VUMC GUIDELINES FOR COVID-19 TESTING

VUMC is testing patients for COVID-19 using the SARS-CoV-2 PCR test. Testing requires collection of a nasopharyngeal, oropharyngeal, or bilateral nares specimen. This document includes information on the following topics:

- General Recommendations on Testing
- Testing Upon Hospital Admission
- Outpatient Pre-Procedural Testing
- COVID-19 IgG Serology Testing
- Frequently Asked Questions

GENERAL RECOMMENDATIONS ON TESTING

- Test patients with any of the following new symptoms: fever, cough, shortness of breath, loss of taste or smell, diarrhea/vomiting, or flu-like symptoms (chills, body aches, headache, sore throat).
- Testing of asymptomatic patients who present to clinic is generally not recommended at VUMC unless prior to an approved procedure, VUMC employee approved for testing by VUMC Occupational Health, or self-pay VUMC employee/household member. Testing of asymptomatic patients may be an option at sites outside VUMC.
- Assess patients with symptoms of a respiratory infection for other respiratory virus infections (such as influenza). An eStar order panel has been created to help providers determine the recommended testing for viral respiratory infections depending on patient characteristics and location.
- CDC now recommends that patients who have had confirmed COVID-19 infection and have recovered should not be routinely tested for 90 days after the initial positive test due to lingering detection of viral RNA that does not represent contagiousness or recurrent infection; however, patients may require repeat testing in certain situations as directed by a provider, such as new onset symptoms in a patient who had previously recovered.
- Repeat COVID-19 testing of previously negative outpatients should be avoided unless patients develop new symptoms concerning for newly acquired infection or worsening symptoms.

TESTING UPON HOSPITAL ADMISSION

Ordering of COVID-19 Testing on Admission

- It is very important to specify in the eStar order whether COVID-19 testing is being done for diagnosis in a patient with symptoms consistent with COVID-19 (such as new cough, fever, dyspnea, diarrhea, or loss of smell/taste) or for asymptomatic screening. **Only patients marked with an indication noting clinical concern for a SYMPTOMATIC patient will be placed on isolation at the time of ordering.**
- For testing indications used on asymptomatic patients in the following units/categories: VPH, L&D, Trauma unit, ICU, Pre-transplant, or Pre-receipt of severely immunosuppressive anti-neoplastic therapy:
  - Order “Combined SARS-CoV-2 Flu RPP Panel” in eStar and select “Screening of asymptomatic patient for COVID-19” with the appropriate Reason for Testing category.
- For asymptomatic patients who are being admitted and are likely to need an aerosol generating procedure (AGP) or surgery requiring general anesthesia during the upcoming 24 hours:
  - Order “Combined SARS-CoV-2 Flu RPP Panel” in eStar and select “Screening of asymptomatic patient for COVID-19” and “Patient going to the OR in the next 24 hours (inpatient and ED only)”. **Note: For emergent procedures, the patient may be taken to the OR prior to COVID-19 results being available. Proceed using PPE/precautions as defined in VUMC policies.**
- For all other asymptomatic patients being admitted to VUAH, VWCH, and MCICHV:
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- Order “Combined SARS-CoV-2 Flu RPP Panel” in eStar and select “Screening of asymptomatic patient for COVID-19” and “Asymptomatic admission to VUH/VWCH/VCH”.
- Those collecting the sample should refer to the eStar order Nursing Instructions to determine the type of tube in which to place the specimen swab and how to label the specimen.

Exclusions to COVID-19 Testing on Admission Include the Following:
- Patients who had a SARS-CoV-2 PCR test collected in the 72 hours prior to admission
  - Result must be pending or available in eStar or outside written result available
  - SARS-CoV-2 serologies and verbal reports of SARS-CoV-2 PCR testing are not acceptable
  - Positive SARS-CoV-2 antigen tests from outside facilities in the past 20 days in patients with symptoms consistent with COVID-19 should be confirmed with a SARS-CoV-2 PCR, but the patient should be placed in appropriate isolation while the confirmatory test is pending. Negative antigen tests are not acceptable, and a SARS-CoV-2 PCR should be ordered on admission.
- Inborn infants admitted to Neonatal ICU or Newborn Nursery with maternal SARS-CoV-2 PCR testing in L&D.
- Patients who have been vaccinated against COVID-19 are NOT excluded from admission testing.

Admission COVID-19 Testing Refused by Patient
- Counsel patient that options for testing include a sample obtained from the nares or oropharynx (which are typically less uncomfortable than nasopharyngeal sampling)
  - If patient continues to decline testing and is being admitted electively, consideration should be made to postponing admission.
  - If patient continues to decline testing and is being admitted urgently, proceed with admission. Staff should wear a procedural/surgical mask and eye protection. Patient should wear fabric mask (or as per policy).

