitate endotracheal intubation (6).

References:

1. National Capital Poison Center. Button battery ingestion statistics. <https://www.poison.org/battery/stats>. Accessed date: September 7th, 2018.
2. Litovitz T, Whitaker N, Clark L, et al. Emerging battery-ingestion hazard: clinical implications. *Pediatrics*. 2010; 125:1168-77.
3. Jatana KR, Rhoades K, Milkovich S, et al. Basic mechanism of button battery ingestion injuries and novel mitigation strategies after diagnosis and removal. *Laryngoscope*. 2017; 127: 1276-82.
4. Anfang RR, Jatana KR, Linn RL, et al. pH-neutralizing esophageal irrigations as a novel mitigation strategy for button battery ingestion. *Laryngoscope* 2018.
5. National Capital Poison Center. Button battery ingestion triage and treatment guideline. <https://www.poison.org/battery/guideline>. Accessed date: September 7th, 2018.
6. Ing RJ, Hoagland MA, Mayes L, et al. The anesthetic management of button battery ingestion in children. *Can J Anaesth*. 2018; 65:309-18.

Podcast Alert!

Update on Button Battery Ingestion Guidelines



Pediatric Anesthesia
Podcast

Did you know that [Open Anesthesia](http://www.openanesthesia.org) hosts monthly Pediatric Anesthesia podcasts? Take a look!!

In August 2018, Open Anesthesia's Pediatric Anesthesia podcast of the month was on Button Battery Ingestion Guidelines. To listen to the podcast, visit: <https://www.openanesthesia.org/update-on-button-battery-ingestion-guidelines/>

For a full list of recent Pediatric Anesthesia podcasts of the month and to listen, visit: <https://www.openanesthesia.org/category/pediatric-anesthesia-podcast-of-the-month/>

CDC's New Quality Improvement and Care Coordination Resource

Providers wrote approximately 4.45 billion opioid prescriptions in 2016—with wide variation across states. In addition, an almost 1.8 million Americans, aged 12 or older, either abused or were dependent on prescription opioids in 2016. Improving the way opioids are prescribed through clinical practice guidelines can ensure patients have access to safer, more effective pain treatment while reducing the number of people who misuse or overdose from prescription opioids.



The CDC National Center for Injury Prevention and Control has developed and released **Quality Improvement and Care Coordination: Implementing the CDC Guideline for Prescribing Opioids for Chronic Pain**. The quality improvement (QI) measures provided in the resource are meant to be flexible so that healthcare systems and practice leaders can pick interventions that will work best for their practice and patient population. They are offered as voluntary measures

that could help incorporate the evidence contained in *CDC's Guideline for Prescribing Opioids for Chronic Pain* in clinical workflow. The purpose of the resource is to encourage careful and selective use of long-term opioid therapy in the context of managing chronic pain through:

1. evidence-based prescribing,
2. quality improvement (QI) measures to advance the integration of the guideline into clinical practice; and
3. practice-level strategies to improve care coordination.
4. A resource toolkit

To access the resource and supporting materials, visit: www.cdc.gov/drugoverdose/prescribing/qi-cc.html.

Learn More

- [CDC's Quality Improvement and Care Coordination Resource](#)
- [CDC Opioid Overdose](#)
- [CDC Opioid Data](#)
- [Annual Surveillance Summary Report 2018](#)



Letter from the President

Looking back and forward: AAP leads the way for child health

by Colleen A. Kraft M.D., M.B.A., FAAP, President, American Academy of Pediatrics

Summer is underway, and so are our district meetings. This is a great opportunity to connect with members from each chapter to celebrate your achievements and address our challenges. I am interested in your perspective on the future of pediatrics, the Academy and how best to lead child health forward.

Because of you, the AAP remains the national leader in child health. Here are examples of the progress we've made at a national level in the 2017-'18 fiscal year:

- We are creating a Child Health Data Registry that will allow us to collect and analyze data for every child in the U.S. regarding health, disease, wellness and development - from birth to age 21. This unprecedented initiative has the potential to improve health services research and the practice of pediatrics and help millions of children and families.
- Our Digital Transformation Initiative is improving the way members navigate and access information on AAP.org and ensuring the information you access on our digital platforms is the best and latest available.
- We have expanded our commitment to health equity by establishing a task force to address bias and discrimination. Joseph L. Wright, M.D., M.P.H., FAAP, is overseeing six work groups that will prepare pediatricians to help families identify, manage and prevent adverse physical and emotional outcomes while promoting health equity.
- In a related effort, our Task Force on Diversity and Inclusion delivered its final report which ensures that *all* of our AAP members will feel welcome and that our leadership reflects the strength and diversity of our membership.
- To pursue our strategic priority of Physician Health and Wellness, we are partnering with other medical professional groups through the National Academy of Medicine to identify elements of our work environments, learning environments and general culture of medicine that adversely affect clinician wellness and well-being. We are developing the Women's Wellness through Equity and Leadership program to equip female physicians of all ages with the skills they need to take leadership roles in their hospitals, health plans or health systems.
- We successfully advocated to get key federal child health priorities, including the Children's Health Insurance Program; Maternal, Infant, and Early Childhood Home Visiting Program; and the Family First Prevention Services Act, funded through the Bipartisan Budget Act of 2018.
- We announced our Gun Safety and Injury Prevention Research Initiative that will define and fund research to evaluate and implement effective interventions in clinics and communities to protect the health - and lives - of children.
- We are taking on child health threats like the national opioid epidemic, electronic nicotine delivery systems and marijuana among youths and young adults. We expose the dangers and lend the voice of science and reason to a national debate that will have lasting impact on the health and life trajectory of America's children.

Many organizations talk about changing the world, but few have the talent, resources and expertise to make it



Letter from the President

happen. The Academy has an abundance of all three.

Our Strategic Plan and Agenda for Children continue to set our direction. Our Blueprint for Children maps out what we must ask our lawmakers to do to improve the lives of children and build a healthier future.

With clarity of purpose and a strong sense of mission, we move ahead with full confidence. Our course is the right one, and I'm honored to continue this journey with you.

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Seen in *PEDIATRICS*, Hospital Pediatrics, and Pediatrics in Review

PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Pediatrics in Review

AN OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS



Hospital Pediatrics

AN OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

On Pain Management...

[Pediatric residents' perspectives about acute inpatient pain: A qualitative study of pain assessment and management](#)
May 2018

[Does Planned Pain Management Improve the Preoperative Experience for Children Undergoing Orthopedic Surgery](#)
May 2018

[An 18-Year-Old With Acute-on-Chronic Abdominal Pain](#) – May 2018

[Pain-Relieving Interventions for Retinopathy of Prematurity: A Meta-analysis](#) – June 2018

[Integrating Psychological Screening Into Medical Care for Youth With Abdominal Pain](#) – August 2018

[Pain Experience in a US Children's Hospital: A Point Prevalence Survey Undertaken After the Implementation of a System-Wide Protocol to Eliminate or Decrease Pain Caused by Needles](#) – September 2018

[Linking Pediatrics Patients and Nurses With the Pharmacy and Electronic Health Record System Through the Inpatient Television: A Novel Interactive Pain-Management Tool](#) – September 2018

On Perioperative Care...

[Focused Training for the Handover of Critical Patient Information During Simulated Pediatric Emergencies](#)
April 2018

[Current use of perioperative 3D imaging \(non MRI\) for spinal deformity surgery among members of the Scoliosis Research Society](#) – May 2018

[Perioperative Outcomes Following Surgical Treatment of the Neuromuscular Hip: An Analysis of the National Surgical Quality Improvement Program](#) – May 2018

[Point-of-Care Ultrasound Screening and Diagnosis of Imperforate Hymen in Pediatric Abdominal Pain](#) – May 2018

[Blood Pressure Thresholds and Mortality in Pediatric Traumatic Brain Injury](#)
August 2018

[Perspectives on Surgical Care and Outcomes in Spina Bifida](#) – August 2018

[Care Standardization Reduces Blood Donor Exposures and Transfusion in Complex Cranial Vault Reconstruction](#)
September 2018

On Procedural Sedation...

[The Whole Story on Sedation](#) – May 2018

[Apnea in Preterm and Term Infants After Deep Sedation and General Anesthesia](#)
June 2018

[Shifting the Paradigm: The Quiet Revolution of Pediatric Procedural Sedation Practice](#) – June 2018

On Opiate Use and Abuse...

