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Children's Hospital Colorado

CONTAGIOUS COMMENTS
Department of Epidemiology

Respiratory Season 2025-26

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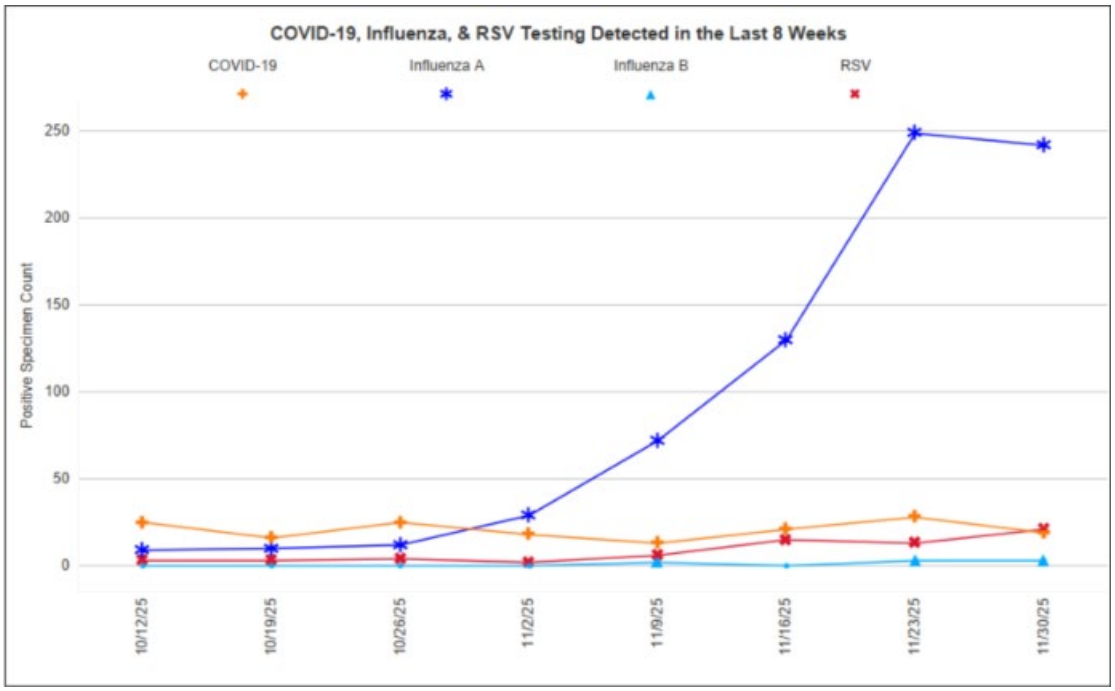
What respiratory pathogens are we seeing now and what should we expect this respiratory season?

Respiratory season is here, with increasing numbers of influenza detected already in Colorado. It is difficult to determine the start of the respiratory season each year, but based on national and local forecasting, we anticipate that we will have a more typical season than recent seasons. Prediction of the burden of RSV is more challenging now, due to two available prevention strategies – maternal RSV immunization and RSV monoclonal antibodies for infants. The degree to which these measures impact RSV hospitalizations will depend on uptake of these prevention products. Data from last season show increased uptake of these measures, as well as decreased rates of RSV-related hospitalizations from pre-pandemic rates. Rates of *Mycoplasma pneumoniae* have decreased, though we continue to see patients testing positive.

To keep track of community circulation patterns of these respiratory pathogens during and outside of the respiratory season, please subscribe to CHCO's Bug Watch by contacting Maggie Bay. During respiratory season, this publication is distributed weekly and provides positive specimen counts for respiratory and gastrointestinal pathogens detected in our microbiology laboratory each week (Figure 1).

Individuals with access to the CHCO intranet can also view and filter these data using Bug Watch 2.0, available on the Infection Prevention page. Team members can access this feature on the "Infection Prevention and Control" home page via QuickLinks on MyChildrensColorado. Individual dashboards enable users to visualize the number and types of respiratory, gastrointestinal, or meningitis-encephalitis viruses and bacteria identified by PCR in a stacked graph with user-selected axes to display data for pathogens detected during specific time periods and by individual pathogen.

Figure 1. Bug Watch data demonstrating COVID-19, influenza and RSV test positive counts, November, 2025



What are the main modes of respiratory viral transmission?

