

Preparing your Maternal and Neonatal Units to Respond to COVID-19

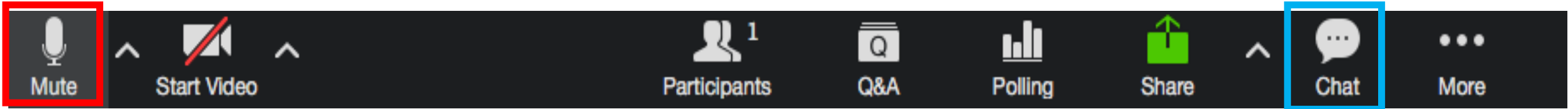
Practical Recommendations from a Frontline Hospital

March 24, 2020

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Tech Tips



- Attendees are automatically MUTED upon entry
- Direct message the host, Valerie, if you have technical issues through the chat function
- The slides and webinar recording will be available shortly after the webinar

Today's Presenters

- **Natali Aziz, MD, MS** – Clinical Associate Professor, Obstetrics & Gynecology (Maternal Fetal Medicine) and Director of Perinatal Infectious Diseases, Stanford University School of Medicine
- **Roshni Mathew, MD** - Clinical Assistant Professor of Pediatrics (Infectious Diseases) and Associate Medical Director for Infection Control, Stanford University School of Medicine
- **Kelley Brennan Lee, RN, MSN, WHNP-BC, C-EFM** - Perinatal NPDS/Clinical Practice Specialist, Lucile Packard Children's Hospital Stanford
- **Alexis Davis, MD, MS** - Clinical Associate Professor, Pediatrics (Neonatal and Developmental Medicine), Stanford University School of Medicine and NICU Medical Director, Lucile Packard Children's Hospital Stanford
- **Kay Daniels, MD** - Clinical Professor of Obstetrics & Gynecology (Maternal Fetal Medicine) and CoDirector of Disaster Planning for the Johnson Center, Lucile Packard Children's Hospital

Terminology

- **SARS CoV-2:** novel coronavirus pathogen
- **COVID-19:** disease state resulting from SARS-CoV-2 infection
- **PUI:** person under investigation for COVID-19
- **PPE:** personal protective equipment
- **HCW:** healthcare worker
- **AIIR:** Airborne Infection Isolation Room
- **AGP:** aerosol generating procedures
- **Enhanced droplet precautions:** gown + gloves + procedural mask + eye protection (glasses not sufficient)
- **Airborne precautions:** N95 + eye protection + gown + gloves
- **PAPR:** personal powered air respirators (if not fit tested for N95)



Maternal Screening Criteria

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CDC Testing Criteria

- Hospitalized patients who have signs and symptoms compatible with COVID-19 in order to inform decisions related to infection control
- Other symptomatic individuals such as, older adults and individuals with chronic medical conditions and/or an immunocompromised state that may put them at higher risk for poor outcomes (e.g., diabetes, heart disease, receiving immunosuppressive medications, chronic lung disease, chronic kidney disease)
- Any persons including healthcare personnel, who within 14 days of symptom onset had close contact with a suspect or laboratory-confirmed COVID-19 patient, or who have a history of travel from affected geographic area within 14 days of their symptom onset
 - China, Iran, European countries, UK and Ireland
 - **Close contact:** located within 6 feet for prolonged period of time or direct contact with infectious secretions

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html>

<https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notice.html#travel-1>

ACOG and SMFM Testing Criteria

- Testing is currently occurring at state and local public health laboratories in 50 states and the District of Columbia
- Ob-gyns and other health care practitioners should contact their local and/or state health department for guidance on testing persons under investigation
- Follow the CDC's Interim Clinical Guidance for Management of Patients with Confirmed 2019 Novel Coronavirus (2019-nCoV) Infection and guidance for Evaluating and Reporting Persons Under Investigation (PUI).

