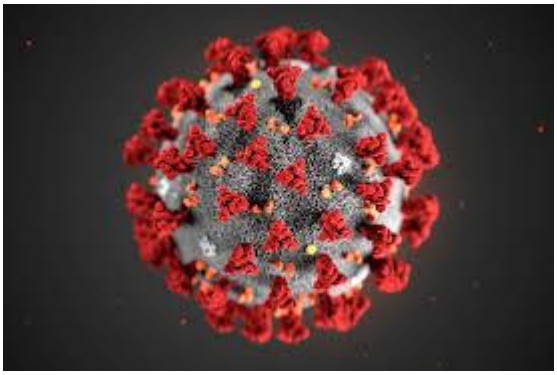


COVID-19/PATIENT UNDER INVESTIGATION (PUI)

Manual 2020

Credits:

Special thanks to Holly Day, Erin Kelly, Ting Lu for the collaborative efforts and contributions to the COVID-19 manual based on their experience and continued care for the COVID-19 patients.

Thank you to Raudel Rodriguez, Michelle Le and Kanapa Kornsawad for helping make this manual and their continued efforts on updating the Teams App.

Thank you to everyone for all of the collaborative effort and team work. We're part of this journey together, we are in this together!

Last updated April 13, 2020

Purpose: The purpose of this document is to provide basic information and guidance for healthcare providers at UT Health San Antonio who are managing patients diagnosed with COVID-19 disease or patient under investigation. The content in this document is based on current knowledge, and institutional guidelines. This document is not intended to replace or supersede individualized clinical evaluation and management of patients per clinicians' judgement based on different circumstance. Some of the topics are still fluid and further updated may need it.

Table of Contents

1.) Clinical Presentation: history, physical exam, and lab findings in most PUI/COVID+ patients

History

- Respiratory symptoms: Cough (68% mostly non-productive), SOB. If on 02, any increasing requirements
- GI symptoms: Diarrhea or loose stools (3-4%), can present before respiratory symptoms
- Constitutional symptoms: Fever (88%), malaise, myalgias
- Travel: International or Domestic (community transmission is occurring in San Antonio so absence of travel is not a protective factor)
- High risks:
    - Known exposure to a PUI or COVID+
    - Healthcare workers
    - Comorbidities: age >=65, immunocompromised/suppressed, cardiovascular disease, diabetes, chronic kidney disease, lung disease, HTN

Physical Exam

- Patient may be on room air or be requiring additional O2 supplementation
- Crackles or wheezing on auscultation
- Signs of impending respiratory failure: tripoding, speaking incomplete sentences, etc.

Differential Diagnosis:

- Infectious etiologies – Viral (influenza, RSV, etc) or community-acquired pneumonia based on clinical grounds, if patient presents with fever and respiratory symptoms.
- Non-infectious etiologies - COPD or asthma exacerbation, acute decompensated heart failure, if patient presents with shortness of breath and cough

Lab Findings

- CBC – neutrophilia, lymphopenia poor prognostic sign, mild thrombocytopenia
- BMP – usually unremarkable; LFTs may show mild transaminitis (ALT/AST in hundreds)
- Inflammatory markers on admission – CRP, ESR, Ferritin, IL-6, D-dimer, LDH usually elevated and elevations can portend poor prognosis, procalcitonin usually nl/low
- High-sensitivity Troponin – can see mild bump from myocarditis, trend markers if elevated-->up-trending markers may be associated with greater risk of myocarditis.
- Viral PCR testing may be negative

Imaging Findings (helpful but not diagnostic)

- CXR: bilateral findings, peripheral consolidations, ARDS picture
- CT Chest: bilateral Ground-glass opacification
- Lung Ultrasound: multiple B-lines which may start to consolidate, subpleural consolidations, thickened/ragged/irregular pleural line

2D Echocardiography

- There is no value of obtaining a routine echo in patients without evidence of LV dysfunction or congestive heart failure.