[Prescribe naloxone to combat opioid overdoses](#) – April 2018

[Calculating the Real Costs of the Opioid Crisis](#) – April 2018

[Opioid-Related Critical Care Resource Use in US Children's Hospitals](#) – April 2018

[Successful Opioid De-Escalation With Dexmedetomidine in a 1 year old with Worsening Pain and Opioid-Induced Neurotoxicity](#) – May 2018

[Opioid-Related Critical Care Resource Use in US Children's Hospitals](#) – June 2018

[Buprenorphine Exposures Among Children and Adolescents Reported to US Poison Control Centers](#) – July 2018

[Outpatient Opioid Prescriptions for Children and Opioid-Related Adverse Events](#)
August 2018

[The National Opioid Epidemic and the Risk of Outpatient Opioids in Children](#)
August 2018

[Educational Disabilities Among Children Born With Neonatal Abstinence Syndrome](#)
August 2018

[App helps health care professionals treat opioid use disorder](#) – September 2018



AAP leaders put firearm injury prevention at top of priority list

by from AAP Community and Chapter Affairs and Quality Improvement

Gun violence, the opioid crisis, and bias and discrimination were key topics addressed at the AAP Annual Leadership Forum (ALF) March 15-18.

Leaders from chapters, committees, councils and sections voted on 82 resolutions that offered advice to the Board of Directors on the direction of AAP policies and initiatives. They adopted 75 and selected the top 10 resolutions that the Academy should address urgently (see below).

The No. 1 resolution requests that the Academy advocate for schools to remain gun-free zones and oppose requiring or incentivizing teachers to carry weapons.

AAP President Colleen A. Kraft, M.D., M.B.A., FAAP, announced the launch of the **Gun Safety and Injury Prevention Research Initiative**, which will bring together experts from around the country to study and implement evidence-based interventions to protect children from firearm injuries. (See *AAP News* article at <http://bit.ly/2IYUTvA>.)

During her report, AAP CEO/Executive Vice President Karen Remley, M.D., M.B.A., M.P.H., FAAP, discussed the Academy's gun violence prevention strategy, which includes mobilizing AAP members, chapters, committees, councils and sections to advocate at the local, state and national levels.

The epidemiology of gun injuries to U.S. children, the history of AAP policy on guns, and key advocacy concepts for protecting children and youths from gun violence were presented by Benjamin D. Hoffman, M.D., FAAP, chair of the AAP Committee on Injury, Violence and Poison Prevention.

Throughout the weekend, ALF attendees recorded 50 videos with messages about safeguarding children from gun violence, and the resulting compilation at <http://bit.ly/2pNX1Oe> has received more than 300,000 views.



AAP Florida Chapter President Madeline Joseph, M.D., FAAP, recorded the following in her video message: "To all the children and students in our nation, but especially in Florida and the Parkland students, we are so proud of you for standing up and making a difference in this world. You have our support to change policies to keep you safe, healthy and happy."



Addressing the opioid crisis

Pediatric anesthesiologist Constance S. Houck, M.D., M.P.H., FAAP, chair of the AAP Surgical Advisory Panel, expertly moderated a presentation on the national opioid epidemic and urged pediatricians to partner across disciplines to address this crisis.

"The only way for us to get our arms around this massive concern is to join hands with one another, across medical specialties, with professionals in many other disciplines, with law enforcement, other first responders, with local, state and federal policymakers, and most importantly with our patients and their families," Dr. Houck said.

Lucien Gonzalez, M.D., M.S., FAAP, Stephen W. Patrick, M.D., M.P.H., M.S., FAAP, and Tennessee Health Commissioner John Dreyzehner, M.D., M.P.H., FACOEM, focused on multiple aspects of the opioid crisis, including neonatal opioid withdrawal syndrome and the Tennessee Together program, which comprises legislation and executive orders to attack this issue through prevention, treatment and law enforcement.

State delegations get to work

ALF attendees spent an evening working in state delegations to develop action plans to combat the opioid crisis.

Margaret Wile, a policy specialist in the health department at the National Conference of State Legislatures, and Mark D. Del Monte, J.D., AAP chief deputy and senior vice president, advocacy and external affairs, set the course for action. To date, 44 chapters have developed plans, with the majority focusing on prevention efforts (81%), followed by intervention (34%), treatment (25%) and recovery (18%).

Addressing bias and discrimination

The AAP Board of Directors made addressing bias and discrimination a strategic priority in the 2017-'18 Agenda for Children. Bias and discrimination are well-established social determinants of health; however, little has been done to address their influence on child health or to prepare pediatricians to help families identify, manage and prevent the physical and emotional outcomes resulting from those experiences.

To address these gaps, the board created the Task Force on Addressing Bias and Discrimination, which has focused on elements the Academy and members can affect most directly. ALF attendees heard from task force Chair Joseph Wright, M.D., M.P.H., FAAP, who described AAP initiatives. Gail Christopher, D.N., N.D., former senior adviser and vice president of the W.K. Kellogg Foundation, discussed her work on racial equity and healing, and Michael Wegner, adjunct faculty at George Washington University and senior consultant to the Kellogg Foundation, led a group exercise and invited attendees to address bias and discrimination in their roles as clinicians and leaders.

New leadership

Section Forum Management Committee Chair Ann R. Stark, M.D., FAAP, chaired the 2018 ALF, and at its close passed the gavel to Jerrold M. Eichner, M.D., FAAP, chair of the Committee Forum Management Committee. Dr. Eichner will preside over the 2019 ALF at the AAP Headquarters in Itasca, Ill.

For a list of awards presented at the ALF, see <http://www.aapublications.org/news/2018/04/17/alfawards041718>.

Top 10 resolutions



1. Schools as Gun-Free Zones - Arming Teachers is not the Answer!
2. Creation of a Suicide Prevention Task Force and Resources for Pediatricians, Healthcare Organizations, Schools, and Community Organizations Who Serve Children and Adolescents
3. Gun Restraining Order
4. The AAP Setting the Standards for Marijuana Regulations
5. Funding and Support for Autism Therapy
6. Granting Candidate Fellows the Right to Vote in AAP Elections
7. Increasing Immunization Rates by Universal Access to Immunizations
8. Promotion of Safe Gun Storage
9. Advocating for Universal and Affordable Contraception
10. Opioid Prescription Policy Statement

For specific updates on the Top 10 Resolutions, see page 12 of this newsletter

Resources

- [The 2018 resolutions](#)
- [The top 10 resolutions in more detail](#)
- [For more information on the Annual Leadership Forum, contact Nicole Blankenship, in the AAP Division of Chapter and District Relations, at 630-626-6062 or nblankenship@aap.org](#)

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Cause of Firearms Injuries Varies by Rural Versus Urban Settings

Researchers conducting a study in the 2018 issue of Pediatrics, “[Rural versus Urban Hospitalizations for Firearm Injuries in Children and Adolescents](#)” (published online July 2), analyzed the Kids’ Inpatient Database to identify hospitalizations for injuries due to firearms in patients under age 20. A total of 21,843 hospitalizations from 2006, 2009, and 2012 were compared based on demographics, rural versus urban location, and the cause of the injury (assault, suicide attempt, accidental, or undetermined). Researchers found that most of the pediatric firearm injuries resulting in hospitalization occurred among older teens (ages 15 to 19) and that those living in urban areas had the highest rate of hospitalization. However, among younger children (ages 5 to 14) the rate of hospitalization was higher in rural areas. Accidental firearm injuries were the most common cause of hospitalization across all age groups in urban or rural locations, except for 15- to 19-year-olds living in urban areas (for which firearm assaults were highest). Researchers also found that rates of hospitalization for firearm injuries due to suicide attempts were higher in rural areas compared to urban areas among older teens. The researchers said that knowing how firearm injuries vary based on urban vs. rural communities plays an important role in designing and tailoring public health efforts to reduce firearm-related injuries in each community.

SPOTLIGHT ON ADVOCACY

AAP Unveils New Blueprint for Children Updates

The national midterm elections will be held on Tuesday, November 6, 2018, when federal, state and local officials across the country will be elected. The Academy’s Get Out the Vote campaign, #VoteKids, encourages pediatricians and others who care for children to vote with kids in mind this election. The campaign website, aap.org/votekids, includes information on what’s

at stake for children, how and where to register to vote and what members can do to speak up for children at the ballot box.

In September 2016, the American Academy of Pediatrics (AAP) released its Blueprint for Children: How the Next President can Build a Foundation for a Healthy Future. The Blueprint outlined policy proposals to advance child health and well-being. Two years later, the Academy assessed the status of federal child health policy and the AAP’s work to realize the vision laid out in the Blueprint. This update outlines the ways in which the Academy’s expertise has

helped to protect foundational elements of child health policy and advance new initiatives in the interest of children. The Blueprint update is available at <https://www.aap.org/enus/Documents/AAP-BLUEPRINT-Achievements.pdf>.

Please take a moment to reflect on all that the AAP and its membership has been able to do for children in the two years since the original Blueprint came out. We can be so proud of what is possible when we come together and speak up for children and what they need to be healthy.