The primary mode of transmission of influenza, SARS-CoV-2, RSV and most other respiratory viruses is typically by large droplets during direct or close contact with secretions (e.g., close face to face contact). SARS-CoV-2, influenza and other viruses may also be transmitted in aerosol form, which in the healthcare setting primarily includes during aerosol-generating procedures (e.g., sputum induction, manual ventilation, open suctioning of artificial airway).

Another mode of transmission includes touching contaminated objects in the environment and inoculating self or others (e.g. hand-to-eye, hand-to-mouth), which is an important mode of transmission particularly for enteroviruses and rhinoviruses. Respiratory viruses can remain on surfaces (e.g. hands, countertops, tissues) for several minutes to hours.

What are the most effective forms of hand hygiene in the healthcare setting?

Regardless of the time of year, hand hygiene is imperative for decreasing transmission of infectious organisms in and outside the healthcare setting. Alcohol-based hand sanitizer is preferred for use in healthcare settings when hands are not visibly soiled due to its ability to kill more infectious organisms, ease of use, and is gentler on hands than detergents and soaps so is more likely to be used consistently. Note: alcohol-based hand sanitizer is not effective for killing C. diff spores or norovirus. If PPE is not appropriately used for patients with these infections, soap and water hand washing is needed. As such, glove use is recommended as part of contact and standard precautions; however, glove use is not a substitute for hand hygiene. Alcohol-based hand sanitizer should be used on non-soiled hands after removal of gloves. Hands should always be washed with soap and water for *at least* 20 seconds if visibly soiled or concerned for contamination.

What is the difference between standard and transmission-based precautions?

Standard precautions requires performing hand hygiene, using personal protective equipment (PPE) when there is potential for exposure to infectious organisms (e.g., if doing a nasal swab, need to wear a mask and use eye protection), and proper disinfection and handling of patient care devices.

If a patient has symptoms of upper respiratory illness, he/she should be properly isolated and/or be asked to wear a mask. The decision to use transmission-based precautions (e.g. droplet isolation) should be based on symptoms and should not rely on respiratory test results, since not all children undergo testing, not all respiratory viruses can be detected with multiplex PCRs, and the viruses that are tested for may not be detected due to sampling or testing issues. For suspected or confirmed SARS-CoV-2, the CDC recommends use of a NIOSH-approved N95 respirator or PAPR during any aerosol-generating procedure, surgical procedures that may be more likely to transmit virus (e.g., surgery on regions of the body that may have higher viral loads such as the respiratory tract), or if the room is poorly ventilated and the patient is unable to use source control (e.g., wear a mask).

Standard precautions should *always* be used regardless of whether a patient is on transmission-based precautions.

What should I do if I am sick with a respiratory illness?

Many respiratory illnesses present in adults as mild cold symptoms or a persistent cough; however, organisms can often be transmitted even when mild symptoms are present. When transmitted, these organisms have the potential to cause severe disease in our pediatric patients. Guidance should be in place within a practice or facility for reporting illness to best determine whether it is safe for team members to report to work. Individuals experiencing minimal symptoms should wear a mask and ensure consistent and frequent hand hygiene practices.

At CHCO, team members experiencing illness should complete the team member screening survey and follow instructions provided. Team members experiencing respiratory illness should wear a mask for 10 days after onset of symptoms for any respiratory illness and may return to work if they are fever-free for 24 hours without the use of anti-pyretic medications and symptoms are improving.

What types of respiratory testing is available at CHCO?

Two types of respiratory testing are available at CHCO: SARS-CoV-2/influenza/RSV PCR (FLUVID) and respiratory pathogen panel (RPP). Refer to Table 2 for a full list of organisms that the RPP detects. These tests are available at both the CHCO Microbiology Laboratory and the Memorial North Laboratory (for CHCO-Colorado Springs (CSH)). They are 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 is 6 hours from receipt of specimen in the laboratory.

Because the RPP is an expensive test, is poorly reimbursed by insurance companies, and has been shown to have limited clinical impact for most patients in multiple randomized control trials, CHCO has implemented new restrictions around ordering RPPs to limit utilization and improve our diagnostic stewardship. Therefore, RPP ordering within CHCO will be restricted to attending medical staff (MD, DOs and APPs) only. These tests will also not be orderable in the Urgent Care setting and will not be reorderable within 5 days of a previous order. An appropriate order indication will be required. Appropriate order indications for RPP include prolonged (greater than or equal to five days) fever, prolonged (greater than or equal to five days) and worsening other symptoms, patients who are immunocompromised, or patients with a chronic pulmonary condition (excluding asthma). FLUVID (SARS-CoV-2/FLU/RSV PCR) is the preferred test for all patients with respiratory symptoms