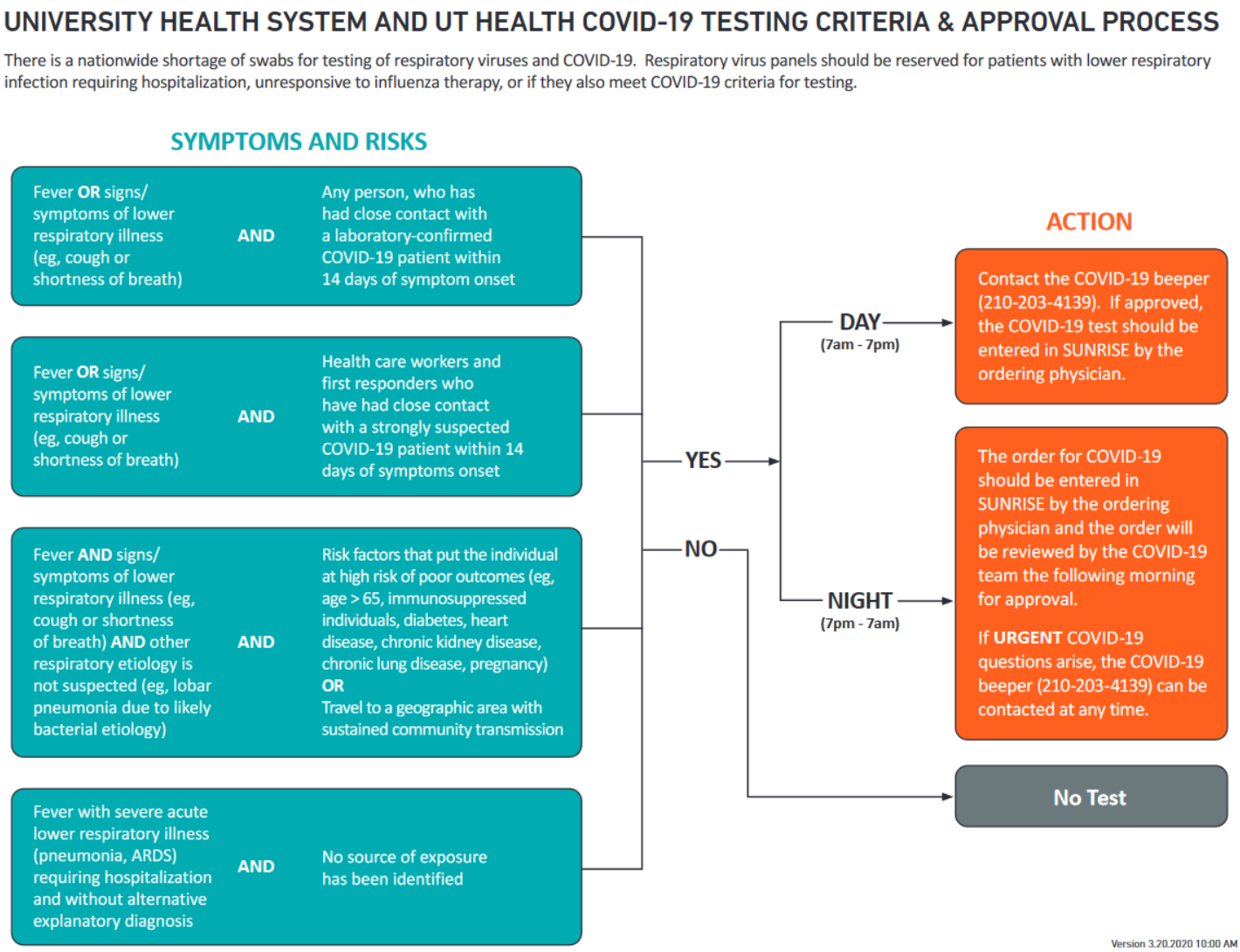
Factors that May Increase Severity

- Radiographic infiltrates by images (CXR or CT scan on admission) or rapid progression of pulmonary infiltrates
- Failure to oxygenate despite appropriate supportive care or intolerance to the interface/device use to deliver the oxygen therapy
- Evidence of hypoxemia requiring supplemental oxygen (PaO_2/FiO_2 ratio <150)
- RR > 30/min and/or evidence or respiratory distress
- pH < 7.3 with or without hypercapnia ($PaCO_2$ > 45 mmHg)
- Hemodynamic instability manifested by: hypotension (BP < 90/60, MAP < 65 mmHg, unresponsive to fluid bolus administration (30cc/kg) or need to initiate vasopressors.

2.) Screening and Testing

Emergency Department Testing for COVID-19

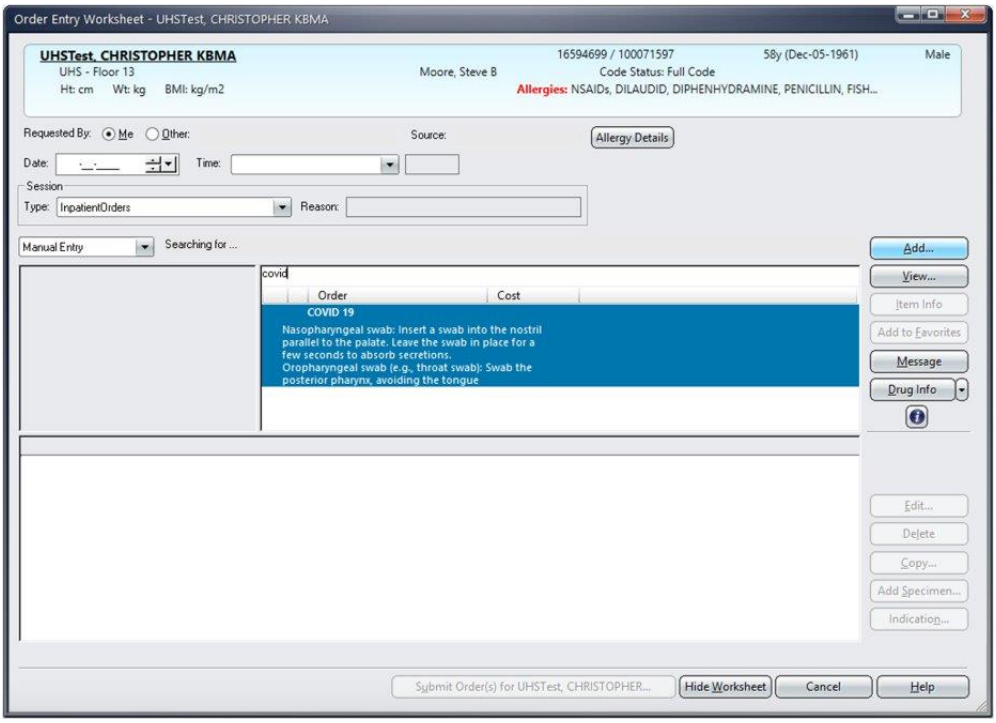
https://politemail.uhstx.com/PoliteMail/files/UHS-UT%20COVID-19%20TESTING%20CRITERIA%20APPROVAL%20PROCESS_v2.pdf



How to Order the COVID test

To order the test in Sunrise, two orders should be placed

1. Enter order for **Respiratory Virus PCR** to send usual respiratory viral panel. Specimen Source: Nasopharyngeal Swab
2. Enter order for **COVID-19**. Specimen Source: Nasopharyngeal Swab. (A Screen shot is seen below)
3. **After placing the order, please notify the House Supervisor (743-3111).** There is a process where when we order COVID testing it also triggers contact and respiratory isolation. We should House Supervisor as there have been considerable delays for that notification to reach a nurse (busy with other patients, away from computer, etc). This way we'll ensure prompt action is taken to get appropriate isolation and notification.



These are typically collected by bedside nursing but have been collected by a member of the ID team as well. The procedure for collection is as follows:

1. Place patient label on collection tube BEFORE entering patient room. Nursing can print out order.
2. Collect a SINGLE nasopharyngeal swab (both nares) per usual protocol for respiratory viral panel testing and break the swab into the Universal Transport Media vial.
3. Put specimen vial into biohazard bag and sanitize bag with wipes. Drop bag inside gatekeeper/nurse's clean bag outside room with gatekeeper's assistance.
4. Nursing/tech will hand deliver the specimens to the Core Lab, 3rd floor Rio Tower. (Do not tube specimens.)

One nasopharyngeal swab is sufficient for both respiratory viral panel and COVID-19 tests. If you sent just a Respiratory Virus PCR and subsequently want to add on COVID-19 testing, the specimen will still be viable for 72 hours from collection.

All PUIs and confirmed positive inpatients at University Hospital are currently cohorted on 5 Sky floor for care.

In house testing has been available since Tuesday, March 24th. Bandwidth is approximately 120 tests per day with about 12-48 hour turnaround. Please note, the virology lab can no longer take calls asking for COVID-19 results. Test results appear in Sunrise 24-48 hours after a swab is sent to the lab.

3.) Personal Protective Equipment (PPE) and Universal Masking

There are 2 PPE usages depending on the severity and interventions required for the patient.

PPE Requirements for staff entering rooms of Persons Under Investigation (PUI) or confirmed COVID-19 patients

Non ICU patients

Standard Care
(Non-aerosol Generation procedures)

- Procedural or surgical mask
- Gown
- Gloves
- Eye protection (goggles or face shield)

ICU patients

Aerosol generating procedures
(During procedure and for 60 minutes after procedure)

- N95 mask
- Eye protection
- Gowns
- Gloves

Aerosol-generating procedures

- Bronchoscopy
- Cardiopulmonary resuscitation
- Endotracheal intubation
- Nebulizer therapy (consider using MDI therapy instead)
- Non-invasive positive pressure ventilation (e.g. BiPAP machine)
- Suctioning
- Sputum induction
- Tracheostomy
- Ventilated patient with dislodged tubing
- EZPap
- IPV
- Chest Physiotherapy
- High-flow Nasal Cannula

Collection of samples using nasopharyngeal or oropharyngeal swabs is not considered an aerosol generating procedure. This can be done safely for Persons Under Investigation (PUI) using the standard/droplet/contact precautions listed below.

