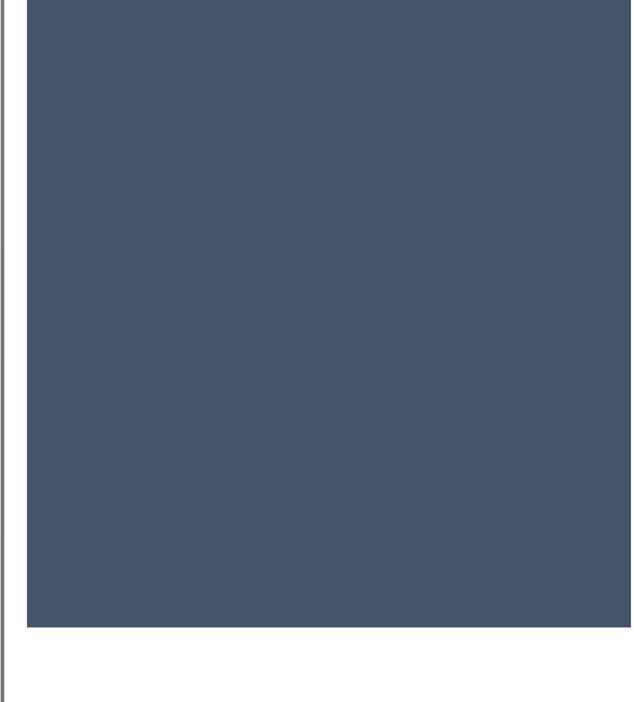
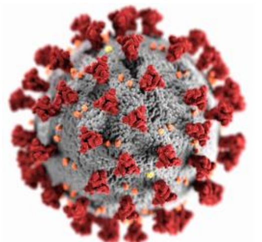


BWH COVID-19 Manual of Operations: Neonatal Intensive Care Unit

March 12, 2021



Manual of Operations

Please see Pike Notes for the most up to date BWH information and policies related to COVID. Information in this MOO is specifically related to work flows for the NICU.
https://www.bwhpikenotes.org/

Important Contact Information and Other Resources

Mass General Brigham (MGB) updates their COVID-19 policies and documentation often. See all COVID-19 related MGB Pulse resources.

- **COVID flag or precaution review/removal**
  - Page 'COVID Flag Management' at #39635 (available 7 a.m.–10 p.m.; please only page after 10 p.m. for urgent bed flow issues that require a flag change)
- **Bed flow questions/problems for inpatients related to COVID-19**
  - **Inpatient and ED Covid-19 Testing and Bed flow Pathways;** https://www.bwhpikenotes.org/Patient_Family_Care/Infection_Control/covid-19/documents/Inpatient%20and%20ED%20COVID-19%20Testing%20and%20Bedflow%20Pathways.pdf
  - **BWH Inpatient Covid-19 testing pathways and infection control guidelines;** https://www.bwhpikenotes.org/Patient_Family_Care/Infection_Control/covid-19/documents/inpatient-covid-testing-ic-guidelines.pdf
  - **Frequently asked questions about BWH infection Control policies:** https://www.bwhpikenotes.org/Patient_Family_Care/Infection_Control/covid-19/documents/Common%20Clinical%20Infection%20Control%20Questions.pdf
  - Page Nurse Administrator, #11876

- **Clinical questions about COVID-positive inpatients**
  - Page ID team already following patient (see Epic chart notes for ID provider)
- **All other COVID-related clinical questions on inpatients**
  - Page 'ID Inpatient Fellow' consult #31733
- **Other Infection Control questions**
  - Page 'Infection Control', #11482 (available 8 a.m.–8 p.m.; please only page after 8 p.m. for emergencies)
- **Brigham guidelines for inpatient COVID-19 flags, precautions and bed flow questions**

  - BWH Inpatient Covid-19 testing and infection control guidelines: https://www.bwhpikenotes.org/Patient_Family_Care/Infection_Control/covid-19/documents/inpatient-covid-testing-ic-guidelines.pdf
  - **Covid 19 BWH Resources**: https://www.bwhpikenotes.org/Patient_Family_Care/Infection_Control/Novel%20Coronavirus%202019-2020.aspx
- Policies and Procedures for Recovered Covid-19 patients; Protocol for Non-Urgent Outpatient Surgery and Procedures in Recovered COVID-19 Patients
- Transport and Discharge of patients
  - Strict/Enhanced Precaution Transport Process
  - Strict/Enhanced Precaution Discharge Instructions
  -

Isolate; PPE

  - Ambulatory
  - Inpatient
  - Code Response in the Inpatient Setting
- Extended Use and Reuse of N95 Respirators, Surgical Masks, Procedural Masks and Eye Protection
- Important Tips About Use of Personal Protective Equipment by Health Care Personnel
- N95 Respirator and Face Shield: Donning and Doffing Checklist
- ILC Dover Sentinel XP PAPR (EZ BioHood): Donning and Doffing Checklist
- ILC Dover Infectious Disease PAPR Hood Guidance

Videos on PPE:

  - Strict/Enhanced Respiratory Isolation Donning and Doffing: PAPR – EZ BioHood
  - N95 Mask Fit Check
  - Donning and Doffing of Halyard Isolation Gowns
  - Donning and Doffing of Grossman Isolation Gowns
  - Donning and Doffing of Bowen White Isolation Gowns

Isolation Signage

- Strict Isolation
- Enhanced Respiratory Isolation

Outpatient COVID-19 questions

- https://www.bwhpikenotes.org/Patient_Family_Care/Infection_Control/covid-19/ambulatory.aspx

Clinicians

If you are Brigham clinician with a question related to a suspected or confirmed COVID-19 patient:

- Reporting Potential Exposure

MGB's COVID-19 Hotline: 617-724-7000

Sections

I. Newborn Management and Preparation

a. Newborn Process for COVID-19 PUI or Positive Case (page 3)
   - Consults, Separation, and Visitor Information(3-4)
   - Deliveries and Triage information (5)
   - NICU Communication (6)

b. Provider Test ordering and EPIC flag designations(7-9)

c. COVID-19 Infant testing and swabbing (pages 9-11)

d. Breast feeding and Mother's Milk/PDHM (11-12)

e. PPE required for infant management(12-17)

f. NICU COVID patient room set up and requirements (17-21)

II. Newborn Delivery Workflows

a. Well Newborn (pages 22-23)

b. Newborn requiring immediate resuscitation and or transfer (pages 24-28 including emergency equipment allocation algorithm).

c. Newborn Blood Gas process (pages 28-29)

III. Clinical Workflows-NICU

a. Lab drawing, ultrasound, x-ray (30-32)

b. Discharge procedures and protocols (pages 33-35)

I. Newborn Management and Preparation

Newborn Process for COVID-19 PUI or Positive Case

A. Consults, Separation, and Visitor Policy Information:

- Infants are no longer automatically admitted to the NICU because they are born to a positive or pending results mom. Infants are only admitted based on parental separation request (if staffing does not permit opening the CWN 10 COVID nursery) or because the infant requires a NICU admission due to their own health disposition.
- For term well infants whose parents request separation, they will be admitted to the COVID nursery on 10(if staffing allows) for their hospitalization or to the NICU if space allows. These infants will be separated upon birth and their initial care tasks and assessments will be completed by either the Labor and Delivery baby RN or if additional support is needed for staffing reasons, the NICU triage or resource RN will be designated. Please see **Infant Transitional Workflows for first two hours of life under the WELL NEWBORN DELIVERY PROCESS WORKFLOW** section of this manual for detailed information required of this process.
- NICU consult Criteria for Parents who are found to be COVID +:

BWH NICU Consults for Women who Test Positive for SARS-CoV-2 (COVID)

- *A NICU consult should be performed for all women, COVID+ or not, whose babies meet criteria for NICU admission: < 36 weeks, < 2000g, prenatally diagnosed congenital anomalies, and/or other clinical issues*
- *For babies who do not meet this criteria, the NICU team is happy to provide a consult if it is felt to be helpful to the family. This consult should not occur universally as we have learned that for some families coping with COVID, these conversations with the NICU team can create more anxiety prior to birth.*
  - *We ask that these be provider to provider consult via the NICU Birth and Transition Team: 617-732-5420.*
- *Current recommendations encourage families to room-in with their babies throughout the postpartum hospitalization as long as both mother and baby are well, and to breastfeed/provide breastmilk.*
  - *Educational information for women who are COVID+ is available here (inset link) and should be communicated with the patient by all members of the care team.*
- *Women who test positive for COVID at the time of labor and birth whose babies are admitted to the NICU must follow the MGB/BWH visitation policy below, which is based on the recommendations of the American Academy of Pediatrics and the CDC:*
  - Passage of at least 10 days since the first positive test (AND)
  - Passage of at least 1 day (24 hours) since resolution of fever without the use of fever-reducing medication (AND)
  - Resolution of COVID-related symptoms (or return to previous baseline)

