The School Nurse & Covid-19
Caring for High Risk Students in the Time of Covid-19
August 27, 2020

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Disclosures / Disclaimer

- I have no financial disclosure or conflict of interest concerning the material discussed in this presentation.

- The COVID-19 pandemic is a rapidly evolving incident: please refer to the Centers for Disease Control and Prevention’s COVID-19 website for the most up-to-date information and resources.

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Caring for Students that are High Risk in the time of COVID-19

Arda Hotz, MD MPH
Boston Children’s Hospital
What should I choose for my child this fall?

Is it safe for my child to return to in-person school?

Is my child high risk?
Guiding Principles

1. Listen to the family
2. Focus on the individual child
1. Listen to the family

• Does the family already have a strong preference for reentry plan?
1. Listen to the family

Help the family think through risk and benefits of missing in-person learning and therapies

- Does the family have concern about their child’s mood, behavior, learning, or socialization that is weighing into this decision?
- Does the child receive therapies or home services that may be altered based on this decision?
1. Listen to the family

Help the caregivers consider the impact of missing school on their entire family

- Are there other high-risk family members in the house they are considering?
- Is the family concerned about other issues, such as child’s access to food, parental employment and finances, or internet connectivity?
2. Focus on the individual child

Consider if the child is high risk of developing complications from a COVID infection

Special considerations:
• Children with tracheostomy and ventilator dependence
• Children with weakened immune systems
2. Focus on the individual child

Does the child need procedures daily or on a PRN basis that would be administered in school?

- Enteral tube feeding
- Diaper changes, catheterization
- Administration of medications
- Respiratory medications, suctioning
2. Focus on the individual child

What are the child’s developmental needs?
- If they are considering virtual curriculum, how did they do with the virtual curriculum initially?
Partner with the child’s family and medical team

1. Listen to the family
2. Focus on the individual child
What We Know about COVID-19 in High-Risk Children

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Instructor of Pediatrics, Harvard Medical School

The School Nurse & COVID-19
Session III: Caring for High Risk Students in the Time of COVID-19
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We have limited data on COVID-19 in children, but much of what we know is encouraging

- Children are less likely to be infected by SARS-CoV-2 than adults
  - Especially true for children under 10
- Most children infected by SARS-CoV-2 are asymptomatic or have mild disease
  - Critical illness occurs in ~1% of children diagnosed with COVID-19
  - Critical illness is more common in children with underlying medical conditions
- Pediatric deaths from COVID-19 are very uncommon
  - <100 pediatric COVID-19 deaths have been reported in the US as of 8/20/20
COVID-19 numbers for Massachusetts (total as of 8/11/20)
Which conditions increase risk of severe COVID-19 in children?

**Conditions reported in children with severe or critical COVID-19**
- Obesity
- Chronic lung disease
- Congenital heart disease
- Prematurity
- Medical complexity
- Malignancy
- Neurological disease
- Diabetes
- Sickle cell disease

**Conditions that increase risk of severe COVID-19 in adults**
- Cancer
- Chronic kidney disease
- Chronic obstructive pulmonary disease (COPD)
- Immunosuppression due to solid organ transplant
- Obesity
- Heart disease
- Sickle cell disease
- Type 2 diabetes

**Conditions that increase risk of other severe viral infections in children**
- Asthma and other pulmonary diseases
- Immunocompromising conditions or treatments
- Medical complexity
- Congenital or other serious heart disease
- Prematurity
- Genetic or metabolic disease
- Obesity
- Adrenal insufficiency

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Return-to-school decisions for high-risk children must be individualized

- Assessing risk of returning to school:
  - What is the child’s risk of severe disease if they acquire COVID-19?
    - (This part is just an educated guess, unfortunately...)
  - What measures has the school put into place to reduce the chance of an outbreak?
  - How high is community transmission?