Universal Masking Policy - The UHS Masking Toolkit can be found here: https://politemail.uhstx.com/PoliteMail/default.aspx?page=nhf6Ck8u70ujPxrsZgdIRA&ref_id=YWw_egvsLU-smuJc_U0kRw

If you work in a clinical area for extended periods of time, you are now required to wear a barrier mask while at work in this setting. We will refer to this as your "shift" mask below. Unit PCCs and clinic nurse managers are responsible for giving you a shift mask as you report to work. If you have trouble obtaining a mask, please contact your supervisor. You will wear this shift mask for your entire shift, unless it gets soiled, contaminated or damaged. This mask can be worn in and out of isolation rooms (for non-COVID/non-PUI) patient, as long as there is no contamination.

When you are caring for COVID/PUI Patients, follow the following protocol about PEE don/doffing.

- The shift mask you are given at the beginning of the day is meant to be worn during your shift while working outside the patient rooms.
- Before entering a room, doff your shift mask and place it in a paper bag.
- You will then receive an encounter mask to enter the COVID/PUI patient room to be used during that single encounter.
- At the end of the encounter, dispose of the encounter mask that entered the patient's room.
- Then place your shift mask back on as you continue about your workday.

For providers seeing patients on airborne isolation (e.g., with TB), the correct procedure would be to doff the shift mask into a paper bag and to wear an N95 mask for the encounter—similar to how you all do for PUIs and patients with

confirmed COVID-19. If the patient were a PUI or had confirmed COVID-19, you would also wear the individual eye protection.

4.) General Management

4.0 Considerations for Admission

- There is not a specific tool to determine admission criteria. However, if a patient presents with any of the clinical features below, the patient may warrant inpatient admission.
    - Evidence of hypoxemia requiring supplemental oxygen or increasing requirement of home oxygen
    - RR > 30/min and/or evidence or respiratory distress
    - Meets SIRS Criteria with concern for Sepsis:
        - SIRS Criteria: At least 2 criteria - AND - Active or suspected source of infection for Sepsis
            - Temp >100.4 F or <96.8 F
            - HR >90
            - Respiratory rate >20 bpm
            - WBC >12,000 or <4,000 or >10% bands
        - Definitions:
            - SIRS – Systemic inflammatory response syndrome; No suspected infection
            - Sepsis – body's overwhelming and life-threating response to infection; Patient will have 2 or more SIRS criteria with a suspected source of infection
            - Severe Sepsis –Sepsis which is complicated by acute organ dysfunction
    - Has any of the factors that may increase severity
            - Radiographic infiltrates by images (CXR or CT scan on admission) or rapid progression of pulmonary infiltrates
            - pH < 7.3 with or without hypercapnia ($PaCO_2$ > 45 mmHg)
            - Hemodynamic instability manifested by hypotension: BP < 90/60, MAP < 65 mmHg
- If there is no indication for admission and the patient appears clinically stable, assess the ability for the patient to self-quarantine at home. See below for guidance on consideration of self-quarantine at home.
    - The patient is stable enough to receive care at home.
    - Appropriate caregivers are available at home.
    - There is a separate bedroom where the patient can recover without sharing immediate space with others.
    - Resources for access to food and other necessities are available.
    - The patient and other household members have access to appropriate, recommended personal protective equipment (at a minimum, gloves and facemask) and are capable of adhering to precautions recommended as part of home care or isolation (e.g., respiratory hygiene and cough etiquette, hand hygiene);
    - There are household members who may be at increased risk of complications from COVID-19 infection (.e.g., older people and people with severe chronic health conditions, such as heart disease, lung disease, and diabetes).

4.1 Admission orders check list

- ❑ **Bed status request:**
  - Location: Currently admit to 5ACU/ICU, consult with House Supervisor when no bed availability
  - Service: Currently medicine team C, E or F
- ❑ **Telemetry:** If patient have cardiac risk factors
- ❑ **Vital signs:** Per shift
- ❑ **Diet:** Diet order per underlying disease with plastic/disposable dishware/utensils
- ❑ **Isolation:**
  - **Airborne & Contact Isolation Criteria:**
    - Patients on a ventilator
    - Reserved for COVID+ and PUI undergoing aerosol-generating procedures (See list of these procedures under Care Recommendations below)
    - Consider for mod-severe patients who might require intubation
  - **Droplet & Contact Isolation:**
    - COVID+ and PUI who will not require aerosol-generating procedures
- ❑ **Labs:**
  - Baseline labs
    - CBC with differential
    - CMP
    - Pregnancy test
    - HBV serologies, HCV antibody, HIV screen
    - D-dimer, INR (if in ACT Trial)
    - ESR/ CRP
    - LDH
    - CK
    - Procalcitonin
    - IL-6 level (if signs of hyperinflammation, please see details under UHS current treatment guideline for hyperinflammation)
    - If productive cough, order sputum for gram stain and culture
    - If meets sepsis criteria (please see sepsis criteria above): use the Sepsis order set in sunrise obtain 2 sets of blood culture and lactic acid
    - Obtain Legionella urine antigen if concern for atypical pneumonia
    - If has urinary symptoms, obtain UA and urine culture
  - Repeat based on clinical worsening or lack of improvement, some of the inflammatory labs may need to be repeat in 48 hrs if elevate at admission.
    - CBC with differential
    - CMP
    - D-dimer
    - ESR/CRP
    - LDH
    - CK

        - Procalcitonin needs to be repeated if elevated to help guide appropriate time of stopping or de-escalating antibiotics
        - IL-6 level (if signs of hyperinflammation^{+})
        - Quantiferon (if indications for tocilizumab)
        - Chest x-ray
    - R/o Conduction System Disease
        - Baseline EKG (if has not done in the ED), and **daily if on hydroxychloroquine**
    - Accucheck only if necessary
- ❑ **Medications:**
    - Continue home medications (seizure medications, antihypertensive medications, etc)
    - Continue ACEi/ARB: Theoretical risks and benefits to stopping AND continuing
    - Consider statin therapy
        - Continue statins in patient who are already on therapy
        - Start if there is a guideline indication for statin therapy
    - Specific COVID treatment (Recommendations are below)
    - Inhaler therapy: If a patient needs to continue inhaler therapy, please order them as MDI to prevent aerosolized treatment. Some of the inhalers are on back-order, in these cases, call the pharmacy to assist with placing the order.
    - Antibiotics:
        - If patient has infiltrate on CXR, please start community acquired pneumonia treatment.
        - If meet sepsis criteria start broad spectrum empiric antibiotics; choices are available in the Sepsis order set.
- ❑ **Oxygen Therapy: Please order pulse oximeter**
        - Humidified nasal cannula (NC) 1 to 6 LPM for target SpO2 92-96%
        - Please do not place patient on home NIPPV (BIPAP/CPAP), unless negative COVID test. If concern, please contact pulmonary consult team
- ❑ **IVF**
    - Avoid maintenance fluids in patients, cautious fluid resuscitation
- ❑ **IV Access**
    - Consider Midline catheters over US-guided peripheral IVs for COVID-positive patients with difficult vascular access, in order to decrease the need for subsequent line placements and to preserve PPE. New Poly-Midline catheters can remain in place for up to 30 days. Vesicants (e.g., IV vancomycin, potassium) cannot be administered via a Midline.
- ❑ **DVT:**
    - Using standard criteria
- ❑ **CXR**
    - Obtain at the time of admission; NO NEED to repeat daily
    - No additional value of CT at admission unless competing diagnosis is being considered
- ❑ **Consults**
    - Infectious Disease
    - Pulmonary and Critical Care if there is concern for respiratory distress.
    - Consider early Palliative Care involvement, especially in those with high risk for decompensation
    - Other services should be minimized or used remotely when possible
- ❑ **Code status:** Confirm code status and wishes for mechanical ventilation, cardiac arrest