For individuals with specific concern for *Mycoplasma pneumoniae* or *Bordetella pertussis*, CHCO has in-house, stand-alone PCRs for these organisms. If there is a clinical concern for Mycoplasma or

pertussis *and testing will impact clinical care*, dedicated PCRs can be sent for these organisms. For *Mycoplasma pneumoniae*, a PCR-based test can be done on an OP (preferred specimen, more sensitive) or NP swab. For *B. pertussis*, PCR can be sent from an NP swab. Turnaround time for both of these tests is 24 hours from receipt in the CHCO Anschutz lab. For those ordering these tests at CHCO-CSH, these labs are typically sent through ARUP Laboratories, but in circumstances when a faster turnaround time is needed to make clinical decisions, a miscellaneous test can be ordered to be sent up to the CHCO-Anschutz microbiology lab.

Which patients should we be testing?

At CHCO, patients being admitted to the hospital with a compatible illness are tested with the FLUVID PCR (SARS-CoV-2/influenza/RSV PCR). For children evaluated in the ED/UC and outpatient setting, the FLUVID 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.

Testing Considerations for Children presenting to Children's Hospital Colorado (ED/UC/ambulatory/inpatient setting) during the 2023-24 season are shown in Figure 2.

What are the specimen types for these tests?

Nasopharyngeal swabs are acceptable for any of the respiratory virus tests offered at CHCO. Mid-turbinate swabs are not accepted. In the outpatient and ED setting, if FLUVID testing is being done, naris (anterior nares) swabs are acceptable, though have lower sensitivity than nasopharyngeal specimens. Please note: anterior nasal swabs are not an acceptable source for the respiratory pathogen panel (RPP). At CHCO-Anschutz, a nasal wash or tracheal aspirate may be accepted in certain clinical scenarios, but a swab is the preferred method of testing for RPP. At CSH, NP swabs are the preferred specimen type; other sample types will be re-directed to Anschutz for testing, which will lengthen turnaround time. Of note, for Mycoplasma PCR, oropharyngeal swabs have been shown to be more sensitive in detection of this organism rather than NP swab[1]

What are the best ways we can protect our patients and ourselves this respiratory season?

- *Influenza vaccination:* All individuals ≥ 6 months of age are recommended to receive an annual influenza vaccine to protect against serious disease associated with influenza infection and other complications. This includes healthcare workers, our patients, and the families of our patients. This is particularly important for our patients with risk factors for severe disease. There is no longer a recommendation for additional safety measures for patients with egg allergy receiving influenza vaccines. The only contraindication to the inactivated influenza vaccine is life-threatening allergy to any component of the vaccine or people who have had severe allergic reaction to a dose of influenza vaccine. Of note, this year's influenza vaccines continue to be trivalent, rather than quadrivalent. The influenza B Yamagata lineage was removed last season, as this virus lineage has not been detected since March 2020. Click here for more information about the CDC Advisory Committee on Immunization Practices (ACIP) recommendations for the seasonal influenza vaccine for 2025-26. Click here for the 2025-26 AAP policy statement. Note that annual influenza vaccination of healthcare workers is mandatory at CHCO.

[1] Leber AL, Oyeniran SJ, Wang H. 2024. Reduced sensitivity of a multiplex commercial respiratory panel for detection of Mycoplasma pneumoniae is due to specimen type. J Clin Microbiol 62:e01139-24.

- *COVID-19 vaccination:* COVID-19 vaccines have been updated for 2025-26 and are available for individuals who are ≥6 months old, though only Moderna COVID-19 vaccine is approved for patients 6 months – 5 years of age (Pfizer-BioNTech is approved for those 5 years of age and older, and Novavax is approved for those 12 years of age and older). Per AAP recommendations from 2025, others seeking to receive the COVID-19 vaccine should do so via shared decision-making with their PCP. The AAP recommends that children 6-23 months should receive an initial 2 dose series, and that those 2-18 years of age with high-risk conditions, or who have never been vaccinated should receive the updated vaccines.
- *RSV prophylaxis:* Nirsevimab is a monoclonal antibody product for providing passive RSV immunity to prevent RSV-associated lower respiratory tract disease in infants whose mothers were not vaccinated with the maternal RSV vaccine. Please see the CDC MMWR from August 25, 2023 for full details on groups of patients eligible for this product. Further information is available on the CDC RSV Immunization Guidance for Infants and Young Children resource page or AAP guidance here. At CHCO, nirsevimab is available for eligible patients in CHCO Anschutz inpatient and outpatient settings, Health Pavilion, Special Care Clinic, and CHCO Colorado Springs. Orders can be placed in Epic, but ordering is restricted to certain units, outpatient settings, and to transplant patients and is based on CDC guidance.

