

# CONTAGIOUS COMMENTS

## Department of Epidemiology

### Frequently Asked Questions About the 2022-2023 Respiratory Season

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#### **What are we seeing so far, this respiratory season?**

We are seeing something that the rest of the country has been experiencing, which is that our respiratory season has arrived early, with a high burden of disease. Our hospital is at maximal capacity with infants and young children being admitted with respiratory infections including bronchiolitis and pneumonitis, predominantly from RSV. Pediatric hospital bed occupancy in the U.S. is the highest it's been in two years.

#### **How is this different from other seasons?**

The typical RSV season is from November to March, but this season, we are seeing it early. And this is all coming right after a busy late summer and early fall due to the enterovirus season. The rate of RSV hospitalizations in the five-county Denver metro area is increasing so rapidly that pediatric hospital bed capacity has become strained in the entire state. 95% of hospitalizations are pediatric cases.

#### **What is CHCO doing to handle the capacity?**

We are instituting measures that were done during the height of the coronavirus pandemic, setting up temporary treatment facilities in the emergency department, bringing in extra medical providers to help support the hospital teams, expanding the number of inpatient medical teams, converting other clinical areas into patient rooms, restricting our patients to pediatric patients only, and cohorting patients with like illnesses.

#### **Is there anything different about the way children with RSV are presenting this season?**

People infected with RSV typically develop symptoms within four to six days after being exposed. Symptoms of RSV infection, which may appear in stages, can include runny nose, decrease in appetite, coughing, sneezing, fever, and wheezing. In very young infants with RSV, the only symptoms may be irritability, decreased activity/feeding, and difficulty breathing. More severe presentations resulting in hospitalizations include bronchiolitis, pneumonitis, asthma exacerbations and pneumonia. We are seeing similar presentations in children compared with previous seasons, but at greater numbers.

#### **Why are we seeing this unprecedented RSV season now?**

The reasons for these unprecedented volumes are likely due to the decreased immunity from minimal exposure to RSV in the preceding two seasons due to the mitigation efforts to help prevent the spread of SARS-CoV-2. Other additional theories include a more virulent RSV strain, and increased susceptibility to infections from impaired immunity following SARS-CoV-2 infection.

### **Who is eligible for palivizumab (Synagis®)?**

- The following three categories of infants eligible are as follows:
- All infants born before 29 weeks, 0 days' gestation who are younger than 12 months at the start of RSV season
- Infants born before 32 weeks, 0 days' gestation who have chronic lung disease (CLD) of prematurity who are younger than 12 months at the start of RSV season (or who are younger than 24 months at the start of RSV season and have required medical support within 6 months of the start of RSV season)
- Infants who have hemodynamically significant congenital heart disease (CHD) who are younger than 12 months at the start of RSV season

### **What are we seeing with influenza currently?**

We are also concerned with signs of an early influenza season. We had some forewarning of this based on the southern hemisphere, in which countries like Australia experienced an early and more severe influenza season. Influenza has already made its way to Colorado, and we have announced the official start of our influenza season at CHCO.

### **What are we seeing with COVID-19 cases currently?**

COVID-19 cases have started to increase over the last few weeks, and we are concerned that there could be a winter surge coming around the corner. In terms of variants, CO is seeing an increase in the newer variants BQ 1 and BQ 1.1. These are derived from omicron BA 5, but have an even higher growth and transmission advantage, as well as potential for immune escape from vaccines and monoclonal antibodies, and therefore could signal a higher wave of activity to come. That means that this winter, we could be in store for a “triple-demic” – the triple threat of RSV, COVID-19 as well as influenza.