Brigham and Women's Hospital NICU COVID-19 Parent Visiting

Revision: December 17, 2020

- ***Birth mothers who test positive for COVID-19 at the time of labor and delivery, regardless of asymptomatic or symptomatic status***, must follow the visitation policy below, which is based on the recommendations of the American Academy of Pediatrics and the Center for Disease Control for Neonatal Intensive Care Units:
    - **Passage of at least 10 days since the first positive test** (and)
    - **Passage of at least 1 day (24 hours) since resolution of fever without the use of fever-reducing medications** (and)
    - **Resolution of COVID-related symptoms** (or return to previous baseline for 24 hours)
- The visitation requirements are the same for household members or other close contacts of the mother.
- If the parents wish, they may designate **one** (1) healthy, asymptomatic support person who is not a member of their household (i.e. they have not had any exposure to them in the past 10 days) to visit with their infant during the defined separation period. After being identified and approved, the support person will be given a "baby band" and will complete the daily health attestation per BWH visitor policy. Once the separation period is complete and the parents remain asymptomatic, the band will be removed from the designee and reapplied to the parents per NICU safety protocol.
- Virtual visits between the mother, infant, and others will be arranged by the staff caring for the infant to facilitate bonding opportunities during separation.
- If desired, moms are encouraged to pump breast milk to be provided to the infant and can be arranged to be obtained by staff at 75 Francis St Main lobby.
- All discharge education will be completed virtually with the infant's caregivers if the infant is deemed ready for discharge prior to the 10 day time frame with additional education to families regarding infection control prevention strategies for the transition to home.

Mass General Brigham

Delivery information and triage teams:

- All care of COVID positive patients should preferentially occur in LR 18 or LR 5. Rooms do not need to be turned to negative pressure **UNLESS** an aerosolizing procedure is planned for the mother.
- Per the latest American Academy of Pediatrics recommendations (September 2020), newborns are **to receive standard care with the newborn care team responding and resuscitating as would normally occur despite COVID status of the mother (therefore no separate resuscitation areas are indicated).**
- The NICU team will discuss and decide amongst themselves who is essential to attend the delivery based on the severity of the infant's condition. (this may range from 3-10+ including Children's Hospital Providers for the most severe diagnoses)
- All responding neonatal team members will don full PPE for Covid positive or unknown deliveries.
- Skin to skin, delayed cord clamping, and cord blood collection may be completed in a COVID positive delivery per standard newborn care guidelines.
- Cord gases can be obtained when clinically indicated or requested.
- Two negative pressure rooms in the NICU, N1 Room 10 & N2 Room 10 will be the preferential admitting rooms for the infant if they are in respiratory distress or the team anticipates they may need additional respiratory support after birth. If the infant is on RA, they can be admitted to a private room on strict isolation precautions.
- Communication will occur between the charge nurse, triage nurses, and admitting nurse re: awareness of impending COVID positive delivery to ensure admitting RN has proper PPE and the room is set up appropriately.
- **The NICU team will now be responsible for providing resuscitative equipment to wherever pregnant mothers are being cared for outside of CWN. They will decide which equipment is best for space constraints and resuscitation including: Giraffe/shuttle, warmers, transport isolette, respiratory cart, code cart. Shapiro is currently housing the ICU patients whereas intermediate care patients are located throughout CWN. Tracking of equipment and patients is kept at the stat desk and in triage. Please reach out to L & D if additional warmers are needed to bring to the various sites.**
- The Stat, triage, and Charge RNs have the capability to view all pregnant patients admitted to BWH in both CWN as well as the rest of the house for awareness.
- A COVID column (CV-19) can be added to the L & D grease board for awareness of COVID status by any member of the triage/stat team for easier viewing.
- The Charge RNs will be paged when/if a mother is swabbed for COVID-19 at any point during her hospitalization to ensure that the neonatal team is aware if the neonate is being cared for on CWN 6.
- If a mother is swabbed while in house due to symptoms, an "exposed" flag will also trigger on the infant's chart alerting the infant's providers, which would result in the infant being placed on ERI precautions and swabbed based on exposure criteria confirmed by Infection control.

NICU Communication:

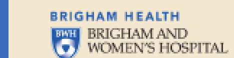
- NICU stat line will receive delivery information from labor and delivery using the GIRL acronym indicating the COVID-19 status of the mother as relevant information.
- NICU Stat RN will page out indicating the COVID-19 status of the mother to appropriate responding triage team members from all disciplines.
- If the infant's disposition requires a larger team attending the resuscitation (i.e.: 24 weeker or cardiac infant etc.) the Stat line RN will page appropriate team members particular to the delivery per normal protocols.
- If the team members require further assistance during the resuscitation of the COVID-19 PUI infant, a team member will call the Stat RN via VOALTE and request the specific role that requires back up (medicine, nursing, or RT) depending on the situation to try and limit the responding clinicians to who exactly is needed.
- If the infant requires transfer to BCH, the NICU NIC will assume the role of facilitating contact with the unit where the infant will be transferred. Ideally once the COVID-19 PUI infant is identified as requiring transfer the BCH unit will be notified for adequate preparation, even before birth occurs. The NICU NIC will indicate that the infant is a COVID-19 PUI and requires enhanced respiratory precautions. If a NICU RN has been designated to be the infant transitional nurse for a term well infant born to a COVID positive mom, the labor and delivery nurse is to call the NICU stat line and inform them of the impending birth so that the RN is present to receive the infant.

B. Provider Test Pathways for COVID Swabs and associated EPIC flags in EPIC(more for mothers but could have effects on baby's chart and/or for NICU providers in ordering PRN neonatal swabs):

CoV Test Order pathway →	Resulting CoV flag
• Asymptomatic testing for pre-AGP/planned admission	**NO FLAG**
• Asymptomatic testing with confirmed exposure	**CoV Exposed**
• Pre-AGP with NO new or progressive symptoms	**NO FLAG**
• "yes" to new symptoms	**CoV Risk**

Nursing Documentation On Symptom Screening Flowsheet

Were you in close contact (<6 ft) with a person with confirmed COVID-19 for a total of 15 minutes within the last 14 days? "YES" — **CoV Exposed**



Inpatient and ED Pandemic Respiratory Viral Order

(COVID-19, influenza A/B, RSV, and extended respiratory virus testing)

moving to

Pandemic Respiratory viral Order (PRO)

(replacing the existing COVID-19 PCR Lab Order Panel)

- will always result in an order for a COVID-19 PCR test and may order additional respiratory viral testing (influenza A/B, RSV, expanded viral testing) based on the order question responses and site protocols.
  - priority of the testing (i.e. rapid or routine) determined by the question responses
- All end-user inpatient and ED respiratory viral COVID-19 PCR testing will be done through PRO.

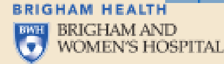
ED and Inpatient workflow: type "COVID" and PRO will appear. Order questions will change depending on:

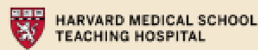
- 1. Patient with symptoms consistent with viral respiratory illness
- 2. Patient location (ED or IP)
- 3. Pediatric or Obstetrical patients (questions are pre-filled, do not alter them).

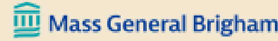
NOTE: All required questions must be answered.

- The appropriate infection status and isolation orders will be prompted (via BPA) when the provider signs.
- This order protocols to ALL clinically indicated respiratory viral test(s) based on order questions capturing clinical and operational indications. To find out which test(s) will be performed, check the Lab tab in Chart Review after the order has been released and is collected.

https://peccutover.partners.org/tipsheets/PHSInpatientCOVIDOrderPanelTipsheet.pdf







Inpatient and ED COVID-19 Testing and Bedflow Pathways

Scenario	Number of Negative PCR Tests Required	Room Type While Awaiting Test	Room Pressure [1]	PPE While Awaiting Test
AT TIME OF ADMISSION (ED OR DIRECT ADMITS) [2]				
Symptomatic *(or unable to provide history)*	Depends on suspicion:[3] **Low:** 1 test **Moderate:** 2 tests **High:** 2 tests + serologies ≥7 days from symptom onset	Private *(1 negative test in BWH ED required prior to admitting to non-COVID unit)*	**Negative:** preferred if AGP anticipated **Positive:** allowed if first test negative in ED and no AGP anticipated (if untested direct admit, move out of positive pressure if respiratory symptoms present)	Enhanced Respiratory Isolation [4]
Asymptomatic, High Risk *(within past 14 days: congregate facility, homeless, dialysis, exposure to COVID-19)*	1 test [5]	Private *(Can admit to floor with pending test)*	**Negative:** preferred if AGP anticipated **Positive:** allowed if no AGP anticipated	Enhanced Respiratory Isolation
Asymptomatic, Low Risk	1 test	Semi-private *(Can admit to floor with pending test. Use private room if AGP planned)* [6]	**Negative:** not necessary, even with AGP **Positive:** allowed if no AGP anticipated	Standard Precautions [7] *(Enhanced Respiratory Isolation for AGP)*
DURING HOSPITALIZATION (AFTER COVID WAS RULED OUT ON ADMISSION)				
New Symptoms Concerning for COVID-19	1 test *(Clinicians may order additional tests at their discretion if high suspicion)*	Private [8]	**Negative:** preferred if AGP **Positive:** allowed (test-in-place) if no AGP anticipated	Enhanced Respiratory Isolation
Asymptomatic Screening	Depends on accepting facility requirements [9]	Semi-private	Any pressure room acceptable	Standard Precautions

