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New Jersey Pediatrics is the Official Journal of the New Jersey Chapter, American Academy of Pediatrics
Finding a Way Toward a New Normal

These are extraordinary times. Pediatricians have risen to the challenge across the state and across the country. With payment for telehealth services, many practices have been able to expand their care of children beyond the office walls. The AAP and the NJAAP are working to ensure that telehealth service payments continue so that offices can incorporate telehealth into their practices in the future. Pediatricians have instituted measures to ensure the safety of children who need to be seen in person. This despite the challenges of acquiring affordable personal protective equipment, a drop in patient visits and a need to protect themselves and staff during this pandemic. A recent report based on insurance claims by FAIRHealth showed that the overall volume of pediatric office visits decreased significantly during the height of the pandemic by as much as 60%. However, visits for 0-4 year olds were preserved as pediatricians prioritized the need to complete the primary vaccine series and offer their evaluation and guidance expertise to families with young children. Visits are now increasing as practices (including specialists and surgeons) are finding their way to a new normal that provides the care children need and deserve while adapting to the new challenges of COVID-19: medical, emotional and financial. NJAAP continues to work with the NJ School Nurses Association and others to help children get back to school as soon as it can be done safely. The AAP, CDC and NJDOH guidelines for return to school are based on two basic principles: the importance of school for healthy growth and development, and the safety of children and staff in the school environment.

These times are also ordinary. The risk of drowning, heat stroke, mosquito and tick-born diseases are higher this summer as they are every summer. Vaccination remains an essential tool in our service to children and practices are now working to get all their patients up-to-date. This is the time of the year when pediatricians are busy with school and preparticipation physicals. Important screenings for autism, depression and other conditions remain essential services for children. NJAAP continues to work with payors and regulators to ensure that the essential work of Pediatrics continues. The 2020-2021 NJAAP Agenda for Children which helps Legislators and others understand the value and priorities of our membership will be released this summer and will be available on our website. NJAAP continues to work with partners across the state on many fronts and information about current projects and opportunities to participate are available on our website.

As we continue to move toward a new normal, our major spring events have been transformed. We were all disappointed that our Childrens Ball and Annual Meeting were put on hold. But the good news is that they have simply moved into the virtual world and will take place this fall. Our School Health Conference which is normally held in the fall has likewise entered the virtual realm. Tickets for all three events are now available. In addition, we have added a summer CME series to our educational portfolio, which is accessible on-line in the Chapter’s members-only area. Our Monday Q&A sessions will continue on an every 2-3 week basis. Many have found them valuable as together we move toward a new normal.

Be safe, take care of each other and as always, NJAAP is here to serve the children of NJ, our members and our partners.

On 7/29/2020 The AAP Board of Directors issued the Policy Statement “Truth, Reconciliation, and Transformation: Continuing on the Path to Equity”. First it is an explicit apology to Dr. Roland Boyd Scott and Dr. Alonzo deGrate Smith who suffered injustice when their initial applications for membership in the AAP were rejected based on race. It was not until 6 years later that they became the first Black members of the AAP. Second it describes a commitment to a bylaws amendment to codify non-discriminatory membership criteria as a necessary step in the path forward to address challenge of creating a more just organization and a more just world for the children we serve, our communities and ourselves. I urge each of you to read the Policy and the accompanying letter to understand the harm that was caused and the way in which the AAP is “turning those pains of conscience into plans of action”(-Sally Goza, MD, FAAP). I further urge each of you to become a part of the important work that needs to be done. You can start today. One step is all it takes to begin. To paraphrase Edward Everet Hale: I am only one, but I am one. I cannot do everything, but I can do something. And I will not let what I cannot do keep me from doing what I can do.
The new normal and the road to recovery

This time last year we were celebrating the summer solstice and enjoying all the amenities of the season. The world looked very different one year ago but one thing has not changed—our fervent commitment to the mission of ensuring the safety and well-being of all children. The pandemic has transformed the way we go about our daily lives. It has also challenged us to be forward thinking, creative and innovative in the delivery of care and services to the pediatric community. We will do this with resiliency, courage and fortitude as we navigate the remainder of this year.

NJAAP has been steadfast in its commitment to ensure clinicians are equipped with timely clinical updates on its weekly Q&A sessions, educational webinars and resources to help navigate the ongoing healthcare crisis. We encourage members to continue to write in and tell us what they are experiencing within their practice settings. If there is an emerging issue you would like us to discuss on a future Q&A session or webinar, please write or call us to make a request. Send an email to covid@njaap.org and share your thoughts on how NJAAP can be a resource.

As part of an effort to help practices raise awareness to parents and caregivers, a back to the office toolkit was developed to help pediatricians inform patients and families that pediatricians are open for business. The intent is to reassure parents and caregivers that it is safe to bring children in to see the pediatrician. AAP national has also launched a “Call your Pediatrician” campaign to engage parents and caregivers that it is safe to bring children in to see the pediatrician. NJAAP is moving to a virtual platform for three of its premiere events this year: Children’s Ball, School Health Conference and Annual Meeting.

Please help us celebrate the achievements of this year’s honorees Dr. Stephen Rice, Pediatrician of the Year, Champions for Children, First Lady Tammy Snyder Murphy, Dr. Barbara Ostfeld and recipients of the Youth Achievement Awards, Melissa Teitelbaum and WITS Club of Stillman. Be prepared to be entertained and celebrate the accomplishments of our child health heroes. If you have not purchased a ticket, there is still time to register at https://njaap.org/events/njchildrensball/

This year the School Health Conference (SHC) will highlight virtual talks on COVID – lessons learned, pandemic preparation, pediatric suicide, hypertension in kids, dermatology, legal issues in school health, vaccination legislation and more. You don’t want to miss the premiere school health event of the year. If you haven’t registered, please register at https://njaap.org/events/shc/.

to the deplorable acts of racism on the black community. We stand firm in our efforts to enact change by empowering all communities to take action through advocacy efforts to eradicate unjust policies impacting people of color. Of equal importance is the power of the ballot and the need to speak up for an equal and more just society.

NJAAP has formed a Diversity, Equity and Inclusion Committee to identify and recommend policies to establish a more diverse and inclusive organization. This committee will work to improve policies and practices throughout the chapter and support fair and equitable opportunities for child health, staff, members, volunteers, partners and vendors. If you are interested in joining this committee please email us at njchapter@njaap.org.

NJAAP also held an informative Q&A session in July on racism, its impact on child health and the role of the pediatrician in providing care. These powerful conversations will continue throughout the year and we hope many members will join us in these conversations.

NJAAP Events going Virtual

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Medical Director’s Column

Steven Kairys, MD, MPH, FAAP
Chairman of Pediatrics,
Hackensack Meridian Health School of Medicine
Medical Director, NJ Chapter, American Academy of Pediatrics

Living through two societal culture shattering crises in the past few months has shaken all of us, left us feeling vulnerable, but also given us the opportunity to be part of the re-building and reformation.

COVID 19 is far different than the hurricane crises that blast through New Jersey periodically. As pediatricians, we are usually onlookers, helping our patients and families deal with the material and trauma after effects. But COVID affects our personal lives, affects our workplace and staff, and affects our livelihood. None of us were alive for the 1918 pandemic, but this pandemic, even with all of scientific advances, was worse. We are more crowded and we are a petri dish for spread. Our public health system is less secure and there is an anti-science backlash that we first experienced with vaccine refusal.

NJAAP has been at the forefront of supporting our State’s pediatricians and the children they serve. Using weekly webinars, regular e-blasts, promoting and mentoring telehealth, and advocating for financial support for pediatricians hard hit by loss of volume has been on going, and will continue until we all return to whatever the new normal will be.

NJAAP has had its own crises; the office closed, everything went virtual, contract obligations needed to be altered and re-negotiated. Major conferences needed to be revised and re-scheduled. A new CEO was taking charge just as the pandemic was brewing. The leadership at the staff level and at the executive council level has been exemplary, and we start the summer with new ideas, new programs, and many new Pediatric members. I think membership is more likely to see NJAAP as an important ally and more likely to participate in the many programs and projects.

The second national crisis centers on racial disparity, and in particular societal disparities to African Americans. This has smoldered for years and yet little has changed. This current focus feels deeper, feels like more than the usual activists are engaged, and major institutions like medical schools, health care systems and governmental organizations are seriously looking inward to what they can do to make structural changes.

NJAAP has also begun to look at its programs and advocacy agenda in this new light. Health care and Pediatric care has built in disparities. COVID 19 is but the latest example of the disparities. Anyone of us who have grown up in our culture has implicit biases that unconsciously alter the way we stereotype. Physicians use two systems for decision making- a slow system that is controlled and cognitive and a fast system that takes mental shortcuts in fast paced environments—a more automatic decision making that can be greatly influenced by implicit bias.

And there are structural issues also. Health inequality refers to differences in the health of a population. Health Inequity refers to inequalities that are unfair, unjust, and avoidable. The high rate of black infant mortality, the higher rate of SIDS, pain management of children with Sickle Cell disease, asthma care, access to care all have roots in both inequality and inequity. There is much we can do to shine a larger light on our current strengths and opportunities and then on the educational or system level changes that need to take place to make sustainable improvements.

Racial disparity advocacy will fall victim to the next crisis that occurs or to the backlash that is sure to follow. We should instill the focus into all that we do and have it be a formal part of our chapter’s future.

CEO Column continued from page 4

NJAAP’s Annual Meeting will also be held virtually on Wednesday, November 18. Featured topics include infectious disease updates, scoliosis, gun safety, vaping and more. Sign up for our quality workshops conducted by renowned speakers on topics such as atopic dermatitis, child safety, recurrent abdominal pain, breastfeeding strategies and more at https://njaap.org/events/ac/. Earn up to 7 MOC Part 2 points by attending the Annual Meeting.

Advocacy

NJAAP is calling upon all of its members, fellow pediatricians and families to act swiftly and advocate for the continuation of funding for the state’s Child Collaborative Mental Health Care Program, also known as the Pediatric Psychiatry Collaborative (PPC) program for its sixth year. This program provides immediate assistance to many children in need of psychiatric consultation; therefore, your immediate action is required. We urge you, your patients and families to contact your legislators today to demand financial support for a program that impacts thousands of children. The PPC program has screened over 182K patients for behavioral health disorders and over 11,000 children received mental health consultation services throughout the state. The mental well-being of children will be sacrificed without funding. Call your Senators and Assemblyman today and ask for their support of the continuation of the PPC for the 9 month fiscal 2021 budget!

Fundraising

In March 2020 NJAAP launched the NJAAP Kids Fund, an individual giving fund aimed to provide support for programs impacting the health and wellness of New Jersey’s children. The effect of COVID-19 on children are far greater than we know. We urge you to support us as we fight to keep these much needed programs, such as the Pediatric Psychiatry Collaborative (PPC) in place. NJAAP requires funds beyond your annual membership dues to continue these programs. With your contribution, you can make a difference to ensure approximately two million New Jersey children have access to services such as quality mental and behavioral health referral services, clinical assistance related to adverse childhood experiences and overall health and wellness. If you care about the continuation and expansion of quality child health programs, please consider making a donation today. Visit www.njaap.org and click on the donate button.