### **What advice should we give to families at this time?**

The message to emphasize to parents are to:

1. Get themselves and their children vaccinated against influenza and COVID-19. If a child is too young to receive the vaccine, getting older family members vaccinated can provide cocooning and protect that younger child.
2. Try to minimize the spread of influenza, RSV and COVID by frequent handwashing, staying home from work, school or daycare if sick, wearing a mask in indoor, crowded spaces, and getting tested for COVID and flu. CDPHE advises that children or staff at childcare centers who are ill with RSV or other acute respiratory illness remain home for at least 72 hours from symptoms onset and until they are fever free for 24 hours without the use of fever-reducing medications and other symptoms have been improving for 24 hours.
3. If your child does get sick, know what some of the warning signs are that they need emergency care. These signs are if a child is breathing faster than usual, looks like they are having trouble getting air in, or are using accessory muscles to help them breathe. And if a child is not able to drink enough fluids to stay properly hydrated or appears excessively fatigued or drowsy.

### **What are the current testing platforms for RSV, SARS-CoV-2 and influenza at CHCO?**

The 3 types of respiratory testing available at the CHCO Microbiology Lab are SARS-CoV-2 PCR, SARS-CoV-2/influenza/RSV PCR (FLUVID) and Respiratory pathogen panel (RPP). At Colorado Springs, SARS-CoV-2 PCR only testing is not available at CSH with the exception of testing at Briargate. There are no stand-alone influenza tests this season- combined flu/RSV/SARS-CoV-2 and the respiratory pathogen panel will be the tests available for influenza testing.

### **What are the current recommendations for testing for these viruses?**

Inpatients with a compatible illness receive SARS-CoV-2/influenza/RSV PCR testing. For children evaluated in the ED/UC and outpatient setting, testing for SARS-CoV-2 is still recommended for children with compatible illness for appropriate isolation and quarantine measures, and SARS-CoV-2/influenza/RSV PCR should be reserved for those situations when it will impact clinical care (e.g. help with decisions about starting an antiviral, avoid antibiotic use, or other diagnostic evaluation) and in general does not need to be ordered for children who are being sent home without risk factors outlined in Table 1. We are continuing to require pre-admission SARS-CoV-2 PCR testing and to conduct pre-procedural testing for patients who are undergoing a COVID-19 high-risk surgical procedure. Respiratory pathogen testing (which includes SARS-CoV-2) is not routinely recommended but may be considered for clinically complex scenarios (such as evaluation for FUO, evaluation for Kawasaki disease), in immunocompromised children, patients with CF exacerbations, or those who are critically ill. Test platforms are summarized in Table 2.

### **How long does it take for the results to return?**

Testing at the CHCO microbiology laboratory is performed 24 hours a day, 7 days a week. Sample collection for these tests will be available at all CHCO locations. The turnaround time for these tests at Anschutz campus is 6 hours. If SARS CoV-2 PCR testing is not ordered using the respiratory panel in Epic, then the turnaround time is 24 hours. At CSH, swabs are the preferred specimen type; other sample types will be re-directed to Anschutz for testing which will lengthen turnaround time.

### **Table 1. Risk factors associated with complications or more severe disease from influenza**

- Children aged <2 years
- Individuals <19 years receiving long-term aspirin
- Adults aged >65 years
- Persons of all ages with chronic pulmonary (including asthma), cardiovascular, renal, hepatic, metabolic (including diabetes) hematologic, neurologic and neurodevelopment conditions (including seizure disorders, developmental delay, muscular dystrophy, or spinal cord injury)
- Persons with immunosuppression
- Pregnant or recently post-partum women
- American Indians/Alaska Natives
- Persons who are morbidly obese (BMI >40)