<https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles/2020/03/novel-coronavirus-2019>

<https://www.smfm.org/covid19>

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html>

<https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notice.html#travel-1>

Stanford Children's Health Testing Criteria

- Acute respiratory tract infection (e.g. sore throat, cough, shortness of breath) with or without fever **AND one of the following risk factors**
 - Requires hospital admission
 - Currently hospitalized for 2 weeks or less (pending COVID ID team approval)
 - Special populations
 - Underlying chronic medical condition where CoVID19 test results will affect medical management or patient placement for the management of the chronic medical condition within the next 30 days
 - **Pregnant women who are admitted OR who have any significant obstetric co-morbidities (e.g. immunocompromised, diabetes, autoimmune disorders, etc)**
- Close contact with a person with symptomatic, lab-confirmed COVID-19 infection in the 14 days prior to symptom onset or international travel*

*<https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notice.html#travel-1>

Stanford Children's Health Testing Criteria

SUMMARY: Pregnant Patients

- Respiratory or Influenza-like Illness Symptoms +/- fever with either COVID-19 confirmed exposure or travel to high transmission region*
- Respiratory or Influenza-like Illness Symptoms +/- fever WHO ARE HOSPITALIZED
- Respiratory or Influenza-like Illness Symptoms +/- fever WHO have HIGH RISK co-morbidity (such as immunocompromised status, autoimmune disease, diabetes, OR other condition per OBSTETRICIAN discretion)

[*https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notice.html#travel-1](https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notice.html#travel-1)

At Risk Co-morbidities in Pregnancy

- Hypertension
- Diabetes
- Asthma
- HIV
- Chronic heart disease
- Chronic liver disease
- Chronic lung disease
- Chronic kidney disease
- Blood dyscrasia
- Immunosuppressive Therapy

<https://www.acog.org/-/media/project/acog/acogorg/files/pdfs/clinical-guidance/practice-advisory/covid-19-algorithm.pdf>

Specimen Collection

Upper Respiratory Tract

- **Upper respiratory tract**

- Nasopharyngeal swab (NP) /oropharyngeal swab (OP)

- Use only synthetic fiber swabs with plastic shafts
 - Place swabs immediately into sterile tubes containing 2-3 ml of viral transport media
 - **In general, CDC IS NOW RECOMMENDING COLLECTING ONLY THE NP SWAB**

- OP swabs remain an acceptable specimen type

- If both swabs used, NP and OP specimens combined at collection into a single vial

- Nasopharyngeal swab: Insert a swab into nostril parallel to the palate. Swab should reach depth equal to distance from nostrils to outer opening of the ear. Leave swab in place for several seconds to absorb secretions. Slowly remove swab while rotating it.

- Oropharyngeal swab (e.g., throat swab): Swab the posterior pharynx, avoiding the tongue

- Nasopharyngeal wash/aspirate or nasal aspirate

- Collect 2-3 mL into sterile, leak-proof, screw-cap sputum collection cup or sterile dry container

<https://www.cdc.gov/coronavirus/2019-nCoV/lab/guidelines-clinical-specimens.html>

Specimen Collection

Lower Respiratory Tract

- **Lower respiratory tract**
 - Bronchoalveolar lavage, tracheal aspirate
 - Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container
 - Sputum
 - Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container

<https://www.cdc.gov/coronavirus/2019-nCoV/lab/guidelines-clinical-specimens.html>

Diagnostic Testing

- **Real-time RT-PCR**
 - Local and state DPH's
 - Commercial laboratories
 - Cepheid: Point of care testing, TAT 45 minutes
 - University institutions
 - Dr. Benjamin Pinsky/Stanford Virology Lab: TAT 12-24 hours

<https://www.cdc.gov/coronavirus/2019-ncov/lab/index.html>

Nasopharyngeal Sample Collection

Equipment:

- Sterile Dacron/nylon swab
- Viral transport media tube (should contain 1-3ml of sterile viral transport medium)

Procedure:

1. Tilt patients head back 70 degrees.



2. Insert swab into nostril (swab should reach depth equal to distance from nostrils to outer opening of the ear). Leave swab in place for several seconds to absorb secretions.