- Assessing benefit of returning to school:
  - What role does in-person school play for the child and the family?
  - What alternatives to in-person school exist?
Return to School for Pediatric Solid Organ Transplant Recipients in the United States During the COVID-19 Pandemic: Expert Opinion on Key Considerations and Best Practices

Kevin J Downes, Lara A Danziger-Isakov, Melissa K Cousino, Michael Green, Marian G Michaels, William J Muller, Rachel C Orscheln, Tanvi S Sharma, Victoria A Statler, Rachel L Wattier... Show more

Journal of the Pediatric Infectious Diseases Society, piaa095,
https://doi.org/10.1093/jpids/piaa095
Published: 04 August 2020 Article history ▼
Avoiding “normal” activities can have risks too!

- Childhood immunizations
- Flu shot
- Routine medical care, especially care for high-risk conditions
Bottom line: there is no single right answer

We don’t know much (yet) about what conditions put children at risk for severe COVID-19 disease and adverse outcomes.

Decisions about returning to school will be different for each child and family, taking into account:

- The child’s risk (an educated guess based on their underlying condition), measures in place at the school, and community spread of the virus
- The importance of in-person school for the child and family

Don’t neglect routine health care (including immunizations!), especially for high risk conditions.
COVID-19: How to Protect Yourself & Others
PPE and Infection Control in Schools
August 25, 2020

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Infection Preventionist

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Infection Preventionist
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PPE for Aerosol Generating Procedures (AGP)

- Aerosol generating procedures (open suctioning, nebs) create infectious aerosols that can travel in the air

- PPE for AGPs
  - N95 respirator
  - Eye protection
  - Gown
  - Gloves

- The number of people should be limited in the room
- AGPs should be done in an isolation room with the door closed
- Surfaces should be cleaned and disinfected following an AGP
Aerosol Generating Procedures

- AGP Procedures include:
  - Bronchoscopy
  - Resuscitation involving emergency intubation or CPR (including mask bag ventilation)
  - Endotracheal intubation or extubation
  - Open suctioning of airway secretions or cough assist
  - Sputum induction
  - HFNC
  - CPAP/BiPAP
  - High-frequency oscillatory ventilation
  - Nebulized treatments
  - Upper airway surgeries (including tracheostomy replacement)
  - Upper and lower endoscopy
  - Transesophageal echocardiography (only during insertion or removal of the probe)
  - Aerosol-generating dental procedures
  - Autopsy
NOT Aerosol Generating Procedures

- AGP Procedures do not include:
  - Regular (i.e. not high flow) nasal cannula oxygen delivery
  - Face mask oxygen delivery
  - Humidified air/face tent/cool mist
  - Chest physiotherapy without open suctioning
  - Chest physiotherapy vest without open suctioning
  - Collection of nasopharyngeal or oropharyngeal specimens (if collected on a PUI, an N95 respirator would be used as this is part of routine care for a suspected COVID-19 case)
  - Patient talking, coughing, or sneezing
  - Routine oral care or oral suctioning
  - Uncuffed ETT/trach with leaks
  - Hand ventilation via endotracheal tube or tracheostomy tube
  - Mechanical ventilation using ventilator without a filtered exhalation limb
  - Ventilator circuit disconnections, including opening installation ports for in-line suctioning
  - In-line suctioning (closed suctioning)
  - Nebulized treatment in a closed ventilator circuit including an artificial airway without a leak
Asthma

A Chronic Inflammatory disease of the airways

Characterized by:
- Episodic wheezing
- Episodic coughing
- Chronicity
- Hyper‐responsiveness of airways to a variety of stimuli
- Largely reversible obstruction of the airways
Asthma Management

#1 Education of the student and family

Pharmacological approach – Is the student taking his/her medication as prescribed?

Eliminate or decrease exposure to allergens
## Symptoms of COVID-19

<table>
<thead>
<tr>
<th>Symptoms of COVID-19</th>
<th>Strep Throat</th>
<th>Common Cold</th>
<th>Flu</th>
<th>Asthma</th>
<th>Seasonal Allergies</th>
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[cdc.gov/coronavirus]
Considerations for Students with Asthma

- Masks – Encouraged for all
  - Some may need an occasional break from masks. If they can be outside to do this, that is preferred

- There is renewed attention to school cleaning to control Covid 19. These cleaners may be irritating to children with asthma and allergies. Be aware, have students keep a safe distance away from strong smells.