Career Center

In June, NJAAP launched its new Career Center www.careercenter.njaap.org. You may also access the site from the NJAAP website (under the About tab) to learn about recent job listings, career advice articles and free resume critiques. The mobile responsive platform will allow you to search jobs and easily apply from any mobile device. NJAAP members who are employers receive a deep discount on job postings, starting at $179 per posting for 30 days. Members are encouraged to upload their resumes to increase their visibility with employers.

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Anxiety in Children in the COVID-19 Era

Anxiety disorders are the most common mental health disorder in children, especially pre-pubertal children. Rates of anxiety are as high as 20% in many surveys with lifetime anxiety scales at 30%. The National Survey of Children’s Health is conducted every three to four years and anxiety appears to be increasing. The 2011–2012 survey showed an increased rate of 15% from 2007. The rates for mild, moderate and severe symptoms were as follows: 48%, 36% and 15%, respectively. Children with moderate to severe symptoms were associated with parents with high parenting aggravation and unmet personal health needs, including mental health services.

Epidemiology and Background

Anxiety disorders are separated into six major categories:

Generalized Anxiety Disorder

A tendency to worry about a wide range of negative possibilities, such as the fear that something bad will happen. This is repeated and long term and often pervasive to include family and friends, school, sports and even minor daily issues. There is often the need to regularly seek reassurance from parents or other people; avoid the potential triggers as much as possible; and avoid making mistakes. It is often associated with sleep problems and can be irritable when worried.

Sarah is late getting up for school. She tells her mother, “I don’t want to go to school. My stomach hurts.” What should be a routine morning turns into a challenge. Her mother’s initial reaction is to reassure Sarah that everything will be okay. And when that doesn’t work, she ups the sales pitch and promises Sarah that she will be fine once she gets to school. The next phase is frustration, as she demands that Sarah go to school, or there will be consequences. Sarah’s responses intensify.

Anxiety in children is one of the most common mental health concerns. The COVID era has added additional environmental fears and triggers. This review will focus on the current understanding about the epidemiology; etiology; types of anxiety; prevention and early detection; and primary care management.

There is a lot of developmentally normal anxiety about new events or changes in routine. Is it a phase or a disorder? When the anxiety interferes with daily life, i.e., having or making friends, school difficulties, family relationships, not able to recover when the event is no longer present, worrying about future events and worrying in multiple settings, then the anxiety is abnormal. And the child and family may need help.

Nearly all children experience short periods of anxiety. Young children can worry about the dark or large animals. Older children can exhibit anxiety around parental illness or having to perform in public. The worry, however, is not extended or overwhelming and not out of proportion to the reality of the situation.

The core feature of anxiety is avoidance—either actual avoidance of the triggers or a more subtle uncertainty or ritualized response. The avoidance is a response to the anticipation of a threat that is perceived by the child. The avoidance to the threat involves worry, an anxious response, negative thoughts and a variety of somatic responses, e.g., headaches, chest pain, abdominal pain, nausea and vomiting, diarrhea, muscle spasms and sleep disturbances.

Children with anxiety also had increased risk of co-occurring behavioral and chronic health conditions. Even when adjusting for these co-morbidities, children with anxiety had greater use of health services, increased school problems and parenting aggravation.

Anxiety does run in families. Anxious children are much more likely to have parents who too are anxious. There is some specificity to the transmission of anxiety in families. For example, people with social phobias are more likely to have children with the same pattern. This is different than research on genetics which has, thus far, failed to show the same relationship.

Genetic studies, however, estimate that at least 40% of people with anxiety is mediated by genetics. The major focus has been on the 5HTTLPR serotonin transporter gene, but there is wide variance in the relationship of symptoms and this gene sequence.

Temperament, which is also genetically transferred, has a clear association with anxiety. Temperamental characteristics of shyness, inhibition, withdrawal and fearfulness are closely associated with anxiety. The most common assessment of inhibition can be done in the pre-school years. Common features include withdrawal from anything new, a slow-to-warm personality, limited eye contact and excessive attachment to an adult caregiver.

There are environmental, parental and family factors in addition to genetics and temperament. Parents of anxious children are often over-protective, intrusive and more negative than other parents. Certainly, inhibited children may bring out these behaviors in their parents, so it’s hard to ascribe this to the parents only. There is also the poorly studied hypothesis that an anxious parent will model such behaviors to their children. Dysfunctional households with chronic distress and violence can definitely induce anxiety but here often the child has more pervasive disorders. Lastly, life events can trigger anxiety, from natural disasters such as hurricanes and earthquakes to parental loss. Clearly, bullying and teasing are associated with anxiety; but again, anxious and timid children are more likely to be victimized.
Separation Anxiety

Separation anxiety is the resulting fear that something bad will happen to the child or to an attachment adult when they are separated. Thus, the child tries to avoid the separation. The child can have dreams of separation and will avoid any event or situation that would involve separation. The worries about separation can include fear of injury to the child or parent, being kidnapped or even killed. There are often physical symptoms such as emesis, diarrhea and abdominal pains. School refusal is one major manifestation in addition to extreme homesickness or demanding that someone stay with them at bedtime.

Social Phobia

Social phobia is characterized by a child’s avoidance of social interaction for fear they will draw a negative response from others. These phobias can include all sorts of social activities from speaking or performing in front of others to meeting new children, talking to authority figures (e.g., teachers), being the center of attention and fear of dating for adolescents. These reactions are often driven by concerns that others will perceive the child as being stupid, unattractive or odd.

Specific Phobias

Avoidance in response to a specific cue. The belief that those situations or objects will lead to personal harm. Common phobias in children include animals, spiders, the dark, loud noises or storms, unusual looking people, illness and injections.

Panic Disorder

Unexpected panic attacks commonly involving several somatic symptoms and fears of dying. The somatic symptoms peak quickly and then subside. Symptoms include palpitations, chest pain, dizziness and breathlessness. These attacks can come out of the blue.

Agoraphobia

The additional fear that is due to the fear of a panic attack in certain situations. Places where a quick escape is difficult, as public transportation, enclosed spaces, cinemas and heavy traffic. There is a common reliance on specific safety cues - often a safe attachment figure.

Selective Mutism

This uncommon anxiety disorder in young children is manifest as an inability to talk in selective social settings, commonly at school. Most of these children can speak in situations where they are more comfortable and secure. And many of these children show an impairment in communicating in a nonverbal manner, especially in situations where the child is confronted by many others, such as in a school environment.

Co-Morbidities

Anxiety disorders are often associated with mental health disorders that include depression, ADHD, obsessive compulsive disorder or substance abuse. Some studies document that as much as 40% of children with anxiety disorders have at least one co-morbid condition. At times, the co-morbid condition becomes clearer once treatment begins for the anxiety, only to find other symptoms bubbling up into focus.

Impact of Anxiety Disorders on Functional Status

Overall anxiety is associated with poor function that is observed across all types of anxiety disorders. Generalized Anxiety Disorder and Separation Anxiety have the most profound impact on quality of life. The disorders affect home life, school performance, social connections, self-esteem and physical health. Untreated anxiety increases the risk of further impairment from co-morbidities, especially depression and substance abuse in older children.

Primary Care Assessment of Anxiety

Parents are often the ones raising concerns about their child’s symptoms or functional changes. The challenge is in deciding whether the presentations are developmentally appropriate fears or are representative of a more pervasive concern. As mentioned previously, anxiety disorder, as compared to normal worries, are extended, out of proportion to normal expectations and impactful for general functioning; they are severe and persistent.

A clinical interview with the parents and the child, alone if possible, can be very helpful. Ask about general physical symptoms - sleep and eating, social interactions and school performance. Attempt to understand the child’s inherent temperamental style and how he or she handles new situations and stressors. A family history of anxiety very often accompanies childhood anxieties. Ask for collateral information from the school or from other important parts of the child’s life.

The general evidence-based mental health screens can be very informative and provide more support for a diagnosis. The SWYC (Survey of Wellbeing of Young Children) and the Pediatric Symptom Checklist will highlight anxiety concerns. There are also specific secondary screens that some pediatricians will use to further support the potential diagnosis. The Preschool Anxiety Scale adds additional details for young children and the SCARED (Screen for Child Anxiety and Related Disorders) is a simple Likert scale questionnaire that has high sensitivity and specificity. SCARED is available at no cost at www.pediatricbipolar.pitt.edu under Resources/Instruments.

continued on page 8
If a diagnosis of an anxiety disorder is suspected, the New Jersey Pediatric Psychiatry Collaborative (PPC) is a wonderful support for the pediatrician and the family. It is a statewide system that providers can offer to their families. Nine Hubs are available throughout the state to work with families to find the right services for their child. Each Hub has social workers and a child psychiatrist. The Child Psychiatrist is available to talk to the pediatrician and give advice and will also see the child, free of charge, within days if additional evaluations are deemed necessary. The primary care pediatrician will be informed of the developed care management strategy and be asked to continue to provide general care management for that child. For those pediatricians competent and comfortable with direct management, then the child can be followed and managed by the pediatrician. The PPC is supported with funding from the NJ general state budget, through the NJ Department of Children and Families. Hackensack Meridian Health, along with partners Cooper University Health Care and Atlantic Health System, manage the regional Hubs. The Essex County Hub is managed by Rutgers University Behavioral Health. Since its existence, over 150,000 children have been screened and over 10,000 managed by the HUBS. Almost 600 pediatricians are members and are asked to use evidence-based screening. To learn more about the Collaborative, visit https://njaap.org/programs/mental-health/ppc/.

Management of Children with Anxiety Disorders

Most children with anxiety disorders are treated with short term psychological interventions.

One low intensity process is bibliotherapy during which cognitive behavioral therapy is delivered by the parents and supported by a therapist. Parents are guided to use an instructional book that teaches how to respond and help their child deal with their anxieties. In some studies, almost 90% of children showed improvement. A similar sort of intervention used computer programs to utilize similar therapy. These are augmented by group, in person, or telephone contact with the therapist. Two of the e-therapies are BRAVE for Children-Online and Camp-Cope-A-Lot: The Coping Cat. For both of these electronic programs, the child completes a series of computerized CBT sessions with some additional sessions for the parents that are all supported by the therapist. Cool Teens is a specific anxiety program for adolescents.

There are higher intensity programs for children with more prolonged or pervasive disorders. More prolonged CBT is highly effective with some studies showing 60% improvement after a few months, especially for older children. Even children younger than seven years of age have been shown to be able to respond to CBT, usually as part of a parent-child intervention.

Most of this CBT is general and not specific to the specific anxiety. Recently, disorder specific therapies have been evaluated and appear to be more effective than generic CBT. Social phobias have been the most resistant to general therapy, and these appear more amenable to specific interventions.

All interventions should be provided by trained therapists who themselves are regularly supervised and mentored. Treatment should be based on evidence-based treatment manuals. The therapist needs to work not only with the child but also the parents and, at times, the school or other environments as well.

Medication

Anxiolytic medication can boost the effectiveness of CBT. There is still a lack of consensus at what age medication would be safe and useful. It is also uncertain what the duration of treatment should be and what the clinical consequences are for stopping the medications. For these reasons, most guidelines recommend psychological treatment as the first line and use of medication as adjunct, depending on the severity and resultant impairment.

