

Guidance for COVID-19 (SARS-CoV-2) Testing

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What's new in this update?

- The "COVID-19 and Respiratory Virus Testing Order Set" has been updated to reflect all SARS-CoV-2 testing options as a single generic test name "COVID-19 (SARS-CoV-2) PCR (Main Lab)". The provider will choose the indication for testing (based on whether the patient has symptoms, whether testing is for admission or procedure, if other viral testing is requested, and the urgency in which the results are needed) and the clinical microbiology lab will choose the appropriate assay.
- The table displaying various SARS-CoV-2 testing assays has been updated to reflect all currently available testing platforms.
- There has been a change under the section "Consideration of outside hospital testing." **ALL molecular tests (e.g., PCR or NAAT) will now be accepted regardless of location of testing.**

COVID-19 testing guidance

COVID-19 testing is **required** for:

1. All inpatients at the time of admission

- Inpatients do not require admission testing if they have tested positive for COVID-19 by PCR in the past 90 days unless they have new symptoms compatible with COVID-19. These patients can be identified by a "COVID-19 Recovered" flag.
- Inpatients who underwent pre-procedural testing in the prior 72 hours do not need be retested at the time of admission

2. **Outpatients undergoing a procedure** requiring sedation/anesthesia and/or being done in an operating room
 - Outpatient pre-procedural testing should be performed within 3-5 days (within 72 hours preferred) of the scheduled procedure (see *Pre-procedural COVID-19 Testing Clarifications* for additional information about unique situations)

COVID-19 testing is **recommended** for **symptomatic patients**:

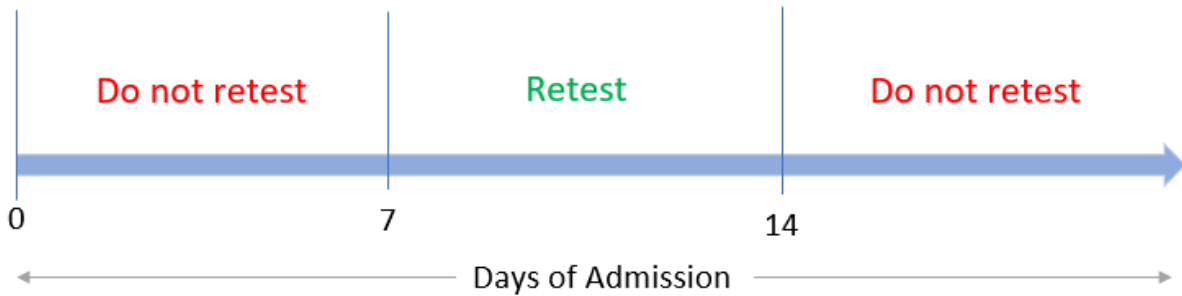
1. Patients with one or more symptoms of COVID-19* who present to the ED, urgent care, or other ambulatory setting
2. Patients with one or more symptoms of COVID-19* who are at home, particularly if they:
 - a) Have an essential (i.e., cannot be safely deferred) procedure or medical encounter within next 2 weeks
 - b) Attend school and/or day care
 - c) Are exposed to individuals at high-risk of COVID-19 complications

Symptoms of COVID-19 include*:

- 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 abdominal pain
- Diarrhea

Pre-procedural COVID-19 testing clarifications

- **Every effort should be made to test patient within 72 hours of the procedure.**
- A negative COVID-19 test performed within 3-5 days of the procedure is acceptable **ONLY** when testing within 72 hours is not feasible, provided the patient is asymptomatic and has no known exposures to someone with symptoms of or a positive test for COVID-19 in the past 2 weeks.
- Inpatients requiring a procedure during admission do not need to be retested during the same admission within 7 days of their admission test or after 14 days of admission unless they develop new signs or symptoms of a COVID-19 compatible illness. A child would require a repeat test pre-procedure if it is within 7-14 days of admission. After 14 days, they are out of the incubation period and do not require testing unless they develop new symptoms or have a known COVID-19 exposure in the hospital.