Inpatient and ED COVID-19 Testing and Bedflow Pathways

Scenario	Number of Negative PCR Tests Required	Room Type While Awaiting Test	Room Pressure [1]	PPE While Awaiting Test
PATIENTS RECOVERED FROM COVID-19: ≤90 DAYS FROM 1st POSITIVE PCR (CoV-RECOVERED FLAG) IN ANY SETTING				
Asymptomatic	Not indicated	Semi-private [6]	Any pressure room acceptable	Standard Precautions, even if test ordered
Symptomatic	Test and manage as per symptomatic pathways above			

1 Default room pressure is neutral. Room pressure considerations only apply while COVID rule-out is pending.

2 Patients transferred to the Brigham from a non-MGB hospital require at least one negative PCR test within 3 days prior to transfer

3

Level of Suspicion for Symptomatic Patient	Description	Testing Requirements
Low suspicion	No respiratory symptoms, no known exposure, and alternate diagnosis more likely	1 negative NP PCR and likely alternate diagnosis
Moderate suspicion	1. Respiratory symptoms without signs of viral infection, or 2. Non-respiratory symptoms without clear alternate diagnosis, or 3. Cardiac/vascular/thromboembolic event without clear underlying risk or etiology, or 4. Unable to provide a history	2 negative NP PCRs >12 hrs apart, or 1 NP and 1 lower respiratory PCR (can be <12 hrs apart - if intubated must have 1 negative endotracheal aspirate, if productive cough must have 1 negative sputum)
High suspicion	Respiratory symptoms, clinical signs, and/or chest imaging consistent with Covid-19 and no clear alternate diagnosis	As per moderate suspicion category + negative serologies obtained ≥7 days after symptom onset.

4 Enhanced Respiratory Isolation: N95 or PAPR, eye protection, gown and gloves

5 If household contact with COVID-19, remain on CoV Exposed flag x 14 days from last contact with household member

6 Assumes no other reasons for private room (e.g. MRSA, C.difficile)

7 Standard Precautions: Face-mask and eye protection

8 Move to private room if roommate present

9 Testing not indicated prior to surgery or AGP since already tested on admission

C. COVID-19 Infant precautions and swabbing

- Infants who are born to COVID positive mothers or to mothers with pending results and are admitted to the NICU are placed on Enhanced Respiratory precautions. The infant is to remain on precautions for all positive maternal results for fourteen days from birth.
- The positive mother/caregivers are not allowed to visit the NICU for the 10-day period and must be symptom free per the visiting policy-this is dated from the maternal positive swab. If the mother is pre-procedure swabbed and resulted positive as an example on Monday 1/1 and the baby is born via c/s on 1/3, the mother is allowed to visit her baby on 1/11 but the infant themselves remain on precautions until 1/17.
- Infants who are born to COVID positive mothers(vertical transmission possibility-rare) are swabbed at: 24 hours of life and at 14 days of life.
- If an inpatient infant is identified as exposed to a positive healthcare worker or visiting parent(horizontal transmission possibility), per MGB requirements, the infant is swabbed **every three days** for a **14-day** period for surveillance testing and is placed on

enhanced respiratory precautions during this time.

- If a parent becomes symptomatic or are exposed to a close contact and are advised to go to get COVID swabbed, their infant is to be placed on ERI precautions with a COVID exposed flag in their chart until the parent's swab is resulted.
  - If resulted negative, the infant can come off of precautions and the parent can resume visitation once asymptomatic for >24 hours.
  - If one parent is visiting while the other becomes symptomatic and goes to get swabbed, the visiting family member should be asked to leave while the swab is pending to ensure no further horizontal exposure to the infant.
- If an inpatient infant develops respiratory symptoms or requires escalation in care with unknown etiology and has a viral panel sent by the covering team (RSV, etc.) a COVID swab is also indicated.
- Infants who are to undergo a surgical procedure or an AGP (aerosolizing generating procedure) at Boston Children's are likely required by CHB to have this completed and resulted prior to the intervention (if not emergent). The covering BWH NICU team will order the swab accordingly in preparation to be collected and resulted prior to the procedure.
- Infants who are transferred from outside hospitals will have their (and their caregiver/parents) COVID statuses reviewed by the accepting team to assess for necessary ERI precautions. The admitting LIP will determine if a COVID swab is necessary based on the clinical report received and/or if there is a need for respiratory support.
- Infants who are readmitted do not need to be swabbed (hyperbilirubinemia etc.) unless the clinical team feels it is warranted. Their accompanying parents/caregivers are required to complete the health attestation as normal and if any symptoms will not be allowed to accompany their infant into the NICU.
- We can tube all regular labs using pneumatic tube of COVID PUI patients. ***The COVID swab or any respiratory specimens cannot be sent via the tube***—they must continue to be walked down to lab control.

How do I swab for COVID-19?

Collecting an Inpatient Anterior Nares Swab

A.N. swab collection will be performed for all inpatient continued surveillance swabs for COVID.

Supplies/Equipment:

1. Sampling swab
2. Viral transport medium (VTM) vial
3. Sunquest label to attach to the VTM
4. Blue Microbiology biohazard bag

Steps in collection:

1. Confirm LIP order and print Sunquest label. Verify patient information is correct. Scan the label utilizing Sunquest collection manager and place the label on the VTM vial.	SALISBURY,STEAK 97418834 02/24/1994 27Y M ANSWB M3321 G3390000698 03/08/2021 @ 12:48 BY: 44073 BWMISC CVSURV
2. Don appropriate PPE for specific patient (e.g. standard, ERI). A.N. swabbing is not an aerosolizing procedure and does not require ERI precautions to be initiated.	
3. Open the package of the sampling swab by peeling back the edges and keep the swab in package until ready to collect sample.	
4. Remove the swab from the packaging without touching the soft tip with your hands.	

5. Remove the cap of the VTM vial and place it right side up on a clean surface. Be care not to spill out the VTM liquid.	
6. Insert the soft tip into one nostril until the tip is no longer visible and rotate in a circle around the inside of the nare at least 3 times.	x3
Using the same swab, insert the tip into the other nostril and repeat the process by rotating the swab in circles at least 3 times.	
7. Place the swab with the soft tip down into the VTM vial so that the swab is immersed in the liquid.	
8. Replace the cap to the VTM vial, and ensure it is securely placed so that the liquid won't seep out.	
Place the labeled VTM vial with the sample into a blue microbiology biohazard bag.	
9. The specimen must be walked down to the microbiology lab for processing.	

D. Breastfeeding and Mother's Milk:

- With proper education, per the AAP, mothers are encouraged to breastfeed their infants, even if COVID positive.
- Mothers should wear a mask while breast feeding, practice excellent hand hygiene, and engage in close contact with the infant only during feeding times if able.
- Clustering cares and feeding is encouraged to decrease hands on exposure to the infant.
- If a mother is inpatient in either the Shapiro or Tower buildings for COVID-19 medical management, the NICU lactation consultants are able to provide lactation care for these mothers and/or provide education to their care team members to help facilitate pumping and establish the mother's milk supply until the mother is able to facilitate on her own.
- Any staff member taking care of an infant of a COVID-19 positive mother may be required to obtain the milk pumped by the mother brought to the front lobby at 75 Francis St while the mother/close contacts are unable to visit the infant for the 10-day exposure period. The milk should be placed in a biohazard bag for transport, containers wiped down with hospital approved wipes once in the unit and can be transferred to clean containers with corresponding correct patient labels once at the infant's bed space.
- As of September 2020, studies have proven that the pasteurization process of PHDM effectively kills SARS-COV-2, and therefore it is not a risk to provide donor milk to our infants.