SSRI’s are the preferred medication for anxiety disorders. Benzodiazepines have not been systematically studied in children and concerns remain about dependency and side effects.

Fluoxetine is very effective and usually well tolerated. Children with only one type of anxiety disorder respond well to a lower dose of medication than those with multiple disorders. Sertraline and Paroxetine are also well tolerated and effective. All of them can cause Gastrointestinal side effects, some emotional lability and the increased concern for suicidal ideation.

There are some herbal medicines that have shown to have some positive effects. Kava, and to a lesser extent, Inositol have some evidence of mild benefit and are relatively free of side effects. There is no evidence for benefit from other approaches such as use of omega-3 fatty acids.

There are some predictors of treatment effectiveness. Older adolescents have more difficulty with remission. Having a first degree relative with anxiety is also associated with a poorer outcome. Children with more positive family functioning will do better. Co-morbidities also make successful outcomes less likely.

Prevention of Anxiety Disorders

No pediatric discussion of anxiety would be complete without review of anticipatory guidance and other preventive approaches. There are many more children with anxiety symptoms than meet the specific criteria of an anxiety disorder. Anticipating age specific anxieties can be very helpful as part of well child care.

Asking about anxiety symptoms or using the evidence-based screening tools to show some mild to moderate symptoms are a useful way during well child care to discuss common anxieties and parental approaches to supporting and demonstrating effective approaches for decreasing their impact. Parental anxiety greatly increases the impact of child anxiety; thus counseling parents to get help can be of great benefit for their child. Teaching relaxation approaches, communication and problem solving skills can be very supportive.

continued on next page
There are a number of preventive programs now employed by some schools. Cool Kids and Cool Little Kids is one of the most studied and employs six group sessions with parents of high risk school aged children.

Recommendations for parents on how to help children and families impacted by the COVID 19 pandemic.

1. Make sure that parents have the right facts about COVID-19. There is much confusion and a lot of myths, so make sure you are giving the most up to date information.

2. Create a routine - make sure there is a daily structure; routines help children anticipate what is coming and makes them feel safer and more secure. Structure imparts stability. A healthy routine includes a regular sleep schedule, healthy eating habits and daily physical activity. But let the child know that this new routine is not forever and also be flexible and allow for alterations if there are issues that need to be handled. Keep communication lines open.

3. Check in regularly, listen and watch. Children need parental love and attention during difficult times. Be kind and supportive. Try to keep your children close and avoid long separations. If separations do occur, like a hospitalization, make sure there is a well discussed process for regular contact. Be concrete and specific.

4. Catch the early signs of anxiety. For some it could be nail biting. For others it could be restlessness, excessive worry, sleep or eating changes, increased impulsiveness or inattention. For younger children it could be increased tantrums or meltdowns. For teens it could include increased isolation in their rooms.

5. Help your child when anxiety symptoms appear. Teach taking deep breaths or going to a safe place to relax. Set up a special place that includes something to hold and activities to do such as drawing or reading. Talk about the anxiety directly and honestly. Let them know how you are feeling and how you are dealing with your own anxiety.

6. Help your children learn to keep things in perspective. Avoid too much television and social media. Focus on positive things in your family. Focus on what you can control and try to avoid too much ‘what-if’ thinking. Encourage positive thinking and help them to reframe negative thoughts into those that are positive. Take the time to share what you are grateful for and how much you appreciate what your child is experiencing.

7. Stay connected with others. Take advantage of face time and video communications. Check in regularly with family and friends.

8. Take care of yourself, and practice prevention.

9. Get professional help when signs and symptoms escalate.

Although it appears that COVID will never end, we are already starting to slowly reboot our way of life. It will be slow but it has started. Continue to be safe, wear a mask in public, wash hands regularly and keep yourself and your family safe.

CME Quiz on page 10
CME Quiz

1. Physical symptoms which tend to occur when separation is anticipated are more common in:
   a. GAD
   b. Social phobia
   c. Panic disorder
   d. Separation anxiety

2. Generalized Anxiety Disorder and Social Phobia have the most profound impact on quality of life.
   a. True
   b. False

3. Compared with other anxieties, children with social phobias are more likely to:
   a. Repeatedly seek reassurance
   b. Worry too much about family finances
   c. Worry about others thinking they are unattractive or stupid
   d. Avoid public transportation or enclosed spaces
   e. Repeat behaviors again and again

   a. True
   b. False

5. SSRI’s are indicated
   a. As a first line treatment
   b. When there is little improvement to CBT
   c. In older children
   d. When there is a co-morbidity
   e. Should never be used

6. Best advice to parents helping their child deal with COVID
   a. Don’t talk to your children about the virus
   b. Let the child have freedom to decide how the day should go
   c. Give the child free access to social media
   d. Be there for your child- keep communications open and honest

7. The PPC Hub Psychiatrist is available to talk to the pediatrician and give advice and will also see the child, free of charge, within days if additional evaluations are deemed necessary.
   a. True
   b. False

8. Recommendations for parents on how to help children and families impacted by the COVID 19 pandemic include:
   a. Keeping communication lines open
   b. Avoiding too much television and social media
   c. Making sure there is a daily structure
   d. All of the above

9. An uncommon anxiety disorder in young children that manifest as an inability to talk in selective social settings refers to:
   a. Social Phobia
   b. Agoraphobia
   c. Selective Mutism
   d. Panic Disorder

10. The SWYC (Survey of Wellbeing of Young Children) and the Pediatric Symptom Checklist are evidence-based mental health screens that are very informative, as they highlight anxiety concerns and provide more support for a diagnosis.
    a. True
    b. False
Introduction

The relationship between childhood abuse, neglect, and household challenges with lifelong health and well-being was largely misunderstood before the CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) Study in 1998. This study was one of the largest investigations done to date on this topic. The study was conducted from 1995 to 1997 with more than 17,000 health organization members from Southern California. The study demonstrated a strong correlation between the breadth of exposure to abuse, neglect, and household dysfunction during childhood and myriad risk factors for several of the leading causes of death in adults.

ACEs is a term that describes all types of abuse, neglect, and other traumatic experiences that occur before the age of 18. Since the original study, states have been collecting information about ACEs through the Behavioral Risk Factor Surveillance System (BRFSS), which is an annual state-based, random digit dial telephone survey that collects data from non-institutionalized US adults regarding health conditions and risk factors. The data collected from 2009-2018 largely reflects the data from the original study. The challenge now is to determine how we, as primary care health professionals can use this information to prevent future ACEs or mitigate the impact suffered by patients who have already been exposed to adverse experiences.

The goal of our participation in the NJAAP Healthy Spaces Quality Improvement (QI) Project was to determine if utilization of the ACEs screening tool was practical and impactful to the population served at our pediatric clinic in New Brunswick, New Jersey. Our outpatient clinic at The Children’s Hospital at St. Peter’s University Hospital provides more than 18,000 visits per year for children up to 18 years of age. The population served is mainly first generation Hispanic children, with many being undocumented and without insurance, which greatly impacts mental health. To best serve patients with mental/behavioral health-related conditions, our clinic enrolled in the Pediatric Psychiatry Collaborative (PPC), which is comprised of regional hubs that provide ready access to psychological and psychiatric consultation for pediatric patients with ongoing mental and behavioral health concerns. With this resource at hand, we aimed to provide accessible and efficient treatment options for patients who screened positive for ACEs.

Methods

The QI project consisted of seven cycles of data collection for patients ages 0-18 years, utilizing the ACEs questionnaires derived from the original Kaiser Permanente Study. Questionnaires consisted of 10 yes or no questions and were administered by age group:

<table>
<thead>
<tr>
<th>Parental ACE-Q</th>
<th>Birth (0-5yrs)</th>
<th>6-12yrs</th>
<th>13-18yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child ACE-Q (Parent/Caregiver Report)</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Teen ACE-Q (Self-Report)</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teen ACE-Q (Parent/Caregiver Report)</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At intake for a well-child care visit, staff provided patients with an ACEs questionnaire. Each administered screening tool was then scored by the physician and discussed during the well-child visit. Anticipatory guidance provided based on screening results. A score ≥4 was considered high risk and served as an indicator to refer the patient for services through the PPC.

To introduce the project to the clinic, the first cycle data collection focused on incorporating the parent survey into the visit. All subsequent cycles implemented all four surveys. For each of the data collection cycles, seven patient records from each age group (birth-5 years, 6-12 years, and 13-18 years) were randomly abstracted to assess for documentation of screening and provision of anticipatory guidance. A total of 21 charts per cycle were included in the analysis.

Results

Through the seven-cycle period our clinic’s aim was to screen 70% of patients using the age-appropriate ACEs screening tool(s), which our clinic achieved during cycles 5 and 6. In the graph below, cycles 1-4 show 0% use of the ACE screen as chart retrieval inadvertently incorporated non-participating physicians. We observed a steady increase from 33% usage in cycle 1 to 100% usage in cycle 6 for patients who were in need of referrals and actually received them. Anticipatory guidance was provided during all 6 cycles, increasing to 100% by cycle 5.
Provision of resources, both educational and behavioral, were fairly consistent ranging from 43% to 90% throughout the six-month QI program. The families we believed to be low-risk were identified through screening and received referrals to appropriate services. Low-risk referrals varied throughout the program, with 100% of low-risk individuals receiving referrals by cycle 6.

High-risk family referrals were N/A or 0% throughout the program likely because some high-risk families were already receiving psychological/psychiatric services. The slight increase in referrals over time may have been due to incorporation of assistance provided by referrals to the PPC. No DCP&P referrals were made through the clinic during these cycles because patients in need of referral were already receiving DCP&P services.

Discussion/Conclusion

Our QI project resulted in increased awareness of ACEs among clinic staff and patients. This project led to a more systematic and proactive approach in detecting ACEs with an effort made by clinicians to identify previously undetected ACEs. We found that the ACE screening tool opened dialogue with patients about mental health and detected previous adverse events that would have otherwise gone unaddressed.

Data from the final cycle of chart abstractions showed that utilization of age-appropriate ACEs screening tool(s) were an effective way to identify patients who could benefit from referral to mental/behavioral health resources. With support provided by PPC Hub staff, patients were provided quick access to the mental/behavioral services needed.

However, implementation of ACEs screening at our clinic was not without challenges. Education and compliance of the staff and parents, unwillingness of the patients to disclose private information, and the length of time it took to complete each questionnaire were all obstacles to implementation. Data abstracted for cycles 1-4 was limited as chart retrievals included non-participating physicians. Over time, non-participating physicians saw the value of the project and are now screening for ACEs at the clinic.

Primary care pediatricians and their Medical Home teams can play an important role in using ACEs screening to identify patients facing adversity and provide early intervention before symptoms manifest. Through this project, we learned the value and effectiveness of utilizing the ACEs screening tool to accurately identify and link families in our clinic to needed services. Our clinic team will continue to look for ways to incorporate the ACEs screening in the future and work on overcoming the aforementioned limitations.