3. Slowly remove swab while rotating it (swab both nostrils with same swab).



4. Place tip of swab into sterile viral transport media tube and snap/cut off the applicator stick.



Source: [https://www.cdc.gov/flu/pdf/freeresources/healthcare/flu-specimen-collection-](https://www.cdc.gov/flu/pdf/freeresources/healthcare/flu-specimen-collection-guide.pdf)

[guide.pdf](https://www.cdc.gov/flu/pdf/freeresources/healthcare/flu-specimen-collection-guide.pdf)

CDC Home Isolation Discontinuation Criteria

- COVID-19 patients can stop home isolation under the following conditions
 - ***If test not planned*** to determine if patient still contagious, patient can leave home after these **three** following criteria are met:
 - Patient has no fever for at least 72 hours (without the use of antipyretics)
AND
 - Other symptoms have improved (for example, cough or shortness of breath have improved)
AND
 - At least 7 days have passed since symptom onset
 - ***If test planned*** to determine if patient still contagious, patient can leave home after these **three** following criteria are met:
 - Patient no longer has fever (without the use of antipyretics)
AND
 - Other symptoms have improved (for example, cough or shortness of breath have improved)
AND
 - Patient received two negative tests in a row, 24 hours apart (per CDC guidelines)*

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-in-home-patients.html>

SCH Infection Status Assessment for Near Term Patient

- Case example
 - G1P0 at 36+ weeks of gestation with fever and cough, COVID-19 positive
 - Currently on home isolation
- Resolution of fever for 72 hours and improved symptoms and at least 7 days from onset of illness

PLUS

- ONE negative test

<https://www.acog.org/-/media/project/acog/acogorg/files/pdfs/clinical-guidance/practice-advisory/covid-19-algorithm.pdf>

Resources

- <https://www.cdc.gov/coronavirus>
- <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html>
- <https://www.cdc.gov/coronavirus/2019-ncov/travelers/map-and-travel-notices.html#travel-1>
- <https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-in-home-patients.html>
- <https://www.cdc.gov/coronavirus/2019-nCoV/lab/guidelines-clinical-specimens.html>
- <https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles/2020/03/novel-coronavirus-2019>
- <https://www.smfm.org/covid19>

Isolation precautions for PUI or COVID positive pregnant patients

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CDC guidance

- No specific pregnant patient placement recommendation
- Guidance as for other PUI or COVID positive patient:
- *“If admitted, place a patient with known or suspected COVID-19 in a single-person room with the door closed. The patient should have a dedicated bathroom. Airborne Infection Isolation Rooms (AIIRs) should be reserved for patients who will be undergoing aerosol-generating procedures.”*

Isolation precautions for PUI or COVID positive pregnant patient

- L&D: AIIR preferred. If unavailable, L&D room with HEPA filter in place; if operating room, use designated OR with HEPA filter in place.
- Maternity unit: AIIR if available; otherwise single patient room
- Isolation sign is posted outside with PPE cart outside
- Only 1 labor support person is allowed who dons procedure mask.
- Staff caring for the patient has to fill out a Staff Tracer sheet.
- Limit providers entering the room.

Personal Protective Equipment For the Maternal Care Team

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PPE Recommendations for Staff when Caring for Pregnant PUI/COVID-19+ Patients

- **Laboring or C/S Patients:** Use airborne plus contact isolation precautions in an AIIR (Airborne Infection Isolation Room) due to risk of aerosol generating procedure for Mom or Baby (Use HEPA filter in OR)
 - i.e. Intubation, CPAP, PPV
- PPE includes
 - Single Use N95 Mask (or higher – Reusable PAPR/CAPR)
 - Eye Protection – Goggles or Face Shield
 - Gown
 - Gloves

PPE Recommendations for Staff when Caring for Pregnant PUI/COVID-19+ Patients, cont.

- Antepartum/Postpartum Patients: Use airborne plus contact isolation precautions
 - May be in a single patient room with door closed (unless aerosol generating procedure anticipated – then use AIIR)
- PPE includes
 - Single Use N95 Mask
 - Eye Protection – Goggles or Face Shield
 - Gown
 - Gloves

PPE Recommendations for Support Person of PUI/COVID-19 + Patient

- Support person should wear a surgical mask at all times
- Gown and gloves should be worn when in contact with patient or providing care to patient
 - i.e. labor support, assistance with repositioning, toileting, etc.