E. PPE Required for COVID-19 PUI Infant Management:

- It is the responsibility of any clinician who is part of birth and transition, on admissions, and/or who is taking care of a baby on ERI precautions to obtain their necessary reusable PPE via the Shaprio porch (Eye protection and N95/PAPR) each shift. In case of emergency, there is a limited supply either at the NIC desk or in the Assistant Nurse Directors office (key at the NIC desk).
- Face shields or eye protection and N95 masks should be used for the entire shift if they are not visibly soiled. Face shields can be wiped down with hospital approved wipes (gray and purple tops and when not in use by the clinician will be placed in a paper bag or something similar labeled with their names).
- When replacing a used N95 mask, please wear gloves as front of mask is considered contaminated. N95s can be placed in blue buckets facing down, so with a gloved hand, the provider then can scoop the mask back up to replace on their face.
    - Assess your N95 respirator after each use. Visibly soiled or damaged N95 respirators should be discarded.
- Infants who are born to positive mothers or mothers who are PUIs that are being cared for in the NICU require all care providers will wear PPE particular to Enhanced Respiratory Precautions:
    - Components:

- **Gown**
- **Gloves**
- **N95 Mask or PAPR**
- **Eye protection (face shield or goggles)**
- **bouffant if desired.**

Donning PPE Video: Doffing PPE Video:

Enhanced Respiratory Isolation PPE Checklist

DONNING: NICU

*This is a **READ-DO Checklist**. All employees have viewed the donning and doffing HealthStream for educational purposes. If able, a fellow colleague can provide step by step assistance for the donner if they so choose.*

PPE should be worn before entering a patient's room. Put on PPE in the following sequence:

- *Remove lab coat, fleece jackets, vests*
- *Remove extra equipment- stethoscope, beepers, phones*
- *Secure hair or wear a bouffant cap*

When wearing PPE:

- *Keep hands away from face.*
- *Limit surfaces touched.*

*Step 1: **Hand Hygiene.***

- Use Purell or soap and water.

*Step 2: **Gown(Outside of Room)***

- Slide your arms through the sleeves from the back of the gown
- If available, slide your thumbs into thumb hooks
- Depending on the type of gown, either lift the gown loop over your head or secure the upper ties behind your neck
- Secure the lower ties behind your back, or have the monitor help you

Step 3: **N95 Respirator (Outside of Room)**

- Cup the N95 respirator in your hands allowing the straps to hang freely
- Position the respirator under your chin with metal nose piece up
- While holding the respirator in place, place the top strap over your head so that it rests high on the back of your head
- Continue holding the respirator firmly in place. Pull the bottom strap over your head and position it around the neck, below your ears

If reusing N95:

- Cup the outside of the mask with a gloved hand
- Put to face
- With clean gloved hand adjust straps
- Perform fit-check- with both hands
- Perform a fit check. Place both hands over the respirator. Inhale sharply. You should feel the mask pull inward. Exhale sharply. Check if air leaks where the respiratory meets your face. If air leaks, adjust the nose piece and straps

Step 4: Eye Protection- Face Shield or goggles (Outside of Room)

- Donne gloves prior to replacing reusable eye protection on face.
- Place Foam strip against your forehead with gloved hand in front.
- Tighten the straps around back of head with clean gloved hand
- Ensure face shield is positioned to protect down to your chin

- Untwist straps if needed to ensure proper fit
- Using both hands, mold the nose piece to the shape of your nose by pushing inward while moving your finger tips on both sides of the nose piece.
- If necessary, adjust the straps to ensure a snug fit to your face

IF using goggles- only BWH approved goggles **Personal eyeglasses are NOT acceptable for adequate protection

Step 5: Doff gloves, perform hand hygiene

Enhanced Respiratory Isolation PPE Checklist

Doffing: NICU

If an anteroom is available, ***remove all PPE in the anteroom****.*

If there is no anteroom, remove gown, gloves, and face shield ***inside the patient room*** *near the doorway into the provided trash receptacle. Then exit the room and remove your mask.*

Remember: *The front of your PPE (including the front of your gown, gown sleeves, gloves, front of eyewear/facemask, and N95) are considered contaminated.*
Go slowly and be very careful not to touch them with bare hands while doffing.

Step 1: Remove Gown and Gloves (In Anteroom if available or in Patient room)

• Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands.

REMEMBER: The front of the gown, gown sleeves, and gloves are considered contaminated. Go slowly and be very careful not to touch them while doffing.

• While removing gown, fold or roll it inside-out into a bundle

• As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands

• Discard the gown and gloves in a waste container

• Use Purell or wash your hands with soap and water

Step 2: <u>Don a *clean* set of gloves</u>

Step 3: <u>Remove Eye Protection</u> (In Anteroom or in Patient room)

• Remove the face shield from the back by lifting the head strap without touching the front of the face shield

- Remove googles by grasping at the front of the eyewear.

• Use a "Purple Top" wipe to clean the front of face shield/goggles.

• Place face shield in a clean receptacle (or hang on IV pole outside of room) for future re-use, labelled with name

*If used a bouffant cap- remove now- pinch back and pull off away from you

Step 4: <u>Purell and don a *clean* set of gloves</u>

Step 5: <u>If using an N95 mask</u>

- Grasp the bottom strap of the respirator and pull gently to move it away from your head, then lift the strap over your head and let it rest in front of you
- **IF reusing the N95- lean forward so strap does not touch front of mask**
- Grasp the top strap of the respirator and again pull gently to move it away from your head, then lift the strap over your head, and while only touching the strap, lift the mask away from your face and **place mask in blue bin.**

Step 4: <u>Remove gloves and perform hand hygiene.</u>

Brigham Health **Recommendations for Personal Protective Equipment**

What PPE do I need to care for the patient in front of me?	Face Mask (procedural or surgical masks)	N95 (fit-checked respirator)	Protective Eyewear (faceshield or eye shields)	Gown & Gloves
	Use until soiled or damaged	Use until soiled or damaged or used in an aerosol generating procedure in a possibly infected patient [1]	Clean when visibly soiled and after removal; use until damaged or grossly contaminated [2]	Discard after each encounter
Clinical caregivers seeing a patient WITHOUT any signs or symptoms of respiratory viral illness	Wear face mask		Wear protective eyewear [3]	Standard Precautions [4]
Clinical caregivers seeing a patient WITH signs or symptoms of respiratory viral illness (Enhanced Respiratory Isolation)		Wear N95	Wear protective eyewear	Wear gown & gloves
Caregivers obtaining a nasopharyngeal (NP) or oropharyngeal (OP) swab		Wear N95	Wear protective eyewear	Wear gown & gloves
Caregivers in the room during or immediately after an aerosol-generating procedure in a patient with confirmed, suspected, or unknown COVID status [5]		Wear N95	Wear protective eyewear	Wear gown & gloves
Staff who do not have face-to-face interactions with patients within 6 feet	Wear face mask			

1. Extended use of N95s when moving between patients is allowed after aerosol generating procedures in patients with suspected viral respiratory syndromes. After removing an N95, place it in the designated bin for decontamination.
2. Extended use (wearing eyewear without removal between patients) is encouraged if the face shield or eye shields have not been soiled, contaminated or damaged. Eye protection should be cleaned when visibly soiled and after removal. Personal glasses are never suitable for eye protection.
3. Protective eyewear is required even with negative COVID results.
4. Standard precautions for all patients include rigorous hand hygiene; gloves for situations involving possible contact with blood, body fluids, mucous membranes, or non-intact skin; and gowns when skin/clothing contact with patients' blood or body fluids anticipated.
5. Includes intubation/extubation, bronchoscopy, nebulization, CPAP, BIPAP, high flow O2, CPR, and others (see approved list of AGPs on MGB Pulse). For patients known to be COVID-negative on admission (or within prior 72 hours for outpatients), aerosol-generating procedures can be done using Standard Precautions

BRIGHAM HEALTH
BWH BRIGHAM AND WOMEN'S HOSPITAL

7/31/2020 (Inpatient)

F. NICU COVID patient room set up and requirements

A. Precautions Information

B. All PUI or COVID + patients are placed on Enhanced Respiratory Precautions and/or Strict isolation (Strict Isolation requires a negative pressure room).

C.