Note from Attending Supervising the Team

When family needs exceed our previous expectations, understanding ACEs and its current daily exposures and future risks to well-being, mental health and physical health requires intervention in the Medical Home. Children will experience the stresses and emotions that come with a novel virus, geographic and school shut-downs, wearing face masks, witnessing anti-racism protests, loss of income and food insecurity but may not have the language to inform us that they are experiencing these daily events. ACEs screening allows us to be aware of the impacts being made on the developing brain of a child and offer assistance in coping strategies and referrals that will help support the child and the family through these times of crisis. It is the perfect storm but we are able to intervene by early screening, early recognition and early referrals so that children can return to the trajectory they were meant to be on. Our team consisted of residents and medical students that saw the fruits of our labor and will take this message forward to all they teach in the future. Thank you NJAAP for guiding us through this project and providing us with resources and educational materials to share with our patients so that the message continues.

References:


CME Quiz on page 13
CME Quiz

1. What does the term ACEs mean?
   a. Adverse Community Experiences
   b. Adverse Coping Experiences
   c. Adverse Childhood Experiences
   d. Adverse Clinical Experiences

2. Which of the following are considered ACEs?
   a. Child Abuse
   b. Child Neglect
   c. Household Dysfunction
   d. All of the Above

3. True or False: Primary care pediatricians and their Medical Home teams can play an important role in using ACEs screening to identify patients facing adversity and provide early intervention before symptoms manifest.
   a. True
   b. False

4. How many individuals were included in the original ACEs study?
   a. 9,000
   b. 17,000
   c. 15,000
   d. 10,000

5. Which of the following is a resource for NJ-based pediatricians supporting patients with mental/behavioral health concerns?
   a. The Pediatric Psychiatry Collaborative
   b. The Psychiatric Access Line for Kids
   c. The Pediatric Psychiatry Network
   d. The Child collaborative Consultation Program

6. True or False: A score of 2 or greater is considered high risk for ACEs screening.
   a. True
   b. False

7. How many questions comprise the ACEs Questionnaire for each age group?
   a. 2
   b. 5
   c. 10
   d. 12

8. True or False: Utilization of age-appropriate ACEs screening tool(s) are an effective way to identify patients who could benefit from referral to mental/behavioral health resources.
   a. True
   b. False

9. True or False: Since the original ACEs study, states have been collecting information about ACEs through which annual state-based, random digit dial telephone survey that collects data from non-institutionalized US adults regarding health conditions and risk factors?
   a. National Survey of Children’s Health (NSCH)
   b. National Health Interview Survey (NHIS)
   c. Pregnancy Risk Assessment Monitoring System (PRAMS)
   d. Behavioral Risk Factor Surveillance System (BRFSS)

10. True or False: ACEs screening allows us to be aware of the impacts on the developing brain of a child and offer assistance in coping strategies and referrals that will help support the child and the family through times of crisis.
    a. True
    b. False

CME Instructions

Read the CME-designated article and answer the Summer issue, quiz questions above. Print your name and phone number and mail or fax this form within six months from the date of issue to: NJAAP CME Quiz, 50 Millstone Road, Building 200, Suite 130, E. Windsor, NJ 08520 • Fax: 609.842.0015

NAME ___________________________ PHONE ___________________________

EMAIL ________________________________________________

Submitter must answer 8 of the 10 questions correctly to qualify for CME credit

Accreditation Statement:

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Medical Society of New Jersey through the joint providership of Atlantic Health System and the American Academy of Pediatrics, New Jersey Chapter. Atlantic Health System is accredited by the Medical Society of New Jersey to provide continuing medical education for physicians.

Atlantic Health System designates this live activity for a maximum of 1.0 MA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
Background: Early childhood represents a unique period of opportunity to impact a child’s development and life trajectory. It is a period of rapid brain development and also the time when the brain is most plastic to environmental influences. Overwhelming evidence supports the significant impact that children’s early experiences and environment have on all aspects of their development, and future well-being. While adverse childhood experiences and toxic stress can damage the developing brain, positive experiences and safe, stable, nurturing relationships with parents and caregivers can provide a foundation for optimal development and buffer against the adverse effects of toxic stress. Supporting families in positive parenting has the potential to positively impact the life course of a child, leading to future academic, economic, and social success, and better physical and mental health.

Pediatricians are ideally positioned to support parents in positive parenting since they have frequent contact with children in the critical early years of their lives and have trusted relationships with families. Studies suggest that parents are interested in discussing parenting issues with their pediatricians. However, most pediatric residency programs do not have a formal curriculum to teach residents the skills to effectively discuss these issues with parents and caregivers. A recent survey of pediatric residency program directors across the US and Canada revealed that although the majority (90%) thought that it was important to educate residents on parenting, only 11% rated their program as doing “very well” in this regard. Together with the Burke Foundation, the New Jersey Chapter, American Academy of Pediatrics (NJAAP) seeks to address this need by working with the NJ Pediatric Residency Advocacy Collaborative (NJPRAC) to bring a curriculum on early childhood development and positive parenting to pediatric residency programs across New Jersey.

Goal: The goal of this initiative is to provide residents at all nine pediatric residency programs in New Jersey (approximately 300 residents in total) with the knowledge and skills they need to support positive parent-child interactions and to promote early social, emotional, and cognitive development at regular well child visits.

Program Design: The program goal will be achieved through:

1. Implementing the Mount Sinai Parenting Center’s Keystones of Development online curriculum in all nine pediatric residency programs in New Jersey. This curriculum was initiated at Rutgers Robert Wood Johnson Medical School this spring and will be rolled out to the other residency programs on July 1st 2020.
2. Organizing a speaker series featuring leading experts in early childhood development to augment and build upon the Keystones of Development curriculum. This series will cover an array of topics such as trauma-informed care, early relational health, family strengthening, health disparities, and adverse childhood experiences (ACEs).
3. Collaborative learning across residency programs. Participants from different residency programs will share their experiences and exchange ideas at regularly scheduled meetings of the NJPRAC to identify and adopt best practices across programs.
4. Evaluating the effectiveness of the program in partnership with the Central Jersey Family Health Consortium. Based on the evaluation, changes will be made to the program as indicated, and further funding will be sought to continue ongoing implementation of the program.
The Keystones of Development curriculum was developed by the Mount Sinai Parenting Center and aims to weave the science of early childhood into well child visits. The curriculum consists of 13 online modules and focuses on six developmental keystones—secure attachment, autonomy, self-regulation, perspective taking, problem solving, and academic skills—that are evidence based and are predictive of future well-being. In the first part of the curriculum, residents will learn about the science behind the six developmental keystones. In the second part of the curriculum, they will learn how to weave the keystones into well-child visits with specific language and tools. Piloted in eight national sites, the curriculum has shown to result in statistically significant changes in residents’ knowledge, confidence, and self-reported behaviors related to advising parents on ways to promote child development. An online module for continuity clinic preceptors was created especially for this initiative in collaboration with the Mount Sinai Parenting Center so that all preceptors across the residency programs can be trained on the curriculum and can support its implementation in resident continuity clinics.

**Evaluation Plan:** Both qualitative and quantitative evaluation of the program will be conducted.

1. Resident pre- and post-surveys will be analyzed to assess change in knowledge, attitudes, and behaviors related to promoting positive parenting at well child visits.

2. Resident focus groups will be conducted for more in depth understanding of resident experience.

3. Surveys and focus groups of continuity clinic preceptors will be conducted to evaluate their perceptions on the curriculum’s effectiveness in teaching residents, impact on their practice, and usefulness for pediatricians in practice.

4. Effectiveness and acceptability of different models of implementation across residency programs will be assessed.

5. Data from the above will be used to guide program modification for future implementation in residency programs, as well as, for developing programs for pediatricians in practice.

**Preliminary data:** IRB approval was obtained from Rutgers Health Sciences IRB. Pre-intervention surveys were administered to all 32 pediatric residents at Rutgers Robert Wood Johnson Medical School. While 97% of residents agreed that parenting behaviors can be improved through interactions with a pediatrician during well-child visits, only 37% of residents agreed that they have the knowledge required to advise parents on parenting behaviors that promote a child’s social, emotional, and cognitive development. Even in the case of third year residents, a majority (60%) reported that they lacked the knowledge necessary for this.

**Discussion:** Although preliminary, baseline surveys at one of the residency sites revealed that most residents do not currently feel they are adequately trained to address parenting with parents and caregivers. This is consistent with the results from a recently published survey of pediatric residency program directors, which showed that the overwhelming majority of programs do not formally train their residents on this topic. While other programs to educate pediatric residents on parenting have been shown to be effective, they required a significant investment of time and resources. By using an online curriculum that minimizes faculty time and effort, we hope to offer residency programs an effective and sustainable way to achieve this. In addition, resident learning will be reinforced and augmented by offering access to leading experts in the fields of early childhood development through the webinar series and by the opportunity for collaborative learning across residency programs.

“The new parenting curriculum will be a great addition to the residency! It will give due attention to often overlooked determinants of child health. I’m excited to use this framework to better inform and counsel parents - I’m looking forward to these new conversations with families!”

– Michelle Gaglia, DO
PGY-1

continued on page 16
By educating pediatric residents in positive parenting, we aim to impact the promotion of strong parent-child relationships and support resilience in families served at resident continuity clinics throughout New Jersey, many of which serve the most vulnerable families. The importance and urgency of this is even greater at the current time as families face unprecedented stresses and systemic inequities are highlighted even more sharply. Moreover, by equipping the pediatricians of tomorrow with tools and skills that they can carry into their own practices, we can ensure that they continue this important work throughout their careers to improve the lives of all of the families that they care for.

“I applaud the program goals to educate pediatric residents in positive parenting to promote the parent-child relationships and support resilience, especially in our most vulnerable families... and during these particularly vulnerable times. “

– Sally Radovick, MD
Professor and Chair, Department of Pediatrics
Senior Associate Dean for Clinical and Translational Research
Robert Wood Johnson Medical School
Physician-in-Chief, Bristol Myers-Squibb
Children’s Hospital

The New Jersey Pediatric Residency Advocacy Collaborative (NJPRAC) improves child health by strengthening community health and advocacy training to empower pediatricians to effectively partner with community leaders and families to address local child health needs. Comprised of pediatric faculty responsible for community health and advocacy training at all nine pediatric residency programs in the state, NJPRAC is poised to lead community-level transformations to promote child well-being and improve the early childhood environment.

Funding for this work is provided by The Burke Foundation, a private foundation based in Princeton, New Jersey. It funds transformative early childhood initiatives to foster the healthy development of families and communities in New Jersey. The Burke Foundation focuses on three key areas: healthy pregnancies and births, healthy parent-child relationships, and high-quality early care and learning. Learn more at www.burkefoundation.org.

References:

5. Shonkoff JP; Garner AS; Committee on Psychosocial Aspects of Child and Family health; Committee on Early Childhood, Adoption, and Dependent Care; Section on Developmental and Behavioral Pediatrics. The lifelong effects of early childhood adversity and toxic stress. *Pediatrics.* 2012;129(1). Available at: www.pediatrics.org/cgi/content/full/129/1/e232.
The NJ Division of Medical Assistance and Health Services has made Medicaid changes to help families of children with special healthcare needs.