  Palivizumab is no longer available at CHCO.
- *Routine Childhood Immunizations:* Please refer to November's Contagious Comments on Vaccine Preventable Diseases update for additional information on routine childhood immunization. It is important to keep these immunizations up to date throughout the respiratory season, in addition to the vaccines listed above.

What are the main points to convey to families regarding these infection control practices this respiratory season?

Clear, simple communication with families is imperative to their understanding of recommended infection prevention practices. The messages to emphasize to parents include:

- Get themselves and their children vaccinated against influenza and COVID-19, as well as staying up to date with all routine immunizations. If a child is too young to receive these vaccines, getting older family members vaccinated can provide cocooning and protect that younger child. It is important to convey that for these viruses, which change frequently, and have short incubation periods, vaccination may not prevent infection but they can make illness less severe, thus reducing the risks of hospitalization, ICU admission, and death.
- Minimize the spread of influenza, RSV and COVID by frequent hand hygiene (washing or hand sanitizer), staying home from work, school, or daycare if sick, wearing a mask in crowded spaces indoors, and getting tested for COVID and flu in higher risk scenarios (sicker patients or those with medical complexity). CDPHE advises that children or staff at childcare centers who are ill with acute respiratory illness remain home until they are fever free for at least 24 hours without the use of fever-reducing medications AND other symptoms have been improving for 24 hours.
- If their child does get sick, educate them about some of the warning signs that require emergency care. These signs include: breathing faster than usual, trouble getting air in, using accessory muscles to help them breathe, unable to drink enough fluids to stay properly hydrated, or appearing excessively fatigued or drowsy.

What treatments are available for respiratory pathogens?

Influenza

There are 4 antiviral medications currently available for the treatment of influenza. These include oseltamivir, peramivir, baloxavir and zanamivir. Antiviral treatment is recommended for all hospitalized children and should be considered for those outpatients with high-risk medical conditions, outlined in Table 1. For dosing information, refer to the CDC page on Influenza Antiviral Medications: Summary for Clinicians, "Table 2: Recommended Dosage and Duration of Influenza Antiviral Medications for Treatment or Chemoprophylaxis". Of these medications, oseltamivir is the only antiviral currently on formulary at CHCO.

COVID-19

The current antiviral agents approved for outpatient use in children with mild to moderate disease who are at high risk for progression to severe disease are ritonavir-boosted nirmatrelvir (Paxlovid™; for patients ≥12 years old and ≥ 88lb) and remdesivir (3-day course; see remdesivir package insert for age and weight recommendations and dosing). For certain inpatients, a 5-day course of remdesivir and up to 10-day course of steroids (dexamethasone) are recommended. The care of patients with SARS-CoV-2 including treatment considerations is available as an AgileMD pathway on the CHCO Clinical Pathways page (last updated 2022). 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/

How should we handle questions about antibiotics for these illnesses?

We should continue to have discussions with families regarding the lack of benefit of antibiotics for routine viral respiratory illnesses, while endorsing vaccination. You can play an important role in helping to dispel the many prevalent myths regarding ineffective therapies.

Final Notes

Please remember that upholding basic infection prevention principles of using good hand hygiene throughout the day and using appropriate PPE will help protect our colleagues, patients, and their caregivers.

