

GENERAL CONSIDERATIONS

PATIENT STATUS

**COVID-19 (+)**

- Patient with any history of positive test
- For symptomatic patients or aerosolized procedure
  - Isolation
  - Airborne precautions
    - Required for placing nasogastric tube/post-pyloric feeding tubes
- For asymptomatic patients or non-aerosolized procedures
  - Isolation
  - Droplet+ precautions
- For outpatient asymptomatic COVID-19 (+) tests,
  - Procedure to be postponed.
  - May proceed after 10 asymptomatic days

**Patient under investigation (PUI)**

- Patients with any test pending or demonstrating associated symptomatology
  - Droplet+ precautions
- Symptomatic patients require full work up
- Pre-operative patients undergoing testing are considered PUI

PRE-OPERATIVE TESTING

- Types of test
  - Emergent – 4 tests/hr capacity, 2 hour response
  - Non-Emergent – 48 hour response
- All patients are being tested at admission
  - Unless emergent- cannot wait for test
  - Outside tests not accepted
- Must have test within 72 hrs of operations/procedure
- Inpatient
  - Urgent cases, send emergent COVID-19 test
  - Non-emergent, send non-Emergent COVID-19 test
  - Emergencies, send Emergent COVID-19 test
    - Do not wait for results
    - Assume COVID-19 (+)/PUI precautions
  - For ED emergent cases, ED to send prior to OR
  - If negative, no repeat inpatient pre-procedure testing unless symptomatic and clinically indicated
- Outpatient
  - COVID-19 testing required for all patients
  - Outside RT-PCR COVID-19 tests accepted
- Once tested, patients are PUI until proven otherwise
  - Asymptomatic patients will be placed on Droplet + precautions
    - Airborne – aerosolizing procedures
    - Respiratory modes: CPAP, BiBAP, Hi Flo
  - Patient will remain in current assigned room
  - Nursing will utilize appropriate PPE and

PATIENT DESIGNATION

**Droplet+**

- Precautions: doors closed, hand hygiene, glove/gown eye protection (face shield/goggles), surgical mask
- Asymptomatic patient, COVID-19 (+)
- Non-aerosolizing events/procedures
- Pre-operative patient pending test results

**Airborne isolation**

- Droplet+ precaution AND N95 mask
- Aerosolizing events/procedures
  - Intubations
  - BiPAP/CPAP/Vapotherm
  - Sputum induction
  - Open airway suctioning
  - Tracheal intubation
  - Bronchoscopy
  - Nebulizer treatment IN PROGRESS
  - Patient with uncontrolled cough
  - Nasogastric tube/post-pyloric feeding tube placement

- Symptomatic, COVID-19 (+)
- Symptomatic, PUI

**Signage**

- COVID-19 (+)/PUI: Droplet+ with/without aerosolizing procedure outside door

PEDIATRIC EMERGENCY DEPARTMENT

**SCREEN and TEST**

- All patients are being tested prior to admission
- If test not sent from ED due to emergency, patient will be treated as PUI and test to be sent by post-surgery team/unit
- All patients will be placed on Droplet+ precautions (airborne for aerosolizing events/ procedure)
- Burns will not be routinely tested in the ED
- If OR need is identified, ED will send Emergent test
- COVID-19 test to be ordered by ED physician

PPE = personal protective equipment,  
PUI = patient under investigation

**DISPOSITION**

- All patients are considered COVID-19 (+)/PUI until proven otherwise
  - For COVID-19 (+)/PUI, Droplet+ sign placed on door
  - Mask required for all patients and any accompanying family member for transport
  - Patient tracker updated with status-labeled suspect or COVID-19 (+)

**TRANSPORT and RESOURCES**

**TRANSPORT**

- Any COVID-19 (+) or highly suspect patient (known positive parent/guardian or known contact with positive individual) will bypass pre-operative holding
- For COVID-19 (+)/PUI, ED nursing staff will transport to location: OR, ICU, floor
  - OR: direct to OR, bypassing holding,
  - Must confirm that OR is ready to receive patient