Precaution Category	Common Diseases	PPE	Points to Remember
Strict Isolation AND Enhanced Respiratory Isolation **Designed to prevent transmission of highly infectious organisms via airborne and contact routes**	• COVID-19 • CoV-Risk • CoV-Exposed • Any suspected viral illness	• N-95 OR PAPR • Gown • Goggles or face shield • Gloves • Face shield or tightfitting goggles	1. **Trash**: use orange-colored biohazard bags for all trash 2. **Linen**: Keep soiled linen receptacle in the anteroom or inside of the patient room if an anteroom is unavailable. Place all used linens (including patient linens and gowns used by healthcare workers) into the soiled linen receptacle before leaving the anteroom. 3. **PAPR**- discard hood. Wipe the breathing tube, belt & power source with Aseptic-wipes after each use. 4. **Supplies**: limit supplies to essential quantities. Discard all contaminated items after patient discharge. There are precaution carts available with minimal supplies. 5. **Video technology** is available (secure IPADs to facilitate bonding with parents who are unable to visit-in the assistant nurse director's office).IPADs can also be used to secure a constant visualization of the infant as the doors are to remain closed. One iPad will be facing the infant and the other is in the hallway for caregivers to view the infant at all times. Walkie talkies are also available to communicate to other staff members outside of the room if necessary. 6. **Visitors**-there are no visitors to Enhance respiratory isolation rooms unless the infant has been exposed to a healthcare worker in which case parents are informed and allowed to visit, are offered PPE of their own-but only a mask is required, and they continue attesting

			to their own symptoms as usual. Infants who are born to COVID-19 positive mothers cannot have either the mother or close household member visit during the tenday separation period. If the parents complete the ten-day period and are asymptomatic, they can visit their child who remains on ERI precautions until day of life 14 has completed. Parents, if able, can identify one support person who can visit with their infant in their absence, attesting per normal protocols of symptoms, while the parents await both resolution of their symptoms for 10days and have resolution of symptoms for greater than 24 hours. The identified support person will be approved by medical and nursing leadership and will be indicated at the bedside prior to the support person arriving at the hospital, where they will be banded with the infant's band. 7. **Terminal Cleaning**: room must be kept vacant for 45 minutes after patient discharge PRIOR to cleaning the room. Don Strict Precautions PPE. Use the hospital-approved disinfectant on all surfaces or contaminated areas.

Responsibilities of the Charge Nurse	
Complete for Shift	**Responsibility**
	Ensure the doors to negative pressure rooms, including the anteroom, always stay closed except for when staff are entering and exiting the room.
	Limit the number of staff that enter the room. EVS will need to access the room but must wear full PPE (gown, gloves, N95 mask/Surgical Mask depending on Patient disposition, face shield). Non-essential personnel must not enter the room.
	Ensure PPE is available outside and restocked outside the anteroom.
	Ensure staff are using the PPE Donning and Doffing Checklist with oversight by a fellow colleague if desired. Laminated donning and doffing checklists are also posted in each ante room for caregivers' guidance.
	Ensure the visitor policy is being adhered to. At this time, there are no visitors of infants of positive or PUI mothers in the NICU for 10 days, unless the infant is on precautions due to a staff exposure, then parents/caregivers are informed and can visit their child. Also, if the parent/caregiver has completed their 10-day separation period and remain asymptomatic, they can visit their infant who is likely on precautions for another 4 days to complete the 14-day incubation period. Facetime w/ iPad and phone conversations for discharge teaching can be used

Room designation for COVID +/PUI Newborn	
Complete for Shift	**Responsibility** **Charge Nurse and Respiratory Therapist**
	• Any confirmed COVID positive infant who requires Hi flow or higher respiratory support should be placed in a negative pressure room. • High frequency ventilated patients who are considered PUIs will be given priority for a negative pressure room until their clinical status improves.
	• For infants considered COVID exposed or a PUI without a confirmed positive who require minimal to moderate respiratory support can safely be managed in a private room on advanced respiratory precautions if all negative pressure rooms are occupied.
	• If a baby becomes COVID + and requires ANY respiratory device, they will take first priority in moving to a negative pressure room from a standard private room.

Checklist:	**NICU Isolation Room Set-Up**

RN receives notification and report regarding COVID-19 patient.
Designate 2 RN staff for patient care (1 RN in patient room. 1 RN to assist outside of the room (can be resource or triage). Validate that RN have been fit tested for N-95 mask, if not, a PAPR will be requested for the admitting RN.
Designate staff who will ensure room is set up and area prepared for patient arrival and care.
-Close both doors to the negative pressure room. You should see within minutes that the electronic screen outside of the door in the hallway turns green and states the room is in negative pressure. -Please call Engineering if you are experiencing any issues w/ confirming that your negative pressure room is functioning. **(ext. x26720)**
Ensure Environmental Services Supervisor to request two red biohazard bins (one w/in patient room and one w/in ante room for doffing) **(pager # 11312)**
Ensure the Strict Isolation PPE Supply Container is available from the Assistant Nurse Directors Office. If a nursing leadership team member is not present, a key is available at the NIC desk. Validate the inventory per the inventory sheet within the cart. If PAPR needed, call CTS at **(ext. x27117)**. Request extra supplies (batteries, chargers, hoods, hoses, etc.)
Call Infection Control with any questions as to room set up or patient care **(pager # 11482)**

Clean Area (Outside Anteroom)

Ensure PPE container is stocked:

- Binder with NICU Manual of Operation (MOO)
- Yellow gown with thumb loop
- Gloves
- Bouffant if desired

Each team member is responsible for gathering their new reusable PPE if they are part of the triage team, are on admits, or in a neighborhood of an infant on ERI precautions who you might need to cover. These are available daily on the Shaprio Porch. For emergent situations, a limited amount of:

- Face shields
- N-95 Respirators

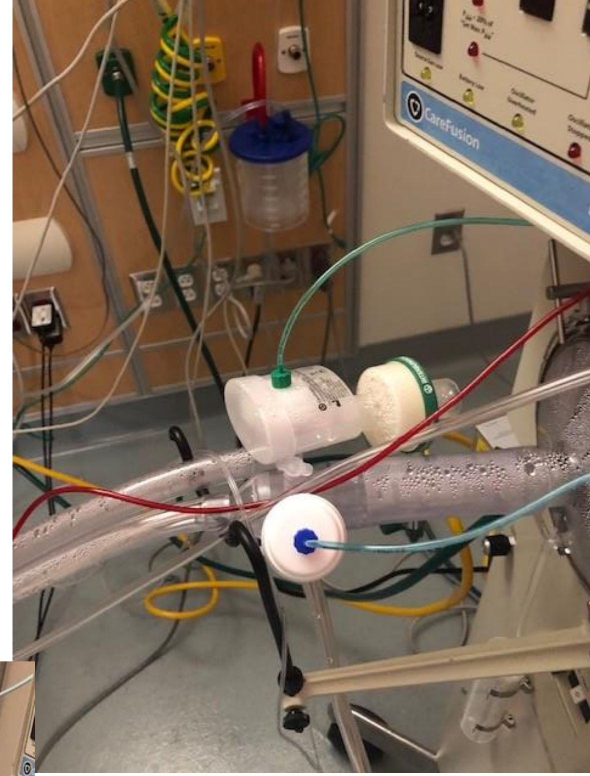
are available at the NIC desk or in the Assistant Nurse Directors office.

Clean Area (Outside Anteroom)

Post STOP and Enhanced Respiratory Isolation Signs on the Anteroom outer door

- Donning and Doffing laminated Signs for PPE guidance.

RT Responsibility	
Initial When Complete	**Task**
	Patient Room
	Ensure the patient room is set up with the needed supplies and equipment to include: • Flow inflating bag • Appropriately sized mask for patient • 2-3 Hepa Filters (for the flow inflating bag and respiratory equipment) • Bubble CPAP or Ventilator with a Hepa filter on the expiratory limb. • High Frequency Jet or Oscillatory ventilators can be used in negative pressure rooms only.



II. Newborn Delivery Workflows

a. Well Newborn Delivery Process

Well Newborn Delivery Process

Term deliveries where Parents have requested separation for their infant upon birth

Equipment:

- **Open crib**
- **Extra blankets for drying/stimulating, Hat**
- **Warmer in identified resuscitation room**
  - **Suction Cannister, Tubing, Suction Catheters, Bulb Suction**
  - **Bag/Mask (HEPA Filter=Respiratory has available)**
  - **Vital Sign Monitoring: Thermometer, infant leads, oximeter probe**
  - **Cord clamp**
- **Infant scale if not available on warmer**
- **Infant medications (Vitamin K and Erythromycin) unless not indicated based on parental preference**
- **Hugs Tag**
- **Clean gowns for transport to COVID 10 nursery**
- **Stop sign on Door of resuscitation room if needed**

Infant Transitional Workflows for first two hours of life:

Team Member	**Action**
L & D baby RN or **if needed** **NICU triage or resource designated RN**	• Patient is identified, and baby bands will be verified with mother by L & D RN. Infant bands to accompany infant upon handoff to infant transition RN. Bands will then be placed on infant and documented in EPIC. • Infant medications (Vitamin K and Erythromycin) to be placed in crib for transport and given to infant prior to transport to CWN 10. • Receiving clinician has PPE on waits inside the Ante room or outside of the OR for infant handoff and initial report. • An open crib can be used to transport the infant from the mother's room/OR to the identified space for continued stabilization care. • Infant is dried and stimulated as needed, Apgar's assessed by the receiving clinician. **Tasks required prior to transport of the term well infant to the COVID nursery on 10:** • Identified infant caregiver (if NICU) notified of impending birth to accept infant in crib outside of the mother's room or OR via Stat Line. • Infant transferred in open crib to the designated room for assessment and cares. • Apgars assigned (1, 5 minutes)