- Students with asthma may also have allergies and eczema
  - Hand sanitizer does not always remove food proteins – Washing with soap and water is preferred
  - Have moisturizer available as frequent hand washing may worsen eczema
  - Be vigilant for food allergies and cross contamination – especially as students may now be eating in their classrooms

- Flu shots are very important for students with asthma! They are state mandated for all students this year.
In the Health Room

- Maintain social distance, hand washing, and mask wearing
- School nurses may need to give controller medications in school, if the family is unable to do this at home
- Do Not Use Nebulizers as they are considered an Aerosol Generating Procedure
- Administer Albuterol via MDI andSpacer
- If symptoms do not improve in 20 minutes, student should have further follow-up with PCP. If student is in respiratory distress, should be transported to ED.
- Many asthma symptoms are similar to Covid 19 symptoms, so student may need to be tested
Resources

- Bostonchildrens.org – Covid 19 info
- Bostonchildrens.org/family education
  - 20 Asthma Education Sheets
  - Culturally and linguistically appropriate (8 languages)
- Video Link & QR codes for 16 instructional videos

Caring for High Risk Students in the Time of COVID

A Case Study
Overview

**Age:** Pre K

**Diagnosis:** Tracheobronchomalacia which causes flaccidity of the tracheal and bronchial airways that causes the airway to collapse. The student is able to independently breathe through the tracheostomy tube without a ventilator or oxygen during the day when awake. The student has excessive mucus production in the airway which requires suctioning every half hour.
First Steps-
Meet with the family to determine health care needs

Team Meeting Participants:
- Mom
- Special Education Director
- Elementary Special Education Director
- Lead Nurse
- MASSTART Nurse

Discussion Points:
- What is the status of the student’s current medical condition?
- What care does the student require at home?
- What care will the student require in school?
- What equipment will student require at school?
- Will the student need transportation to get to school?
- What Emergency Equipment will the child need ie “Go-Bag”
Student Health Care Needs

- Tracheostomy suctioning every ½ hour at school
- Ongoing respiratory assessment
- 1:1 LPN to travel with student to and from school and provide all care at school
- Equipment will include suction equipment and tracheostomy tubes (family provides) and Go-Bag
- PPE (school provides)
- Transportation to and from school
Action Plan

- Be Flexible
- Be Creative
- Be Supportive
- Seek help from MASSSTART

*Clearance was obtained from the student’s physician to attend school.

*The school district has determined that the student is high needs and therefore is high priority to attend in person learning.
Where are we now?

- District has hired a 1:1 LPN
- Classroom with an attached room for suctioning has been identified
- PPE has been obtained - N95 masks, gloves, gowns, face shields/goggles
- Transportation has been set up
- Health Care Plan and Emergency Care Plan will be completed prior to the first day of school
- LPN will be trained on student specific care
- Classroom staff will be educated on student condition
MASSTART
Massachusetts Technology Assistance Resource Team

- Sponsored by MA Department of Public Health
- What do we do?
  - Provide consult services while working collaboratively with families and school personnel to ensure children with special health care needs attend school safely
  - Work to resolve issues impacting the child’s health care needs in schools
  - Provide training to school personnel (ie. Medical technology)
  - Assist the school nurse in developing IHCPs and Emergency Plans
  - Attend 504 planning and IEP meetings
  - Provide technical assistance, referral and community resources
MASSTART
Massachusetts Technology Assistance Resource Team

- Issues we deal with in the community
  - Concerns about a child’s safety in school
  - Communication issues
  - Staffing issues
  - Delegation
  - Legal parameters
  - Lockdown or disasters
  - DNR issues

- For more information, including how to contact, visit:
HME – heat moisture exchanger for tracheostomy


Open suction catheter for tracheostomy


In-line suction catheter – closed suctioning system for tracheostomy

[https://www.boundtree.com/Airway-Oxygen-Delivery/Pediatric-D2-Care/Ballard-Trach-Care-Closed-Suction-Catheter-System-Pediatric/p/108-208EA](https://www.boundtree.com/Airway-Oxygen-Delivery/Pediatric-D2-Care/Ballard-Trach-Care-Closed-Suction-Catheter-System-Pediatric/p/108-208EA)