NJ Medicaid changes

A variety of changes have been made to help NJ families during COVID-19. These include:

- Continuous coverage—Anyone who had coverage effective 3/18/2020 will continue throughout the pandemic. This also includes renewals.
- Copays—There are no copays for COVID-19 testing.
- Premiums—There are no premiums for Medicaid until the emergency is over. Consumers will receive a $0 statement to indicate this.
- Prior-authorization—Prior-authorization requirements are temporarily suspended for any hospitalization.
- Telehealth—Medicaid providers have been authorized to provide virtual health care visits.
- Prescriptions—NJ Medicaid members may obtain 3-month supplies of medication. This also includes prescriptions for DME (durable medical equipment) and medical supplies. Note: There have been some difficulties noted if the family also has private coverage with Medicaid secondary, as well as with specialty pharmacies.
- High Risk—Medicaid care managers should be checking in with medically complex individuals and providing needed resources.
- Expanded HCBS (Home and Community Based Services)—NJ Medicaid is temporarily allowing family members to provide paid personal care assistance. Medicaid members who were in medical day programs can also receive home services.
- Transportation—Transport for testing is allowed using appropriate infection control techniques. Infection control is also being utilized for post-COVID hospital discharge.

These changes will help support NJ children with disabilities and their families through the pandemic.

Questions or Concerns? If you or your Medicaid patients have any questions or concerns about any of these issues, contact the HMO or Medicaid hotline at (800)356-1561. Families can also call the Medical Assistance Customer Center in their county found at https://www.state.nj.us/humanservices/dmahs/info/resources/macc/.

Resources

SPAN factsheet-Medicaid changes

SPAN Medicaid changes webinar
https://www.youtube.com/watch?v=-bqhRnRWtVM&feature=youtu.be

Lauren Agoratus, M.A. is the State Coordinator of Family Voices NJ, Central Coordinator for the NJ Family-to-Family Health Information Center, both housed at the SPAN Parent Advocacy Network at https://spanadvocacy.org/programs/f2f/.

No Medicaid terminations after 3/18/2020

Nationally, anyone who had Medicaid coverage effective as of March 18th cannot lose coverage during the Coronavirus outbreak. See page 5 of the FAQ from the Centers for Medicare and Medicaid found at:

Pediatricians in the state of New Jersey are unfortunately no strangers to audits and overpayment demands from private insurers and managed care organizations. However, even during the COVID-19 pandemic, that has shuttered many offices and reduced volume across the board, Horizon New Jersey Health (“HNJN”) has continued to feverishly audit practices. Adding insult to injury, HNJH will be implementing a new policy that is sure to have a significant impact on many pediatric practices in the state.

**Beware of Pre-Payment Review Audits**

COVID-19 has not stopped HNJH and other insurers from auditing practices. Since investigators cannot go onsite to conduct a document review and may not be able to do so for months to come, they have begun to use pre-payment reviews.

Our firm has seen a rise of HNJH pre-payment reviews. Although it sounds deceptively similar to a pre-payment audit it is starkly different from one. Pre-payment audits are handled by the audit department, are largely educational in nature, do not result in overpayment demands and can take a long time to complete, sometimes lasting over a year. If a provider remains on a pre-payment audit for an extended period of time, it impacts their cash flow, but it carries no penalty or overpayment demand.

When a provider is placed on pre-payment review, the insurance company’s special investigations unit is involved. A special investigation unit is the industry name for the investigators who look for fraud, waste, and abuse. After a couple of months of providers failing to correct documentation deficiencies in their audited codes, the special investigations unit will use the sample of claims evaluated during the pre-payment review to come up with an extrapolated overpayment demand going back up to six (6) years. Therefore, the potential exposure from just a couple of months of submitting unsupported claims can lead to a crippling overpayment demand, particularly during the pandemic.

To combat these pre-payment reviews, a provider will need legal representation and an independent certified professional coder who is experienced in navigating the red tape of pre-payment reviews and the process of appealing overpayment demands.

**New Policy on Allergy Testing**

As we have previously alerted pediatricians in this column, many insurance companies have been targeting pediatricians in recent years with post-payment audits for allergy testing and allergy treatment services.

HNJH will soon be implementing a new policy where only allergists and otolaryngologists may provide allergy services, including allergy testing, to children in New Jersey. Therefore, any pediatrician who does allergy testing will no longer be payed for providing these services and the continued billing of these services will likely lead to audits and possible overpayment demands.

If you have any questions concerning this new policy and its impact on your practice, please feel free to contact NJAAP.
As we write this article in the middle of July, New Jersey is one of a small number of States that is seeing a decline in COVID-19 hospitalizations. However, the State is far from out of the woods and there are still significant restrictions in place, particularly regarding indoor activities.

At the end of June, Governor Murphy and Education Commissioner Repollet announced the release of “The Road Back: Restart and Recovery Plan for Education” to assist schools with reopening in the fall. The guidance announces that, absent a change in public health data, public schools will open for in-person instruction and operations in some capacity at the beginning of the 2020-2021 school year. The guidance focuses on four key functional areas: conditions for learning, leadership and planning, policy and funding, and continuity of learning. The guidance sets the minimum standards for returning to school and serves as a toolkit for schools to use as they develop their recovery plans.

The guidance describes several health and safety standards to be prioritized in school reopening including social distancing, the use of face coverings and cleaning and disinfecting procedures for the sanitization of school buildings and school buses. Other provisions in the guidance deal with cafeteria protocols, recess, cohorting of students and school bus operations.

Because reopening is dependent upon health data and informed by experts in the health field, districts will need to be prepared to pivot to remote instruction at any time during the 2020-2021 school year. The guidance stresses that each school district should be working to ensure every student has a device and internet connectivity available, and it identifies funding streams available to school districts to ensure students have access to technology.

On July 7th, Governor Murphy announced that the Department of Education would release guidance allowing parents to select all-remote learning for their children for their children this year.

The State’s financial situation is dire. In May, the State Treasurer presented a report on the financial condition of the State budget for Fiscal Years 2020 and 2021 to the Legislature. The Treasurer reported that New Jersey is looking at a potential $10 billion shortfall through the end of the next fiscal year, on June 30, 2021.

The Legislature adopted the Governor signed A3, a $7.75 billion budget for July, August and September. The plan adopts most of what the governor proposed at the end of May, including delaying payments for school aid and the pension system and eliminates spending that was planned through June, much of which the state put into reserve in March. Unfortunately, one of the programs that was not funded in the short-term budget was the Pediatric Psychiatry Collaborative Program, officially referred to as the Child Collaborative Mental Health Care Program. NJAAP is working with our partners in this critical program to ensure that funding is restored in the budget that will be adopted by October 1, 2020 for the Fiscal Year ending on June 30, 2021.

The issue of children’s mental health is top of mind with many legislators. Assemblyman Conaway’s legislation, A970, requiring boards of education to ensure that students in grades seven through 12 annually receive a health screening for depression, was released by the Assembly Health Committee. NJAAP continues to work with Assemblyman Conaway on this legislation as there are many concerns regarding its implementation. Assemblywoman Lampitt’s bill, A3548, requiring insurance coverage for expenses incurred in screening adolescents between the ages of 12 and 18 for major depressive disorder, so long as screening for major depressive disorder in adolescents continues to receive a rating of “A” or “B” from the United States Preventative Services Task Force, was released by the Assembly Financial Institutions and Insurance Committee. The bill would apply to hospital, medical, and health service corporations; commercial individual, small employer, and larger group insurers; health maintenance organizations; and the State Health Benefits Program and the School Employees’ Health Benefits Program. The bill provides that the benefits are to be provided to the same extent as for any other condition under the contract or policy, except that the insurer may not impose on covered persons receiving these services any form of cost sharing, including, but not limited to, copayments, deductibles, or coinsurance. Assembly Majority Leader Greenwald introduced a package of bills designed to address deficiencies in the delivery of mental health care in schools, potentially unlocking new sources of funding for educators as districts prepare to return for socially distanced learning.

Finally, NJAAP worked with Senator Paul Sarlo on his legislation, S2518, which delays the physical examination requirement for certain student-athletes who participate in school-sponsored athletic activities during the fall athletic season of the 2020–2021 school year. As introduced this bill would have waived the annual physical examination requirement for certain student-athletes who participate in school-sponsored athletic activities during the entire 2020–2021 school year. The bill was amended to provide that during the fall athletic season of the 2020–2021 school year, a student-athlete who has not completed a physical examination within 365 days prior to the first day of official practice in the athletic season would be permitted to participate in a school-sponsored interscholastic or intramural athletic team or squad during that season, provided that the student-athlete completes the physical examination before the end of the athletic season. The amendments made to the bill were a direct result of NJAAP’s conversations with Senator Sarlo.
NJAAP 2020 Election Results
The votes are in, the ballots have been counted and the results of the 2020 NJAAP Election are as follows (effective July 1, 2020):

EXECUTIVE COMMITTEE
President - Jeanne Craft MD, FAAP
Vice-President - Indira Amato MD, FAAP
Vice-President - Elect - Katharine Clouser MD, FAAP*
Treasurer - Alan Meltzer MD, FAAP*
Secretary - Jennifer Chuang MD, MS, FAAP*
Immediate Past President - Alan Weller MD, MPH, FAAP
Medical Director - Ex-Officio - Steven Kairys MD, MPH, FAAP
CEO - Ex-Officio - Felicia Taylor MBA, CAE

COUNCILORS
District 1
(Bergen & Passaic)
Stephen Percy, Jr. MD, FAAP*
Deborah Steinbaum MD, MPH, FAAP

District 2
(Essex, Hudson & Union)
Morris Cohen MD, FAAP*
Sari Bentsianov MD, FAAP*

District 3
(Hunterdon, Morris,
SOMerset, Sussex & Warren)
Allyson Agathis MD, FAAP
Manju Misra MD*

District 4
(Mercer, Middlesex,
Monmouth & Ocean)
Renuka Verma MD, FAAP*
Susan Brill MD, FSAHM, FAAP

District 5
(Atlantic, Burlington, Camden,
Cape May, Cumberland,
Gloucester, Salem)
Tiffany Tucker MD, FAAP*
Aaron Dorfman MD, FAAP

District At Large
Frank Barrows DO, FAAP*
Lee Brooks MD, FAAP*
Sabah Kalyoussef DO, FAAP*
Melissa Wallach MD, FAAP*

Resident Councilor
Samantha Abend DO*

NOMINATING COMMITTEE
Chair - Alan Weller MD, FAAP
District 1 -
John Sutter MD, FAAP
District 2 -
Lesley Miller MD, FAAP
District 3 -
Joseph Schwab MD, MPH, FAAP
District 4 -
Lakshmi Prasuna Uppaluri MD, FAAP*
District 5 -
Jawaad Hussain MD, FAAP
District At Large -
Rachel Silliman Cohen MD, FAAP*

*Newly Elected Officials,
Effective July 1, 2020
Abstract

ANCA-associated vasculitis (AAV) is a chronic necrotizing vasculitis that is not commonly seen in children. AAV can be a systemic or limited disease, and there are three types: Wegener's granulomatosis, microscopic polyangiitis, and Churg-Strauss syndrome. There are multiple clinical manifestations related to both its disease process and the adverse effects from its treatment modalities. The most concerning findings in its acute presentation are renal failure and diffuse alveolar hemorrhage, and the extent of renal disease plays an important role in prognosis. We aim to educate the medical community about AAV in the pediatric population by presenting a case of systemic AAV in a 15-year-old female who presented with fever, purpuric rash, fatigue, malaise and hemoptysis. She was initially admitted to a pediatric intensive care unit at an outside hospital for respiratory distress but was transferred to our hospital when her bloodwork showed signs of a possible rheumatologic etiology. She tested positive for p-ANCA and MPO antibodies and had chest CT scan and skin biopsy findings that were consistent with ANCA-associated vasculitis. Her diagnosis was complicated by diffuse alveolar hemorrhage, for which she received induction therapy with pulse steroids, rituximab, and multiple days of plasma exchange during her hospital course.