**Table 2. Respiratory Pathogen Testing Information**

	SARS-CoV-2 PCR	SARS-CoV-2/Flu/RSV PCR	Respiratory pathogen panel
<b>Tests for</b>	SARS-CoV-2	SARS-CoV-2, influenza A, influenza B, RSV	SARS-CoV-2, adenovirus, coronaviruses HKU1, NL63, 229E and OC43, human metapneumovirus, rhinovirus/enterovirus, RSV, influenza A, A/H1-2009, A/H3, B, parainfluenza virus 1, 2, 3, and 4, <i>Bordetella pertussis</i> , <i>B. parapertussis</i> , <i>Chlamydomphila pneumoniae</i> and <i>Mycoplasma pneumoniae</i>
<b>Charge for 2022 (Subject to change in 2023)</b>	\$220	\$270	\$605
<b>Procedure code</b>	LAB 9100	LAB 9373	LAB 5595
<b>Turnaround time for inpatients and ED patients from specimen arrival in the Microbiology Laboratory at Anschutz campus</b>	24 hours or 6 hours	6 hours	6 hours
<b>Sample types</b>	Mid-turbinate swabs, NP swabs, NP washes, tracheal aspirates, bronchoalveolar lavages	Mid-turbinate swabs, NP swabs NP washes, tracheal aspirates, bronchoalveolar lavages Note: At CSH, swabs are highly recommended; non-swab samples will be re-directed to Anschutz for testing	Mid-turbinate swabs, NP swabs, NP washes, tracheal aspirates, bronchoalveolar lavages Note: At CSH, swab samples are highly recommended; non-swab samples will be re-directed to Anschutz for testing
<b>Other considerations</b>	For the 6 hr option, the Respiratory Panel in Epic must be used	Will only report flu A or B, does not provide subtype information	Note, panel includes SARS-CoV-2

Testing Considerations for Children presenting to Children’s Hospital Colorado (ED/UC/ambulatory/inpatient setting) during the 2022-23 season are shown in Figure 1. Testing for children undergoing a high-risk surgical procedure is shown in Figure 2.

Figure 1. Respiratory testing recommendations at CHCO during the 2022-23 respiratory season

