MOre Healthy Schools
Virtual Forum and Statewide Collaboration

July 13, 2020
Virtual PLN Norms

- Start and end on time
- Ask permission to record, screenshot or take pictures
- Use the Q & A feature to share your questions with the panel
**Zoom Webinar Features & Navigation**

- Bottom Navigation Bar
  - Chat window
    - Chat with panelists only
  - Reactions - clap or thumbs up
  - Drop questions in the Q & A section

- Screen Views
  - Full screen, exit full screen, 50%, etc.
  - As hosts, we will drive what you’re seeing
Today’s Discussion Topics

- Re-Entry Considerations for Physical Education, Physical Activity and Sports
- Overview of COVID-19
- COVID-19 Effects on Children and Adolescents
- Pandemic Preparedness and Schools
- Re-entry related to Physical Education, physical activity and sports
Welcome Guest Speakers!

Dr. Rachel Orscheln
Dr. Orscheln is the director of ambulatory Pediatric Infectious Diseases and the International Adoption Center at St. Louis Children’s Hospital and Washington University. Her current research interests include treatment of viral infections in normal and immune compromised children.

Jason Newland, MD MEd FPIDS
Dr. Newland is a Professor of Pediatrics at Washington University and the Director of the Antimicrobial Stewardship Program at St. Louis Children’s Hospital. His current research spotlights the use of antimicrobials and the impact of an antimicrobial stewardship program at a children’s hospital.
Definitions

The Virus:
- Severe Acute Respiratory Syndrome Coronavirus 2 (Sars-CoV-2)
  A.K.A
- “The novel coronavirus”

The Disease:
- COVID-19
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/19</td>
<td>China treating dozens of cases of pneumonia of known cause</td>
</tr>
<tr>
<td>1/11/20</td>
<td>First death reported</td>
</tr>
<tr>
<td>1/9/2020</td>
<td>Cause of illness identified as novel CoV</td>
</tr>
<tr>
<td>1/2/2020</td>
<td>First death outside of China</td>
</tr>
<tr>
<td>1/23/20</td>
<td>Airlines suspend travel to China and entry to US if restricted for travelers to China</td>
</tr>
<tr>
<td>1/21/20</td>
<td>Wuhan City (11M people) placed on quarantine</td>
</tr>
<tr>
<td>1/20</td>
<td>First confirmed case reported in Washington State</td>
</tr>
<tr>
<td>1/30/20</td>
<td>WHO declares global health emergency</td>
</tr>
<tr>
<td>2/2/20</td>
<td>400 US citizens (14 COVID+) evacuated from Cruise ship and place in Quarantine in US</td>
</tr>
<tr>
<td>2/15/20</td>
<td>Missouri announces first case</td>
</tr>
<tr>
<td>3/1-3/2</td>
<td>20 NY state reports first case</td>
</tr>
<tr>
<td>3/15/20</td>
<td>Missouri Universities begin to announce transition to online learning</td>
</tr>
<tr>
<td>3/19-4/6</td>
<td>States issue Stay-at-home orders</td>
</tr>
<tr>
<td>3/7/20</td>
<td>Missouri announces first case</td>
</tr>
<tr>
<td>4/9/20</td>
<td>Missouri schools close for academic year</td>
</tr>
</tbody>
</table>
Purpose of Mitigation Strategies

Allowed for mobilization of health resources
  • Personal protective equipment
  • Testing capacity

Preserved health care capacity

Advanced medical knowledge
  • Supportive treatment strategies
  • Antiviral and anti-inflammatory therapeutics

Averted infections and deaths
Projected vs. Observed COVID-19 Hospitalizations Before and After Stay-at-Home Orders

Pandemic Preparedness and Schools

- Influenza has been the primary focus of pandemic preparedness
- Children are considered major drivers of influenza outbreaks
- School closures during pandemic influenza reduced transmission
# Influenza

<table>
<thead>
<tr>
<th>Virus</th>
<th>Influenza A and Influenza B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illness</td>
<td>“The Flu”</td>
</tr>
<tr>
<td>Seasonality</td>
<td>Onset in October and November in temperate climates with peak in January and February</td>
</tr>
<tr>
<td>Transmission</td>
<td>Introduction of droplets produced when a person coughs, sneezes or talks</td>
</tr>
<tr>
<td></td>
<td>• Directly onto the nose or mouth of a susceptible person</td>
</tr>
<tr>
<td></td>
<td>• Indirectly through touching eyes, nose or mouth with hands which are contaminated with virus from droplets</td>
</tr>
<tr>
<td></td>
<td>Adults transmit 1 day before to 5 days after symptoms (children for up to 10 days after symptoms)</td>
</tr>
<tr>
<td>Incubation period</td>
<td>2-4 days</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Fever, chills, cough, sore throat, nasal congestion, body aches, headaches, fatigue</td>
</tr>
<tr>
<td></td>
<td>Vomiting and diarrhea may be seen in children</td>
</tr>
<tr>
<td>Incidence</td>
<td>3-11% of population develop symptoms of flu each year</td>
</tr>
<tr>
<td>Risk Groups</td>
<td>Young children (age &lt;5 years), older adults, individuals with underlying medical conditions</td>
</tr>
<tr>
<td>Death</td>
<td>Case fatality rate: 0.1%</td>
</tr>
<tr>
<td></td>
<td>12,000-61,000 deaths per year in the United States</td>
</tr>
</tbody>
</table>