**RESOURCES**

- Nursing staff for questions/concerns
- PPE will be outside room, please see charge nurse for N95
- Hand-off to attending and resident team (via phone calls)

PEDIATRIC OPERATING ROOM AND POST-ANESTHESIA CARE UNIT

**SCREEN and TEST**

- For preoperative patients, all patients require COVID-19 test within 72 hours of surgery
  - Emergent test for emergent case
  - Non- Emergent test for non-emergent cases
  - If negative, no repeat inpatient pre-procedure testing unless symptomatic and clinically indicated
- COVID-19 test ordered by attending
  - Do not wait for test results to transport to OR *if* emergent or bedside
- For non-emergent cases, surgery will wait for non-Emergent test results.
- All patients are considered COVID-19 (+)/PUI until negative
- Outside RT-PCR COVID-19 tests accepted

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**DISPOSITION**

- Anesthesia board runner/charge nurse or coordinator will place icon on OR tracker for COVID-19 (+)/PUI
- For COVID-19 (+)/PUI , Droplet+ sign placed at bedside/door
- COVID-19 (+)/PUI checklist for all COVID-19 (+) or PUI patients
- Critically ill patients/isolation
  - Designated room will be utilized
  - Check with charge nurse which room
- COVID-19 (+)/PUI patients to recover in OR.
- Parents or family member will wait in designated patient room

**TRANSPORT and RESOURCES**

**TRANSPORT**

- Mask required for any suspected patient and accompanying family member for transport
- For COVID-19 (+)/PUI patients, OR directly to designated recovery floor/room
  - PACU bypassed
- Emergent cases that go directly to OR will bypass pre-operative holding
- Any COVID-19 (+) or highly suspect patient (known positive parent/guardian or known contact with positive individual) will bypass pre-operative holding

**RESOURCES**

- Nursing staff for questions/concerns
- PPE will be outside room
- N95 masks at Control desk
- Hand-off to attending and resident team (via phone calls)

CHILDREN'S IMAGING, INTERVENTIONAL RADIOLOGY, PROCEDURES SUITE (general anesthesia)

SCREEN and TEST

**Pedi Cath lab, Pedi GI, other outside location outpatient anesthesia procedures**

- All procedures requiring general anesthesia or aerosolizing procedures require prior COVID-19 testing within 72 hours of procedure/imaging
- Outpatients
  - Adult patients report to 2 Sarofim to get swabbed and then sent home.
  - Pedi patients ≤ 17 years old report to Pedi Swab Clinic on 2 Hermann
  - Outside RT-PCR COVID-19 tests accepted
- Inpatients
  - No repeat inpatient pre-procedure testing unless symptomatic and clinically indicated
- Results
  - Day prior, COVID-19 results are checked by the pre-op staff and results added on the OR tracker under pre-op notes
  - If results are positive, PACU nurse will call physician and anesthesiologist for approval or will need to be rescheduled.
  - If procedure is a go with a COVID-19 (+) patient, then OR tracker is updated with a COVID-19 (+) icon