AAP making progress on addressing high-priority resolutions

AAP leaders adopted 75 resolutions at the 2018 Annual Leadership Forum and prioritized the top 10 for urgent action by the Board of Directors. Following is an update on the status of these high-priority resolutions. The full text of the top 10 resolutions can be found at <http://bit.ly/2sPCfz2>.

1. Schools as gun-free zones

After the tragedy in Parkland, Fla., President Donald Trump and other policymakers recommended arming teachers to prevent future school shootings. The administration also announced the creation of a federal commission on school safety comprised of the secretaries of Education, Health and Human Services, Homeland Security and the U.S. attorney general.

The Academy submitted a letter to the commission offering the expertise of AAP members on the effects of gun violence on children's health and well-being, including mental health, feeling safe in schools, injury and violence prevention, the influence of media, and pediatric emergency medicine. The commission is expected to release a report this summer, followed by public stakeholder meetings, in which the Academy will seek to participate.

The AAP federal advocacy team also will continue to oppose federal legislation that seeks to provide funds to arm educators.

2. Suicide prevention resources

The suicide rate among children, adolescents and young adults is an area of great concern, and various AAP groups are addressing this complex issue.

The Academy has myriad resources for pediatricians, including a clinical report on [suicide and suicide attempts](#); a policy statement on [firearm-related injuries](#); guidelines on identification, assessment and management of adolescent depression (<http://bit.ly/2JGfF6q> and <http://bit.ly/2HuZKD5>); a [mental health toolkit](#); and a video series on [motivational interviewing approaches](#) to behavioral health issues. In addition, patient and family resources are available on HealthyChildren.org.

To facilitate access to these resources, a centralized location will be created on the AAP website. The Academy also will continue to partner with other national organizations to enhance training and educational efforts for pediatricians and to advocate at the community, state and federal levels for access to evidence-based mental health services.

3. Gun restraining order

AAP chapters are advocating for extreme risk protection orders (also known as "red flag" laws) that allow the temporary removal of a firearm from the environment of a person at risk of harming him- or herself or someone else. Three states have passed red flag laws this year, and one enacted an executive order instituting such a law. See <http://www.aapublications.org/news/2018/06/20/chapters062018>.

4. Marijuana regulations

The AAP Committee on Substance Use and Prevention has a collection of marijuana resources available at www.aap.org/marijuana. The committee plans to collaborate with the AAP Committee on State Government Affairs on future website enhancements.

AAP state advocacy also has a resource on marijuana legalization that includes the Academy's position and a



map showing which states have legalized recreational marijuana, <http://bit.ly/2JqYdQe>.

5. Funding and support for autism therapy

The AAP Council on Children with Disabilities (COCWD) and Section on Developmental and Behavioral Pediatrics (SODBP) are combining two clinical reports into one document titled "Identification, Evaluation, and Management of Children with Autism Spectrum Disorder." The report will outline evidence supporting Applied Behavior Analysis as well as other interventions for children with autism spectrum disorder (ASD). It also will provide recommendations that support the elimination of disparities in access to care for children with ASD.

After the revised report is published, the COCWD and SODBP will collaborate with numerous AAP groups to disseminate recommendations to pediatricians, chapters, families, public and private payers, and policymakers to advocate for appropriate benefits coverage and payment for autism therapy.

6. Granting candidate Fellows the right to vote in AAP elections

The Board of Directors recently approved a recommendation to revise the AAP bylaws to grant candidate members the right to vote in the national AAP election. AAP members can vote on the referendum question during the election from Nov. 2 to Dec. 2.

7. Universal access to immunizations

The Academy is a leading advocate for vaccine access programs, including the Vaccines for Children program, Section 317 immunization program, the Prevention and Public Health Fund and the Centers for Disease Control and Prevention vaccine programs. Historically, the Academy has supported efforts to expand universal vaccination programs through advocacy and policy. However, recognizing that adequate payment to clinics is required to support a robust vaccine delivery system, the Academy monitors how such programs might impact practices financially with changes to vaccine purchase and funding mechanisms.

8. Promotion of safe gun storage

The Academy has long advocated for safe storage of guns in its policy *Firearm-Related Injuries Affecting the Pediatric Population*. The policy states that the absence of guns from children's homes is the most reliable and effective way to prevent firearm-related injuries. However, if parents choose to have guns in the home, they should store firearms unloaded and locked, with the ammunition locked separately. The policy also calls for physicians to counsel families about firearm safety, including safe storage. See article at <http://www.aappublications.org/news/2018/06/21/ppguns062118>.

9. Universal and affordable contraception

Reproductive and sexual health care for adolescents and young adults is among the top priorities of the AAP Committee on Adolescence (COA). AAP policy statements on **contraception**, **emergency contraception** and **pregnancy prevention** include a strong advocacy component for making contraception more accessible and affordable. COA will continue to work with the AAP federal and state advocacy teams on advocating for over-the-counter access to contraceptives and will continue to partner with other national organizations on advocacy efforts at the state and federal levels.

10. Opioid prescription policy statement

The AAP Section on Anesthesiology and Pain Medicine is finalizing two policy statements: *Assessment and Management of Acute Pain in Infants, Children, and Adolescents* and *Care of Pediatric Patients with Chronic*



Pain.

Additionally, two PediaLink online learning modules, [Acute Pain Management: Changes and Challenges](#) and [Chronic Pain and the Opioid Crisis](#), provide educational support for appropriate use of opioids.

State advocacy continues to provide strategy guidance to AAP chapters on opioid prescribing limitations, safe disposal laws and other policy measures to address the opioid epidemic.

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AAP Policy Statement Urges Support and Care of Transgender and Gender-Diverse Children and Adolescents

In September 2018 the academy released its first policy statement to provide guidance for parents and clinicians through a gender-affirming approach

Transgender and gender-diverse children face many challenges in life, but, like all children, they can grow into happy and healthy adults when supported and loved throughout their development.

That is the underlying message within a new policy statement published by the AAP titled, [“Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents.”](#) The statement, which was published in the October 2018 issue of *Pediatrics* (published Sept. 17 online) aims to help pediatricians and parents navigate the health concerns of gender-diverse youth while advocating for ways to eliminate discrimination and stigma.

Despite increasing public awareness and some legal protections, children who identify as lesbian, gay, bisexual, transgender or gender-diverse often lack adequate health care, including access to mental health resources. In its first policy statement on the topic, the AAP reviews the latest research and provides recommendations that focus specifically on children who identify as transgender or gender-diverse, a term used to describe people with gender behaviors, appearances or identities that do not align with those culturally assigned to their birth sex.

“We know that family and community support are essential for any child’s healthy development, and children who are gender-diverse are no different,” said Jason Rafferty, MD, MPH, Ed, FAAP, lead author of the statement. “What is most important is for a parent to listen, respect and support their child’s self-expressed identity. This encourages open conversations that may be difficult but key to the child’s mental health and the family’s resilience and wellbeing.”

While the data is limited, population-based surveys estimate that 0.7 percent of teens ages 13 to 17 identify as transgender, according to the report. In this rapidly evolving clinical field, physicians play a role by offering a safe and inclusive place for transgender and gender-diverse youth, who have high rates of depression, anxiety, eating disorders, substance use, self-harm and suicide.

Children who are supported by their parents and family are more likely to experience better physical and mental health, according

to the AAP. In one study, 56 percent of youth who identified as transgender reported thinking about suicide at some point, and 31 percent reported a previous suicide attempt. That compares, respectively, to 20 percent and 11 percent of youth who identify as cisgender, a term to describe a person who identifies a gender consistent with the sex they were assigned at birth.

“We encourage families, schools and communities to value every child for who they are in the present, even at a young age,” said Cora Breuner, MD, FAAP, the chairperson for the AAP Committee on Adolescence. “As pediatricians and parents, we also appreciate how challenging, and at times confusing, it can be for family members to realize their child’s experience and feelings.”

The AAP recommends taking a “gender-affirming,” nonjudgmental approach that helps children feel safe in a society that too often marginalizes or stigmatizes those seen as different. The gender-affirming model strengthens family resiliency and takes the emphasis off heightened concerns over gender while allowing children the freedom to focus on academics, relationship-building and other typical developmental tasks.

Additional AAP recommendations include:

- Providing youth with access to comprehensive gender-affirming and developmentally appropriate health care.
- Providing family-based therapy and support be available to meet the needs of parents, caregivers and siblings of youth who identify as transgender.
- Making sure that electronic health records, billing systems, patient-centered notification systems and clinical research are designed to respect the asserted gender identity of each patient while maintaining confidentiality.
- Supporting insurance plans that offer coverage specific to the needs of youth who identify as transgender, including coverage for medical, psychological and, when appropriate, surgical interventions.
- Advocacy by pediatricians within their communities, for policies and laws that seek to promote acceptance of all children without fear of harassment, exclusion or bullying because of gender expression.

