COVID-19 Guidance

Intermountain® Office of Patient Experience

Update: March 7, 2020

COVID-19 (novel coronavirus) testing is now available but remains limited at this time. The CDC recommends that testing be focused on patients with high epidemiologic risk, a syndrome compatible with COVID-19 and cases with important public and healthcare impact: https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html. This document replaces the March 1st guidelines and provides specific direction to Intermountain clinicians regarding appropriate screening, isolation and selection of patients for testing for COVID-19.

For Patients at Home

- Patients with mild symptoms are **encouraged to avoid healthcare facilities**, treat symptomatically, and if needed, access Intermountain Connect Care providers who can evaluate for COVID-19 and give advice about additional care: intermountainhealthcare.org/services/urgent-care/connect-care/

For Patients at Intermountain Facilities: Screening for COVID-19

- **On arrival, all patients should undergo screening to determine if they are at *High Risk of COVID-19*:**
  - Fever, cough or dyspnea

and

1. Contact with a confirmed case of COVID-19 or a person under investigation (PUI) (e.g. test is pending)

or

2. History of travel (within 14 days of symptom onset) to highest-risk geographic areas (see below)

Highest Geographic Risk Areas*:

1. China 2. South Korea 3. Iran 4. Italy 5. Japan

*This list of areas with sustained human-to-human transmission may change as transmission patterns evolve. Recent travel from **other areas may also confer some risk**. See section 2, "*Variable Risk for COVID-19*" below.

Isolation, Clinical Evaluation and COVID-19 Testing

1. ***High Risk of COVID-19***
   a. These patients require testing. Follow isolation guidance below and contact UDOH.
   b. Promptly place patient in a procedure mask and a negative pressure room if available, or a private room if negative pressure is unavailable.
   c. Caregivers should use **Airborne-Contact** protective personal equipment (PPE), including PAPR (preferred) or fit-tested N95 plus eye protection, plus a gown and gloves.
   d. Take a detailed travel and exposure history and clinical assessment, with consideration for features unique to COVID-19 (see Appendix A)
   e. Contact the UDOH COVID-19 Hotline **(1-800-456-7707)** to coordinate testing and home isolation. See Appendix B for testing procedures
   f. Once the decision to test for COVID-19 has been made, these patients are classified as Persons-Under-Investigation (PUI); please fill out the PUI form and confirm isolation instructions from UDOH to provide the patient.

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Outpatient and Admission Decisions:

g. For PUI in Outpatient clinics or Emergency Departments who do not require hospital admission, obtain swabs for COVID-19 testing (Appendix B), complete appropriate medical evaluation for other conditions if needed, (for example if they would qualify for antivirals if influenza positive) and prepare for discharge to home with the following safeguards:
   i. Confirm self-isolation instructions from UDOH *and*
   ii. Instruct the patient to download the Connect Care app and to check in within 24 hours.

h. For PUI meeting clinical criteria for hospital admission, please call Transfer Center **(855-WE-ADMIT)** to coordinate bed placement and inpatient consultation
   i. Admission decisions for PUI should take into account risk factors for poor prognosis: Age>60, dyspnea/hypoxia and medical comorbidities.

2. ***Variable Risk of COVID-19***

a. Patients in this category may have other important clinical and/or epidemiologic features not included in the High Risk category, such as:
   i. Travel to or exposure to patients from areas of evolving COVID-19 transmission
   ii. Lower respiratory symptoms that overlap with COVID-19, such as fever, cough or dyspnea. Note that upper respiratory symptoms are uncommon with COVID-19 (see Appendix A)

b. *Variable Risk* patients should be placed in a surgical mask and providers should use **Droplet-Contact** PPE: surgical mask, eye protection, gloves and gown, unless another diagnosis requires a higher level of precaution.

c. Providers are encouraged to use their clinical judgment to 1) conduct work-up for other diagnoses, 2) clarify risk for COVID-19, and 3) determine if COVID-19 testing is appropriate.
   i. COVID-19 experts are available at **801-50-SCORE, option 3** to help with these decisions
   ii. CDC guidelines encourage providers to consider features unique to COVID-19 (Appendix A)
   iii. Flu PCR may now be performed in clinics using strict precautions detailed in Appendix B
   iv. If needed, a "COVID CT Protocol" is now available in Imaging Departments

Decision Making

d. If an alternative diagnosis is identified, or if epidemiologic risk is deemed less likely after a thorough evaluation, proceed with routine clinical care for these patients using appropriate precautions for their diagnosis.

e. If after evaluation, a patient is determined to be at high risk of COVID-19, providers should call UDOH to coordinate testing for COVID-19. Patients undergoing testing are considered PUI.
   i. Please note that the CDC recommends upgrading to airborne isolation to collect samples for COVID-19 testing. Please refer to Appendix B for additional guidance about testing.
   ii. See section 1 for additional guidance regarding PUI.

3. ***Low/Minimal Risk***

a. Patients with no epidemiologic risk and symptoms consistent with an alternative diagnosis are considered Low/Minimal Risk.

b. Follow appropriate precautions and best-practice clinical management of these patients.