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SCREEN and TEST

**Procedures requiring COVID-19 testing**

- Cath Lab and Non-Invasive Cardiology Procedures
  - All Cardiac Caths including all structural procedures, e.g., TAVR, Watchman, Mitral Clips
  - All TEEs
  - Elective cardiac biopsies
  - All Electrophysiology (EP) procedures
  - All exercise tests [including nuclear and ECHO]
- Pulmonary
  - Bronchoscopy
  - Pulmonary Function Tests
  - Spirometry
  - Cardiopulmonary Exercise Stress Tests / 6 minute walk tests
  - Thoracentesis
- GI
  - All Upper endoscopies: With general anesthesia (EGD, ERCP, Endoscopic ultrasound, DBE)
  - All Lower endoscopies: With general anesthesia
  - Esophageal motility
  - Pill cam, small bowel capsule, breath tests, pH probe
- Imaging
  - All MRIs and CTs in children too young to keep still
  - All studies in Children done with GA: Lumbar Puncture, Myelograms
  - Modified Barium Swallows, UGI
  - Intussusceptions
  - Air enema for intussusception reduction/other contrast enema
  - Feeding tube placements
  - In MRI: Chest, Abdomen with GA, Defectography
  - In CT: All with general anesthesia: thoracentesis, Chest needle biopsy, chest cyst aspiration, Neck Biopsy, Neck Cyst aspiration with CT Guidance, Abdominal biopsy with CT guidance, Radiofrequency Ablation, Radiofrequency Ablation Perc Pulmonary
  - Interventional Radiology of chest and abdomen
  - VCU, MEG studies

TRANSPORT and RESOURCES

**TRANSPORT**

- A mask/gloves are required for patient and nursing staff while transporting down to the Imaging Suite.
- For COVID-19 (+)/PUI, Droplet+ sign placed on outside of procedure door
- After procedure, patient wears surgical mask. Nursing staff plus anesthesia team wears N95 mask and gloves to transport back up to Pedi PACU.
- Recover in procedure area and back to floor
- COVID-19 (+)/PUI bypass PACU

**RESOURCES**

- PPE allocation form/N95 request form is filled out the day before the procedure or the morning of the procedure
- 1 member of the team picks up the PPE for everyone involved in the case (keeping it 6 people or less in the procedure room)
- PPE is donned outside of the procedure room

CHILDREN'S IMAGING – OUTPATIENT

SCREEN and TEST

**Outpatient**

**Non-general anesthesia imaging**

- Phone calls are made to patients the day before their scheduled infusion/exam asking about recent travel, GI, fever, cough, or COVID-19 symptoms
- Only 1 visitor is allowed with patient and both will be screened again upon entry into the hospital
- If patient has a fever or any type of cold/flu like symptoms or is COVID-19 (+) while screening over phone, patient is rescheduled and their MD is notified
- Non GA Procedures requiring COVID-19 Testing
  - VCUG
  - UGI
  - All MEG studies
- A negative COVID-19 result must be obtained prior to patient coming into imaging suite for infusion/exam.
- Must have test within 72 hours
- Outside RT-PCR COVID-19 tests accepted

DISPOSITION

- Day of Infusion/Exam
  - Both patient and family member are screened upon entry into hospital along with a mask
  - Second temperature is taken upon approaching the front desk in the imaging suite.
  - Seat Unavailable (Social Distancing) signs have been placed in waiting room chairs allowing for a maximum of 15 people to sit safely at one given time.
  - Patient and family member are brought back to their infusion/exam room by nurse/tech also wearing a mask
  - At end of infusion/exam, patient and family member are discharged home while wearing a mask

TRANSPORT and RESOURCES

**TRANSPORT**

- A mask/gloves are required for patient and nursing staff while transporting down to the Imaging Suite.
- For COVID-19 (+)/PUI, Droplet+ sign placed on outside of procedure door
- After procedure, patient wears surgical mask. Nursing staff plus anesthesia team wears N95 mask and gloves to transport back up to Pedi PACU.

**RESOURCES**

- Nursing staff for questions/concerns
- PPE will be outside room

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PEDIATRIC INPATIENT/PEDIATRIC INTENSIVE CARE UNIT/HEART CENTER

SCREEN, TEST, and RESOURCES

**SCREEN and TEST**

- All pre-operative patients need COVID-19 test
  - Emergent test for emergent case
  - Non-Emergent test for non-emergent cases
  - No repeat inpatient pre-procedure testing unless symptomatic and clinically indicated
- COVID-19 test ordered by PICU/CV/primary physician
  - Do not wait for test results for transport to OR *if* emergent or bedside
- For non-emergent cases, surgery will wait for non-emergent test results.