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Vital signs and Initial assessment completed and documented (VS: T, HR, RR-no BP or O2 monitoring unless clinically indicated).
VS recorded q 30 minutes for the first two hours of life.
Infant bands verified, applied, and documented per normal protocols
Hugs tag applied
Vitamin K injection and erythromycin ointment given and documented based on parental preference
Weight obtained and documented in Delivery Summary
EOS scoring completed by Labor RN and reported to receiving baby nurse. DR 1 is paged for exam if >.7.
Infants assessment is stable, and tasks are completed, RN notifies CWN 10 or NICU of readiness for transfer, RN requests either an escort to accompany for the transfer up or identify a colleague to assist maintain a 6-foot distance and operating elevator etc.
RN to doff their contaminated gown and gloves in the room and don fresh gown and gloves prior to transfer to PP (no need to remove mask/face shield)

Continued care for infant on CWN 10/NICU:

Bath (sponge or tub appropriate to cleanse skin of any maternal fluids)
(AAP states as soon as reasonably possible)
Hepatitis B vaccine +/- HBIG if indicated
Glucose check per protocols (around 1 hour of life if required)
Feeding (NICU consult note identifying request for separation should indicate parent’s preference for initial feeding: Formula or PDHM before breast milk supply is established.

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II. Newborn Delivery Workflows

b. Newborn Requiring resuscitation at birth or transfer

Newborn Requiring Resuscitation at Birth or Transfer

Equipment:

Resuscitation within CWN:

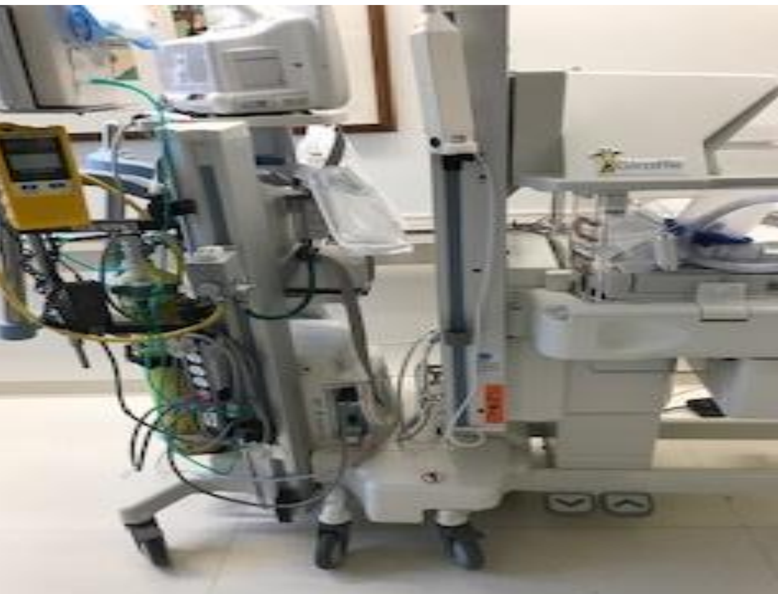
- Transport Isolette
- Extra blankets for drying/stimulating
- Hat
- Warmer in delivery room or OR
    - Suction Cannister, Tubing, Suction Catheters, Bulb Suction
    - Bag/Mask (HEPA Filter = respiratory has available)
    - Intubation Supplies-laryngoscope, blades, CO2 detector, stylets (COVID Resp tackle box)
    - Vital Sign Monitoring: Leads, Oximeter, temp probe
    - Cord clamp
    - Premature delivery warming bag
    - Warming mattress
- Code Cart
- EKG monitor on wheels (if not in OR)
- Single Limb Neopuff Circuit (will not be using separate resp cart).
- Glucometer (transfer to BCH)
- Report Sheet, transfer consent for BCH, PKU

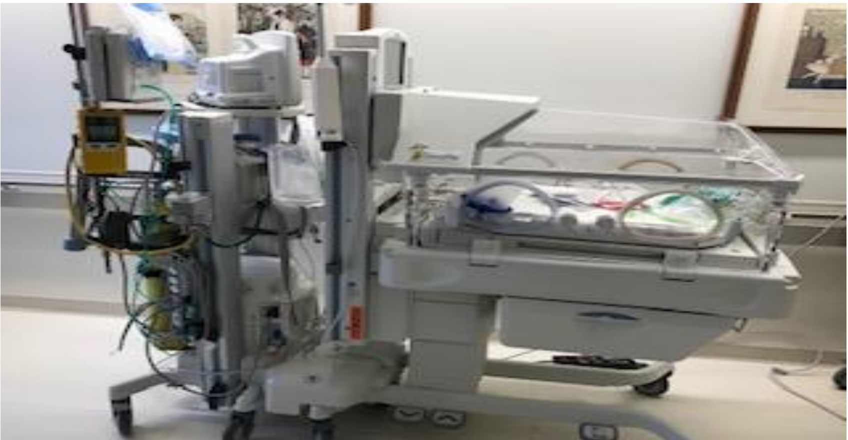
Resuscitation outside of CWN (wherever a pregnant mother is being cared for throughout BWH requiring an emergency newborn set up):

- Giraffe Shuttle attached to Giraffe Isolette (Resuscitation can be done on giraffe bed when top popped and then closed for transport). This streamlines the amount of equipment required for our teams to bring and utilize in very populated spaces. Located in N 4, all set up.
- Isolette should be plugged into shuttle and shuttle into wall when not in use to preserve battery for transport.
- Shuttle equipment:
    - Suction Cannister w/ tubing
    - Oxygen and Air cannisters verified amounts
    - Dash Monitor
    - Single Limb Neopuff circuit
- Extra blankets for drying/stimulating
- Hat

- Resuscitation supplies in Giraffe bed:
    - Suction Catheters, Bulb Suction
    - Bag/Mask (HEPA Filter)
    - Intubation Supplies-laryngoscope, blades, CO_2 detector, stylets (COVID Resp Tackle Box)
    - Vital Sign Monitoring: Leads, Oximeter, temp probe
    - Cord clamp
    - Premature delivery warming bag
    - Warming mattress
- Code Cart

See pictures for Set Up:





Off Service Antenatal Patients: NICU Emergency Event Plan and Preparation

Neonatal Emergency Equipment Workflows

Neonatal Emergency Equipment:

-Resuscitation surface choices:

- -Warmer
- -Life island
- -Giraffe

(Both open warmers require a transport isolette for enclosed transportation especially for COVID deliveries)

-Respiratory equipment:

- -Gas tanks (O2 & Air)
- -Blender
- -Neopuff (regular and disposable)

Obtaining Neonatal Code Cart:

-Call Transport: 27117 and ask that a neonatal code cart is brought to the mother's room (ex: shaprio 728).

-Email rstavris@bwh.harvard.edu and indicate where the neonatal code cart was delivered to

Is the mother receiving ICU Care (Shapiro or Tower Building

Yes →

NICU team to place outside of mother's room*:

1. Resuscitation surface
2. Ensure respiratory equipment available (attached to resuscitation surface or separate)
3. Obtain Neonatal Code Cart
4. Provide **NICU contact number** sheet for ICU staff

No →

Antepartum patients in SPU (med surg) floors will be cohorted on CWN 7 and 8

NICU triage team to keep a list of inpatient pregnant patients and their locations

-If an obstetrical emergency arises without the ability to move the patient to CWN 5, the NICU team will obtain the closest neonatal emergency equipment located on:

-CWN 5
-CWN 6
-CWN 9
-CWN 10

And will set up a resuscitation station outside of the mother's room.

***If there are more than 3 patients receiving ICU care** simultaneously,
Please email or text Julie to make a plan to convert to a central neonatal emergency equipment process in the Shapiro building, from individual set ups outside of the patient rooms.
****If there are 2 mothers within the same SP-ICU**, one set of emergency equipment can be set on the unit in a centralized fashion.

Workflow:		
Infant Requiring Resuscitation		
Complete	**Team Members**	**Action**
	Triage RN (1) **Triage RN (2 if needed)** **Respiratory Therapist** **Physician** **(Normal processes for neonatal responding team based on the infant diagnosis or delivery reason)**	• Warmer preparation verified: Heat source on, appropriate size equipment available, bag/mask, suction, intubation supplies, ELBW items (mattress/bag), vital sign products, monitor on wheels (if PPV anticipated). • Patient is identified, and baby bands will be verified with mother by L & D RN. Bands placed on baby per normal protocol. • Normal resuscitative procedures and neonatal care is provided despite COVID status of the mother. (delayed cord clamping if appropriate, etc.). • Infant medications (eyes and thighs) either given in delivery area or can be administered by NICU team upon arrival to CWN 6. • Once infant is stabilized, the infant is placed back in the isolette, attached to monitor/vent and prepared for transport to the identified negative pressure room (if anticipated to require AGPs or respiratory care) on CWN 6 for continued management.