PPE for Anesthesia Staff during Intubations

- Intubation of PUI/COVID-19+ Patients per CDC
 - N95 Masks and Eye Protection (Goggles or Face Mask) or CAPR/PAPR
 - N95 Masks are single use for PUI/COVID-19+ Patient
- Intubation of Non-PUI/COVID-19+ Patients at LPCH Stanford
 - N95 Mask and Face Shield (so N95 can be reused, if necessary)
 - This is the current guidance for LPCH Stanford Anesthesia Providers, due to high prevalence of community-based transmission and possible asymptomatic patients

PPE Conservation Strategies

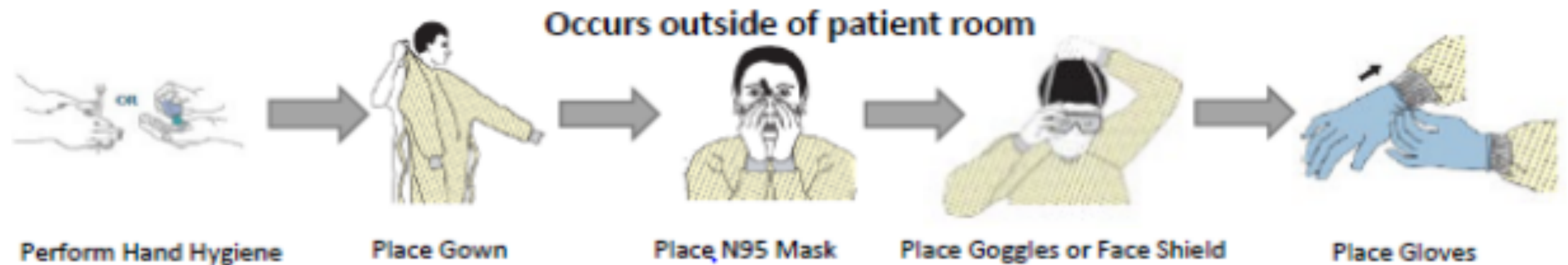
- Minimize entry/exit to room and need to change PPE
 - i.e. cluster care
- Cohorting COVID-19+ patients together, when needed
- Minimize providers caring for the patient
 - 1:1 nursing care when possible
 - Attending provider cares for patient whenever possible, or upper-level resident if necessary
- The minimum number of providers to safely care for a patient should be present during any procedure
- Can questions/consults be done via phone/video (i.e. NICU)?

Additional PPE Considerations

- Per CDC Guidance, surgical facemasks can be used when respirators (N95, PAPR/CAPR) are not available
- If necessary, based on supply chain constraints, prioritize the use of respirators for aerosol generating procedures
- When normal supply chain is restored, resume the use of respirators for all PUI and COVID-19+ patients

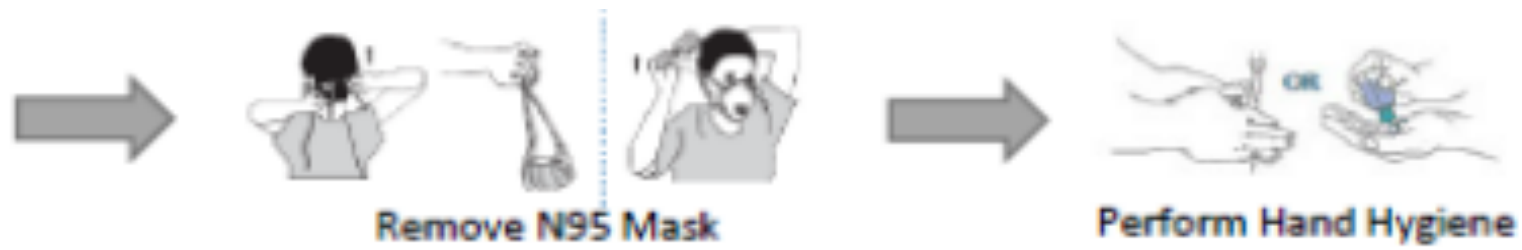
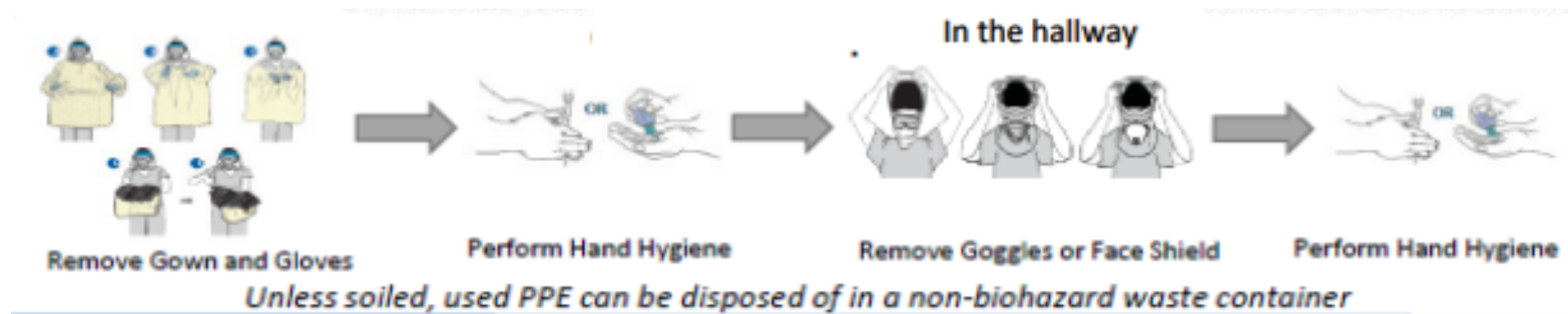
Donning PPE, per CDC