- For patients testing positive for COVID-19 on pre-procedural testing, repeat testing is not needed prior to the procedure. The patient can be assumed to no longer be infectious after they meet deisolation criteria (at least 10 days have passed since positive test [20 days if immunocompromised or severe illness requiring oxygen], afebrile for 24 hours without use of fever reducing medication, and improved symptoms). If procedure needs to be done within that time period where they may be infectious, PPE will be needed.
- For patients testing positive for COVID-19, they will not require repeat pre-procedure testing within 90 days of positive test unless they have new symptoms suggestive of COVID-19. These patients can be identified by a “COVID-19 Recovered” flag.

Asymptomatic patients tested within 3-5 days of procedure							
 negative COVID-19 PCR	→ Proceed with procedure using standard OR PPE						
 positive COVID-19 PCR	→ Procedure can be done safely using appropriate PPE. However, if procedure can be deferred the decision to proceed is based on risk of deferring (see below) <i>Note: No repeat testing is required within 90 days of positive test</i>						
	→ If procedure cannot be safely deferred at least 10 days → Safely proceed with procedure using appropriate PPE for COVID-19-positive patient						
	→ If procedure can be safely deferred: <table border="0" style="margin-left: 20px;"> <tr> <td style="border-bottom: 1px solid black;">Immunocompetent patient</td> <td style="border-bottom: 1px solid black;">→</td> <td style="border-bottom: 1px solid black;">Reschedule for at least 10 days from test date</td> </tr> <tr> <td>Immunocompromised patient</td> <td>→</td> <td>Reschedule for at least 20 days from test date</td> </tr> </table>	Immunocompetent patient	→	Reschedule for at least 10 days from test date	Immunocompromised patient	→	Reschedule for at least 20 days from test date
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What if testing is refused?

- **Inpatient:**
 - If family refuses testing, patient will maintain PUI status throughout admission. Isolate patient and continue to use appropriate PPE for the duration of admission.
- **Outpatient/Pre-procedure:**
 - Every effort should be made to test patient within 72 hours of their procedure.

- If family refuses testing prior to procedure based on above guidance, proceed with procedure using PPE for presumed COVID-19-positive PUI

Ordering COVID-19 testing

- Effective January 20, 2021, a new COVID-19 testing order set named "**COVID-19 and Respiratory Virus Testing Order Set**" will be available to assist providers in ordering the appropriate test based on test indication and whether or not the patient has symptoms of COVID-19. **The "COVID-19 and Respiratory Virus Testing Order Set" has been updated to reflect all SARS-CoV-2 testing options as a single generic test name "COVID-19 (SARS-CoV-2) PCR (Main Lab)".** The provider will choose the indication for testing (based on whether the patient has symptoms, whether testing is for admission or procedure, if other viral testing is requested, and the urgency in which the results are needed) and the clinical microbiology lab will choose the appropriate assay.

COVID-19 and Respiratory Virus Testing Order Set ⌵

▼ **COVID-19 and Respiratory Virus Testing**

▼ **Pre-procedure and Pre-admission Testing**

No Symptoms of COVID-19

Symptoms of COVID-19

▼ **Testing for those with COVID-19 symptoms, exposure or screening.**

Symptomatic Patient: COVID-19 Plus Additional Testing for Other Respiratory Viruses

Symptomatic Patient: COVID-19 Only

Asymptomatic Patient

Testing for COVID-19 +/- other viral pathogens:

- This new order set will also guide ordering testing for additional respiratory viruses **if clinically indicated**. The purpose of this order set is to prevent inadvertent ordering of more than one COVID-19 test and to facilitate testing for multiple respiratory viruses from a single nasopharyngeal swab.
- To accommodate testing of symptomatic patients, this order set includes two additional testing options that include SARS-CoV-2 plus additional viruses:
 - **The updated respiratory viral PCR panel, named Respiratory Pathogen Panel, includes both SARS-CoV-2 and several other respiratory viruses, including RSV and influenza.**
 - This option is similar to our previous respiratory viral panel but now also includes SARS-CoV-2
 - **"COVID-19 (SARS-CoV-2), influenza, and RSV by PCR"** allows for simultaneous testing solely for RSV, influenza, and SARS-CoV-2 based on clinical indication
 - RSV and other respiratory viruses are also currently circulating, and testing for additional viruses should be considered. However, of note, there is currently

very little influenza activity in the community. Both order options above include SARS-CoV-2, Influenza, and RSV testing.