Recommendations for Repeating COVID-19 Testing in Inpatients After an Initial Negative Result
- Repeat testing of COVID-19 negative inpatients should be reserved for patients who the clinician has a high index of suspicion in the presence of a negative COVID-19 test result, a negative respiratory pathogen panel (RRP), and a lack of alternative diagnosis. Examples include the following:
  - Patient has developed additional or worsening symptoms since the time of initial testing, such a development of a new fever in a patient with a persistent cough.
  - Patient has persistent symptoms, such as cough, AND consistent chest imaging or lab results (e.g. lymphopenia).
- Checking additional COVID-19 tests for a patient who has already had two negative tests is not recommended, unless the patient clearly develops new symptoms which may indicate a newly acquired COVID-19 infection.
- Before repeat COVID-19 testing, consider ID or pulmonary consult for additional consideration of other possible causes of the patient’s concerning symptoms.
- Contact infection prevention if there are questions about continuing inpatient isolation after a negative COVID-19 test result.
- Patients who previously tested negative for COVID-19 in the past 14 days during the same admission do not need repeat testing prior to aerosol generating procedure or surgery requiring general anesthesia (unless they become symptomatic).
- Repeat COVID-19 testing may be needed prior to post-acute care placement as recommended by case management. Select “Repeat testing of a previously positive patient” and “Requirement for post-acute care placement” as the Reason for Testing.
Isolation Needed Based on COVID-19 Test Results in Asymptomatic Patients

- **COVID-19 pending**: Care givers should wear procedural/surgical masks and eye protection. Patients should wear fabric masks (or as per policy).
- **COVID-19 negative**: Care givers should wear procedural/surgical masks and eye protection. Patients should wear fabric masks (or as per policy).
- **COVID-19 positive**: Place on patient on droplet, contact, and eye precautions. Contact unit charge nurse to discuss possible patient transfer to a COVID-19 cohort unit. For aerosol-generating procedures, a N95 or PAPR should be used.

OUTPATIENT PRE-PROCEDURE TESTING

Practice groups may request amendments to the pre-procedure testing guidance by emailing vumccoronavirus@vumc.org

Repeat SARS-CoV-2 PCR testing for pre-procedure clearance is no longer recommended within 3 months of a prior positive test (unless a patient has developed new symptoms concerning for reinfection).

COVID-19 test ordering prior to procedures

- COVID-19 testing must be obtained within 72 hours of the approved, scheduled procedure.
- If a patient previously tested positive for COVID-19 refer to the Guidance for Clearance of COVID patients for Surgery document.

Order must be placed prior to sending outpatients to testing location.

- Nursing staff under the direction of the proceduralist/surgeon may enter order using “standing order” mode with co-signature by the provider.
- Patients will be asked to wear a mask when they present for their procedure and will be screened prior to procedure with symptom and temperature checks.
- Adult patients who have been fully vaccinated against COVID-19 (defined as being > 7 days from receipt of the second COVID-19 vaccine) are not required to have pre-procedure testing except for the following:
  - Patients undergoing bronchoscopy or trans-sphenoidal surgeries (deemed highest risk for transmission by the institutional PPE and Testing Request Review Committee)
  - Immunocompromised patients (who may not have a full response to the vaccine)
    - Including patients with primary immune deficiency (e.g. Common Variable Immune Deficiency), HIV infection with CD4 count ≤200, solid organ or stem cell transplant, chemotherapy in the past year, or significant immunosuppressant use, including ≥ 20 mg/day prednisone (or equivalent) for ≥14 days.
  - Patients must present documentation that they have completed both doses of the COVID-19 vaccine greater than 7 days prior to the planned procedure.

COVID-19 testing locations for pre-procedure outpatients

- For VUMC testing locations, see Preprocedural Testing Site Locations.
- For patients too far from VUMC to access VUMC screening sites
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- Scheduler reviews options for VUMC sites and counsels that VUMC testing is preferred as 3rd party testing can be less reliable. Scheduler reminds patient that the only acceptable COVID-19 test option is the SARS-CoV-2 PCR or nucleic acid amplification test. Antigen (Ag) testing is not acceptable.
- Patients requesting 3rd party testing must provide documentation of negative PCR or nucleic acid amplification test result time stamped within 72 hours of procedure.
  - Verbal test results, SARS-CoV-2 serologies/antibody, or COVID-19 antigen (Ag) results are NOT acceptable.
    - Note that both COVID-19 antigen and PCR/nucleic acid tests may be “rapid” so turnaround time of the test should not be used to determine test result acceptability.
- All patients are expected to self-isolate after sample collection and before the procedure.
- VUMC test results will be automatically placed into the EMR. Third party testing will need to be scanned into eStar.