“Transgender youth are more visible today than ever before, empowered by others they see on the internet or in their communities,” said Ilana Sherer, MD, FAAP, executive committee member of the AAP Section on Lesbian, Gay, Bisexual and Transgender Health and Wellness. “They need our continued support and love, and those of us in the medical community stand prepared to help them.”

Cultural Competence: What is it and where do I start?

By June M. Ganley, MSW, LICSW, ACHP-SW

Anne Fadiman's captivating 1998 book, *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors and The Collision of Two Cultures*, highlighted the heartbreaking dangers of cross cultural medicine. Providing culturally competent care improves patient engagement, education, and satisfaction, and can help minimize racial and ethnic disparities in care. This article offers numerous practical resources to assist health care providers in our quests to provide more culturally competent care.

But first, what is cultural competence? As defined by Larry D. Purnell and Batty J. Paulanka in *Transcultural Health Care: A Culturally Competent Approach* (2013), "Cultural competence in health care is having the knowledge, abilities, and skills to deliver care congruent with the patient's beliefs and practices." Two key aspects of cultural competence are cultural knowledge and cultural humility.

The foremost reference on cultural knowledge is Purnell and Paulanka's literal textbook on the subject noted above. More portable options include Purcell's *Guide to Culturally Competent Health Care*, 2002 and Mosby's *Pocket Guide to Cultural Health Assessment*, 2007 by Carolyn D'Avanzo RN DNSc. Other respected sources of cultural knowledge, including beliefs related to death and dying include:

- ◆ The Handbook of Patients' Spiritual and Cultural Values for Health Care Professionals, 2013 available online at www.healthcarechaplaincy.org, and Religious Literacy Primer/Field Guide from the National Disaster Interfaiths Network, available online at http://www.n-din.org/ndin_resources/FieldGuideSet.php.
- ◆ Lum, Hillary and Arnold, Robert, Facts and Concepts #216 Asking About Cultural Beliefs in Palliative Care. Fast Facts and Concepts, June 2009. See also these related Fast Facts: #17 (illness experience), #19 (spiritual history), #26 (explanatory model).
- ◆ For relevant information on the Lesbian, Gay, Bisexual & Transgender community, the Gay and Lesbian Medical Association www.glma.org has a free online webinar series.

While cultural knowledge is a good starting point, given intra-cultural diversity and to avoid the risks of stereotyping, providers must also have cultural humility- components of which include the ability to recognize the limits of that cultural knowledge, understanding one's own culture(s) and positionality, and having a nonjudgmental, genuine interest in learning about an individual patient's cultural beliefs related to health care.

Are you a member of the dominant United States culture of white, middle class, Protestant people of Northern European descent, or not? How does that affect people's perception of you, or your perceptions of them? What assumptions do you hold about people of other races? Those living in poverty? Without a college education? What are your beliefs about the purpose of suffering? How do you define quality of life?

Consider also the beliefs of the broader cultures of your practice setting and of Western medicine. Does your organization favor best practices or treatment innovations? Does it discourage acknowledging you don't know some aspect of care? How might these affect your perception of the patient, and/or your recommendations? As author and professor, Arthur M. Kleinman so aptly states in Fadiman's biographical tome, "If you can't see your own culture has its own set of interests, emotions, and biases, how can you expect to deal successfully with someone else's culture?" (Fadiman, p. 261).

Several enlightening exercises for examining one's own culture and bias can be found in Wintz (Sue) and Cooper (Earl)'s manual *Cultural & Spiritual Sensitivity -- A Learning Module for Health Care Professionals and Dictionary of Patients' Spiritual & Cultural Values for Health Care Professionals*. Pastoral Care Leadership and Practice Group of HealthCare Chaplaincy, New York, NY. Exercises 3,4,5,6.

Finally, providers must have skill in gathering a patient's relevant cultural information. This could be as simple as asking patients, "Are there any cultural or spiritual beliefs you have that are important for me to understand in this situation?" or for eliciting a patient's explanation

and understanding of their illness, you can also utilize the well-known Kleinman's Explanatory Models Approach. Any approach is likely to fall flat however, if the provider is rushed, preoccupied, or otherwise disengaged. When a provider shows genuine and nonjudgmental interest in understanding the patient's cultural health beliefs, she/he evidences cultural competency, and may just improve care, increase patient compliance and satisfaction, and reduce racial and ethnic disparities - all worthwhile achievements for us as health care providers.

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Lum, Hillary and Arnold, Robert, Facts Facts and Concepts #216 Asking About Cultural Beliefs in Palliative Care. *Facts Facts and Concepts*, June 2009. *Facts Facts are available online at www.mypcnow.org/fast-facts or via phone/computer applications available for the iPhone/iPad at the iTunes Store; and for Android users at <http://www.getfastfacts.org> Or play.google.com.

Additional Resources

CultureVision™ is an online comprehensive database that gives healthcare professionals access to culturally competent patient care that can be explored at www.crculturevision.com. Subscription required.

Courageous Parents Network offers Guides in Spanish, and videos are available in nearly every language imaginable thanks to YouTube.

To access the subtitles:

- Click the PLAY button, which brings up the icons in the lower right corner of video window
- In the lower right corner, click on the CC (Closed Captioning) button
- Click on the SETTINGS button (Looks like a cog/wheel), also in lower right corner.
- Click SUBTITLES
- Click AUTO-TRANSLATE and select the language you desire



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Welcome New Members! Since April 2018

Syed Ali
Saint Cloud, FL

Danton Char
Stanford, CA

Corrie Chumpitazi
Houston, TX

Jonathan DeBoer
Lititz, PA

Richelle deMayo
Westport, CT

Greta Duncan Wiebe
Lincoln, NE

Salina Goh
Brooklyn, NY

Naomi Goloff
Minneapolis, MN

Sandra Gonzalez
Gainesville, FL

Anastasia Grivoyannis
New York, NY

Shelly Haug
Idaho Falls, ID

Louise Ing
Calgary, AB

Pradip Kamat
LaGrange, GA

Necla Kudrick
Greenwich, CT

Yu Lin Lee
Durham, NC

Weerapong Lilitwat
Iowa City, IA

Chun-Yen Lin
Taipei, Taiwan

Lauren Lobaugh
Houston, TX

Lauren Moore
Charleston, SC

Ambrish Patel
Gahanna, OH

Francesca Perez Marques,
Kansas City, MO

Denise Purdie
Los Angeles, CA

Travis Reece-Nguyen
Stanford, CA

Birju Shah
Oklahoma City, OK

Arpita Shah
Houston, TX

Temilola Sopeju
East Brunswick, NJ

Caitlin Sutton
Houston, TX

Adel Tawadros
Oldsmar, FL

Iris Toedt-Pingel
Burlington, VT

Matthew Wilder
Aurora, CO

Chelsea Willie
Milwaukee, WI

Ammar Yamani
The Woodlands, TX

Stanley Yu
Riverside, CA



Encouraging Professionalism in Medicine

Ellen M. Friedman, MD, FAAP

Professor of Otolaryngology and Director for the Center for Professionalism in Medicine
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Subspecialization in medicine and technologies continue to evolve, resulting in an increase in physicians' interdependence on one another. It is impossible currently to be up to date on all aspects of medicine and surgery. This is not a new problem. In fact, Dr. William J. Mayo noted in a commencement speech he gave at Rush College in 1910, "As we grow in learning, we more justly appreciate our dependence upon each other. The sum-total of medical knowledge is now so great and wide spreading that it would be futile for one man to attempt to acquire, or for one man to assume that he has, even a good working knowledge of any large part of the whole. The very necessities of the case are driving practitioners into cooperation. The best interest of the patient is the only interest to be considered, and in order that the sick may benefit of advancing knowledge, union of forces is necessary."

While this quotation demonstrates that the importance of collaboration among physicians is not new, many new challenges in the professional environment have emerged complicating our professional life. These distractions include productivity requirements, decreased reimbursements, increased bureaucracy, and the electronic medical record. The increasing commercialization of medicine has created many struggles that can cause physicians to become less engaged, cynical or even demoralized. At times, physicians can feel alone in the pursuit of excellence, at times victimized by the system. The breakdown of morale of the medical staff has many ramifications, including the widely publicized epidemic of burnout. These feelings can create a negative work environment with mounting territorialism and excessive competitive feelings.