[https://www.cdc.gov/flu/about/keyfacts.htm](https://www.cdc.gov/flu/about/keyfacts.htm)  
[https://www.cdc.gov/vaccines/pubs/pinkbook/flu.html](https://www.cdc.gov/vaccines/pubs/pinkbook/flu.html)
## Novel Coronavirus Infection

<table>
<thead>
<tr>
<th>Category</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Virus</strong></td>
<td>SARS-CoV-2</td>
</tr>
<tr>
<td><strong>Illness</strong></td>
<td>COVID-19</td>
</tr>
<tr>
<td><strong>Seasonality</strong></td>
<td>Unknown**</td>
</tr>
</tbody>
</table>
| **Transmission** | Introduction of droplets produced when a person coughs, sneezes or talks  
• Directly onto the nose or mouth of a susceptible person  
• Indirectly through touching eyes, nose or mouth with hands which are contaminated with virus from droplets  
Transmission has been documented from pre-symptomatic and asymptomatic people |
| **Incubation period** | 2 to 14 days                               |
| **Symptoms**     | Cough, sore throat, fever, shortness of breath, loss of taste or smell, headache, muscle aches, diarrhea |
| **Incidence**    | Unknown                                         |
| **Risk Groups**  | Increasing age (>65), long-term care facility residents, persons with underlying medical conditions (diabetes, hypertension, obesity, immunocompromise, or lung, liver, heart, or kidney disease) |
| **Death**        | Observed Case Fatality Rate: 4.2-15.8%           |

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[https://coronavirus.jhu.edu](https://coronavirus.jhu.edu)  
Clinically apparent infection with SARS-CoV-2 is less common in children

- Children make up <5% of cases
- Cumulative Rate per 100K
  - 0-4 yrs: 9.4 cases
  - 5-17 yrs: 4.4 cases
  - 50-64 yrs: 161.7 cases
  - 85+ yrs: 316.9 cases

https://www.cdc.gov/mmwr/volumes/69/wr/mm6914e4.htm

SARS-CoV-2 and Children Infection

Children appear to be less susceptible to infection compared to adults with a similar exposure.

Infection rate after household exposure (China):
- 4% of children
- 28% of spouses

Attack rate after community exposure:
- 6.3% for children
- 59.4% for adults 19-64 years.

SARS-CoV-2 and Children Transmission

Children appear less likely to transmit infection with SARS-CoV-2

- Children rarely the “index case” for households.
- Asymptomatic transmission from a child has not been reported.
- Investigations of COVID-19 cases in schools show very few secondary cases.
COVID-19 Hospitalization by Age

Flu Hospitalizations

SARS-CoV-2 and Multisystem Inflammatory Disorder in Children (MIS-C)

Rare multisystem disorder associated affecting children

Has features similar to other post-infectious and/or inflammatory disorders
  • Streptococcal toxic shock
  • Viral myocarditis
  • Kawasaki syndrome

Most children have demonstrated antibodies to SARS-CoV-2 (not active infection)

Although serious, most children have recovered fully

[Image of map showing 8 cases and 10 cases]
Coronavirus Mortality by Age

COVID-19
29 Pediatric deaths (age < 15 years) reported in the US (2/1/20-7/4/20)

Influenza
185 Pediatric deaths in 2019-2020 flu season
How can we get back to school in the Fall?
Screening

Establish a daily screening plan to monitor for symptoms of or exposure to the novel coronavirus:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea, vomiting or diarrhea
- Exposure to person with positive test for SARS-CoV-2
Enhanced Infection Prevention

- Respiratory etiquette
- Frequent hand hygiene
- Full vaccination including for influenza
- Enhanced environmental cleaning
- Disinfecting of shared equipment
Face Mask Usage

Masks and physical distancing have been credited with reducing the spread of SARS-CoV-2.