- If additional respiratory viral testing beyond SARS-CoV-2, RSV and influenza is needed in a child with a respiratory illness, the Respiratory Pathogen panel also includes several other respiratory viruses and is primarily recommended for immunocompromised, medically complex and/or critically ill children.
- As this test provides more rapid results compared to other currently available SARS-CoV-2 assays, this test can also be used with COVID-19 tests are urgently needed, such as for an urgent procedure that needs to be performed within 6 hours or for patients whose disposition options depend on rapid identification of SARS-CoV-2.

This table displays the various SARS-CoV-2 assays, turn-around time, acceptable specimen types and indicated clinical scenarios. **The table displaying various SARS-CoV-2 testing assays has been updated to reflect all currently available testing platforms.**

Name of Lurie Test	COVID-19 (SARS-CoV-2) PCR, Roche	COVID-19 (SARS-CoV-2) PCR, Microbiology	COVID-19 (SARS-CoV-2) by PCR (Cepheid COVID ONLY)	COVID-19 (SARS-CoV-2), Influenza, and RSV by PCR	Respiratory Pathogen Panel, PCR
Platform/Manufacturer	Roche 6800	DiaSorin	Cepheid	Cepheid	Biofire
Clinical Scenario	Any Symptomatic patient Routine admission testing Non-urgent procedure	Any Symptomatic patient Routine admission testing Non-urgent procedure	Symptomatic patient, COVID-19 only Results urgently needed Urgent/semi-urgent procedures	Symptomatic patient, testing for COVID-19 and also Flu/RSV* Results urgently needed Urgent/semi-urgent procedures	Symptomatic patient, with testing for additional respiratory viruses
Turnaround time	Up to 12-24 hours	2-4 hours	1-2 hours	1-2 hours	2-3 hours
Genes targets detected	E, ORF1ab	S gene, ORF1ab	E, N2 genes for SARS-CoV-2	E, N2 genes for SARS-CoV-2 (+Flu A/Flu B and RSV)	S gene, M gene (+14 viruses, 4 bacteria)
Specimen type	NP, NS	NP, BAL, NS (nasal)	NP, OP, NS (nasal)	NP, NS (nasal)	NP

For the most updated processes on how to order COVID-19 testing for symptomatic children and children requiring pre-procedure testing, as well as testing locations and hours: https://luriechildrens-my.sharepoint.com/:w:/r/personal/wlau_luriechildrens_org/_layouts/15/guestaccess.aspx?e=w0g92s&hare=EcLa8RKl5olAq_dSxMwk4nQB10MCISG02Qj8ZBQifRpEgA

Collection instructions for nasopharyngeal (NP) swab for COVID-19 testing

Performance of the assay depends on quality of specimen. Please follow instructions below:

1. Perform in private room with door closed
2. Don appropriate PPE for sample collection: Standard facemask, gown, gloves, and eye protection

- N95/PAPR is only needed if patient undergoing high-risk aerosol-generating procedures as indicated on the PPE algorithms on the COVID-19 site
3. Insert swab deeply into nostril parallel to palate, allow swab to absorb secretions, and gently rub and roll the swab. Both nasopharyngeal sides can be swabbed, but, is not necessary if swab is saturated with patient secretions after swabbing one nasopharyngeal side.
 4. Tightly seal viral transport media and double bag specimen. Place requisition in pocket of bag so not in direct contact with transport vial
 5. The specimen can now be transported to the laboratory via the pneumatic tube system (does not need to be hand delivered)
- If testing for other respiratory viruses, one sample can be used for both tests. Please do NOT collect more than one NP swab or use more than one vial of transport media per patient.
 - Video of NP swab technique: <https://www.youtube.com/watch?v=mzs9c37N9RY>

What if nasopharyngeal swab testing is contraindicated?

The preferred specimen type for COVID-19 (SARS-CoV-2) testing is a nasopharyngeal (NP) swab. However, if NP swab is contraindicated (e.g., medical contraindication, anatomic abnormality), acceptable specimen types are nasal swabs (NS) and bronchoalveolar lavage (BAL). Oropharyngeal (OP) testing is available in-house, but not preferred.