Infant Requiring Intervention/Resuscitation and Transport to Boston Children's Hospital		
Complete	**Team Members**	**Action**
	B & T Attending **Triage RN (1)** **Triage RN (2 if needed)**	• Patients Identified from our MFM monthly list • Patients who need to be transported to 8S, 7N, 7S, or Radiology. NICU NIC to contact per normal workflows BCH NIC of floor infant will be admitted to and make them aware that infant is a PUI (Person under investigation) COVID-19 patient requiring strict precautions. • NICU team advocates for largest delivery area for complex cases requiring many team members from NICU and BCH. Warmer

	Respiratory Therapist	preparation verified: Heat source on, appropriate size equipment available, bag/mask, suction, intubation supplies, ELBW items (mattress/bag), vital sign products, cardiac monitor on wheels (in case of PPV requiring EKG). • Additional preparation brought into room: Pumps w/ Meds/IVF, dressing kits, cardiac cart contents • Patient is identified, and baby bands will be verified and applied prior to transfer to BCH. Infant medications (eyes and thighs) to given prior to transport and given upon prior to transport to BCH. • Once infant is stabilized, the infant is placed back in the isolette, attached to monitor/vent and prepared for transport to BCH. • If infant is stable, ideally the team would doff their PPE and donne clean PPE prior to transfer (within resuscitation area to remain contained). However, if the infant is unstable and requires immediate transfer, the team at least should remove soiled gloves, Purell, and put on new gloves prior to transport to BCH. • Transport will escort NICU team to CWN 5 elevators and for transport path to BCH. • Transport sheet filled out and can be placed into a biohazard bag for transport. • NIC oversees communicating w/ BCH re: COVID-19 PUI infant requiring strict precautions.

C. Newborn Blood Gas process

NICU Blood Gas Lab Process for COVID-19 PUI or Confirmed Case

Management Guidelines:

- Respiratory Therapist (RT) handling the blood gas specimen in the lab.
  - RT running the blood gas must wear eye goggles/face shield, face mask, gloves, and gown.
  - After every specimen is done being processed the lab must be fully wiped down.
  - All specimens and supplies/trash must be thrown in a Biohazard bin for disposal.

The RN obtaining the gas (either Cord in l & D or regular baby gas in the NICU) should label the gas with an ADT label and complete the blood gas slip required per the Joint Commission. The RN should indicate their computer log in user name on the slip to be entered into the gas analyzer and ultimately uploaded into the electronic health record.

Blood Gases with in the NICU

Complete	Team Members	Action
	Triage RN 2 or **Resource RN** **Respiratory Therapist**	• RN will contact RT via volte to notify RT of a blood gas that needs to be analyzed of a PUI/COVID-19 baby. • RT or available RN will transport blood gas in a marked basin to the NICU blood gas lab on CWN 6. • If an RN is transporting to the blood gas lab, RN must give hand off to the RT that will run the specimen.

NICU Blood Gas Lab Process for COVID-19 PUI or Confirmed Case for Cord Blood Gases

Management Guidelines:

- L&D RN to page RT (Beeper 11117) to inform them that COVID + cord gases are being sent.
- All COVID+ cord gases are to be sent via tube system and are not to be left with the responding RT at the delivery.
- All specimens should be labeled with an ADT label and accompanying blood gas slip filled out by the RN sending the gas.

Complete	Team Members	Action
	L&D RN **Triage RN** **Respiratory Therapist**	• L&D RN will page RT beeper 11117 to inform the RT's that a COVID + blood gas will be sent. • L&D RN will send COVID+ cord gas labeled and marked as such sample visibly on the bag through the tube system. • RT will retrieve COVID + cord gas sample wearing gloves, mask, and eye protection from the tube system. • RT will then follow the NICU blood gas procedure stated above.

IV. Clinical Workflows-NICU

a. Lab drawing, ultrasound, x-ray

Checklist:	Obtaining **Labs Draws and Micro Testing** in the NICU Patient with Suspected or Confirmed COVID-19
Contact:	Julie Cadogan/Michael Duggan/Beth Flanigan
Reviewed/Revised Date:	11.20.2020

Overview: This protocol applies RNs and should be used for:

A. Blood draws (both peripheral and from central lines)
B. Microbiology samples (including blood, urine, sputum, and other cultures).

Guiding Principle: Limit phlebotomy and microbiology tests to essential tests and consolidate testing so that RNs need to draw specimens as infrequently as possible.

Step	Task
1.	RN receives infant labs orders in EPIC.
2.	Supplies are gathered from supply cart within patient room.
3.	RN calls Respiratory if a gas is being obtained to confirm their availability to run the sample. RN also calls fellow RN to meet her at the Ante Room door with a clean biohazard specimen bag.
4.	RN obtains gas or lab sample from infant.
5.	While staying in full PPE, open the anteroom door when a second RN or other staff member is ready outside with a clean biohazard specimen bag (or multiple bags, if necessary).
6.	Wipe down completely and thoroughly the outside of the specimen tube with a hospital-approved disinfectant (e.g. Super Sani-Cloths). Holding the tube with the same Super Sani-Cloth, place the tube into the clean biohazard specimen or clean receptacle held by the second RN (wearing gloves) without touching the new bag or anything outside the anteroom.
7.	Repeat step 6 as needed if there are multiple samples.
8.	Close the anteroom door.
9.	If RN is leaving the room, then doff PPE in the anteroom. Perform hand hygiene after exiting the anteroom.
10.	If RN needs to perform additional patient care, keep the same PPE on and re-enter the patient's room.
12.	Blood /microbiology specimens of an infant on enhanced respiratory precautions **can** be sent via the pneumatic tube system. **COVID-19 swabs CANNOT be sent via the Pneumatic Tube. They must be walked down to Microbiology.** All specimens should be placed as above in a secondary clean receptacle for transport by the clean caregiver.
13.	Laboratorians should follow usual procedures for handling of blood specimens.

Checklist:	**Obtaining a Portable X-ray in the NICU for Patient with Suspected or Confirmed COVID-19**
Contact:	Julie Cadogan/Michael Duggan/Beth Flanigan
Reviewed/Revised Date:	11.2020

Step	Task
1.	Notify X-ray **(x27185 or after 11:00PM page #11870)** that an order has been placed for a patient on Strict Isolation precautions
2.	Place imaging cassette in clean plastic bag (while in the clean area). Radiology has these large plastic bags in their alcove.
3.	Remove all unnecessary aprons and material from the X-ray machine
4.	Technologist will don PPE as per protocol
5.	Tech will then move imaging device into anteroom and close exterior door
6.	Once exterior door is closed, tech will open the patient room door and proceed into the patient room and the close the patient room door
7.	Tech will complete the imaging study. They may require assistance from the RN to assure optimal room set-up.
8.	Upon completion of the study, tech will move imaging device into anteroom and close patient room door
9.	Tech in the anteroom will begin to slide the plastic cover off the cassette taking care not to touch the cassette.
11.	The tech in the anteroom will dispose of the plastic bag in the anteroom trash container
12.	The technologist will doff PPE with guidance from the doffing monitor
13.	Once PPE attire is disposed of properly, tech Purells hands and Dons new gloves.
14.	Tech then cleans all surfaces of imaging device with Sani Wipes (and then waits 2 minutes)
15.	Tech removes gloves, Purells hand and puts on new gloves
16.	Tech removes imaging machine from anteroom

Checklist:	Obtaining an **Ultrasound for NICU Patient with Suspected or Confirmed COVID-19**
Contact:	Julie Cadogan/Michael Duggan/Beth Flanigan
Reviewed/Revised Date:	11.2020

Step	Task
1.	Notify Ultrasound (x 27190) that an order has been placed for a patient on Strict Isolation precautions.
2.	Remove all unnecessary probes from the Ultrasound machine (leave in clean area)

