FUTURE OF PEDIATRICS TALKS!
A VIRTUAL SUMMER SERIES

Pediatric Health Network
Children's National
A few notes about today’s Webinar

• All lines are muted throughout the webinar.
• Please use the Q&A box to ask questions or make comments.
• Today’s Webinar recording, slides and resources will be posted to the PHN website following the presentation.
• You can find past FOP presentations on our website at https://pediatricrchealthnetwork.org/future-of-pediatrics/
# Upcoming FOP Talks!

<table>
<thead>
<tr>
<th>DATE/TIME</th>
<th>TOPIC</th>
<th>SPEAKER(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 13</td>
<td>Atopic Dermatitis: New Treatment Recommendations</td>
<td>Kaiane Habeshian, MD</td>
</tr>
<tr>
<td>12:00-12:30</td>
<td></td>
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<tr>
<td>July 13</td>
<td>Hemangiomas &amp; Port Wine Stain</td>
<td>A. Yasmine Kirkorian, MD</td>
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<tr>
<td>12:00-12:30</td>
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<tr>
<td>July 27</td>
<td>Navigating a World with Asthma Parent Advisory Panel</td>
<td>Candice Dawes, MD &amp; Parent Panel</td>
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<tr>
<td>12:00-12:30</td>
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<tr>
<td>July 27</td>
<td>Less is More: Optimal Duration of Antibiotic Therapy in Ambulatory Pediatrics</td>
<td>Ariella Slovin, MD; David Sullivan, MD; Rana Hamdy, MD, MPH, MSCE</td>
</tr>
</tbody>
</table>
Speakers

Kurt Newman, MD

Bud Wiedermann, MD, MA

Conflict of Interest:

• Receiving funding from Pfizer, Inc, for a pediatric COVID-19 vaccine trial
Kofi Essel, MD, MPH

Conflict of Interest:
- No financial or business interest, arrangement or affiliation that could be perceived as a real or apparent conflict of interest in the subject (content) of their presentation.
- No unapproved or investigational use of any drugs, commercial products or devices.
CEO Update

Kurt Newman, M.D.
Twitter: @ChildrensNatCEO
Congratulations to our Pediatric Health Network!

- Reimagining our Future of Pediatrics CME as virtual event (next year in person!)
- Co-hosting COVID Community Town Halls with CNH & AAP chapters
- Implementing our first PHN value-based contracts- and practice payments
- Leading regional Quality Improvement (Mental Health & Asthma)
- Partnering with CNH to improve collaborative care with our CNH specialists
# TOP 7 CHILDREN'S HOSPITAL IN THE NATION

<table>
<thead>
<tr>
<th>SPECIALTY</th>
<th>2021-2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Hospital Ranking</td>
<td>7</td>
</tr>
<tr>
<td>Cancer</td>
<td>5</td>
</tr>
<tr>
<td>Cardiology and Heart Surgery</td>
<td>38</td>
</tr>
<tr>
<td>Diabetes and Endocrinology</td>
<td>10</td>
</tr>
<tr>
<td>Gastroenterology and GI Surgery</td>
<td>20</td>
</tr>
<tr>
<td>Neonatology</td>
<td>1</td>
</tr>
<tr>
<td>Nephrology</td>
<td>6</td>
</tr>
<tr>
<td>Neurology and Neurosurgery</td>
<td>3</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>6</td>
</tr>
<tr>
<td>Pulmonology</td>
<td>8</td>
</tr>
<tr>
<td>Urology</td>
<td>25</td>
</tr>
</tbody>
</table>
Children’s National Assumes Leadership Role During COVID-19 Pandemic

Dr. Biden and Dr. Fauci Visit Children’s National on May 20, 2021

Dr. Fauci told reporters, “It is really a pleasure for Dr. Biden and I to be here. This is a phenomenal institution, you know one of the best pediatric hospitals in the world, really, not only in the United States.”
Children’s National
Prince George’s County

