TITLE: Coronavirus (2019-nCoV) Radiology Screening and workflow

PURPOSE: The purpose of the Coronavirus (2019-nCoV) workflow is to minimize risk of transfer to other patients and staff. Given the cleaning and disinfection requirements for limited imaging equipment and suites, prioritization of advanced imaging is necessary. Room closure post Covid-19 exposure requires 2 hours of downtime in some instances. The organization is actively reviewing guidelines of care and recommendations in this document will be updated as the organization deems appropriate.

PROCEDURE:

Patient Screening:

1. Initial screening will occur for all patients who are called prior to their imaging appointment (reminder calls).

2. If patient is not screened via phone, screening to be completed by staff registering the patient (this will vary from site to site). Screening will be completed prior to arrival in radiology.

3. Screening will include:
   - Do you have a fever and/or lower respiratory symptoms (cough/shortness of breath)? OR
   - Does patient exhibit signs and symptoms compatible with Covid-19? (Fever, cough, difficulty breathing, etc)
   - Have had close contact (within 6 feet) with a patient known to have Covid-19 within the past 14 days? If yes, consider this a positive screen and follow algorithm accordingly.
   - Friends or family will be limited per visitation policy.

4. Positive screen
   a. Patients who screen positive should be asked to wear a surgical mask as soon as they are identified and be evaluated in a private room with the door closed.
   b. Call PAS and request Infectious Disease Physician.
   c. Follow Infection Disease recommendations for patient admission and evaluation.
   d. Put imaging examination on hold until patient is evaluated and until there is a management plan.

5. Negative screen
   a. Perform imaging examination as ordered, if patient is symptomatic provide surgical mask and hand sanitizer.
   b. If patient declines surgical mask, imaging will be canceled.

Employee Responsibilities:

1. Any member of the Radiology Department who has symptoms should not report to work and discuss with their direct supervisor a plan for time away and alternative work arrangements.

2. Please follow institutional guidelines if you are a member of the Department with known primary or secondary exposure.
All Imaging:

1. All non-urgent elective encounters will be placed on hold and will be rescheduled as the situation dictates.

2. Patients with a suspicion of Covid-19 will not be imaged at Tilley Drive and ACC outpatient Radiology.

3. Radiology must be informed of patients under isolation precautions for Coronavirus (2019-nCoV) by ED, IP, and OP staff.

4. When possible, radiographs will be performed portably in the patient room to minimize transport of the patients. If patients must go into x-ray room for imaging, see cleaning/disinfecting information below.

5. All radiology staff will wear appropriate PPE during the exam or procedure. This includes N95 (Universal or fit tested based on situation) gloves, gown, and face shield.

6. Advanced imaging (CT, MRI, IR, US and Nuclear medicine) for patients with positive coronavirus (2019-n-CoV) will require the ordering attending physician to review request with the radiologist on call. The technologist will have the ordering physician call the radiologist on call for radiology subspecialty service (ie. Chest, Neuro, MSK, Body). When examination is approved or denied, the radiologist will call the technologist. Upon approval radiology department will perform exam/procedure. Exemptions from approval are level 1 trauma or stroke protocol requests. Chest CT is not to be performed for the diagnosis or monitoring of suspected or confirmed Coronavirus (2019-nCoV) infection.

7. On-call IR staff will be notified of isolation precaution patients by the on-call resident, fellow, or attending radiologist prior to arriving to medical center.

8. Patients are to be transported with surgical/isolation mask, if they can tolerate it, and staff PPE should align with current organizational policies. Current policy is available on the Coronavirus internet site. If the patient requires transport to another department, the patient’s nurse is responsible for transport and notifying receiving department. When a patient is required to travel, the patient must wear a surgical or procedure mask at all times. If the patient cannot tolerate wearing a surgical or procedure mask, they should be instructed to cover their nose and mouth with a tissue when coughing and to perform hand hygiene after disposing of the tissue. The patient should not go to or be held in waiting areas.