COVID-19 test result reporting in pre-procedure patients
- Clinical staff associated with the proceduralist/surgeon will follow up outpatient results as per other pre-op testing.
  - COVID-19 negative: Results will be available to outpatients via MyHealth@Vanderbilt.
  - COVID-19 positive: The proceduralist/surgeon will decide whether to proceed with the procedure based on the urgency of the procedure. Refer to the Guidance for Clearance of COVID patients for Surgery document for additional instructions.

Implications of COVID-19 test results (PPE, cancellation policy, location) in pre-procedure pts
- COVID-19 negative: Providers should not wear N95 respirators (unless indicated for another infection or otherwise approved by the PPE Committee)
- COVID-19 positive:
  - Cases should be cancelled unless medically necessary
    - If procedure is cancelled, proceduralist/surgeon or their designee will notify OR and patient and educate patient around self-isolation and to notify primary provider if they develop symptoms.
    - After a 10-20 day period of self-isolation, as specified in the Guidance for Clearance of COVID patients for Surgery document, the patient may be scheduled for the procedure/surgery.
  - If procedure is to proceed immediately after a positive COVID-19 test, proceduralist/surgeon will communicate with procedure site and manage patient as COVID-19 positive.
    - Procedure can proceed only at a main campus location with COVID-19 PPE use guided by VUMC policies.
    - Patients with a positive COVID-19 will not be operated on at ASCs or free-standing facilities.

COVID-19 test pending or unavailable at time of procedure
- Procedure team will decide to postpone or proceed based on medical criteria. If postponed, decision will be made when test results available.
- A limited number of rapid COVID-19 tests are available on campus for testing of patients who arrive for their procedure without an available COVID-19 test result. Contact the holding room charge nurse and case anesthesiologist to discuss need for rapid testing.

Pre-procedure COVID-19 testing refused by patient
- Patients who decline testing will be considered a person under investigation and not operated upon at ASCs or other free-standing facilities. If medically necessary, procedure may proceed with proper PPE at a suitable main campus location.
COVID-19 IgG Serology Testing

- COVID-19 IgG serology should NOT be ordered to explain a resolved illness consistent with COVID-19 or to inform decisions around returning to work or relaxing social distancing. The relationship between COVID-19 IgG and immunity is not yet defined, and a positive COVID-19 IgG result should not be interpreted as protection against infection/reinfection.
- COVID-19 IgG testing is only allowed at VUMC for one of the following approved indications:
  - Suspected multisystem inflammatory syndrome in children or adults (MIS-C and MIS-A)
  - Unexplained myocarditis
  - Unexplained ARDS/severe respiratory illness with negative SARS-CoV-2 PCR
  - Unexplained recently diagnosed vasculitis with negative routine work up
  - Unexplained CNS thrombosis in a patient without risk factors
  - Other clinical situation in which management will change based on COVID-19 IgG result (specify)

Indications for COVID-19 IgG testing will be actively monitored. If samples are sent for testing on a patient who does not meet criteria, the sample will NOT be tested.

FREQUENTLY ASKED QUESTIONS

How do I order a COVID-19 test in eStar?
In eStar, order the “Combined SARS-CoV-2 Flu RPP Panel”. You will be required to enter an indication for the test:

- “Testing due to concern for SYMPTOMATIC COVID-19 or other symptomatic respiratory viral infection,” should be selected for evaluation of patients presenting with a clinical picture concerning for COVID-19. This indication WILL BE linked with orders for isolation precautions.

- “Screening of ASYMPTOMATIC patient for COVID-19,” should be used for screening testing in the absence of a COVID-compatible clinical picture. This indication WILL NOT be linked with orders for isolation precautions, and the ordering provider will be required to acknowledge this prior to order completion.

If screening of asymptomatic patients is the selected indication, you will be asked to also select the specific reason for screening. You will also need to acknowledge that isolation precautions will not be ordered for the patient. This safety check is to ensure that patients with clinical symptoms concerning for COVID-19 do not accidently have the wrong indication (and as a result no isolation precautions) selected.
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Do inpatients without symptoms who are being tested for COVID-19 need isolation precautions?
No, isolation precautions do not need to be ordered unless needed for another infection. At this time providers should use eye protection and surgical/procedural mask to see all patients. No additional PPE outside of usual standard precautions (mask and eye protection) are necessary to collect the specimen. If the test returns positive, then the patient should be placed into COVID-19 isolation precautions (gown, gloves, mask, eye protection), and any staff who cared for the patient prior to the addition of gown and gloves will be contacted by VUMC Occupational Health with additional instructions.