Keywords: ANCA, vasculitis, alveolar hemorrhage, rituximab, plasma exchange, hemoptysis

Case Introduction

A 15-year-old female with a history of iron deficiency anemia initially presented with two weeks of intermittent tactile fevers, chest pain and cough. She went to an emergency room 5 days prior to her admission, where she was diagnosed with pneumonia and asthma and discharged home on albuterol and amoxicillin. Four days prior to admission, she developed erythematous non-pruritic lesions on her lower extremities, with a mixture of flat and raised lesions that were painful with bearing weight. Two days prior to admission, she experienced hemoptysis. In addition to her original symptoms, she reported malaise, shortness of breath, throat pain, myalgias, post-tussive emesis, and decreased appetite. She also endorsed having intermittent epistaxis over the past few months prior to admission. She denied weight changes, vision changes, mouth ulcers, abdominal pain, diarrhea, urinary symptoms, genital symptoms, and swelling or stiffness to her joints. She did not take any home medications, and she denied recent travel, insect bites and sick contacts. Her family history and social history were non-contributory, and her vaccinations were up-to-date.

On the day of admission, she was in respiratory distress and anemic with hemoglobin of 6.0 g/dL and an MCV of 58.3 fl. Her WBC was normal at 8.1x10^3/mcL and her platelets were elevated at 473x10^3/mcL. Her ESR was elevated at 124 mm/hr and her CRP was elevated at 107 mg/L. Her chest X-ray showed bilateral ground glass opacities and right upper lobe involvement, concerning for multifocal pneumonia. She was admitted to the PICU on 20L high flow nasal cannula for further work-up. During that time, she received three red blood cell transfusions and had iron studies with a low iron of 11 mcg/dL, normal ferritin of 29 ng/mL, a percent saturation 5%, and low total iron binding capacity of 220 mcg/dL. For multi-focal pneumonia, she was started on ampicillin-sulbactam but continued to be febrile. Urine cultures, throat cultures, blood cultures, respiratory viral panel, HIV serologies, syphilis testing, streptococcal test and PPD test were all negative. She also had a normal echocardiogram. Her initial rheumatologic work-up showed an ANA titer of 1:80, negative double-stranded DNA, negative proteinase 3 antibodies (PR3), and elevated myeloperoxidase antibodies (MPO) at 3.1. With abnormalities in her rheumatologic blood work, she was transferred to a second PICU at our hospital for further evaluation by pediatric rheumatology.
Hospital Course

Diagnostic Work-up

When she arrived at our PICU, she was febrile to 39.5 degrees Celsius. Her exam revealed a tired and ill appearing girl with multiple tender erythematous bullae and purpura of varying sizes on all extremities. She was also in respiratory distress, with hemoptysis, bilateral crackles and subcostal retractions, requiring BiPap. She had a chest CT with contrast, which showed minimal dependent atelectasis with small pleural effusions, bilateral airspace disease with ground glass nodules that spared the periphery and left mediastinal subclavicular lymphadenopathy. Dermatology performed punch biopsies of her skin, which would later show leukocytoclastic vasculitis with secondary necrosis of the overlying dermis, suggestive of ANCA-associated vasculitis.

On her blood work, her WBC remained normal and her hemoglobin improved to 8 after receiving red blood cell transfusions. Her electrolytes, including her BUN and creatinine, were also normal, although she did develop proteinuria, with an elevated urine protein-to-creatinine ratio of 1.3 and microscopic hematuria. On her rheumatologic work-up, she confirmed to be p-ANCA positive with a myeloperoxidase level of 3.1. Her c-ANCA and proteinase 3 antibodies on repeat testing were negative. The glomerular basement membrane antibody, Smith, RNP, SSA, SSB, cryofibrinogen, cryoglobulins, and antiphospholipid antibodies were negative, and C3 and C4 were within normal range. This suggested that systemic lupus erythematos (SLE), cryoglobulinemia and Goodpasture disease were less likely. Mycoplasma, tuberculosis, immunodeficiency, and fungal infections were also ruled out.

Treatment

She was started on induction therapy for ANCA-associated vasculitis with a three-day course of pulse methylprednisolone (1 gram per day), and then she was switched to oral steroids during her hospitalization course. Given her critical clinical status and the presence of ongoing hemoptysis secondary to DAH, she also required plasma exchange. She received seven treatments of plasma exchange during her hospitalization, which resolved her fevers, hemoptysis and hypoxia. She was also started on rituximab therapy and received the equivalent of four weekly doses of 375mg/m², started prior to discharge and completed after discharge. Once her respiratory status improved, she was transferred from PICU to the general pediatric floor. There, she was weaned to room air and her rash improved. Her Hgb increased to 10.9 g/dL after treating her DAH and her MCV, while still low, increased to 74.8 fl. Her iron stores normalized, with her total iron increasing to 68 mcg/dL and her percent saturation increasing to 29%. Her ferritin remained relatively unchanged at 30 ng/mL and her TTBC, while still low, increased to 236 mcg/dL. Her ESR and CRP normalized. Her urine protein-creatinine ratio decreased to 0.42 and she did not have hematuria prior to discharge. After discharge, she took daily oral steroids and prophylactic trimethoprim-sulfamethoxazole.

Discussion

ANCA-associated vasculitis (AAV) is defined by Chapel Hill Criteria as a necrotizing vasculitis, with few or no immune deposits, that predominantly affects small vessels and may be associated with PR3-ANCA (c-ANCA) or MPO-ANCA (p-ANCA). AAV includes (1) granulomatosis with polyangiitis/GPA, also known as Wegner's granulomatosis, which is associated with c-ANCA positivity, (2) microscopic polyangiitis/MPA, which is associated with p-ANCA positivity, and (3) eosinophilic granulomatosis with polyangiitis, also known as Churg-Strauss syndrome. AAV is a rare disease, with an incidence of 20 per million per year in the adult population in Europe and North America. The incidence is even less in children, with a large cohort of pediatric AAV in Europe citing an annual incidence of 0.5 per million children per year.

AAV can have clinical manifestations stemming from multiple organ systems, with ear-nose-throat related symptoms being the most common manifestation in GPA and renal involvement being the most common manifestation in MPA as well as the most important prognostic factor in both forms of AAV. This patient primarily had constitutional symptoms of fever and fatigue, dermatologic symptoms of purpuric rash, musculoskeletal symptoms of myalgias, and lower respiratory symptoms of shortness of breath & hemoptysis secondary to alveolar hemorrhage. She had clinical findings suggestive of both GPA and MPA. She did complain of sore throat and endorsed multiple months of intermittent epistaxis, both of which are ENT-related symptoms that can be seen in patients with GPA. However, she had a flexible laryngoscopy performed at bedside, which ruled out vasculitic ENT involvement. She did not have significant renal involvement on presentation.

On her work-up, she had many lab findings to suggest a chronic inflammatory process, such as chronic anemia, elevated ESR and CRP; and a normal ferritin level, which may be considered elevated in a patient with a history of iron deficiency with a low ferritin level at baseline. A chest CT with contrast in a patient with AAV may reveal lung cavitation, nodules, or infiltrates and in the case of alveolar hemorrhage, it may also show diffuse bilateral ground glass opacities. Her chest CT findings were concerning for autoimmune alveolar hemorrhage syndromes, such as SLE, cryoglobulinemia, Goodpasture disease, and AAV. While ANCA-positivity is anticipated in systemic AAV, ANCA negativity can be seen in cases with limited disease. This patient was p-ANCA positive with elevated MPO and had negative c-ANCA and PR3, which is consistent with a diagnosis of systemic AAV. The skin biopsy in our patient showed leukocytoclastic vasculitis, which is also found in patients with AAV.
Treatment is divided into a 3 to 6 month induction phase and a 24 to 48 month maintenance phase. Induction therapy mainly consists of pulse steroids and a short course of cyclophosphamide, rituximab or mycophenolate. Maintenance therapy consists of methotrexate, rituximab or azathioprine. Plasma exchange may be used in severe cases of AAV when a patient has rapidly progressive renal failure or alveolar hemorrhage. This is also a recommendation by the American Society of Apheresis (ASFA), who recently published guidelines declaring diffuse alveolar hemorrhage and significant renal disease with serum creatinine above 6 mg/dL or dialysis dependence as Category I criteria for plasma exchange in AAV. The ASFA guidelines also mention that plasma exchange in these cases should occur daily or every other day for 6-9 treatments. This patient met criteria for plasma exchange because of her diffuse alveolar hemorrhage, and she received seven days of plasma exchange during her hospitalization. After three days of plasma exchange, the patient's hemoptysis resolved.

Rituximab was approved by the FDA in 2011 for AAV induction therapy. There are few studies in children that compare cyclophosphamide and rituximab in terms of their ability to induce remission and their side effect profiles. Trials in adults show that both rituximab and cyclophosphamide are similarly effective in inducing remission. However, when looking at the side effects, rituximab has a risk of acute infusion-related reactions while cyclophosphamide carries a long-term risk of infertility and malignancy. Therefore, rituximab therapy is now preferred for induction treatment for children, including our patient.

Conclusion
ANCA-associated vasculitis is an alveolar hemorrhage syndrome and a chronic relapsing autoimmune disease. It has the ability to affect any organ system, and the diagnosis is confirmed by biopsy of the kidney or skin. It is a rare condition in adults and even more rare in children, which explains why there is sparse literature on pediatric AAV. The strides that have been made in the adult treatment of AAV have helped advancements in treatment in children. However, there is still more to be learned about pediatric AAV. Early diagnosis and appropriate treatment greatly minimize the morbidity and mortality.

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I would like to express my appreciation to my co-authors for their guidance and cooperation and to the pediatric specialists involved in this patient's medical care.

Declaration of Conflicting Interests
The authors declare that there is no conflict of interest.

Patient Consent
Informed consent was obtained from the patient and her parents for the publication of this case.

References
Case Study: Ingestion of High-Powered Neodymium Magnets in the Pediatric Patient

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Abstract

Ingestion of high-powered magnets in the pediatric population is an increasingly prevalent and serious health risk known to cause significant morbidity. We describe two cases of healthy individuals who swallowed multiple high-powered magnets. In the first case, a 4-year-old boy swallowed 14 magnets resulting in the formation of a gastroenteric fistula and multiple sites of bowel perforation with eventual surgical removal of the magnets. The second case describes a 15-year-old boy who ingested 4 magnets with no complication noted after removal. Initial evaluation and treatment approaches were similar in both cases following the North American Society of Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) algorithm for management. These case studies highlight the significant health hazards associated with high-powered magnet ingestion and note the importance of awareness of these risks for healthcare professionals and parents.