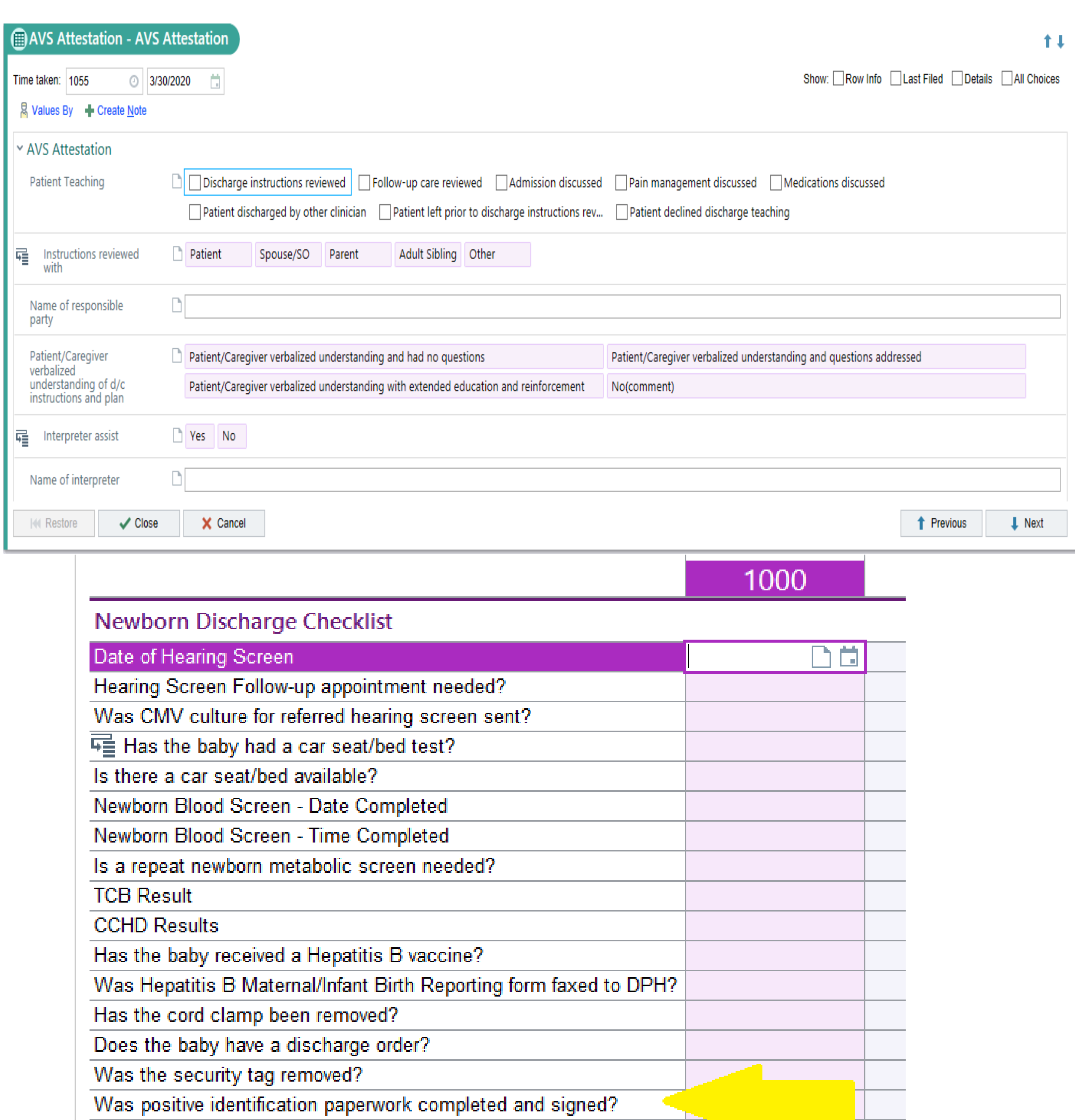
3.	Technologist will don PPE as per protocol
4.	Tech will then move the ultrasound machine into anteroom and close exterior door
5.	Once exterior door is closed, tech will open the patient room door and proceed into the patient room and the close the patient room door
6.	Tech will complete the imaging study. They may require assistance from the RN to assure optimal room set-up and patient positioning.
7.	Upon completion of the study, tech will move imaging device into anteroom and close patient room door
8.	The technologist will doff PPE with guidance from the doffing monitor
9.	Once PPE attire is disposed of properly, tech Purells hands and Dons new gloves (handed in by RN in the clean area)
10.	Tech then cleans all surfaces of imaging device with Sani Wipes (and then waits 2 minutes)
11.	Tech removes gloves, Purells hand and puts on new gloves
12.	Tech removes ultrasound machine from anteroom

B. Discharge procedures and protocols

Checklist:	**Discharge Procedures in the NICU for Patient with Suspected or Confirmed COVID-19**
Contact:	Julie Cadogan/Michael Duggan/Beth Flanigan
Reviewed/Revised Date:	12.2020

Step	Task
1.	Infant is ordered for specific procedures/testing related to discharge including but not limited to: hearing screen, circumcision, car seat testing. Completion of these tasks should be per routine procedures unless the team feels should be deferred for a documented reason. *If the infant's hearing screen will be deferred, ensure that a LIP contacts Lauren McGrath with audiology to inform the need for an outpatient test for the infant @ lmcgrath2@bwh.harvard.edu
2.	All procedures/testing will occur in the infant's private room.
3.	The technologist/LIP performing the procedure will don PPE as per protocol.
4.	If assistance is required, the patients nurse will join the tech/LIP in the room.
5.	Upon completion of the procedure or testing, the tech/LIP will move the testing or procedure device into anteroom and close patient room door
6.	The tech/caregiver will doff PPE with guidance from the doffing monitor
7.	Once PPE attire is disposed of properly, tech Purells hands and dons' new gloves.
8.	Tech/caregiver then cleans all surfaces of imaging device with Sani Wipes (and then waits 2 minutes)
9.	For circumcision tools, the LIP performing the circumcision should wipe the tools with the Sani wipes and allow them to dry for two minutes in the ante room. Once two minutes is complete, place the tools in a biohazard bag to be sanitized per normal protocol.
10.	Tech/LIP removes gloves, Purells hands and puts on new gloves
11.	Tech/LIP removes the testing/procedure devices from the ante room.

- When a PUI infant is considered well and able to be discharged, the NICU nurse can review the AVS over the phone or via facetime with one of the secure NICU IPADS with the well caregiver identified. The Discharge AVS no longer requires a physical signature. On the discharge AVS you will now see this section to complete:


AVS Attestation - AVS Attestation

Time taken: 1055 3/30/2020

Show: Row Info Last Filed Details All Choices

Values By Create Note

AVS Attestation

Patient Teaching: Discharge instructions reviewed; Follow-up care reviewed; Admission discussed; Pain management discussed; Medications discussed; Patient discharged by other clinician; Patient left prior to discharge instructions rev...; Patient declined discharge teaching

Instructions reviewed with: Patient; Spouse/SO; Parent; Adult Sibling; Other

Name of responsible party:

Patient/Caregiver verbalized understanding of d/c instructions and plan: Patient/Caregiver verbalized understanding and had no questions; Patient/Caregiver verbalized understanding and questions addressed; Patient/Caregiver verbalized understanding with extended education and reinforcement; No(comment)

Interpreter assist: Yes; No

Name of interpreter:

Restore | Close | Cancel | Previous | Next

1000

Newborn Discharge Checklist

Newborn Discharge Checklist	
Date of Hearing Screen	
Hearing Screen Follow-up appointment needed?	
Was CMV culture for referred hearing screen sent?	
Has the baby had a car seat/bed test?	
Is there a car seat/bed available?	
Newborn Blood Screen - Date Completed	
Newborn Blood Screen - Time Completed	
Is a repeat newborn metabolic screen needed?	
TCB Result	
CCHD Results	
Has the baby received a Hepatitis B vaccine?	
Was Hepatitis B Maternal/Infant Birth Reporting form faxed to DPH?	
Has the cord clamp been removed?	
Does the baby have a discharge order?	
Was the security tag removed?	
Was positive identification paperwork completed and signed?	

- With known + COVID moms or moms who are still considered PUIs upon discharge, the well infant should be transported up to the mother's room by their NICU nurse in standard ERI PPE. The infant will then remain w/ the masked mother and can be placed in car seat by PP in preparation for the mother-baby dyad to be discharged together.

- If the parents have been discharged and are still within the 14-day exposure window, the nurse will place the infant in the car seat and place a loose (nonocclusive) blanket draped over the car seat. The RN will cut one infant ID band off and print all the discharge paperwork that were previously reviewed with the parents virtually.
- The RN will then don fresh PPE and transport the infant in the car seat with the blanket, d/c paper work, and infant ID band to meet the parents at 45 Francis St for pick up.
- The RN will ask the parents to read their infant's MRN on their infant ID band and the RN will ensure the infant's ID band matches the one they have from the baby. Once confirmed, the RN will hand off the infant, discharge paper work, milk, and any belongings to the parents.
- Upon return to the unit, the RN will indicate in EPIC that the bands were checked upon transfer to the parents and the infant can be discharged from EPIC.