At Baylor College of Medicine, a small hedge against this epidemic is the Power of Professionalism Award (POP Award). The POP Award can be given to anyone who demonstrates the finest qualities of professionalism. The award was created to show appreciation of positive professional behavior, such as compassion, integrity, honesty and humility, inspire peers to emulate these behaviors and demonstrate an institutional culture that values these positive behaviors. A recent nomination came in that was thought provoking. It was submitted by a medical student who wanted to honor a urologist she had observed respond with kindness when a gynecologist called from the OR to ask for help managing an intraoperative complication. The medical student was impressed that

the urologist immediately agreed to come in without judgement, without any smack talking or eye rolling. For me, the significance of this nomination wasn't that a urologist responded to a colleague in need with generosity of spirit, but that this generosity appeared highly unusual to the medical student. Apparently, the medical student had seen repeated incivilities among a variety of specialists during her rotations. So have I.

Incivilities in the health care system flow in many directions, between primary care physicians and specialists, between surgeons and internal medicine physicians, between emergency room physicians and inpatient consultants. Poor behavior can be manifest in many ways such as becoming impatient, easily annoyed, argumentative or dismissive. Common courtesy among colleagues has become less common. In fact, surveys in medical schools indicate that a large majority of medical students throughout the country acknowledge that they have witnessed faculty bad mouthing other physicians and other institutions. The impact of witnessing this behavior on medical students is interesting and concerning, but equally or more important is that these conflicts threaten respectful communication and that damages patient safety as well as physicians' sense of satisfaction in their careers.

Physician-to-physician conflicts impact patient safety by limiting cooperation and communication among care team members. A study by the Institute of Medicine points to poor communication and deficient teamwork as common causes of adverse patient outcomes, even more common than lack of knowledge or clinical skills. Poor communication results in medical and surgical errors as well as poor patient compliance with recommended treatments. Conversely, the benefits of improved teamwork exceed purely patient-centered benefits; it also creates a more satisfying and pleasant work environment for physicians, which, in turn, helps to combat burnout. In other words, improved communication and teamwork is not purely altruistic, you will also personally benefit by working in a more civil and enjoyable setting. Of course, I applaud kindness to patients, however, kindness to colleagues is also very important, yet is infrequently discussed.

Although as physicians we may feel powerless to reverse many of the negative aspects of the march toward the commercialization of medicine, we can personally address

Encouraging Professionalism in Medicine

our own ability to communicate respectfully to one another. This will improve our connection and engagement to our colleagues and our patients. How to begin?

- Make the decision to be the first to pursue a gentler, kinder approach to your colleagues.
- Renew your empathy by believing that everyone comes to work to do a good job because, in the vast majority of cases, that is true.
- When you encounter an individual with whom you have conflicts, remember that all of the unpleasant factors that are challenging and frustrating you are also challenging him or her. In fact, your colleague even could have additional undisclosed distressing personal issues.
- Recall that while you are dealing with well-intentioned educated colleagues with different training, different expertise and different points of view, you also have a shared desire to help the patient.

- Remember that your words are powerful and that in each verbal or digital interchange, you can choose to use that opportunity to be respectful, kind and encouraging instead of confrontational, condescending or negative.

If you make a daily effort to extend empathy to your colleagues, it is highly likely that your positive approach will be contagious. The benefits will be felt and appreciated by your patients, your team members and you. You could be the beginning of a mini-cultural revolution! Let's call for a truce on physician-to-physician conflicts and focus our energy to improve respectful communication. This cease-fire will strengthen our professional identity and provide us with greater job satisfaction and the resilience necessary to combat burnout during these challenging times while simultaneously benefiting patient safety.

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Dr. Christina Diaz and Dr. Lisa Wise-Faberowski to Join Section Executive Committee This Fall

We are pleased to welcome Dr. Christina Diaz and Dr. Lisa Wise-Faberowski to our AAP Section on Anesthesiology and Pain Medicine Executive Committee as of November 1, 2018.

A little bit about our two new leaders...

Christina Diaz, MD, FASA FAAP

After graduating from the University of Denver and receiving my Medical Doctorate from Baylor College of Medicine in Texas, I completed my Anesthesiology Residency and Pediatric Anesthesiology Fellowship at the Medical College of Wisconsin. I currently serve as Associate Professor, Assistant Program Director and Children's Hospital of Wisconsin (CHW) Site Director for the residency program as well as Site Director for the Anesthesia Assistant program. As a member of the Acute Pain Service I train our pediatric anesthesia fellows in perioperative pain control. My academic interest is in education with a focus on the use of simulation for education. I run the pediatric anesthesia fellowship simulation program at our institution, and together with an ENT colleague I have established a joint surgical – anesthesia simulation workshop that practices rigid bronchoscopy in a team approach. A colleague and I also mentor approximately 30 residents, fellows, and medical students annually to compete at the Midwest Anesthesia Resident Conference with significant trainee success.

I believe it is important to advocate for my patients, my specialty, and the future landscape of healthcare. Therefore, I am an active member of the American Society of Anesthesiologists (ASA) and the Society for Pediatric Anesthesia (SPA), have served in the ASA House of Delegates for the past 5 years, have served on the Committee on Pediatric Anesthesia, chaired the SPA Annual Meeting in 2016, co-chaired the Wisconsin Society of Anesthesia Annual Meeting (2014), participate annually at Doctor's Day Advocacy at the State Capitol, and have been a Wisconsin Society of Anesthesiology Board Member since 2012. I wish to continue



Christina Diaz

to advocate for my pediatric patients and serve my specialty, and I look forward to working within the AAP Section on Anesthesiology and Pain Medicine.

Lisa Wise-Faberowski, MD, FAAP

Dr. Lisa Wise-Faberowski, Assistant Professor of Anesthesiology, Perioperative and Pain Medicine, Stanford University; I began my journey with training and board certification in pediatrics in the early 1990's. I completed my anesthesia training and research fellowship training in 1997 with board certification in anesthesiology. I continued with training and board certification in pediatric critical care medicine and pediatric anesthesia. So through and through I am a pediatrician, but also an anesthesiologist.



Lisa Wise-Faberowski

It will be an honor to serve for an organization that has supported me throughout my career. The AAP Section on Anesthesiology and Pain Medicine has supported my research endeavors in pediatric neuroprotection and anesthetic neurotoxicity through the John J Downes award at two of the Society for Pediatric Anesthesia annual meetings. Amazingly, I received one of the awards after the birth of my twins Alyssa and Cooper.

As a mother of four children and as a pediatrician and anesthesiologist, I understand the importance of accepting the life of one's child into my hands in providing anesthetic care. Our children are our heart and soul, and an irreplaceable component of our life. So it is with honor and a passion for the best care of our children in anesthesia and in life that I begin my service as an Executive Committee member for the American Academy of Pediatrics-Section on Anesthesiology and Pain Medicine.

SPOTLIGHT ON INFECTIOUS DISEASES

Acute Uncomplicated Appendicitis: Medical or Surgical Options: Which to Choose?

Infectious Disease:

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Acute appendicitis remains the leading cause of all inpatient surgical procedures in the pediatric population. Although most cases are treated with surgical removal, successful resolution of infection with antibiotic therapy alone has been demonstrated in patients with early, uncomplicated (i.e. non-perforated) appendicitis. The debate over antibiotic treatment as opposed to immediate appendectomy in the setting of acute uncomplicated appendicitis – although not a novel concept - is ongoing. Pros and cons to both approaches are illustrated in the literature and individual randomized controlled trials often conflict with one another. Because of this, each case of acute appendicitis should be evaluated on an individual basis to determine the best course of action.

8 year-old girl presents with abdominal pain, nausea, and vomiting for 12 hours. Pain was periumbilical and now in RLQ. She is tender to palpation and it hurts her to jump. WBC count is 13,000 and US shows a 9 mm, dilated and hyperemic appendix. No appendicolith or free fluid is noted.

Is this patient a candidate for non-operative management with antibiotics alone?

This patient fits the criteria for early, uncomplicated appendicitis: inflammation of the appendix without concurrent abscess, phlegmon, perforation, gangrene, visualized appendicolith or peritonitis.¹ Therefore,

both surgeon and infectious disease (ID) specialist agree that she is a candidate for treatment with broad spectrum antibiotics alone. Many prospective studies examining the role of non-operative management have strict inclusion criteria: pain <48 hours, WBC count <18,000, appendix diameter <1.1cm and absence of appendicolith and rupture.² In clinical practice, only about one-third of patients will meet such stringent criteria. However, for the majority of patients who meet the definition for early, uncomplicated appendicitis, it is appropriate to attempt non-operative management (NOM).

What is the antibiotic course?