*Note: An NP swab cannot be used for OP or NS sample collection. **A dedicated OP swab kit (labeled “Abbott Universal Collection Kit”) OR dedicated NS swab kit (labeled “Nasal Collection Kit”) must be used.***

*Note: An OP or NS sample can only be ordered via the "COVID-19 and Respiratory Virus Testing Order Set" **with the appropriate specimen source chosen.***

Please refer to the following document for additional details about OP/NS sample, Abbott Universal Collection Kit, Nasal Collection Kit and collection instructions - [Clinical Excellence COVID-only Collection Information .docx](#)

If an oropharyngeal (OP) swab is indicated:

1. **Place order for “COVID-19 (SARS-CoV-2) PCR (Main Lab)” and choose appropriate specimen source (Oropharyngeal).** Contact **microbiology laboratory** with questions regarding OP testing availability.
2. Collect specimen using **a dedicated OP sample collection kit, labeled “Abbott Universal Collection Kit.”** Contact **central supply** to obtain the Abbott Universal Collection Kit.
3. Of note, an OP specimen is NOT acceptable for the Respiratory Pathogen Panel

If a nasal swab (NS) is indicated:

1. **Place order for “COVID-19 (SARS-CoV-2) PCR (Main Lab)” and choose appropriate specimen source (Nasal).** NOTE this order can be located in the "COVID-19 and Respiratory Virus Testing Order Set" under the pre-procedure testing drop down.
2. Collect specimen using **a dedicated “Nasal Collection Kit” (Central Supply Lawson #170150).** Contact **central supply** to obtain the Nasal Collection Kit.
3. Of note, a nasal swab (NS) specimen is NOT acceptable for the Respiratory Pathogen Panel

Timeline of batch testing and results

Rapid testing should result within 2 hours of lab receipt. For longer turn-around-time tests, specimens in the lab by 9am will result by 6pm same day. *Depending on batch sample volume as determined by the Lab, specimens that are in the lab between 9am and 2pm **could** result either by 9am or 6pm the next day.* Please avoid contacting the lab to inquire about test results unless a result is not provided within this timeline.

Consideration of outside hospital testing

Because of significant variability in test performance, we will only consider outside hospital testing as a substitute for Lurie Children's testing under specific circumstances as described below. *We encourage testing at a Lurie Children's testing site whenever possible.*

Outside hospital pre-procedural testing:

All outside MOLECULAR (i.e., PCR, nucleic acid amplification test) results within 72 hours of admission or scheduled procedure will be accepted

- Antigen based tests (e.g., Quidel Sofia or Abbott BinaxNOW antigen test) are not molecular tests and will NOT be accepted (especially if negative) as they have lower sensitivity than PCR based test and risk false negative results.
 - If an antigen-based test is performed and is positive, however, the patient should be considered COVID-19 positive and does not require repeat pre-procedural testing for 90 days from day of positive test unless patient has new symptoms compatible with COVID-19.
- **The provider team must verify all outside results by visualizing test result (and the specific test method) that is either faxed to them or viewed on Care Everywhere. Documentation of outside hospital test result should be sent to HIM to be scanned into Epic.**

<u>Tests Accepted</u>	<u>Tests NOT Accepted</u>
Molecular tests (e.g., PCR or NAAT) Positive Antigen test may be considered acceptable	Antigen tests (examples include Quidel Sofia or Abbott BinaxNOW) especially if negative Antibody tests

Asymptomatic patients requiring admission and/or pre-procedural testing:

- If testing at a Lurie Children's site is significantly inconvenient based on patient comorbidities or geography, local testing can be done at an alternative non-Lurie testing site within 72 hours prior to the procedure at the direction and coordination of the ordering provider.
 - The ordering provider team should contact the alternative testing site to determine the COVID-19 testing type performed, specifically whether it is a molecular test (e.g., PCR or NAAT), and also confirm that turn-around-time will permit the result being available prior to scheduled procedure.

Symptomatic patients with a COVID-19-compatible illness:

- If a patient is positive for COVID-19 on an accepted outside test (see table above) they do not require repeat testing. If the patient is positive on an outside test which is not accepted, please repeat testing at Lurie Children's.
- If there is clinical concern for COVID-19 and an outside hospital test is negative (regardless of type of test), please repeat testing at Lurie Children's as described above.

Questions regarding testing should be directed to Covid19info@luriechildrens.org.