- ❑ **Next of Kin:** Please confirm who to contact if the patient is intubated and unable to direct their own care

4.2 Treatment

COVID-19 Specific Treatment

Medication	Indication	Common side effects
Hydroxychloroquine (HQ) Rationale: Anti-malarial 4-aminoquinoline shown to have in vitro (but not yet in-vivo) activity against RNA viruses. Multiple mechanisms of action including inhibition of viral entry, release into the host cell, reduction of viral infectivity and host immune response modulation have been postulated. Data: Data from China indicated that Chloroquine improved lung imaging and shortened disease course. Hydroxychloroquine was found to be more potent than chloroquine in inhibiting SARS-CoV-2 in vitro.	Strong consideration of hydroxychloroquine in patients who require supplemental oxygen for COVID positive disease. **Dosing regimen:** 400 mg PO/enterally twice daily for 2 doses, followed by 200 mg PO/enterally twice daily for 4 days	GI Upset (Nausea, Vomiting) Prolonged QT interval and risk of Torsade de pointes (particularly if used in combination with azithromycin Contraindication in porphyria
Azithromycin Rationale: Macrolide antibiotic Data: A single observational study (n=20) from France suggests that the combination of Azithromycin and Hydroxychloroquine was associated with a reduction in the incidence of viral carriage on day 6. Azithromycin added to Hydroxychloroquine was associated with greater reduction in viral carriage than Hydroxychloroquine alone.	There are insufficient data to recommend use of both Azithromycin and Hydroxychloroquine in COVID-19 positive cases. Empiric of both agents, at this time, is not recommended. The risk of QT prolongation with use of these agents may outweigh benefits. **Dosing Regimen:** 500 PO on the first day followed by 250 mg daily for 4 days	GI upset (Nausea, Vomiting) Prolonged QT interval and risk of Torsade de pointes
Anti IL6 agents (Tocilizumab) Rationale: IL-6 activates T cells and macrophages, among other cell types; IL-6 levels are reported to correlate with severe COVID-19 Data: there is not enough data to recommend routine use at this time	Discuss with ID to see if patient is eligible for TOCIVID-19 Study	Transaminitis (AST, ALT) Infusion reaction Hypercholesterolemia Upper respiratory tract infection Neutropenia
Remdesivir (see below for Trial) Rationale: An investigational nucleotide analog with broad spectrum antiviral activity.	Discuss with ID to see fi patient is	GI upset (nausea and vomiting)

Please visit online guidance link for information on clinical trials using Remdesivir. https://clinicaltrials.gov/ct2/show/NCT04280705	eligible for ACT Study	Elevated LFTs

ACT Trial (Remdesivir):

ID will screen all patients to see if they are appropriate. If someone is eligible to enroll they will ask you to go with them to witness the consent and collect the first swab. It is an oropharyngeal swab. Make sure you take patient labels in with you or label the swab before you go in the room. The following tubes will be collected

- 4 6mL Red Top tubes (large tubes)
- 2 4mL Lavender top tubes (small tubes)

If you help the nurse draw blood:

To draw these off an IV you will need a total of 32mL of blood (plus the 3mL that you are going to waste. You will need 3mL syringe for waste and then 3 (10mL) and one 6mL syringes. You will also need 1-2 NS flushes, a tourniquet, and an alcohol swab. Once you have all of your samples you will knock on the window and the "gate keeper will stand right outside the door with a large biohazard bag for you to drop the specimens into. We are in the process of having study coordinator enter the study labs. Please discuss with ID.

UHS Current Treatment Guideline (Updated 4/2/2020)

Respiratory failure requiring ICU admission		
Treatment	**Considerations**	**Alternative Treatment**
Contact ID for potential enrollment in ACT trial* **Confirmed case:** *Initiate* **hydroxychloroquine** 400 mg suspension enterally twice daily for 2 doses, followed by 200 mg enterally twice daily for 4 days **- AND -** *Consider* **azithromycin** 500 mg intravenous x 1 dose, followed by 250 mg enterally/IV for 4 days **ACT trial participants to receive remdesivir or placebo:** **Remdesivir** 200 mg IV on day 1, followed by 100 mg IV daily for duration of hospitalization (or up to 10 days) *Consider* **tocilizumab** 400 mg IV x 1 dose for critically ill patients with evidence of hyperinflammation and refractory ARDS/hypoxemia ***Infectious diseases consult required for administration of tocilizumab.*** *Significant risk for TB reactivation, bone marrow suppression,*	Check QTc daily while on hydroxychloroquine therapy Minimize use of concomitant QTc prolonging agents If on ACT trial, discontinue use of acetaminophen **Tocilizumab:** Order baseline IL-6 level prior to initiation of tocilizumab and repeat in 72 hours [+]Hyperinflammatory labs: • D-dimer > 1000 ng/mL • CPK > 2x ULN • CRP > 100 • LDH > 245 U/L • Ferritin > 300 ug/L	**Lopinavir/ritonavir (LPV/RTV)** 400 mg/100 mg enterally twice daily for 14 days Consider in place of hydroxychloroquine in patients with QTc >500 msec or severe conduction abnormalities and NOT on ACT trial

and hepatoxicity exists. Thorough discussion of risks versus potential benefit is warranted. Obtain baseline quantiferon test. **<u>Confirmed case with ongoing hypoxemia and fever at treatment day 5:</u>** Rule out other sources of infection (ex. secondary bacterial pneumonia) In the absence of other infection → extend hydroxychloroquine course to 10 days (requires ID approval)		
Hospitalized patients requiring non-invasive positive-pressure ventilation - OR - Immunocompromised patients with non-severe disease (hospitalized patients not requiring ICU care)		
Treatment	**Considerations**	**Alternative Treatment**
Contact ID for potential enrollment in ACT trial* **<u>Confirmed case:</u>** *Initiate* **hydroxychloroquine** 400 mg PO/enterally twice daily for 2 doses, followed by 200 mg PO/enterally twice daily for 4 days	Check QTc daily while on hydroxychloroquine therapy Minimize use of concomitant QTc prolonging agents If on ACT trial, discontinue use of acetaminophen	**LPV/RTV** 400 mg/100 mg enterally/PO twice daily for 10 days Consider in place of hydroxychloroquine in patients with QTc >500 msec or severe conduction abnormalities and NOT on ACT trial
Non-severe disease, hospitalized patients not requiring ICU care - AND - High Risk Features: Age ≥ 65 years, cardiovascular disease, underlying chronic lung disease, HTN, CKD obesity (BMI >40), or DM		
Treatment	**Considerations**	**Alternative Treatment**
Contact ID for potential enrollment in ACT trial* Treatment not warranted outside of ACT trial Optimize supportive care	Monitor vital signs and laboratory values and reevaluate need for treatment If on ACT trial, discontinue use of acetaminophen	