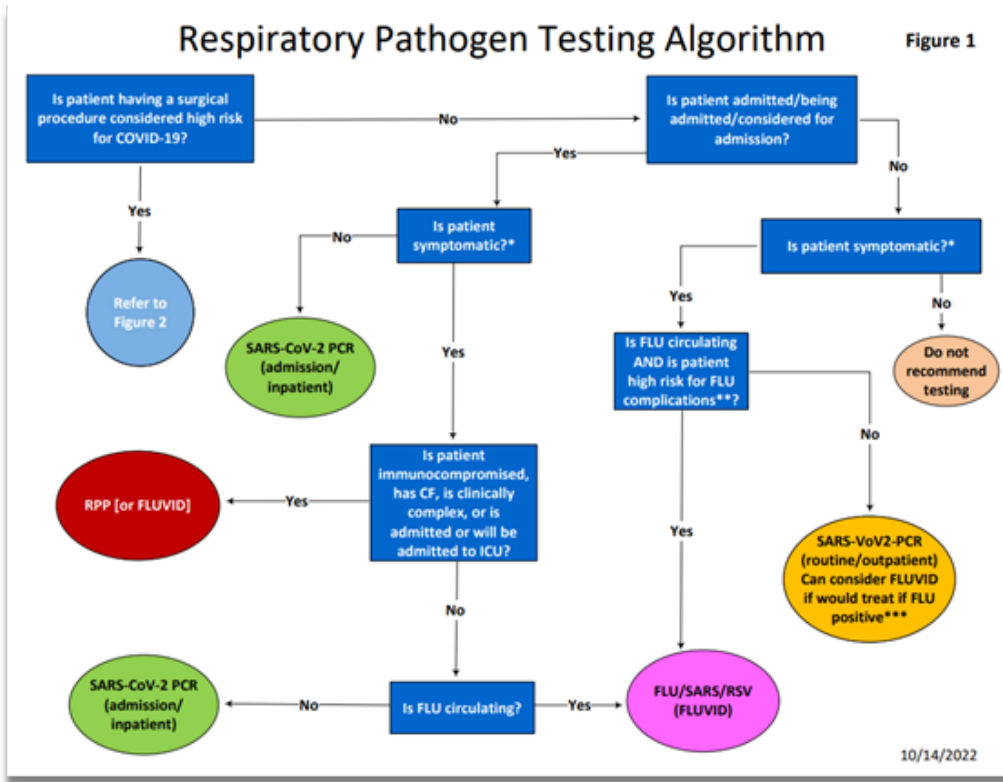
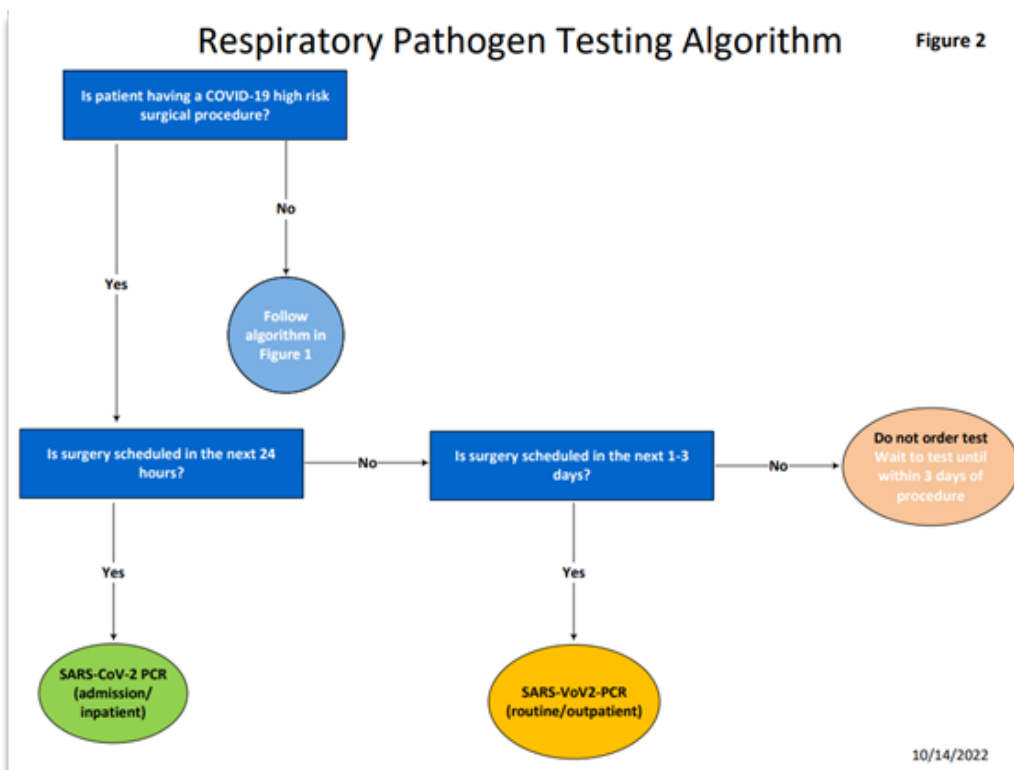


Figure 2. Respiratory testing recommendations for pre-procedural testing at CHCO during the 2022-23 respiratory season



### **What medications are currently available for the treatment of influenza?**

There are 4 antiviral medications currently available for the treatment of influenza. These include oseltamivir, peramivir, baloxavir and zanamivir. Importantly, there is currently a national shortage of oseltamivir (both suspension and capsules) and baloxavir. We currently have a limited supply available at CHCO, and prioritize treatment for all hospitalized children, as well as those outpatients with high-risk medical conditions, outlined in Table 1. Of these medications, oseltamivir is the only antiviral currently on formulary at CHCO.

### **What medications are currently available for the treatment of COVID-19?**

The current antiviral agents approved for outpatient use in children are ritonavir-boosted nirmatrelvir (Paxlovid) and, remdesivir (3-day course). Note, bebtelovimab, a monoclonal antibody previously recommended as an alternative outpatient treatment for COVID-19, is not expected to be effective against the BQ.1 and BQ.1.1 variants and is no longer recommended for use. A 5-day course of remdesivir and up to 10-day course of steroids (dexamethasone) are recommended for certain inpatients. The care of patients with SARS-CoV-2 including treatment considerations is available on the CHCO [COVID-19 Resources](#) page. The latest information regarding SARS-CoV-2 antivirals is available on the IDSA website: <https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/>

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