- Families in Prince George’s County Maryland have greater access to the broad range of world-class pediatric specialty medical and surgical care Children’s National offers including:
  - cardiology,
  - neurology,
  - hematology,
  - allergy, and
  - sports medicine and orthopedics.
- Additionally, families will have easier access to care for infusions, transfusions, MRIs, and outpatient surgery.
Children’s National Takoma Theatre: New Home for Psych & Behavioral Health Programs

- Neuropsychology
- Pediatric Development Program
- Psychiatry
- Psychology and Behavioral Health
- Scottish Rite Center for Childhood Language Disorders
Now Open: Fight for Children Sports Medicine Center in Silver Spring, Maryland

Service offerings at the Fight For Children Sports Medicine Center will expand throughout the year. Full services will include:

• pediatric and adolescent physical therapy and rehabilitation in a state-of-the-art gym
• sports performance and injury prevention programs
• sports specific motion analysis for performance improvement
• traditional 3D gait analysis.
Opened: The Nation’s First Pediatric Research & Innovation Campus
Happy Birthday Children’s National: 150 years young!
Thank you!
Conflict of Interest Statement

Dr. Wiedermann receives funding from Pfizer, Inc. for

A Phase 1, Open-Label Dose-Finding Study to Evaluate Safety, Tolerability, and Immunogenicity and Phase 2/3 Placebo-Controlled, Observer-Blinded Safety, Tolerability, and Immunogenicity Study of a SARS-COV-2 RNA Vaccine Candidate Against COVID-19 in Healthy Children <12 Years of Age
Learning Objectives

After completing this session, learners will be able to

1. Compare epidemiology and nature of links of myocarditis to both COVID-19 vaccination and natural COVID-19 disease
2. List features influencing authorization/approval of COVID-19 vaccines for younger children
3. Assess criteria for children returning to in-person schooling and competitive sports
The New COVID Epidemiology: Pockets of Disease

New Covid Cases, by a County’s Vaccination Rate
Daily average per 100,000 residents, over the week ending June 22

<table>
<thead>
<tr>
<th>VACCINATED</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 30%</td>
<td>5.6</td>
</tr>
<tr>
<td>30 to 35%</td>
<td>4.3</td>
</tr>
<tr>
<td>35 to 40%</td>
<td>3.2</td>
</tr>
<tr>
<td>40 to 45%</td>
<td>2.8</td>
</tr>
<tr>
<td>45 to 50%</td>
<td>2.7</td>
</tr>
<tr>
<td>50 to 55%</td>
<td>2.4</td>
</tr>
<tr>
<td>55 to 60%</td>
<td>2.4</td>
</tr>
<tr>
<td>60%+</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Counties with unavailable vaccination data are excluded from the chart.

By The New York Times | Sources: State, county and regional health departments

Driven By:
- Unvaccinated clusters
- Delta variant
Cardiac Injury and COVID-19 Vaccines: The Big Picture

- All currently authorized COVID-19 vaccines are highly effective
- We only know about the association between vaccines and myocarditis/pericarditis because we have a highly effective tracking system
  - VAERS
  - V-safe
  - Many more
- As of last week, the association is very likely true
- Need to carefully consider benefits vs risks in deciding whether to recommend COVID-19 vaccines
### Most commonly reported adverse events to VAERS after Pfizer-BioNTech COVID-19 vaccination* (data thru Jun 11, 2021)

#### 12–15 years old* (N= 2,540)

<table>
<thead>
<tr>
<th>Adverse event‡</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dizziness</td>
<td>618 (24.3)</td>
</tr>
<tr>
<td>Syncope</td>
<td>446 (17.6)</td>
</tr>
<tr>
<td>Nausea</td>
<td>308 (12.1)</td>
</tr>
<tr>
<td>Headache</td>
<td>281 (11.1)</td>
</tr>
<tr>
<td>Vomiting</td>
<td>221 (8.7)</td>
</tr>
<tr>
<td>Pallor</td>
<td>218 (8.6)</td>
</tr>
<tr>
<td>Loss of consciousness</td>
<td>217 (8.5)</td>
</tr>
<tr>
<td>Pyrexia (fever)</td>
<td>215 (8.5)</td>
</tr>
<tr>
<td>Hyperhidrosis</td>
<td>211 (8.3)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>182 (7.2)</td>
</tr>
</tbody>
</table>