**RESOURCES**

- Nursing staff for questions/concerns
- PPE will be outside room or anterior room
- Please see charge nurse for non-emergent N95
  - Requisition needed
- Emergent N95 available in tackle box
- Hand-off to attending and resident team (via phone calls)

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DISPOSITION

- All tested patients are considered COVID+/PUI patients until proven otherwise
- For COVID-19 (+)/PUI, Droplet+ sign placed at bedside/door
- CARE4 banner will show isolation status
- Mask required for any suspected patient and accompanying family member for transport
  - Discourage visitor movement around hospital
- Patient tracker updated with COVID-19 (+)/PUI status
- Critically ill patients/isolation
  - Negative pressure rooms will be utilized for airborne precautions, if available
- Bedside procedures need to follow all COVID-19 (+)/PUI guidelines and policies
- Visitor policy per unit for COVID-19 (+)/ PUI
  - 1 visitor and no switching
- "Precaution-visitor restriction" order will be placed in chart by the primary team after the huddle
- Protected code blue
  - COVID-19 (-) pts
    - Giraffe sign/red-blue striped armband
    - Regular resuscitation
  - COVID-19 (+)/PUI and unknown COVID status
    - Protected resuscitation
    - Plastic drape, filters, limited staff in room
- Parents/family will wait in designated patient room

TRANSPORT

- Emergent cases/PICU patients go directly to OR will bypass pre-operative holding
- Mask required for COVID-19 (+)/PUI and any accompanying family member
- Discourage visitor movement around hospital
- OR return directly to designated recovery floor/room
- For CV patients:**
- Consider elective intubation prior to transport
- Bedside RN to prepare patient: minimize/remove all non-critical patient equipment, ensure transport readiness
- Anesthesia care provider w/PPE to assist prior to transport
  - Gown/gloves should be removed/discarded inside the room before exiting.
  - Maintain N95 respirator and CAPR/PAPR.
  - Clean gown/gloves donned prior to transport.
- Patient transport needs 3 care providers present.
  - First two: clean PPE assist transport.
  - Third: manage pathway to destination
- Airway management:**
- Minimize aerosol during ETT disconnections/ maneuvers
  - Filter placed on transport vent/Ambu bag
  - Mitigate by performing these maneuvers under transparent covers
- Patients without advanced airway need surgical mask during transport.
- Supplemental O<sub>2</sub> <2 L/min: surgical mask placed over oxygen delivery system for transport.
- Supplemental O<sub>2</sub> is > 2 L/min patient require intubation prior to transport.

NEONATAL INTENSIVE CARE UNIT

**SCREEN and TEST**

- All pre-operative patients need COVID-19 test
  - Rapid test for all Emergent NICU patients
  - Urgent test for non-emergent cases >24 hours
  - No repeat inpatient pre-procedure testing unless symptomatic and clinically indicated
- COVID-19 test ordered by NICU physician
  - Do not wait for transport to OR if emergent or bedside
- For non-emergent cases, surgery will wait for Emergent test results.

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**DISPOSITION**

- All tested patients are considered COVID-19 (+)/PUI patients until negative
- For COVID-19 (+)/PUI, Droplet+ sign placed at bedside/door
- All patients will be placed in isolette as size permits
- Infants transported in an isolette
- Patient tracker updated with status-labeled suspect or COVID-19 (+)
- Critically ill patients/isolation
  - Duck and lion pods will be utilized
  - Negative pressure rooms for air borne precautions
- If patient is too large to be placed in an isolette, patient will be placed in alternative pod with distancing

**TRANSPORT and RESOURCES**

**TRANSPORT**

- For COVID-19 (+)/PUI, NICU transport team will transport to location: OR, imaging
- NICU transport with pediatric anesthesiologist or fellow will transport OR to NICU

**RESOURCES**

- Nursing staff for questions/concerns
  - In-house manager, on-call manager or charge RN
- PPE will be outside room, please see charge nurse for N95
- Hand-off to attending and resident team (via phone calls)