Why don’t we just put every inpatient into isolation precautions on admission until they have a negative COVID-19 test?
Asymptomatic persons, who are not coughing or sneezing, do not carry the same risk of spreading COVID-19 to others, and the current standard PPE for all direct patient encounters (procedural/surgical mask + eye protection) is adequate to protect personnel from asymptomatic spread.

How will I know if a patient with a pending SARS-CoV-2 test is being tested as an asymptomatic screening test or for a concern of active symptomatic COVID infection?
You should look at the Infection flag in the patient chart (left side of chart). If the patient is being tested because of concern of a symptomatic COVID infection, the “COVID (Suspected)” red flag will be present (as will the BPA that alerts to the pending test, see picture). If they are being tested as part of the asymptomatic screening, there will not be any flag or BPA present.

What happens if an asymptomatic inpatient tests positive for COVID-19? Am I at risk because I didn’t wear full PPE before the patient’s COVID-19 status was known?
With the use of procedural/surgical masks and eye protection for all direct patient care encounters, usual hand hygiene practices after direct patient care, and the lack of symptoms that can promote spread (like coughing), you would be at low risk for exposure.

What should I say to asymptomatic patients who are being tested for COVID-19 on admission?
Tell them that this is being performed as an extra precaution because people have been reported to have COVID-19 infection without symptoms and may be able to spread the virus to others. As result, we are checking our patients to identify those patients with asymptomatic infection. This will allow us to put in place special infection prevention precautions and to manage the COVID-19 infection. Also, because the testing involves a bilateral nares, nasopharyngeal, or oropharyngeal swab, make sure to prepare the patient for the process of specimen collection.

What if a patient or guardian refuses COVID-19 testing?
Please remind the patient or guardian of the option of collecting samples from the bilateral anterior nares. This method is more comfortable than the nasopharyngeal sample collection. If they continue to refuse and are scheduled for a non-urgent procedure, then the procedure may be postponed or cancelled. If the patient is admitted to the hospital, then they should wear a mask at all times.
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How do I collect a swab?
For information about how to collect a bilateral nares, nasopharyngeal, or oropharyngeal swab, see https://www.vumc.org/coronavirus/clinical-guidance

What’s the expected turn-around time for testing?
Estimating turn-around times is impacted by ordered indication for testing, volume of testing, and available resources. Currently estimated turnaround times for COVID-19 test results are as follows:

- Symptomatic admissions/ED patients; asymptomatic admissions to VPH, L&D, and Trauma; inpatients needing urgent procedures/surgeries: 4-12 hours
- Outpatient pre-procedure/pre-surgery testing; inpatients awaiting post-acute care placement; symptomatic VUMC employees; VUMC employees undergoing VUMC Occupational Health approved testing: 24-48 hours
- Asymptomatic admissions to VUAH, VCH, VWCH: 24-48 hours
- Outpatient symptomatic patients: 24-72 hours

Can we use results from COVID-19 testing from an outside facility?
If the patient has positive SARS-CoV-2 PCR results from an outside facility within the preceding 20 days, the patient should be placed into COVID-19 isolation precautions as a confirmed infection. Please contact infection prevention to assist with this process. If the patient has negative SARS-CoV-2 PCR test results from an outside facility, these may be used as a screening test if collected within the 72 hours prior to admission or procedure. If the results are older than 72 hours, the testing must be repeated. Positive COVID-19 antigen tests from an outside facility are acceptable in patients with symptoms consistent with COVID-19. For all other patients being admitted, COVID-19 antigen test results should be confirmed by SARS-CoV-2 PCR testing at VUMC. Asymptomatic patients with a positive COVID-19 antigen test should be placed on isolation precautions pending the confirmatory test.

When should we send a respiratory pathogen panel (RPP) with a COVID-19 test?
The same swab used for collecting a COVID-19 test can be used for the Respiratory Pathogen Panel (RPP) when respiratory symptoms are present at the time of admission. RPP testing cannot be “added on” to a swab already in the lab. If RPP testing is needed, it should be ordered at the same time as the SARS-CoV-2 PCR. If RPP testing is needed after the SARS-CoV-2 PCR is resulted, then a new sample must be sent to the lab. When no symptoms are present, an RPP is not necessary.

How long can a patient have a positive SARS-CoV-2 PCR? Does this mean they are still contagious?
There have been reports of COVID-19 positive patients having a positive PCR test for weeks after symptom onset; however, recovery of live virus in such patients occurs up to day 10 of symptoms for those with mild/moderate infection and up to day 20 in severely ill patients and immunocompromised patients. For this reason, patients with mild/moderate infection who are clinically improving, fever-free for at least 24 hours, and 10 days or more from positive test result are considered not contagious. For those whose illness was severe [including those who were hospitalized] or who are severely immunocompromised, they are not considered contagious after day 20, if clinically improving and fever-free for at least 24 hours.