Non-COVID Therapies Relevant to The Care of COVID-19 Patients or PUIs

Angiotensin Converting Enzyme Inhibitors (ACE-I) and Angiotensin II Receptor Blockers (ARB)

Rationale: The role of ACE-I/ARBs in the treatment or pathogenesis of renal failure in COVID-19 confirmed patients is paradoxical and inadequately understood at this time. COVID-19 has 10-20x affinity to ACE2 receptors. In addition to the kidneys, ACE2 is expressed in the heart, lungs, and vasculature. This has led to the hypothesis that ACE-I and ARBs, which increase the levels of ACE2, might worsen myocarditis or ACS.

Recommendation:

- There are no data demonstrating beneficial or adverse outcomes with use of these drugs in COVID- 19 or among COVID-19 patients with a history of cardiovascular disease taking these medications. As such, the American Heart Association, American College of Cardiology, and Heart Failure Society of America

do not recommend stopping ACE-I or ARBs based on this theoretical concern. See joint statement at: https://www.acc.org/latest-in-cardiology/articles/2020/03/17/08/59/hfsa-acc-aha-statement-addresses-concerns-re-using-raas-antagonists-in-covid-19

Non-steroidal anti-inflammatory drugs (NSAIDs)

Rationale: SARS-CoV-2 binds to cells via ACE2. ACE2 is upregulated by ibuprofen in animal models, and this might contribute to disease severity. Reports from France indicate possible increase in disease mortality with ibuprofen. However they have not seen this clinically- WHO does not recommend against the use of NSAID

Blood Products

Rationale: There is a national and hospital shortage of blood products given social distancing measures. Volume overload, including volume related to blood products may worsen oxygenation and increase pulmonary vascular congestion. Treat bleeding, not numbers.

Recommendation:

- Use a restrictive transfusion strategy (Hct > 21, Hgb > 7) in PUIs or patients with COVID unless the patient is actively bleeding or there is concern for acute coronary syndrome.
- In Acute Coronary Syndrome, reduce threshold to Hgb >8

Corticosteroids

Empiric use of corticosteroids is not recommended. Unless patient has other indication

Antimicrobial Treatment

It is reasonable to empirically cover for HAP/CAP using standard risk stratification for these diseases if pulmonary infiltrates are evident or suspicion of bacterial pneumonia exists at the time of presentation, pending further clinical evolution and studies (discontinuing when appropriate).

For sepsis, please follow standard principles for starting broad spectrum antibiotics. If there is no evidence of the source of bacterial infection and patient seems to have just COVID, antibiotics would be de-escalated as appropriate.

Implement early IV to oral antibiotic therapy transition for bacterial pneumonia when appropriate to reduce fluid load unless concerns for GI absorption are evident.

If concurrent influenza, treat with Oseltamivir

Nebulizer vs. MDIs

In non-intubated patients, avoid nebulizer therapy whenever clinically possible and safe to prevent aerosolization. It is best to use the MDI route (eg, with albuterol and/or ipratroprium).

4.3 Patient Rounding

Multidisciplinary rounds:

Mon-Sun 8 am: Hospitalist page COVID ID pager (210- 203-4139) to provide MRNs for any new PUIs/or sending the screenshot of your team list

Mon-Sun at 8:30-9:00 am: Touch base with the COVID-ICU team

Mon-Fri 2:00 pm: ID COVID fellow will call our conference number at **210-469-0159 (conference ID 63480058#, Press * to be meeting's organizer. Enter host PIN 68868#)** to run list with both hospitalist and CM on the line. Information will be available on fellow's sign out sheet (thank you Danielle!)

- 2:00 pm: Team C's hospitalist calls 210-469-0159. Enter conference ID 63480058# o automatically enter call. End call at 2:15 pm.
- 2:15 pm: Team E's hospitalist calls 210-469-0159. Enter conference ID 63480058# to automatically enter call. End call at 2:30 pm.
- 2:30 pm: Team F's hospitalist calls 210-469-0159. Enter conference ID 63480058# to automatically enter call. End call at 2:45 pm.

Sat-Sun: The COVID Team's hospitalists page COVID pager (210- 203-4139) to confirm time for running the list with ID fellow & faculty.

Before patient encounter

- Donning per the video. Please note because UHS has adopted universal mask protocol, you are already wearing a surgical mask

https://www.youtube.com/watch?v=bG6zISnenPg

- If you need to use a stethoscope then ask for a new disposable one from gatekeeper to bring into room
- If you need a cisco phone for translation then ask gatekeeper for instructions to bring in and remove phone from room
- If it's your first time donning and doffing, then please let your gatekeeper know. He/she can more closely monitor you during your first time and provide further guidance
- DO NOT bring any paper, pen, personal stethoscope into the room

During patient encounter:

- If you enter patient's room then perform only limited physical examination that are most essential for clinical diagnosis and decision making.

After patient encounter

- Doffing per the video
- If you feel your mask has become contaminated (by touch, cough, water droplet contact), please discard the mask and ask for a new one from PCC after you leave the room

- We recommend you write down important history and exam findings for the patient immediately after exiting room to avoid confusion later when writing your note. Another option is to just immediately finish your note on the computer
- If any of your patients meet severe disease criteria or are decompensating (Refer to the COVID Manual, section How to care/transfer a critically-ill patients). Please report this to your IM hospitalist faculty immediately and page the ICU COVID team 210-513-0363
- **Due to the visitor policy, it is very important to contact patient's families to updated daily**

Sign out process:

Check with your IM Hospitalist to see how they want to manage sign out. They might just keep a document on their own, or they may be using the shared drive.

If you do not have access to the Hospitalist shared drive, run your patient list with the IM Hospitalist so they can update the sign out sheet.

