

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 O₂ <2 L/min: surgical mask placed over oxygen delivery system for transport.
- Supplemental O₂ 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.

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)