Both ID specialist and pediatric surgeon agree that patients should initially be treated with broad-spectrum IV antibiotics which include ceftriaxone and metronidazole, meropenem or piperacillin-tazobactam. Parenteral antibiotics should be continued until the patient is afebrile, pain is controlled, and they are able to tolerate clear liquids on a consistent basis. Once this is achieved, it is appropriate to switch the patient to oral antibiotics to complete a 7-10 day course. Amoxicillin-clavulanate and metronidazole are generally the oral antibiotics of choice for pediatric surgeons while our ID colleagues feel that just amoxicillin-clavulanate is sufficient in most cases. Adult regimens of ciprofloxacin and metronidazole may be considered for adolescent patients. It is important to note that patients who undergo laparoscopic appendectomy only

require preoperative antibiotics; no post-operative antibiotics are needed for acute, uncomplicated appendicitis managed with laparoscopic surgery.

What is the anticipated success rate and recurrence?

Various studies have been conducted to identify the rates of initial success and of recurrence. Initial success rate of NOM in pediatric studies of uncomplicated disease range from 87%-95%, which is notably higher than in the adult population where the initial success rate is only 60%.^{2,3,4,5,6} The one-year recurrence rate is estimated at 15-20%. The long-term recurrence rate is not known, although one study from Japan identified a recurrence rate of 28.6% at a 4 year follow-up.⁷ Those who failed conservative treatment and needed appendectomy at a later date had a medical course without serious complications (similar to surgical management of appendicitis). However, it is important to note that pediatric studies have been conducted on a notably smaller scale than their adult counterparts and are mainly prospective observational studies and not randomized, controlled trials. Further evidence obtained from larger, randomized trials would be helpful in validating the high rate of antibiotic treatment success.

Other described benefits of the non-operative approach include a decreased rate of major (perforations, postsurgical adhesions) and minor (incisional wound infections) complications, faster return

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to normal activity, avoidance of potential dangers of general anesthesia and less use of analgesics (low to moderate quality evidence).⁸ However, patients treated with antibiotics alone demonstrate a higher rate of hospital readmission, with approximately 25% requiring an appendectomy within one year of initial presentation seen in adult studies.⁸ Patients who underwent immediate appendectomy exhibited a resolution (during the initial hospitalization) in nearly all cases it was employed (~97% of the time) and this intervention was associated with a shorter length of hospital stay (moderate quality evidence).⁸

Slightly different scenario... 8 year old girl presents with abdominal pain, nausea, and vomiting for 12 hours. Pain was periumbilical and now in RLQ. She has mild tenderness to palpation and WBC count is 13,000. US does not visualize the appendix.

Is it reasonable to start antibiotics in this patient?

Both ID specialist and pediatric surgeon firmly agree that it is not reasonable to initiate antibiotics in this patient without a diagnosis of appendicitis. In most cases, visualization of the inflamed appendix confirms the diagnosis. Therefore, if history, physical exam, lab studies, and ultrasound are insufficient in diagnosing appendicitis, further imaging with contrast tomography or magnetic resonance imaging should be considered. Some studies demonstrate that reduced-radiation CT scans (which deliver a mean effective radiation dose 78% less than standard-dose CT) are not inferior in sensitivity and specificity to standard CT.^{9,10} Radiologic confirmation is not always required to make the diagnosis of appendicitis. If a surgeon makes the diagnosis of appendicitis based on history, exam and laboratory data, then it is reasonable to start IV antibiotics and discuss treatment options (surgery vs. NOM).

From an ID specialist standpoint, in situations of low clinical suspicion for appendicitis, patients may be discharged with close clinical follow-up or admitted for rehydration and serial abdominal exams. Initiating broad spectrum antibiotics without a definite diagnosis undoubtedly contributes to the ever-growing dilemma of emerging multi-drug resistant organisms. In addition, if the patient improves after antibiotic administration, it will be difficult to discern if they did indeed have appendicitis, if they had another intra-abdominal

infection, or simply a resolving acute gastroenteritis.

Slightly different scenario... 8 year old girl presents with abdominal pain, nausea, and vomiting for 48 hours. Pain was periumbilical and now in RLQ. She has tenderness to palpation and WBC count is 13,000 and US shows a 12 mm appendix with appendicolith.

Is it reasonable to attempt non-operative management in this patient?

Several factors exclude this patient from conservative management with antibiotics alone: abdominal pain for 48 hours, the presence of an appendicolith and an appendix diameter greater than 1.1 cm on imaging. "Early" symptoms of appendicitis do not extend beyond 48 hours and findings on imaging studies prohibit one from labeling this case "uncomplicated." This patient has a higher risk of having complicated appendicitis. Recent studies that have looked at broadening the inclusion criteria for NOM to include duration of symptoms \leq 5 days, presence of appendicolith, and no restriction on appendiceal diameter or WBC count had an initial failure rate of 30%, due mostly to gangrenous appendicitis or contained perforation. In particular, patients with an appendicolith had a 50% initial failure rate.¹¹ Therefore, this patient should undergo immediate surgical appendectomy with appropriate pre-surgical antibiotic prophylaxis. Of note, patients for whom initial NOM was attempted had no difference in morbidity and length of stay compared to patients who underwent immediately laparoscopic appendectomy.¹¹ Thus, it is not necessarily contraindicated to attempt a trial of antibiotics and other patient factors may need to be considered.

The above cases demonstrate that careful consideration must occur on a case by case basis regarding the immediate surgical treatment versus NOM with antibiotics alone for acute appendicitis. Both pediatric ID physicians and pediatric surgeons use similar decision-making pillars (history and physical examination, laboratory and imaging data) to decide between immediate surgical treatment vs. antibiotic trial for acute appendicitis. Antibiotics alone can be a successful method of treating uncomplicated acute appendicitis as a majority of patient cases avoid surgery and its associated complications. However, there is no universal consensus on the *absolute*

criteria that distinguishes complicated from uncomplicated appendicitis. It is generally accepted that the presence of abscess, rupture, appendicolith and/or peritonitis exclude patients from being categorized as "uncomplicated." Immediate surgical removal likely aids in antibiotic stewardship efforts while providing the only definitive treatment for acute appendicitis. The above cases demonstrate that consideration of individual patient factors is of utmost importance when making a decision to operate or to simply treat with antibiotics.

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SPOTLIGHT ON INFECTIOUS DISEASES

ID Training Fellows Column: Antibiotic Allergy Misdiagnosis

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The prevalence of drug allergies in children is 6-10%, based on parental report.¹⁻³ The drugs most commonly involved are antibiotics and anti-epileptics, with beta lactams the most commonly implicated at 45-52%.^{1,3} True allergies are mediated by the adaptive immune system.⁴ Many reported allergies, however, instead represent non-allergic adverse reactions such as diarrhea, vomiting or maculopapular rash.⁵ As well, in young children, bacterial or viral infections often cause hives or maculopapular rash, which can be misinterpreted as an allergy if an antibiotic is being administered concomitantly.⁶ Similarly, other idiosyncratic reactions may be confused for allergy. One such example is when children with Epstein-Barr virus infection are given an aminopenicillin, which can induce an exanthem and may be misinterpreted as an allergic reaction.⁷

Misdiagnosis of antibiotic allergy has important implications in clinical care, and can result in unnecessary use of broad-spectrum antibiotics.⁸ Patients with a penicillin allergy label, who may therefore receive alternative and/or broader spectrum drugs, have an increased risk of antibiotic-associated side effects, including longer hospital stays, increased rates of medication side effects, and increased rates of infection with *Clostridium difficile*, methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci (VRE).^{8,9}

Clinical Manifestations of Antibiotic Allergies

Allergic reactions are commonly classified as either immediate (occurring < 1 hour after exposure) or non-immediate (\geq 1 hour, and commonly several days, after exposure), depending on when they occur after exposure to the drug. In nearly all cases, both types require pre-formed

antibody to respond to a specific allergen, i.e. presensitization.

- Immediate reactions represent the classic Gell and Coombs IgE mediated type I reactions, and most commonly manifest with urticaria, angioedema, anaphylaxis, and anaphylactoid reactions.¹⁰
- Non-immediate reactions, or delayed-type hypersensitivity reactions, usually result from cytokine release by activated T cell subsets, and manifest as maculopapular exanthems or non-immediate urticarial rashes. Less commonly, more serious reactions such as fixed drug eruption, serum sickness syndrome, Stevens-Johnson syndrome, or toxic epidermal necrolysis can occur.¹¹

Oftentimes, a child is labeled as “allergic” to a medication by their parent, without a pediatrician’s or other provider’s clinical assessment. In one study, 60-70% of penicillin users had a reaction within 24 hours of their first exposure to the medication, and the majority of these patients exhibited symptoms more consistent with drug toxicity rather than true allergy.⁵ It is important to counsel families regarding the difference between these clinical entities, as an adverse drug reaction does not constitute an absolute antibiotic restriction.