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

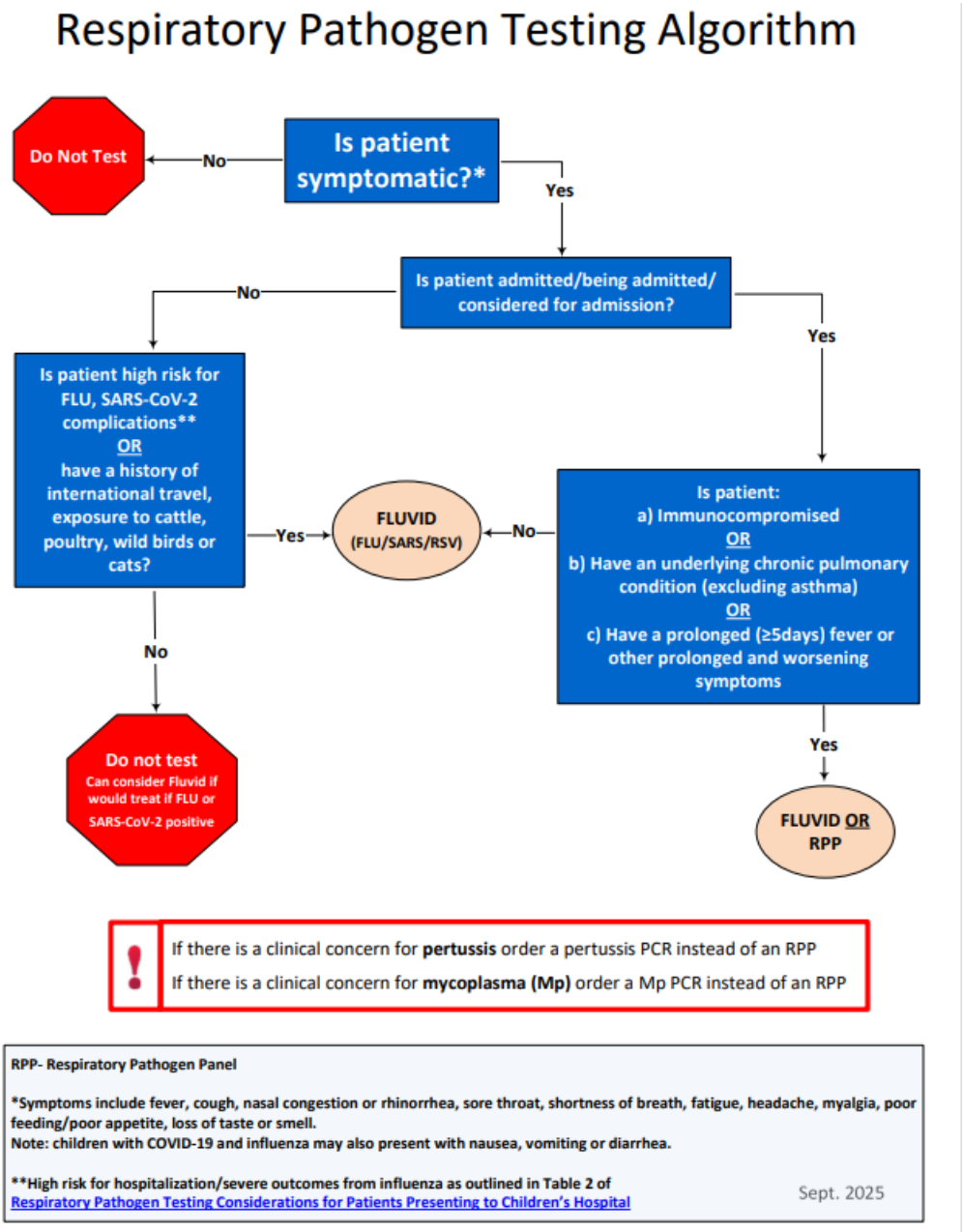
- Children aged <2 years
- Individuals <19 years receiving long-term aspirin
- Adults aged >65 years
- Persons of all ages with chronic pulmonary (including asthma), cardiovascular, renal, hepatic, metabolic (including diabetes) hematologic, neurologic and neurodevelopment conditions (including seizure 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 at CHCO

	SARS-CoV-2/FLU/RSV PCR (FLuVID)	**Respiratory pathogen panel (RPP)**	***Mycoplasma pneumonia* PCR***	***Bordetella pertussis* PCR***
Tests for	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, Bordetella pertussis, B. parapertussis, Chlamydophila pneumoniae and Mycoplasma pneumoniae	*Mycoplasma pneumonia*	*Bordetella pertussis* and *Bordetella parapertussis*
Likelihood of insurance reimbursement	Very high	LOW (only if clinical criteria are met)	Very high	Very high
Procedure code	LAB 9373	LAB 5595	LAB 10598	LAB 10331
Turnaround time	6 hours	6 hours	24 hours	24 hours
Specimen types	NARIS swabs NP swabs	NP swabs TA BAL	**Throat swabs** NP swabs	NP swabs

NP = nasopharyngeal, TA = tracheal aspirate, BAL = bronchoalveolar lavage; at CSH non-swab samples will be sent to Anschutz for testing

Figure 2. Respiratory testing recommendations at CHCO during the 2025-26 respiratory season



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