• Continuous mask usage may be difficult for young children.
• Young children appear to be at lower risk of transmitting SARS-CoV-2.
Physical Distancing
Cohorting
Contact Tracing for COVID-19 in Schools

• **Contact Tracing:** Process of identifying people who are “close contacts” of someone with COVID-19

• **Goal:** To detect early infections and prevent secondary cases through use of quarantine

• **Close Contact:** Person who was within 6 feet of person with COVID-19 for >15 minutes
COVID-19 in Schools
Experience in NSW Australia

High School Cases and Contacts

Primary School Cases and Contacts

15 schools with 18 cases (9 students and 9 faculty)
- Close contacts: 735 students and 128 staff
- Enhanced follow-up evaluation:
  - Symptom screening
  - Nasal swab at day 5-10
  - Serology
- Secondary cases:
  - 1 primary student (swab+/antibody +)
  - 1 high school student (antibody +)

Physical Education in the Time of COVID-19

- Physical activity is important to physical and emotional well-being.
- Stay-at-home may have resulted in increased sedentary behavior and decreased fitness.
# Risk Consideration for Physical Education

## Contact and Transmission Risk

<table>
<thead>
<tr>
<th>Lower</th>
<th>Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside</td>
<td>Inside</td>
</tr>
<tr>
<td>Small groups or cohorts</td>
<td>Large group</td>
</tr>
<tr>
<td>Individual equipment</td>
<td>Shared equipment</td>
</tr>
<tr>
<td>Non-contact activities</td>
<td>Contact sports</td>
</tr>
</tbody>
</table>
Physical Education

Guiding Principles

- Children need activity
- Maximal use of socially distanced activities
- Outside as much as possible or maximize ventilation
- Hand hygiene before and after with hand sanitizer or soap and water
- Limit congregating in locker rooms - stagger use
- Limiting shared equipment
  - Passing balls back and forth is low risk (clean between classes)
  - Avoid having them share items that they wear (e.g. sports pinnies)
Physical Education - Teacher Safety

- Mask or face shield at all times when teaching
  - Greatest risk will be from other colleagues
- Socially distance from the students
  - Being masked will significantly reduce any possible transmission from children
  - Asymptomatic transmission is rare in adults and no reported transmission in asymptomatic children to adults
- Hand hygiene frequently especially before and after handling equipment
Physical Education - Equipment

Disinfecting Equipment

- Numerous products are available and approved by the CDC
  - https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-covid-19
  - Diluted household bleach is also effective
    - 5 tablespoons per gallon of water or 4 teaspoons per quart of waters
    - Wear gloves when handling the disinfectants
- Wipe down balls and any shared equipment between groups
Physical Education - Masks

- Masks can be worn coming to and leaving from PE
- Would not have them wear a mask during the activity
- Use social distancing as much as possible
  - Minimal time without distancing likely is safe
  - Remember these children should be screened and not sick before coming to school
Sports

• Differential risk based on the level of contact
• High Frequency of Contact- Differing Levels within this group
  • Baseball, Basketball, Boxing, Cheerleading, Crew/Rowing, Dance Team, Fencing, Floor Hockey, Field Hockey, Tackle/Flag/Touch Football, Ice Hockey, Lacrosse, Martial Arts, Racquetball, Rugby, Soccer, Softball, Team Handball, Ultimate Frisbee, Volleyball, Water Polo, Wrestling
• Low Frequency of Contact
  • Diving, Extreme sports, Gymnastics, Rodeo, Water skiing, Adventure Racing, Bicycling, Canoeing/Kayaking, Field Events (high jump, pole vault, javelin, shot-put), Golf, Handball, Horseback Riding, Skating (ice, in-line, roller), Skateboarding, Weight lifting, Windsurfing, Surfing, Badminton, Bodybuilding, Bowling, Golf, Orienteering, Fishing, Riflery, Rope Jumping, Running, Sailing, Scuba Diving, Swimming, Table Tennis, Tennis, Track.
Sports

- Health Screening essential - prior to school should be adequate.
- Stagger use of locker rooms to maintain distancing
- Use social distancing when available to limit additional significant exposures
- Create practice cohorts for high contact sports to decrease size of groups
  - Don’t do it by positions (eg. all QBs or all guards)
Sports

- No sharing of equipment or water bottles
- Ideally wash jerseys, pinnies, uniforms daily
- Disinfect like suggested with PE
  - Weight room- disinfect after each use as part of the process including hand hygiene for the athlete
- Limit spectators and unnecessary personnel
- Maintain impeccable lists of who is present and absent to aid in contact tracing if positives occur
Sports-Positive COVID-19 Athletes

- Concerns for potential heart involvement
- AHA guidance suggests keep out of physical activity for 2 weeks after having COVID-19
- St. Louis Sports Task Force recommend a medical evaluation to reassess potential cardiac risk factors prior to return

Additional Thoughts

• Teachers, coaches, athletic trainers will be safe with students participating in PE and sports
  • Masks, distancing, health screening
  • Hand hygiene and disinfecting
• Biggest threats to sports will likely be activities occurring outside the classroom, practices, and games
  • Break rooms without masks
  • High school parties
• PE and Sports are essential
Resources


Shape America School Reentry Considerations: https://www.shapeamerica.org/advocacy/K-12_School_Reentry_Considerations.aspx


EPA List of Disinfectants: https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-covid-19

Resocialization of Sports in the St. Louis area: https://www.mercy.net/content/dam/mercy/en/pdf/return-to-sports-recommendations.pdf
Assessment Survey and Evaluation