Keywords:
Neodymium, rare-earth magnets, children, adolescent, buckyball

Abbreviations
NASPGHAN: North American Society of Pediatric Gastroenterology, Hepatology and Nutrition
CPSC: Consumer Product Safety Commission

Key Points
- Ingesting high-powered magnets can lead to extremely harmful complications such as intestinal obstruction and perforation
- The NASPGHAN algorithm should aid healthcare professionals in the evaluation and treatment of magnet ingestion in the pediatric patient

Figure 1. Algorithm for management of buckyball ingestion developed with the input from a task force of NASPGHAN members and adapted from Management of Ingested Magnets in Children by Hussain et al 2012

continued on next page
**Introduction**

Foreign body ingestion is a common presentation among children in the emergency and outpatient settings.\(^1\) Commonly ingested foreign bodies include coins, batteries, toys and sharp objects. Incident reports of ingesting high-powered magnets containing neodymium, a rare-earth metal, have increased since 2009.\(^2\) These magnets, also known as buckyballs, are a common component of household appliances and are also readily available as desk toys. Unlike traditional magnets, buckyballs are at least 5 to 10 times more powerful and made into 3-6 mm spheres that are usually sold in a cube shaped unit.\(^3\) They pose a serious health threat due to their extremely high risk of causing gastrointestinal perforation or obstruction when ingested.\(^4\)

To express growing concerns over this product, the US Consumer Product Safety Commission (CPSC) has banned the sales of these products to children <14 years of age.\(^5\) Currently, children are not the only age group at risk, but also adolescents who use these spherical magnets as body ornamentation such as lip and tongue piercings, increasing the risk of accidental swallowing.\(^6\)

Buckyballs produce great attractive forces. Each magnetic ball is composed of neodymium-iron-boron crystals (Nd2Fe14B) that possess mirror symmetry in two orthogonal planes. This crystalline structure contributes to its strong intrinsic magnetic property.\(^7\) Swallowing >1 magnet can be deleterious causing different sections of bowel to stick to one another with great strength.\(^8\) This can ultimately result in pressure injuries causing bowel perforation and fistula formation amongst other serious complications.

We report two cases of multiple buckyballs ingestion at our institution amongst previously healthy individuals of different age groups. The cases described showcase the serious complications associated with buckyball ingestion and their respective management.

**Case 1**

A 4-year-old boy presented with abdominal pain and an episode of non-bloody non-bilious vomiting after ingesting 14 buckyball magnets. He was initially brought to an outside emergency department where abdominal imaging was obtained showing the spherical magnets in a linear configuration beyond the stomach. He was managed conservatively with clear instructions to return to the ER if symptoms of abdominal pain or emesis worsened and discharged home. His abdominal pain recurred the following day and was advised by his pediatrician to go to the emergency department for reevaluation. A pediatric gastroenterologist was consulted. A repeat abdominal x-ray showed the magnets in the same configuration and location, likely in the small bowel. Pediatric surgery was consulted, and our patient was admitted to the pediatric floor for continued serial abdominal exams and imaging.

He was placed on a clear liquid diet and started on a polyethylene glycol clean out to help with progression of the magnets through the intestine. Abdominal imaging on the third day of hospitalization showed the ingested magnets in a ring configuration within the same location. The patient did not experience any further symptoms or changes on physical exam, but there was concern for the possibility of acute bowel entrapment or perforation. A decision was made for surgical extraction of the magnets.

![Figure 2](image)

Figure 2. Serial abdominal x-rays in Case 1 showcasing the progression and configuration of the ingested buckyballs (A) Abdominal x-ray obtained at initial presentation showing a linear configuration beyond the stomach (B) Progression of the magnets, likely in the small bowel (C) Ingested buckyballs in a ring configuration due to strong attractive forces, increasing risk of small bowel entrapment and/or perforation
In the OR, an upper endoscopy revealed the magnetic beads to be entering through the pyloric mucosa. Upon diagnostic laparoscopy, a gastroenteric fistula with four perforations secondary to the magnetic beads were identified and repaired. The buckyball magnets were removed. He recovered post-operatively and was advanced to a regular diet prior to being discharged home.

The patient presented for a post-operative follow up visit two weeks after surgery and has been doing well. He is tolerating a regular diet and is having normal bowel movements. He does not complain of abdominal pain.

Case 2

Our next patient was a 15-year-old male who accidentally swallowed four buckyball magnets. The incident occurred while he was trying to stick the magnets between his inner and outer cheek. He was asymptomatic, continued to tolerate food intake and had normal bowel movements. He presented to an outside emergency department >24 hours after initial ingestion. An abdominal x-ray was performed showing the four magnetic spheres in a linear configuration overlying the left upper abdomen. He was transferred to our emergency department where a repeat abdominal x-ray showed movement of the magnets to the left mid-abdomen. Pediatric gastroenterology was consulted and recommended serial abdominal x-rays to monitor any movement of the buckyball magnets. He was started on daily polyethylene glycol to facilitate passage of magnets through stool. The next day, a repeat abdominal x-ray showed the magnets to be in the same location, and patient reported not having any bowel movements. Decision was made to admit patient to the pediatric floor for closer observation with serial abdominal imaging and continued bowel preparation with polyethylene glycol and bisacodyl.

Pediatric surgery was consulted on admission. Our patient was placed on a clear liquid diet. He remained asymptomatic and was responding to the bowel preparation, but bowel movements did not contain any magnets. Serial abdominal x-rays performed the next day showed no movement of the buckyball magnets, which remained in the left mid-abdomen. An abdominal CT was done to better visualize the location of the buckyballs. It showed the metallic densities in the left upper quadrant within the jejunum likely in the proximal to mid jejunum. He underwent push enteroscopy with fluoroscopy, identifying 3 out of the 4 Bucky ball magnets in the proximal jejunum, which were removed with a Roth net. A possible jejunal deformity at the site of the magnetic balls was identified, but no fistulous tract was seen via fluoroscopy. Enteroscope was passed into the distal jejunum and proximal ileum, but the fourth magnetic ball was not identified. Patient tolerated the procedure and was advanced to a regular diet. He was discharged home on daily polyethylene glycol with instructions to follow up for a repeat abdominal x-ray in 48 hours.

The repeat abdominal x-ray was delayed over 2 weeks due to loss to follow up; it showed the fourth buckyball magnet in the left lower quadrant possibly in the descending colon. The patient underwent a colonoscopy for removal of the buckyball, but it was not visualized in the colon. The thought was that it remains in the small intestines. Pediatric surgery was consulted and recommended no surgical intervention at the time as there is a high probability for the single buckyball to pass on its own. Patient was discharged with instructions to continue daily polyethylene glycol at home and monitor for stool passage of magnet. It was recommended to follow up with pediatric surgery in 1–2 weeks, however he failed to follow up and no further information on the patient is known.

In the OR, an upper endoscopy revealed the magnetic beads to be entering through the pyloric mucosa. Upon diagnostic laparoscopy, a gastroenteric fistula with four perforations secondary to the magnetic beads were identified and repaired. The buckyball magnets were removed. He recovered post-operatively and was advanced to a regular diet prior to being discharged home.

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Conclusion

Ingestion of high-powered neodymium magnets is a serious life-threatening problem that continues to occur in our communities. The cases discussed are just a few examples of many reported, emphasizing the scope of the issue. It is important for healthcare professionals involved in these cases to be aware of the associated complications and to educate parents about the potential risks of magnetic toys.

References

This past March, Jersey Shore Pediatrics ushered in its new third-year chiefs, while the current third-year chiefs transitioned into their new roles and responsibilities with the expected vigor and excitement. In anticipation of moving into the role of third-year chiefs, we knew the new position would be challenging, requiring everything from sacrificing personal preference for program advancement and advocating for residents and providing them a voice among giants to helping affect changes and myriad other duties—all while one of us was seven months pregnant. We thought we had contemplated all the possibilities and challenges. What we had not anticipated was a global pandemic.

Considering the last pandemic occurred nearly a century ago, a playbook guiding how new chief residents confront the challenges was non-existent. This intensified the challenge. At the start, it was touch and go. Creating new COVID call schedules and learning what we could do to help patients and resident’s stay safe were at the forefront of our concerns and efforts. As time went on, we realized we had become an important voice of reason and information and a trusted resource to residents for venting frustrations and subverting fears. We became keepers of the peace and retainers of secrets: a new pregnancy not quite ready to be announced, a resident’s spouse testing positive for COVID who was removed from rotations to be quarantined, residents afraid for vulnerable family members, we saw and heard it all. We kept the residents safe together, but also safe from one another, and we continue to serve in that role. Between reminding residents to stay 6-feet apart even—on rounds and communicating concerns and action plans with leadership as we began planning for a possible second wave.

It is fortunate that as a team, we work so well together. As co-chiefs, we each bring a different skill set to our chief year. One of us is an incredible scheduler, the other is good at solving scheduling conflicts. One of us is loud and gregarious while the other is more subdued. Different residents feel comfortable bringing different issues to us.

So much during the COVID pandemic has made things insurmountably different and yet, so much remains the same. The day to day tasks of patient care on our floor and ICUs are just as they have always been—aside from the addition of a mask, while our outpatient clinics have become an important hub for telehealth visits. The ACGME goals for education and clinical experience haven’t changed, but how we receive that information has; once in-person lectures are now presented in a virtual learning structure.

Pre COVID, our program was unbelievably close. We eat lunch together and enjoy family dinners at each other’s homes. We crammed into delivery rooms to meet and greet new additions to our ‘family’; we even received matching pin sets each year to mark our progress. And then suddenly, practically overnight, we were no longer allowed in the same room. During interview season, we always talked about how our co-residents become family and how important a strong support system is. COVID took both biological and acquired family to unforeseen places. It has taken a toll on everyone, including chiefs working hard to keep residents together. On the positive side, we do think our zoom dinners and cocktail sessions have been a big hit.

What is it like to be a chief resident during a pandemic? In a lot of ways, it’s simply being a physician trying to do the best we can for our patients and for each other. Whatever challenges the coming months convey we will face it head on like we always have, like our program prepares us to. Each of us worked our whole lives to be here. Absolutely nothing is going to stop us.
Thank you.

From one essential worker to another, we appreciate all that you’re doing on the front line.

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Nuclear Power: Past, Present & Future?

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Keywords: Nuclear, Power, Energy, Alternative, Clean, Climate Change

Abstract: Introduction: Climate change poses the single greatest threat to humanity and clean sustainable energy is a principle priority on the global agenda. This review article focuses on nuclear energy and its associated risks and benefits. Nuclear power provides approximately 10% of the world’s electricity and uses the process of fission and thermal energy to generate electricity.1 Unlike energy generated from fossil fuels, nuclear power is considered a ‘low-carbon’ energy choice as it does not produce the harmful greenhouse gases that contribute to climate change. There are, however, drawbacks to nuclear power which will be considered in this review.