If you have access to the Hospitalist shared drive and your faculty is using the drive to house the sign out sheet, update the sign out sheet as follows:

1. Make sure the document isn't already opened by your teammate. Only one person should be editing it at a time.
2. Open the Citrix Workspace (Storefront); navigate to the "Files Shares" folder and then click the "UHS File Shares –S Drive"; this will open a new file explorer.
3. In the new file explorer, double click "managed", then double click "Internal Medicine", then double click "Hospital Medicine", then double click "Direct care Teams..."
4. You should now see a list of all the direct care teams, double click the folder corresponding to your team. Within this folder you should find a word document.
5. Open the word document. If not already done, click "Save As..." and save it with a filename indicating the date of service. Make your changes and then click save.
6. Be sure to close the document when done so that only one person is using the document at a time.

5.) Critically ill patients (Please see Critical Care Tips for Hospitalist for more details)

Transfer: If patient decompensated, please page COVID ICU team pager 210-513-0363, and call anesthesia cisco phone at 743-0611 to assist with the intubation.

Please consider contacting ICU team if the patient has any of the criteria below

- Increasing Oxygen requirement, supplementation with a target oxygen saturation 92-96% with threshold for intubation at 6L. Please DO NOT use Non-invasive ventilation as an oxygenation strategy
- RR > 30/min and/or evidence or respiratory distress
- pH < 7.3 with or without hypercapnia ($PaCO_2$ > 45 mmHg)
- Hemodynamic instability manifested
- by: hypotension (BP < 90/60, MAP < 65 mmHg, unresponsive to fluid bolus administration (30cc/kg) or need to initiate vasopressors

*Consider awake self-proning while awaiting critical care consultation as shown on next page:

Instructions for patients with cough or trouble breathing:

Instrucciones para pacientes con tos o dificultad para respirar:

Please try to not spend a lot of time lying flat on your back! Laying on your stomach and in different positions will help your bod get air into all areas of your lung.

¡Por favor, trate de no estar mucho tiempo acostado sobre su espalda (boca arriba)! Acostarse sobre su estómago (boca abajo) diferentes posiciones, le ayudará a su cuerpo a que le llegue aire a todas las áreas de sus pulmones.

Your healthcare team recommends trying to change your position every 30 minutes to 2 hours and even sitting up is better thar laying on your back. **If you are able to, please try this:**

El grupo de sus cuidadores de salud le recomienda tratar de cambiar de posición entre cada 30 minutos y 2 horas, y aún perman sentado es mejor que estar acostado de espalda. **Si puede, por favor, intente esto:**

1. 30 minutes – 2 hours: lying on your belly
   30 minutos – 2 horas: acostado sobre su estómago (boca abajo)

2. 30 minutes – 2 hours: lying on your right side
   30 minutos – 2 horas: acostado sobre su lado derecho

3. 30 minutes – 2 hours: sitting up
   30 minutos – 2 horas: sentado

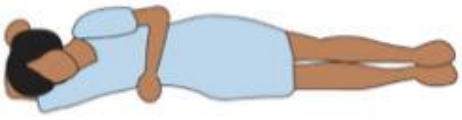
4. 30 minutes – 2 hours: lying on your left side; then back to position #1.
   30 minutes – 2 horas: acostado sobre su lado izquierdo; y luego vuelva a la posición # 1

PHOTOS BELOW TO DEMONSTRATE THIS:

LAS FOTOS DEBAJO DEMUESTRAN ESTO:

1. 30 minutes – 2 hours: laying on your belly
1. 30 minutos – 2 horas: acostado sobre su estómago (boca abajo)

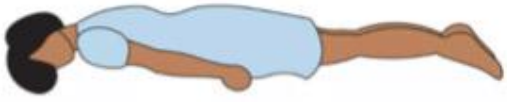
2. 30 minutes – 2 hours: laying on your right side
2. 30 minutos – 2 horas: acostado sobre su lado derecho



3. 30 minutes – 2 hours: sitting up
3. 30 minutos – 2 horas: sentado

4. 30 minutes – 2 hours: lying on your left side
4. 30 minutes – 2 horas: acostado sobre su lado izquierc

Then back to Position 1. Lying on your belly!
Luego, vuelva a la posición 1. ¡Acostado sobre su estóma (boca abajo)!



6.) Procedures in PUI/COVID

Preparation

- Do not recommend performing procedure alone. Call hospitalists, procedure service chief resident, experienced 3rd year resident, or IR to assist with procedures.
- Obtain consent for procedure prior to entering room.
    - Use the "patient unable to sign" option on I-pad consent which would involve explaining the benefits and risks of procedure to the patient over the phone AND two witnesses to sign the form along with consenting provider.
    - Alternatively, paper consents may be used using the phone to discuss with pt. Make sure to add date/time consent was obtained and witness(es) present.
- Gather supplies and **dedicated COVID-19 PUI ultrasound machine**. Keep extra supplies outside room for quick access but don't bring into patient's room.
- Nurse will print and scan labels and apply to the collection tubes PRIOR TO entering the room for procedure. Remind nurse to be outside room for entire duration of procedure.
- Follow standard protocol for PPE prior to entering room. Recommend two providers enter for every procedure.

Procedure

- Enter room with all supplies including labeled collection tubes, sterile gown, sterile gloves, purple-top Super Sani-cloth wipes (if not already inside the patient's room) and single-use gel packets (DO NOT use the same ultrasound gel bottle between patients. The bottle needs to be discarded or left in the patient's room after use).
- When ready for procedure, wear a sterile gown for central lines (over non-sterile gown) and sterile gloves.
- Conduct pre-procedure time-out with 2 providers in the room (preferable to have same two providers who will perform procedures to avoid bringing patient's RN in/out of the room only for a time out). Verify with the patient two unique identifiers (i.e., name and DOB), procedure, location, consent obtained.
- Perform procedure as usual with ultrasound guidance.
- Samples can be placed in the smaller collection bags while still in the room. Nurse needs to be available outside of patient's room to collect samples from MD when procedure is done. While standing at door, MD drops smaller bag with samples into a larger collection bag that the nurse has from outside the room. Care must be taken to not touch anything outside of the room.
- Unused procedure kit and all other supplies should be discarded in the room.
- Hand sanitize over gloves and clean/disinfect exposed surfaces of the ultrasound with purple-top Sani-cloth wipe. Wipe off door handle with purple-top Sani-cloth wipe since door was opened in order to provide nurse the samples.
- Leave room with ultrasound
- Hand sanitize over gloves again and follow protocol to remove remainder of PPE

Post-Procedure

- Hand sanitize after leaving room

- Put on gloves again and clean/disinfect ultrasound machine including the transducers, cables, laptop/monitor, keyboard, handle, cart and IMED consent Ipad (if attached). Use purple-top Super Sani-cloth wipes, minimum 2-minute wet-contact time for adequate disinfection, may need multiple wipes to accomplish this. All other approved disinfection wipes need minimum 3-minute wet-contact time for adequate disinfection.
- Hand sanitize and wash hands
- Return dedicated COVID-19 ultrasound machine to holding area.

7.) Discharge information

Discharge Considerations and Assessment

1) Patient does not need or no longer needs acute care.