#### 16–25 years old† (N= 12,759) (for comparison)

<table>
<thead>
<tr>
<th>Adverse event‡</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dizziness</td>
<td>2,832 (22.2)</td>
</tr>
<tr>
<td>Headache</td>
<td>2,197 (17.2)</td>
</tr>
<tr>
<td>Nausea</td>
<td>1,955 (15.3)</td>
</tr>
<tr>
<td>Pyrexia (fever)</td>
<td>1,948 (15.3)</td>
</tr>
<tr>
<td>Fatigue</td>
<td>1,689 (13.2)</td>
</tr>
<tr>
<td>Chills</td>
<td>1,609 (12.6)</td>
</tr>
<tr>
<td>Pain</td>
<td>1,560 (12.2)</td>
</tr>
<tr>
<td>Syncope</td>
<td>1,257 (9.9)</td>
</tr>
<tr>
<td>Hyperhidrosis</td>
<td>946 (7.4)</td>
</tr>
<tr>
<td>Vomiting</td>
<td>918 (7.2)</td>
</tr>
</tbody>
</table>

- 12–15 years old: ~6.0 million doses administered (May 10 thru Jun 11, 2021)
- 16–25 years old: ~21.6 million doses administered (December 14, 2020, thru Jun 11, 2021)
CDC Acute Myocarditis Case Definition

**Probable Case**

Presence of $\geq 1$ new or worsening
- Chest pain/pressure/discomfort
- Dyspnea/SOB/pain with breathing
- Palpitations
- Syncope

OR for $<12$ yo $\geq 2$ of irritability, vomiting, poor feeding, tachypnea, lethargy

AND troponin/ECG/echo/MRI suggestive

AND no other identifiable cause

**Confirmed Case**

Ditto

Histopathologic confirmation OR elevated troponin AND positive MRI

Ditto
Preliminary reports of myocarditis/pericarditis to VAERS after mRNA COVID-19 vaccination by age and dose number* (as of Jun 11, 2021)

* Age truncated at >50yr: Reports of persons >50yr of age include 70 after Dose 1, 119 after Dose 2
Symptoms and diagnostic findings of preliminary myocarditis/pericarditis reports after mRNA COVID-19 vaccination under review, limited to ≤29 years old (N=484)

(data thru Jun 11, 2021)
## Myocarditis/pericarditis chart confirmed rates in VSD in 21-day risk interval, 12–39-year-olds

(Thru Jun 5, 2021)

<table>
<thead>
<tr>
<th>Vaccine(s) (dose #)</th>
<th>Cases</th>
<th>Doses admin</th>
<th>Rate per million doses (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>mRNA (both doses)</td>
<td>26</td>
<td>3,418,443</td>
<td>8 (5.3–11.8)</td>
</tr>
<tr>
<td>mRNA (dose 1)</td>
<td>8</td>
<td>1,879,585</td>
<td>4.4 (1.9–8.8)</td>
</tr>
<tr>
<td>mRNA (dose 2)</td>
<td>18</td>
<td>1,538,858</td>
<td>12.6 (7.5–19.9)</td>
</tr>
<tr>
<td>Pfizer-BioNTech (dose 1)</td>
<td>3</td>
<td>1,211,080</td>
<td>2.6 (0.5–7.7)</td>
</tr>
<tr>
<td>Pfizer-BioNTech (dose 2)</td>
<td>7</td>
<td>958,721</td>
<td>8.0 (3.2–16.5)</td>
</tr>
<tr>
<td>Moderna (dose 1)</td>
<td>5</td>
<td>668,505</td>
<td>7.5 (2.4–17.6)</td>
</tr>
<tr>
<td>Moderna (dose 2)</td>
<td>11</td>
<td>580,137</td>
<td>19.8 (9.9–35.5)</td>
</tr>
</tbody>
</table>
Comparing Apples and Oranges