9. The imaging suite can be used without room closure when performing exams consecutively on patients with Coronavirus (2019-nCoV).

10. For Patients Under Investigation (PUI) who are awaiting Covid-19 testing results, PPE is to be worn as described above. The mask to be used can be universal N95 (white) or surgical mask as long as there are no aerosol generating procedures taking place within the room (Otherwise use fitted N95 mask rather than universal mask). When patient exits room, the equipment is wiped down by the technologist and can be put back into use.

Effective March 20, 2020, there will be a “Radiology Administrator on Call” who will be available to answer questions that arise and to assist in escalating issues that need resolution. Schedules will be posted in each modality.

Cleaning / Disinfection

1. Full PPE must be utilized for cleaning and disinfection, including after the patient is discharged from the room.
2. Portable equipment can be returned to use after disinfection is complete. There is no waiting period. After imaging the patient technologist to remove gown and gloves in the room. Perform hand hygiene and don new gown and gloves. After wiping down the portable machine in the room, gown, gloves and face shield to be doffed in the room while mask still in place. Mask to be disposed of outside of room.

3. Please see instructions below for PPE recommendations for Covid-19 positive patients and for Persons under Investigation (PUI) PUI is a patient who has a Covid-19 test pending, but has not been ruled out.

4. For timing requirements for closing room after positive Covid-19 patient exposure, please refer to each imaging suite, as HVAC requirements are different. All CT scanners have a 30 minute requirement, while MRI imaging suites have a 2 hour requirement.

5. Each modality has identified one (or more) imaging suite for Covid-19 imaging and will limit exposed patients to those rooms whenever possible.
   - CT: Room 2, Room 1
   - MRI: Room 1
   - NM: Discovery unit
   - IR: Room 26 and CT-25
   - US: Portable exams will be performed
UVM Medical Center COVID-19:
Personal Protective Equipment (PPE) for Patients with Suspected or Confirmed COVID-19

The safety of all members of our healthcare team is a top priority for UVM Medical Center as we navigate the rapidly evolving clinical situation around COVID-19. As we gain experience and learn more about this infection, we recognize that using airborne precautions in all clinical situations is not necessary. As a result, UVM Medical Center is moving to care based PPE guidelines that align PPE recommendations with the risk of transmission.

This change is in line with the World Health Organization (WHO) "Rational Use of Personal Protective Equipment for Coronavirus Disease 2019" recommendations. The changes utilize current available evidence and expert opinion, as well as aligning with other domestic academic medical center practices.

The CDC currently recommends standard/contact/airborne isolations precautions for patients at highest risk and we will continue to support this approach for those undergoing aerosol generating procedures.

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<tr>
<th>Situation</th>
<th>Procedure</th>
<th>PPE Standard</th>
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<tbody>
<tr>
<td>Patient Under Investigation (PUI)</td>
<td>Non-Aerosol Generating Procedures/Pt Care</td>
<td>Universal N95 or surgical mask Gown Gloves Face Shield</td>
</tr>
<tr>
<td>Patient Under Investigation (PUI)</td>
<td>Aerosol Generating Procedures/Pt Care:</td>
<td>N95 Respirator/PAPR Gown Gloves Face Shield *Healthcare professionals with beards must use PAPR</td>
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<tr>
<td></td>
<td>Nebulizers, High Flow NC, Intubation/Extubation, CPR, Bronchoscopy, Non-closed system suction</td>
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<tr>
<td>Presumptive Positive or Confirmed</td>
<td>All Care Activities</td>
<td>N95 Respirator/PAPR Gown Gloves Face Shield *Healthcare professionals with beards must use PAPR</td>
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</tbody>
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Guiding principles for this change:

- Need to ensure effective practice of BASIC infection prevention principles, including containment and hand hygiene.
- Containment of secretions is key! If the patient is coughing, MASK the patient for source control.
- Transmission based droplet isolation supported by the World Health Organization (WHO), Centers for Disease Control & Prevention (CDC), and other protocols implemented in academic medical centers domestically.
- The care activity being performed should guide the need for additional protection, such as performing of an aerosol generating procedure like intubation or nebulizer treatment.
- Air exchange of the room will guide the required type of cleaning. Neutral air rooms need time for droplets to fall and for cleaning of horizontal surfaces - the exam rooms can't wear a mask like we can.