- Patient's fever is sufficiently controllable with APAP.
- Patient is not hypoxic or hypoxia can be controlled with supplementary O2 by NC (<4L) AND degree of hypoxia has been stable x 48 hours.

2) Patient has a residence with a separate room where can recover without sharing immediate space with others.

3) Patient has a separate bathroom OR, if shared bathroom, patient is well enough to wipe down contacted surface after use, OR caregiver with PPE who can sanitize shared bathroom regularly.

4) Patient has access to necessities.

- Can be discharged with sufficient supply of meds
- Can have food/groceries delivered to residence
- Patient has a caregiver who can obtain food, medicines, other necessities on behalf of the patient

5) Patient and other caregivers can or can obtain PPE for interactions with the patient

- Surgical mask
- Gloves
- Soap/hand sanitizer

6) There are no household members at high risk of complications from COVID

- No persons > age 60
- No persons with severe comorbidity (COPD, cardiac disease, diabetes, on immunosuppressive medications)

Discharge Guidance

1.) Verify patient's contact info

2.) Patient's can self-isolation at home if they are pending test results and have no other indication for hospital admission.

3.) Outpatient case manager will call discharge inpatients/ED discharges/outpatients/employee health patients with results (for ED or outpatient testing) and to follow up positive patients.

4.) Instructing patient to call Nurselink for any questions after hours

5.) Print discharge materials (listed below)

6.) PUI's with a positive COVID test result can be discharged if clinically stable, but should follow the self-isolation criteria below.

Self-Isolation Criteria: Patients should remain in self-isolation until the following criteria have been meet

- At least 3 days (72 hours) have passed since recovery, defined as resolution of fever without the use of fever-reducing medications, and improvement in respiratory symptoms (e.g., cough, shortness of breath); - AND -
- At least 7 days have passed since symptoms first appeared
- Individuals with laboratory-confirmed COVID-19 who have not had any symptoms may discontinue home isolation when at least 7 days have passed since the date of their first positive COVID-19 diagnostic test and have had no subsequent illness.
- Reference: MetroHealth

PT/OT will see patient's if absolutely required for disposition. Please use your personal judgement to the benefit of their consultation and the needs of your patient.

Oxygen Supplementation at discharge:

- Some thoughts that viral convalescence is roughly 6 weeks
- Patient's requiring O2 may need prolonged oxygen at discharge
- Patients will still need walk of life, this is currently being performed in the room as a 6 minute walk test. If Oxygen is ≤88% on Room air, patient will qualify for home oxygen

CMS has lifted the 3 midnight rule for dispo to SNF.

Printable materials: (also found under the Files tab)

https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html

What to do if you are sick from COVID: pdf

8.) Post shift care

What are some protective measures that we can take to keep our families safe?

UHS Provided a HealthFocus document: https://healthfocussa.net/infections/protect-your-family-from-coronavirus/

A few suggestions to reduce take-home exposure:

- Taking off your shoes before you enter your home and disinfecting with Lysol.
- Changing out of your clothes and washing up as soon as you get home.
- Consider keeping another set of clothes in the garage or laundry room to avoid contaminating your home with germs from your work clothes.
- Taking a shower as soon as you get home. Avoid sitting on or touching household furniture or items before taking a shower.
- Washing your work clothes in a different load than other laundry.
- Cleaning the floorboards, steering wheel and dashboard of your car when you get home.
- Making sure to clean all jewelry and accessories or better yet, leave them at home. If you need to have a watch at work, consider getting a watch specifically for your job and then leaving it there or in the glove compartment of your car when you head home.

9.) Guidance for Healthcare Professionals (HCP) Self-Monitoring and Work Restriction

This information is for all Health System Staff, regardless of physical work location. Version 3.22.2020 10:00 AM

Healthcare Professionals currently on self-isolation for COVID-19 exposures may return to work IF asymptomatic.

If you are sick, Stay at Home

If you have new onset of any of the following symptoms, you **MUST** stay at home and immediately notify your supervisor.

- Fever (subjective or temperature of ≥ 100.0°F or 38.0°C)
- Cough
- Shortness of breath
- Sore throat
- Diarrhea
- Nausea
- Vomiting
- Muscle aches
- Malaise (feeling tired or run down)

For mild illness consistent with COVID-19, HCPs must stay home for seven (7) days after your symptoms began AND you have been symptom-free for 72 consecutive hours.

You do not require a negative test for COVID-19 to return to work. However, at the completion of isolation, HCPs must be seen by their respective Employee Health Clinic (UHS or UT) to be cleared to return to work.

If your symptoms are severe enough that you need to see a healthcare provider, but it is not an emergency, contact your primary care provider before you seek care. If you must travel to your healthcare provider or are instructed to visit a testing collection site, you should put on a mask, if available, and avoid public transportation. If you have an emergency, call 911.

All Healthcare Professionals

In the context of community transmission of COVID-19, all HCPs should self-monitor for illness consistent with COVID-19 because all HCPs are at risk for unrecognized exposures. The purpose of self-monitoring is to identify illness early and self-isolate at home to reduce the potential of transmission to all close contacts.

As an HCP, you should self-monitor by taking your temperature twice daily and evaluating yourself for COVID-19 like illness. The timing of these checks should be at least eight (8) hours apart with one check immediately before each work shift. If you have **any** of the following symptoms, **DO NOT** come to work.

- Fever (subjective or temperature of ≥ 100.0°F or 38.0°C)
- Cough

- Shortness of breath
- Sore throat
- Diarrhea
- Nausea
- Vomiting
- Muscle aches
- Malaise (feeling tired or run down)

If symptoms develop at work, you should immediately leave the patient care area, don a barrier mask (surgical or procedural), self-isolate, and notify your supervisor.

Healthcare Professionals with exposure to a confirmed COVID-19 person or suspected COVID person (Person Under Investigation-PUI)

If you are an HCP who has a known exposure to a patient or household contact with confirmed COVID-19 or suspected (PUI) COVID-19 individual, you should take extra care to monitor your health, but you may continue to work so long as you are asymptomatic.

There is no requirement for a 14-day quarantine of HCPs with exposure to a known COVID-19 positive person in the setting of community transmission.

Returning to work

If you recently had symptoms that required you to stay home, and did not get tested for COVID-19, you may return to work seven (7) days after your symptoms began AND you have been symptom-free for 72 consecutive hours. You DO NOT need to be cleared through Employee Health. You may return to work earlier, but will require a work clearance from a clinical provider to share with your supervisor and to show screeners to enter the facility.

If you were tested for COVID-19 and the results of that test were negative, you may return to work when you have been symptom-free for 24 hours. You DO NOT need to be seen in Employee Health, but should call 210-358-2277 to receive your Return to Work Clearance over the phone, which will be emailed to you.