Antibiotic Allergy Testing

The gold standard for diagnosis of penicillin allergy is a 3-tier testing process, which involves a percutaneous skin test, followed by more sensitive intracutaneous testing, and ultimately an oral drug challenge.¹² Skin testing only predicts rapid onset IgE-mediated allergic responses, while oral challenge also predicts non-immediate reactions. Oral drug challenge should always be performed in a medical setting with the immediate ability to treat anaphylaxis.¹³

There is sometimes a reluctance from parents and providers to perform appropriate antibiotic allergy testing, as it can be a painful and time-intensive procedure. When children do undergo testing, few are confirmed to be truly allergic to the drug. In fact, a recent study of 100 children who were determined to be low-risk for severe allergy based on a questionnaire found that all 100 were negative for penicillin allergy after the 3-tier testing process.¹⁴ Once a patient is appropriately deemed non-allergic to a certain antibiotic, it is important to remove the allergy diagnosis from a patient’s medical record, thus facilitating the use of antibiotics that were previously thought to cause allergies.

Another recent study by Mill et al. demonstrated that graded oral provocation challenges are safe and accurate in confirming risk of skin-related reactions to amoxicillin, with a specificity of 100%, negative predictive value of 89%, and positive predictive value of 100%.¹⁵ History of a reaction occurring within 5 minutes of exposure was associated with immediate allergic reaction to the challenge, while non-immediate reactions were more commonly seen in patients with a history of allergic rash lasting longer than 7 days and parental history of drug allergy. Despite proven safe methods of testing for antibiotic allergies, less than 0.1% of patients with reported penicillin allergy undergo appropriate testing annually in the United States.¹³

Reducing the Burden of Antibiotic Allergy Misdiagnosis

Appropriate allergy testing, followed by correction of the medical record and discussion with the family about the actual lack of an immune-mediated drug allergy are important actions that clinicians should perform. The downstream benefits may include reassurance to the patient and

SPOTLIGHT ON INFECTIOUS DISEASES

family regarding future medication use. As well, it can safely decrease broad spectrum antibiotic use, reduce the length of inpatient stay for hospitalized patients, decrease mortality rates, and reduce treatment costs.¹⁶ Evaluation for true antibiotic allergy using the methods outlined above is warranted for any patient carrying a diagnosis of antibiotic allergy. Obtaining a detailed history of a self-reported allergy allows for removal of an “allergy” label in up to 20% of hospitalized patients, and consultation with allergy specialists can facilitate cases where further testing may be required.¹⁷ Patients, families, and providers should understand the risks associated with carrying a diagnosis of antibiotic allergy, the proven safe methods of testing for antibiotic allergy, and the benefits of removing an antibiotic allergy label, when appropriate.

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Penicillin Allergy Testing Could Save Money, Improve Care

Up to 10 percent of people report being allergic to penicillin, making an allergy to this class of antibiotics one of the most commonly reported drug allergies. A new study, “[Antibiotic Use after Removal of Penicillin Allergy Label](#),” published in the May 2018 issue of *Pediatrics* (published

online on April 20) found that allergy testing for children who have low-risk symptoms is successful in determining if these children can be treated with penicillin and its derivatives, resulting in cost savings. Researchers performed follow-up research on 100 children who tested negative for a penicillin allergy and found all but one child tolerated the medication within the following year without serious adverse or allergic reactions. This research also found that

10 percent of parents and 80 percent of primary care physicians didn’t know that the child had been cleared of the allergy in testing. Researchers conclude that the potential annual cost savings when extended to the annual pediatric emergency department population of 67,000 visits was \$192,223, but that more should be done to ensure that test results are clearly communicated to parents and the entire health care team.

Calling for newsletter articles!

For our next SOA newsletter, the Winter edition

Please send proposals to Mary Landrigan-Ossar,
Newsletter Editor, at Mary.Landrigan-Ossar@childrens.harvard.edu

By February 1, 2019



Once Around the Block: The Erector Spinae Block



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Overview:

The erector spinae plane block (ESPB), an interfascial block, has gained in popularity since its initial description in 2016. The block's increasing popularity may be due to its ease of performance and because it is considered to be a safer technique than the alternative paravertebral epidural blocks. First described by Forero *et al.* in 2016 as an interfascial plane block the “novel yet simple” approach was used to treat several patients' severe thoracic pain¹. Dr. Forero initially performed the ESPB by administering local anesthesia between the rhomboid major and the erector spinae muscles with the goal of targeting the lateral branches of the dorsal rami of spinal roots. The ESPB was later refined to administer local anesthetic deep to the erector spinae muscle group after contacting the transverse process, which allows the medication to spread cranio-caudally across several vertebral levels². While delivering effective pain control, the sensory loss that results from this block appears to have some variability associated with it. Loss of sensation at the axilla was demonstrated on one of the original patients, and several cadaveric dye studies have shown spread of dye into the epidural space, the intercostal space, and through the neural foramina spreading into the paravertebral space^{3, 4}. These findings highlight the risk of potential epidural spread of local anesthetic, with resultant hypotension. Despite these caveats, the ESPB is a valuable addition to the repertoire of physicians interested in regional anesthesia for the thorax and abdomen.

Surgical Procedures:

In the adult literature, the ESPB has been utilized in a variety of different surgical procedures. There are many reports of ESPB performed in thoracic surgery^{5, 6}. The ESPB has been used to achieve analgesia in patients with rib fractures secondary to trauma⁵, in whom there are contraindications to a neuraxial technique. The ESPB has also been reported for pain control during caesarian section⁷, hip arthroplasty⁸, bariatric surgery⁹, and open lower abdominal surgery¹⁰.

In the pediatric literature, the ESPB has been used in thoracic surgery^{11, 12, 13, 14}, inguinal hernia repair¹⁵, paraspinous lipoma resection⁷, para-cardiac teratoma resection¹⁶, rib tumor resection¹⁴, and even open nephrectomy¹⁶. Treatment of herpes zoster with good pain relief has been described¹⁷. This may be a great block for those patients suffering through this terrible disease.

Anatomy:

Knowledge of the skeletal and muscular anatomy of the thoracic region of the body is paramount in performing a successful ESPB. Several muscle layers superficial to the transverse process can be found in the thoracic region of the body (see figure 1). Depending on the thoracic level one will find the (T5-T7) trapezius muscle, rhomboid major, and the erector spinae muscle group (spinalis muscle, longissimus thoracis muscle, and iliocostalis muscle); (T8-T10) the trapezius muscle, latissimus dorsi muscle and the erector spinae muscle group or (T11-12) the latissimus dorsi muscle, the serratus muscle and then the erector spinae muscle group. Deep to the erector spinae muscle group, administration of local anesthetic allows spread through the paraspinous gutter, bounded by the transverse process anteriorly and erector spinae muscles posteriorly, to target the ventral and dorsal rami of the spinal nerve roots¹⁸. If the needle

Figure 1: Cross section of a human thorax demonstrating the truncal muscle, spinal column and lungs.

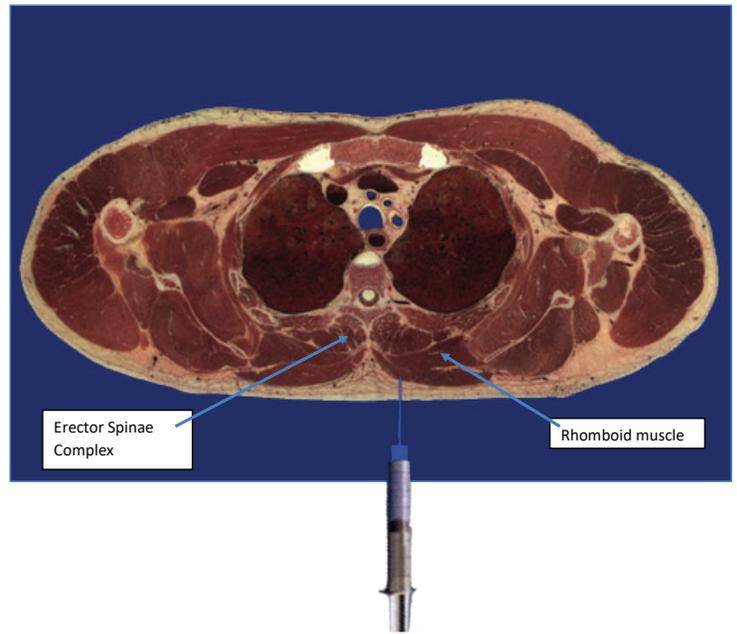
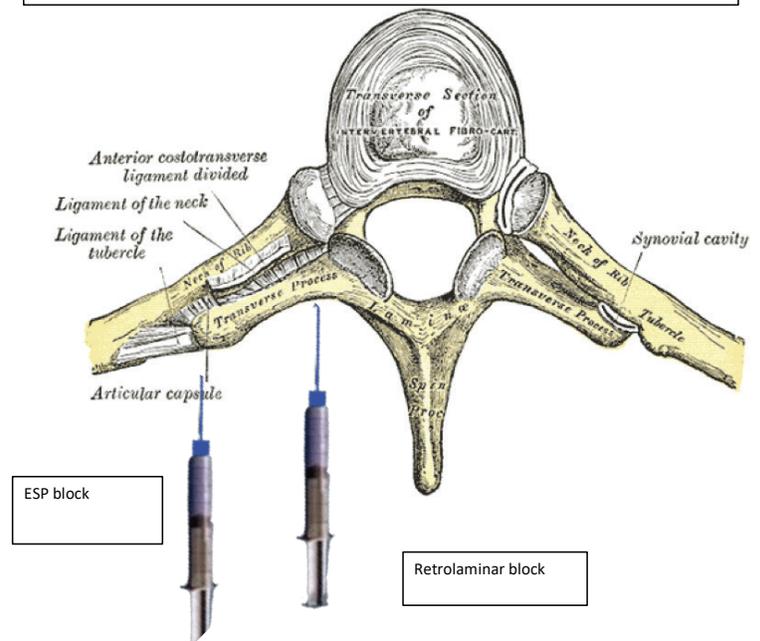