Revised March 17, 2020
Why are we changing to standard, contact and droplet isolations precautions?

- Standard/droplet/contact precautions are clinically appropriate for PUIs unless requiring aerosol generating procedures and are consistent with guidelines from WHO, CDC, and consistent with practices in medical centers across the United States and other countries.
- Ensure that we are able to maintain appropriate PPE for the highest risk patients.
- Simplify PPE use in most settings - The current process is more complicated and may lead to increased risk while removing PPE.
- Streamline care for these patients.
- Allows all sites to get patients into appropriate precautions more consistently.

What about patients who test positive?

- Presumptive positive or confirmed patients will remain in airborne precautions with N95 respirators/PAPRs and other previously noted PPE

Which patients should remain in airborne precautions?

- COVID-19 positive patients.
- Patients requiring (or anticipated to require) aerosol generating procedures including endotracheal intubation, High Flow nasal cannula, cardiopulmonary resuscitation, non-closed system suctioning, and nebulizer therapy.
- Preferentially using metered dose inhalers instead of nebulizers for any person being tested for or diagnosed with COVID-19 is strongly recommended.
- Negative pressure airborne isolation rooms will be used if available. If negative pressure rooms are unavailable, patients will be placed in a retrofitted or standard room with staff using appropriate PPE.

What precautions are required for specimen collection?

- Standard/Contact/Droplet precautions are recommended.

Should healthcare workers wear facemasks outside of direct patient care?

- The first line of protection of all healthcare staff is source containment. This means masking coughing patient.
- Facemasks are useful when worn by sick patients to prevent contamination of the surrounding area when they cough or sneeze.
- Facemasks should not be used outside of direct patient care or housekeeping.
- Facemasks (along with hand hygiene, eye protection, gown and gloves) are useful for healthcare workers during discrete episodes of direct patient care that may result in close contact and should be doffed appropriately after each interaction.
- All PPE must be conserved during this time of great need and therefore must not be worn outside of these episodes.

Revised March 17, 2020
Where can I find the most recent version of our screening and testing protocols?

- Up to date information can be found on our intranet. Click here.

Thank you for everything you do for the safety of our patients, yourselves, your families and your communities.
The first line of protection for all healthcare staff is source containment. This means masking a coughing patient.

PPE Standards Per Care Activity for Persons Under Investigation (PUI) & Presumptive Positive and Confirmed Cases of COVID-19

Presumptive Positive OR Confirmed Patients

- Airborne/Contact Precautions
  - N95/PAPR
  - Gown
  - Gloves
  - Face Shield

PUI

Care intervention is an aerosol generating procedure

Room Cleaning procedure post discharge:
*based on measured airflow in each area

Inpatient Areas:
- **Negative Pressure rooms**: Sit empty for 1 hr, then clean per standard precautions
- **Neutral Air rooms**: Sit empty for 2 hrs, then clean per standard precautions

**Emergency Dept**: Sit empty for 30 mins then clean per standard precautions.

**Urgent Care**: Sit empty for 10 mins then clean per standard precautions

Examples include:
- Nebulizers
- High flow NC
- Intubation/Extubation
- CPR
- Bronch
- Non-closed system suction

Special Droplet/Contact Precautions
- Universal N95 or Surgical Mask
- Gown
- Gloves
- Face Shield

Clean post discharge per standard precautions

No time delay

*Guided by the WHO recommendations for the use of PPE in the care of patients with COVID-19*