If you were tested for COVID-19 and the results of that test were positive, you may return to work seven (7) days after your symptoms began AND you have been symptom-free for 72 consecutive hours. ou must be seen in Employee Health before returning to work. Please call 210-358-2277 to schedule an appointment once you have reached seven days past symptom onset with 72 consecutive hours symptom-free. If you were seen by a provider or another organization's Employee Health (for example a PCP, or UT Employee Health): You will need a Return to Work Clearance form from them, releasing you to come back to work.

If you are returning to work with a clearance, please show that to the screener at entry. If you are coming to University Hospital in order to be seen in Employee Health for your Return to Work Clearance, please show the screener your emailed appointment confirmation.

10.) Documentation Tips

Acronym that can be used from Dr. Holly Day is .COVID

COVID Clinical Summary: Date of Symptom Onset:

Date of Admission: Exposure History:

Symptoms:

Temperature Trend: O2 Needs:

COVID Test: Respiratory PCR:

WBC (and lymphocytes): Procalcitonin:

LDH: Ferritin: CRP: D-Dimer:

Blood / Urine / Sputum Cx:

CXR:

CT Chest:

Treatments:

11.) Useful Phone Numbers

If you have a dedicated a Cisco phone then follow these instructions to make calls:

- To call into patient's bed intercom system: dial #9 + room number (e.g. for room 5ACU-045 dial #95045)
- To call into patient room's phone: dial only room's extension as listed below (e.g. for room 5ACU-045 dial 39062)
- To use interpreter: dial 81100
- You can also perform 3-way calling which is helpful for interpreter or holding family meetings

Infectious Disease (UT/UHS/VA) COVID-19 pager: (210) 203-4139

- Can assist with decision to test
- Can assist with self-testing if you are having symptoms
- Can assist with management decision of COVID patients

ICU COVID Team pager: (210) 513-0363

5ACU Phone numbers into patient's room:

5ACU PHONE NUMBERS

Unit Clerk: 743-0700 | Charge Nurse: 743-0760 | Fax: (210)702-6218

Respect:	3-0717	Empathy:	3-0721	Compassion:	3-0723	Quality:	3-0726
	3-0718			(South)	3-0724		3-0727
	3-0719				3-0725		3-0728
Printer #	11-514	Printer #	11-239	Printer #	11-244	Printer #	11-511
ROOM #	EXT.	ROOM #	EXT.	ROOM #	EXT.	ROOM #	EXT.
5001	3-9074	5021	3-9051	5039	3-9059	5055	3-9067
5003	3-9046	5023	3-9052	5041	3-9060	5057	3-9068
5005	3-9047	5025	3-9053	5043	3-9061	5061	3-9069
5007	3-9048	5027	3-9054	5045	3-9062	5063	3-9070
5011	3-9049	5029	3-9055	5047	3-9063	5065	3-9028
5013	3-9050	5031	3-9056	5049	3-9064	5067	3-9029
		5033	3-9057	5051	3-9065	5069	3-9030
		5035	3-9058	5053	3-9066	5071	3-9031

Community:	3-0920	Compassion: (North)	3-0711	Trust:	3-0714	Ron:	3-0926
			3-0712		3-0715	PCC Office:	3-0732
			3-0713		3-0716	Payroll:	3-0923
Printer #	11-218	Printer #:	11-222	Printer #	11-230	Carol:	3-5990
ROOM #	EXT.	ROOM #	EXT.	ROOM #	EXT.	Materials Mgmt:	3-3662
5123	3-9018	5137	3-9024	5155	3-9040	Central Supply:	3-3661
5127	3-9019	5139	3-9025	5157	3-9041	Housekeeping:	8-2306
5129	3-9020	5141	3-9026	5159	3-9042	Maintenance:	8-2438
5131	3-9021	5143	3-9027	5161	3-9043	Security:	8-2465
5133	3-9022	5147	3-9036	5163	3-9044	Help Desk:	8-4059
5135	3-9023	5149	3-9037	5165	3-9045	Bed Control:	3-3108
		5151	3-9038	5167	3-9072	TansferCtr:	3-3116
		5153	3-9039	5169	3-9073	BioMed:	3-5300
5ACU RC CODE:	1690	Pharmacy-INP:	2-2888	Dietary:	8-2410	Sleep Study	88365
		Pharmacy-DC:	8-8819		8-8166	Hospitalist:	203-3331

UT Health Evaluation and Screening hot line: (210) 450-8000

- This is staffed by trained nurses and will be our point of contact if we think we may need testing for COVID-19. They take calls from UT Health **faculty**, **staff**, and **students**. It will be available M-F 8a-5p and 10a-4p on the weekends.

UHS Provider Hotline: (210) 358-9999

- For **resident and fellows** working at UH. For resident and fellow use if experience symptoms and need guidance.
- If you become aware of a colleague or resident who was exposed, utilize the 210-358-9999 number and they will coordinate with COVID-19 ID specialists and infection prevention to ensure appropriate steps are taken.

Infection Control Department: (210) 358-2927

- Can assist with isolation precaution questions
- After hours at 210-284-9107

ED PCC: (210) 743-0161

- In the ED, there is a supply of disposable phones with a plan to plug in to rooms of PUIs If you are seeing a PUI in the ED and there is not already a phone in the room, please call the this number.
- If there is no answer, call Angie Kent (210-743-0174)

San Antonio Metropolitan Health District COVID-19 Hotline: (210) 207-5779

- San Antonio Metropolitan Health District has opened a COVID-19 hotline for residents to ask questions about the virus. The hotline is available in English and Spanish.
- Designated for SATX residents

San Antonio Metro Health Provider Hotline: (210) 233-5970

- Use this number to make an appointment for a patient at the community testing center

12.) Useful Resources

CDC Website

https://www.cdc.gov/coronavirus/2019-ncov/

WHO Website

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov

LitCovid: Curated literature hub for tracking up-to-date scientific information about the 2019 novel Coronavirus. It is the most comprehensive resource on the subject, providing a central access to relevant articles in PubMed. The articles are updated daily and are further categorized by different research topics and geographic locations for improved access.

https://www.ncbi.nlm.nih.gov/research/coronavirus/

NEJM

New England Journal of Medicine: COVID 19 Collection
https://www.nejm.org/coronavirus

SCCM: Critical Care for Non-ICU physicians

https://covid19.sccm.org/nonicu.htm

Lancet

https://www.thelancet.com/coronavirus?dgcid=kr_pop-up_tlcoronavirus20

Radiological Society of North America: Helpful imaging
https://pubs.rsna.org/2019-ncov

Brigham and Women's Hospital Protocol

https://covidprotocols.readthedocs.io/en/latest/#clinical-course-prognosis-and-epidemiology

San Antonio local resources

https://www.sanantonio.gov/Health/News/Alerts/CoronaVirus

Vitaltalk Communication Playbook for COVID:

This playbook is a super-concentrated blast of tips that will enable you to navigate through your day with honesty, empathy, and compassion—in a way that is sustainable.

https://www.vitaltalk.org/wp-content/uploads/VitalTalk_COVID_English.pdf