Figure 2: The different needle position for the ESP block and the Retrolaminar block, respectively.



is inserted slightly medial to the transverse process where the laminae of the vertebrae lie, a retrolaminar block will result (see figure 2). This block is similar in nature to the ESPB but because of the anatomic barriers results in a slightly different spread of local anesthetic, and a different block character is observed¹⁹.

Equipment used:

The following equipment is essential to perform this block:

1. An ultrasound machine with a high frequency probe (linear for small children and curvilinear for larger patients)
2. Sterile gloves
3. Cleansing swabs
4. A 22 or 27 gauge block needle (5 – 10 cm). Place a slight bend in the needle near the hub to facilitate advancement along the shallow fascial plane.
5. Local anesthetic – Ropivacaine or bupivacaine are usually used.

Local anesthetic dose:

Ropivacaine (0.1% for infusion, 0.2% for bolus) and bupivacaine (0.25% for infusion, 0.25-0.5% for bolus) have been cited in the pediatric literature for erector spinae blocks. Since the ESPB is an interfascial block the volume administered is crucial to success. Inject 0.3-0.5 ml/kg, remembering to calculate the toxic dose of the drug and to stay well under this amount. The maximal dose for ropivacaine is 3 mg/kg and for bupivacaine it is 2.5-3 mg/kg. For infusions we recommend a maximum dose of 0.4 mg/kg/hr for both bupivacaine and ropivacaine. This corresponds to maximum infusions of 0.2 ml/kg/hr of 0.2% ropivacaine and 0.16 ml/kg/hr of 0.25% bupivacaine. As part of the pre-block preparation check the expiration date, concentration and volume of the local anesthetic to be injected, remembering to account for any local anesthetic the surgeon will need for injection elsewhere. Within limits, the larger the volume of local anesthetic administered, the greater the spread and the better the coverage. Injection speed, i.e. pressure and volume, will impact the block's effectiveness and the potential for leaking into other spaces. Take care to note where the needle is positioned and try to keep it steady. Monitor and observe the patient carefully.

Scanning and Block technique:

The patient can be positioned lateral, prone, or sitting. The sitting position should be reserved for older cooperative awake patients that only need mild sedation for block placement. Most pediatric patients will need deep sedation or general anesthesia in order to perform the ESPB safely. This will require standard ASA monitoring and another person to vigilantly observe the patient. After a pre-scan to locate the area of injection, cleanse the skin. The needle orientation is cephalad to caudad if the patient is in the sitting position versus caudad to cephalad in the prone or lateral position³. Use an in-plane approach to needle visualization. The entry into the skin will be shallow so a bend in the needle at or near the hub will facilitate in the advancement of the needle further into the muscle layers. The transverse process is a sonographic landmark and backstop for needle advancement (see figures 3 and 4). The optimal plane for local injection is deep to the erector spinae muscle group, which allows for extensive cranio-caudal spread and coverage of multiple dermatomes²⁰.

An advantage of performing the ESPB is that there is less risk compared to a neuraxial or paravertebral technique, as there are fewer structures at risk for needle injury. An additional advantage is that if a long-acting block is needed, placement of an erector spinae catheter connected to an infusion pump will extend the pain relief sought by performing the block.

Complications:

One disadvantage of the ESPB is the potential individual variability of local anesthetic spread, which is discussed above. Other potential disadvantages of performing the ESPB include local anesthesia toxicity, pneumothorax, bleeding, muscle injection, nerve or muscle damage, epidural or spinal block and possible infection.

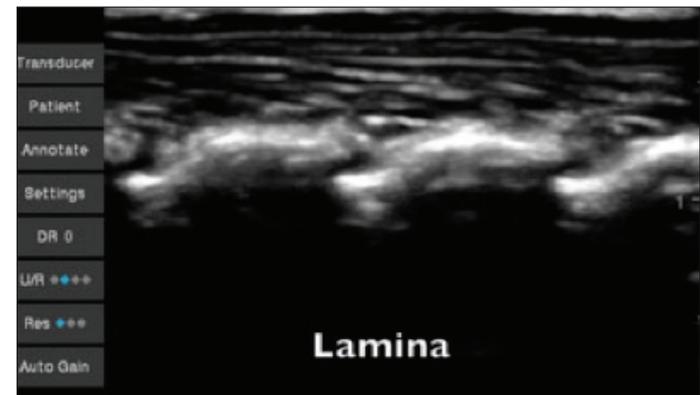
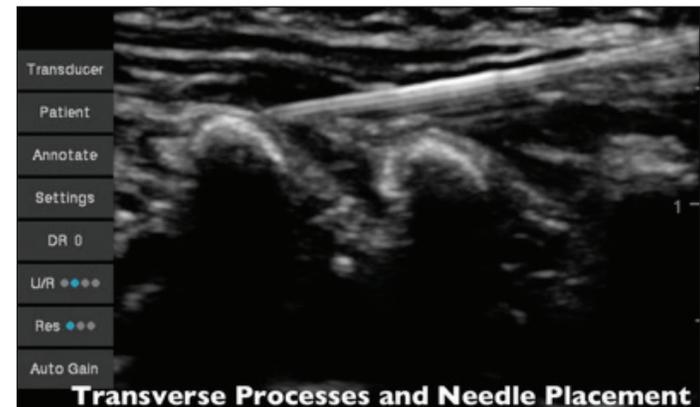
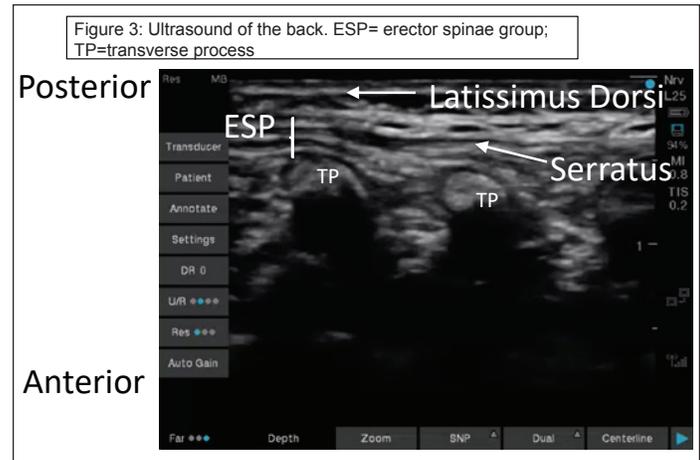


Figure 4: Ultrasonic images of TP with needle position and the laminae. Note the different shapes of the TP and the lamina. This knowledge will assist in proper needle placement.

Clinical Pearls:

1. Position the patient so that they are stable.
2. Perform a pre-scan to note any anatomical abnormalities of hardware that may alter your approach. Make note of how the laminae and the transverse processes appear. Doppler the area to avoid any vascular structure that may be lurking.
3. Position yourself so that you are comfortable and will not fatigue easily.
4. Owls or bolsters under the wrists will prevent muscle fatigue and help to steady the hands.
5. A small poke into the skin with an IV needle can help advance the long thin block needle through tough skin

In Summary:

The ESPB is an exciting new regional technique that is increasingly being utilized in the peri-operative setting in both the adult and pediatric population²¹. As an alternative to a paravertebral or epidural block, the ease of placement of the ESPB holds much promise. Utilizing the transverse process as the backstop for needle advancement is a major advantage for providers who are trying to incorporate this block into their practice. However one must be cautioned that this block may result in local anesthetic spread to unintended areas²².

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