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Appendix A: Clinical Features of COVID-19

Symptomatic COVID-19 is a viral lower respiratory tract syndrome with several distinctive clinical, laboratory and radiographic features.[1-6] This guide sheet is based on best-available evidence and is intended to assist clinicians in more accurately assessing probability of COVID-19 despite constantly shifting geographic risk.

I. All patients should be screened for the following epidemiological and symptom criteria:

Clinical Feature	Rationale	Ref.
Epidemiologic Risk		
1. Exposure to known patient with COVID-19 or person under investigation (test in progress)		
2. Recent (14 days) international travel to areas with widespread and sustained COVID-19 transmission, with consideration for travel to other areas with evolving confirmed COVID-19 transmission.		
Symptom Features		
1. Fever	Present in 77-99% of cases, present initially in 43.8%	2-6,12
2. Cough	48-82% of cases	2-6,12
3. Fatigue/Myalgia	32-52% of cases	2-6,12
4. Unexplained ARDS	14-29%; median from 8 days to ARDS onset, progresses rapidly after onset of dyspnea/hypoxia	2-6,12
5. Dyspnea	Delayed symptom (5-7 days), associated with severe disease	2-6,12
6. No rhinorrhea or nasal congestion	Sino-nasal symptoms are uncommon (<4%). Sore throat in 14%	2-6,12
Duration of Symptoms (days)	Median time to progress to lower respiratory disease is 5-7 days	2-6,12
Demographic Features		
1. Age >40	73% of symptomatic cases occur in age >40; median age 51	1-6,12
2. Comorbidit(ies) present	23-50% of symptomatic patients had at least one comorbidity; associated with more severe disease	1-6,12

II. For symptomatic patients presenting for care at medical facilities, the following laboratory data may add to clinical assessment:

Laboratory Features		
3. White Blood Cell count <10 K/µL	WBC is <10 K/µL in 70-99% of cases; median is 4.7-6.0 K/µL and is <4.0 k/µL in up to 34%	2-6,12
4. Absolute Lymphocyte count <1.0 k/µL	~55% (35-72%) have lymphopenia; median range (0.8-1.0 k/µL)	2-6,12
5. Lactate Dehydrogenase >245 U/L	LDH elevated in 41-76% of cases, median (205-286 U/L)	3-6,12
6. Mild thrombocytopenia	Median platelet count is 160 k/µL	3-6,12
7. No Alternate Diagnosis Identified	Ruling out concomitant viral infection and other bacterial infections is important for determining risk for COVID-19	

III. For patients in the emergency department or hospital with other clinical features, computed tomography (CT) imaging can be a sensitive diagnostic tool to aid in the diagnosis of COVID-19.

CT Imaging Criteria		
1. CT Chest positive for Ground Glass Opacities (GGO)	GGO in 86%; often bilateral, peripheral & posterior; "crazy paving" may be visible. More consolidation later in course. GGO visible as early as 2 days after symptom onset. Positive CT imaging is equally sensitive and may precede positive PCR.	7-12

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Appendix B. Guidance for COVID-19 Testing

This document serves as guidance for diagnostic testing for SARS-COV2 (COVID-19). Testing is currently available only through the Utah Public Health Laboratory (UPHL). However, testing will soon be available through Intermountain Central Laboratory.

Be aware that all laboratory tests available in the U.S. were developed under the Emergency Use Authorization (EUA) granted by the U.S. Food and Drug Administration and diagnostic performance characteristics, including the rates of false positive and false negative tests are not well-established.

COVID-19 Testing Procedure

1. Under Airborne-Contact Precautions, collect two (2) specimens from the nasopharynx and (1) from oropharynx or lower respiratory tract:
    a. Upper respiratory tract samples:
        i. Nasopharyngeal swab - **flocked swab** (synthetic fiber with plastic shaft- cotton swabs with a wooden shaft are NOT acceptable) into both nasopharyngeal areas with the same swab and place immediately into sterile tube with 2-3 mL of **universal transport media (UTM) or M4 Transport medium. These are the same swabs used for RFAPCR and Influenza PCR tests.**
        ii. Oropharyngeal/throat swab: Swab the posterior pharynx, avoiding the tongue (**flocked swab + UTM**).
    b. Lower respiratory tract samples:
        i. BAL or tracheal aspirate: Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and coordinate overnight shipment to CDC on ice pack with UDOH.
        ii. Sputum: Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and coordinate overnight shipment to CDC on ice pack with UDOH.
    c. Send one of the nasopharyngeal specimens for influenza testing (Flu A/B PCR or RFAPCR) to an Intermountain laboratory via standard protocols
2. Complete the PUI form available from the UDOH or SCORE line providerss
3. Fill out a paper laboratory requisition form
4. Place the specimens in a biohazard bag with the requisition form
5. Contact Intermountain Central Laboratory and inform them that UDOH has approved COVID-19 testing and inquire about which Intermountain hospital to send the specimen to via confirm courier service. Intermountain Laboratories will then coordinate with UDOH for a second courier to take the specimens to the Utah Public Health Laboratory.
6. Tests are currently run twice a day at UPHL

Point-of-Care (in clinic) rapid Influenza testing

1. For non “High Risk” patients, the rapid point of care Flu PCR test may be performed in the clinic under Droplet-Contact precautions (procedural mask, eye shield or goggles, lab coat, and gloves) while preparing the specimen.

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