Figure 1. Cohort of Big Ten Athletes

- 9255 Big Ten athletes tested for COVID-19
  - 2810 Positive for COVID-19
    - 349 Awaiting cardiac evaluation
    - 2461 Had a cardiac evaluation
      - 864 Had a non-CMR evaluation
      - 1597 Completed a CMR evaluation
        - 37 (2.3%) Diagnosed with myocarditis
          - 9 Had clinical myocarditis
          - 28 Had subclinical myocarditis
Comparing Apples and Oranges

9/2810 = 3203 symptomatic myocarditis cases per million SARS-CoV-2 infections
COVID-19-associated deaths continue to occur in adolescents and young adults

COVID-19 Mortality Rate per 100,000 Population, by Age Group and Sex
April 1, 2021 – June 11, 2021

Since beginning of pandemic, 2,767 COVID-19 deaths have been reported among persons aged 12-29 years; 316 deaths reported since April 1, 2021

https://covid.cdc.gov/covid-data-tracker/#demographics
Predicted cases prevented vs. myocarditis cases for every million second dose vaccinations over 120 days

**Females 12–17 Years**
- 8,500 COVID-19 cases prevented
- 183 hospitalizations prevented
- 38 ICU admissions prevented
- 1 death prevented

**Males 12–17 Years**
- 5,700 COVID-19 cases prevented
- 215 hospitalizations prevented
- 71 ICU admissions prevented
- 2 deaths prevented

8–10 myocarditis cases
56–69 myocarditis cases

Hospitalizations, ICU admissions and deaths based on data for week of May 22, 2021.

FUTURE OF PEDIATRICS  
Bottom Line: Keep Vaccinating!

(...and be able to answer questions from patients and families)
What’s Different About Testing COVID-19 Vaccines in Younger Children?

• Unlike the adolescent/adult trials, not designed (powered) to determine true efficacy – likely too few children to see significant differences in infection rates between placebo and vaccine
  • Instead will be “immunobridging” trial as means to assess likely efficacy
  • A bit difficult since we don’t absolutely know an immunity cutoff for protection
    • Looking at neutralizing antibody, B cell memory, T cell responses (none of which are available with commercial antibody testing)
• Safety paramount
  • Local reactions, systemic reactions (fever, fatigue, headache, chills, vomiting, etc), AEs, SAEs
Timeline for Authorization for Young Children

• Place your bets (I’m not betting)
• Some press releases have hinted about EUA submission is early as September
• Some concern expressed at last week’s ACIP meeting not to push EUA for children under 5 yo
Are You Sick of Hearing About the “New Normal?”
Everyone Agrees In-Person Learning is Desired

• Evidence suggests that many K-12 schools that have strictly implemented prevention strategies have been able to safely open for in-person instruction and remain open.

• CDC’s K-12 operational strategy presents a pathway for schools to provide in-person instruction safely through consistent use of prevention strategies, including universal and correct use of masks and physical distancing.

• All schools should implement and layer prevention strategies and should prioritize universal and correct use of masks and physical distancing.

• Testing to identify individuals with SARS-CoV-2 infection and vaccination for teachers and staff provide additional layers of COVID-19 protection in schools.

High-Risk Focus: PCPs and Specialty Partnership
Vaccinate the Household!

DC AAP High Risk Student List

• Chronic lung disease, asthma (moderate or severe)
• Diabetes
• Genetic, neurologic, or metabolic conditions
• Heart disease since birth
• Immunosuppression
• Medical complexity
• Obesity
• Sickle cell disease
Return to Sports After COVID-19: AAP Summary

- Asymptomatic/mildly symptomatic infection
  - Initial phone or telehealth visit OK
  - Ask about chest pain, SOB. Palpitations, syncope

- Moderately symptomatic infection (but no MIS-C)
  - No exercise until cleared by provider after resolution and end of quarantine
  - AHA 14-element screening
  - PE and ECG
  - If all OK, gradual return to physical activity

- Severe infection or MIS-C
  - No exercise 3-6 months
  - Obtain cardiology clearance

Thank you!

The recording, presentation and materials will be posted on our website within 1 week.

Questions? Contact us at phn@childrensnational.org