Summary: Safety–terrorism and nuclear accidents are safety concerns, whereas conversely, there are risks to continued fossil fuels use. Efficiency–nuclear power is a highly efficient energy source once the plant is functional. Financial–once operational, nuclear power is a cost-effective energy source; however, the initial start-up costs are significant. Health–exposure to radiation, even at low dose, can have devastating health effects, especially in children.2 There is no consensus on the health impact of persons and the natural world situating in close proximity to a plant, but this is a factor when considering a nuclear future. Waste–nuclear power produces waste, some of which requires storage for as long as 10,000 years.3 Advances–nuclear power is a constantly evolving industry and new fuels, for example, Thorium, are being trialed as alternatives to uranium. Thorium is considered more abundant, less waste-producing and harder to divert to weapons production.4 Finally, there are environmental concerns from nuclear power, for example, contamination of water sources, storage, transport & mining of materials and land use.

Conclusion: Nuclear power is a highly contentious issue in the energy debate. The last nuclear power plant was built in the USA in 1973; many of the existing plants will become decommissioned or have their licenses expire over the next 30 years. Consequently, a decision is required on whether the nuclear industry becomes a priority, receiving large-scale investment to increase production; or if we move to a nuclear-free society. Whilst there are health and environmental concerns from nuclear power, it is necessary to find alternatives to fossil fuels given the potentially devastating effects of climate change and the energy burden facing our population. Nuclear power could be part of the solution, however considering the cost, sustainability and waste, it perhaps offers more short-term than long term gains. This review ultimately concludes that we should have two goals: (1) Reduction to our energy-requirements through increasing efficiency and (2) clean, renewable and sustainable energy sources to be our primary goal.

Introduction

Climate change poses the single greatest threat to humanity1,5,6 and as we enter the next decade, ‘clean’2 and sustainable energy will be a principle priority on the global agenda. One energy source which is being considered is nuclear power.

The first nuclear reactor was developed in 1942 by Enrico Fermi.7 This project propelled research into the industry and ultimately led to developments in commercial nuclear power and notoriously, weapons development. The first US plant was built in 1957 in Pennsylvania and presently, nuclear power provides approximately 10% of the world’s electricity, (20% in the US).3,4 In New Jersey, 51% of generated electricity is from nuclear power.8 The majority of nuclear energy is used for the commercial energy industry. There are 58 nuclear power plants in the USA (2 of which are based in New Jersey8) and 440 worldwide.3,4

Nuclear power uses a process of thermal energy to generate electricity.9 This involves heating water until boiling and directing the generated steam to spin shafts that run through turbines. This action generates energy which flows to a generator. Unlike coal plants, for example, which burn coal to generate the thermal energy, nuclear power uses a process of fission.2 Fission involves splitting the atoms (the building blocks of all matter) of a radioactive chemical element, principally Uranium which releases large amounts of thermal energy.
Nuclear plants are built next to bodies of water as cold water is needed at the end of the thermal energy process to cool and condense the steam back into liquid. Over time, the radioactivity (ability to release energy) of uranium depletes and the waste products require storing for very long periods of time. Spent reactor fuel is considered ‘high level’ radioactive waste and is stored onsite at the plant. There is also ‘low-level’ radioactive waste which includes clothes, tools and affected water which can be stored off-site and for a shorter time.

Unlike energy generated from fossil fuels, nuclear power is considered a ‘low-carbon’ energy choice. Low-carbon energy alternatives are attractive energy alternatives as they do not produce the harmful greenhouse gases which are contributing to climate change. However, there are other elements to consider for nuclear energy, including: environmental, financial, health, safety, waste, and future advances.

Safety: Nuclear power-related accidents are uncommon, and over the last decade major advances have been made in the development and regulation of nuclear plants which increase their safety and reduce the possibility of an incident. However, when accidents do occur, they can be devastating. One study estimates that 99 worldwide and 56 US accidents have occurred since the first recorded accident in Ontario, Canada in 1952 and suggests a 50% chance of a similar event occurring every 60-150 years. These accidents are denoted by loss of life or >$50,000 of damage. The most serious recorded nuclear incident was at the power plant in Chernobyl, Russia. 31 people were directly killed and $7 billion worth of damage was done. The WHO now estimates 4000 deaths could be attributed to the Chernobyl disaster, with other sources describing deaths up to 90,000. Other safety concerns include terrorist attack (for example, physical force or cyber-attack as occurred in South Korea) and proliferation, as an increase in dependence on nuclear power will advance nuclear production and increase the available nuclear materials. The acquisition of these materials is a key step in designing a weapon. These safety risks are measured against the risk of continued reliance on fossil fuels and the effects of climate change. A 2013 study from the NASA Goddard Space Flight Center determined that historically nuclear power has prevented 1.84 million air-pollution-related deaths and prevented a significant amount of carbon emissions from the burning of fossil fuels. They predict that if nuclear power were to replace fossil-fuel power, up to 7 million deaths could be prevented by the midcentury. This conclusion is corroborated in a recent study in the Lancet describing climate change as a major threat to life.

Nuclear Waste: Nuclear waste is a significant pitfall for the nuclear industry. Nuclear waste is designated low (e.g. contaminated clothing) and high-risk material (spent nuclear fuel). Around 3% of US nuclear waste is high risk. There are approximately 270,000 tons of spent fuel in storage worldwide, 90,000 of which is in the US and 14,000 of this US waste being from the nuclear weapons program. This is expected to rise to 140,000 tons over the next several decades. The majority of this waste, after a period of deep-water cooling between 1-10 years, is kept on the reactor sites in concrete and steel casks. There are currently no nuclear waste repositories in the US, and only one proposal for a large-scale site at Yucca Mountain. This would ensure limitations on radiation doses for 100,000 years after closing. The waste must be protected and secured from weather events, natural erosion, crime and from leakage. The half-life of Plutonium-239, used in nuclear power is 24,000 years. The half-life of Uranium-235 is 700 million years. Though it cannot be accurately estimated how long waste needs to be secured, we can surmise from the half-lives that the time needed is significant. The sarcophagus built around the Chernobyl site, for example, is described as being secure for 100,000 years.
Health impacts: The majority of health concerns from nuclear power centers around the risk of being in close proximity to nuclear plants and/or coming into physical contact with radiated materials. Radioactivity material contains unstable atoms which could have the ability to penetrate and disrupt DNA. This can lead to acute radiation sickness and the development of cancers, in particular thyroid cancers and leukemia. Even at small doses, children and unborn-fetuses are uniquely vulnerable to this risk due to their smaller body diameters, small organ surface areas and high proportion of dividing cells. There is also a risk of transmission from radiation-contaminated breastmilk. Along with a potential for physical harm, the AAP has described the negative mental health effects from living in close proximity to nuclear plants including increased anxiety and depression.

There has been significant discussion regarding whether living in proximity to nuclear plants lead to increased incidence of childhood cancers. The German-based KiKK study notes that proximity is significantly related to cancers whereas a recent study in the BJC describes no statistical significance between these two variables. No consensus has yet been reached on this issue.

Environment: Nuclear power relies upon the supply of nuclear materials, largely Uranium, to function. The process of mining, milling, enriching and transport of these materials poses risks to the environment. Large-scale uranium mines have been built around the world leaving the area polluted and uninhabitable. Many of these mines use underground water supplies (Aquifers) to chemically harvest the Uranium ore which can result in a contaminated water supply. Following mining, the materials require enrichment, a process which generates large amounts of depleted uranium waste and contaminated materials, soil and groundwater. A further environmental concern stems from the power plants. These plants require large open spaces and are built close to water supplies. This causes destruction of eco-systems as well as local contamination, with the potential for further contamination in the event of an accident. Finally, similar to fossil fuels, the supply of the nuclear materials is finite and therefore nuclear power cannot be considered a renewable energy source.

Efficiency: Nuclear power is a constant supply of energy and one plant can supply a town's 'baseload supply of energy' which is described as the minimal amount of electrical power that needs to be supplied to the grid. Enriched uranium is the fuel for nuclear power plants and a single pellet yields the amount of energy equivalent to that generated by a ton of coal, 120 gallons of oil or 17,000 cubic feet of natural gas, making nuclear fuel more efficient than fossil fuels.

Financial: Nuclear power can be a financially beneficial energy source. Nuclear energy is a significant employer and one study determines that it creates 0.5 jobs for each megawatt hour of electricity produced whereas 0.19 jobs are formed from coal and 0.05 from gas and wind. One new plant can lead to 400-700 new jobs and the US nuclear industry contributes approximately $40-50 million and 100,000 workers. Additionally, the operating costs for functioning plants are low, for example $23.6/MWh for nuclear versus $47.5/MWh for natural gas. The capital costs, however, associated with building new plants are substantial with one estimate describing it as $6–9 billion and taking 5–10 years to complete. The costs of storing and securing the nuclear waste is an additional cost. Currently, each plant houses their waste on site in casks, however there is a proposed large-scale nuclear waste storage facility at Yucca mountain, the cost of which is estimated at $96 billion. Other costs of nuclear energy are harder to estimate and include safety, mining, enrichment of the nuclear materials, plant maintenance and operation. Due to this cost, the industry requires subsidies (similar to the fossil-fuel industry) and government funding which ultimately emanates from tax-dollars. Due to the urgency of climate change, it is perhaps unlikely that nuclear power will succeed in bringing the necessary reduction in carbon in the time available. Therefore, some states are changing their position on nuclear energy, for example in California where they are proposing to convert the last nuclear plant into a plant for clean renewable energy.

New advances: Nuclear energy is an evolving field and in recent years there have been suggestions of new materials, for example Thorium, which are potential improvements to the materials currently in use. Thorium is more abundant than Uranium and theorized to produce less harmful waste products. Thorium also has the benefit of being more difficult than Uranium to convert to weaponized technology. One of the obstacles to the implementation of Thorium is that it still requires other elements, such as Plutonium, to enable its use. Thorium and similar new materials are not currently operational and therefore their use is un-qualified.
Conclusion

Climate change is a clear and present danger affecting all aspects of our society. Nuclear power has the potential to contribute carbon-free energy to our grid. Although thought by some to be beneficial, the capital costs, waste production, safety concerns and environmental impact may be significant pitfalls and nuclear materials are in finite supply thus nuclear power is a non-renewable source of energy. Nuclear power is not currently sufficient to reduce emissions from all industries, for example in the transportation sector, where the fuel source is petroleum. However, this may suggest a need to re-direct this industry towards more electric-based vehicles. However, fossil fuel dependence is a major global health crisis and clean energy alternatives are not currently sufficient to replace their use. Nuclear power may be a short-term solution to bridge the gap between slowing fossil fuel use and increased renewable energy sources. Many of the nuclear plants in use are close to their expiration and the global community must now decide whether to advance nuclear capabilities and invest significant resources into the industry, or whether priorities are redirected to other energy alternatives. Considering the long-term burden, it perhaps offers more short-term than long term gains. Reduction in demand and clean, renewable and sustainable energy should be the primary goal.

To continue the discussion on climate change, join NJAAP's Committee on Environmental Health and Climate Change. Contact Bethany Kondavaty (bkondavaty@njaap.org) for more information.

References

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