- Important to follow proper sequence of donning and doffing PPE
- All PPE should be donned outside of the patient's room



Doffing PPE, per CDC

- Important to follow proper sequence of donning and doffing PPE
 - Remove gown and gloves in room and perform hand hygiene
 - The remainder occurs in the hallway outside the patient room (or in anteroom)





Delivery room management and neonatal triage of infants born to PUI/COVID-19+ mothers

Alexis Davis & Roshni Mathew

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Assumptions regarding Coronavirus and fetuses/neonates

- Risk of fetus being infected is low **Chen HGJ et al, Lancet 2020; 395: 809-15*
- Vertical transmission has not been described
 - Virus not found in amniotic fluid or cord blood
- Greatest risk is horizontal transmission
 - Not detected in breast milk
 - Risk for perinatally-acquired COVID-19 is through contact with respiratory/droplet secretions from mother or other caregivers
 - Theoretical risk of transmission through urine and stool during delivery process (Puopolo & Kimberlin)
- Newborns do not readily aerosolize secretions

Delivery room preparations for mothers who are PUI/COVID-19+

- Infants born to PUI/COVID-19+ are also considered PUI
- Guiding principles
 - Standard of care: NRP
 - Protection of healthcare workers
- Local considerations
 - Location of resuscitation: in situ in LDR or separate room?
 - Availability of airborne isolation rooms
- Postnatal transition can be unpredictable and thus, execution of NRP may result in aerosol generating procedures (PPV, CPAP, ETT)
 - → highest level of precaution must be assumed

Delivery room preparations

- Clear communication with L&D to prepare team and equipment when a PUI/COVID-19+ is likely to deliver
 - Mother situated in airborne isolation room (double door or retrofitted with HEPA filter)
- PPE when present at delivery: airborne (N95) + eye protection
- Resuscitation in open incubator
 - Allows baby to be enclosed after delivery and triaged to postnatal unit, minimizing exposure to public areas

Specialized filter on resuscitation equipment



Delivery room response team (as of 3/23/20)

- Balance PPE preservation with protection of HCWs
- Uncomplicated delivery: pediatrics team not usually called
 - Hospitalist + RN + RT outside LDR ready to don PPE
- Standard delivery: decelerations, late preterm (≥ 32 weeks), cesarean section
 - Hospitalist + RN in PPE
 - RT outside LDR/OR
- Complex delivery: preterm (< 32 weeks, congenital anomalies)
 - Hospitalist + fellow + NP + RN in PPE
 - RT inside/outside of room depending on delivery circumstance

Management of the Asymptomatic Newborn: Newborn Nursery

CDC recommends separation of mother and infant

Parents agree to recommendation

Parents decline recommendation/
Separate room not available

Single patient room
Enhanced droplet
precautions

Room precautions

Mother's room; infant in
incubator >6ft from mom
Airborne + eye protection

Expressed breast milk

Feeding

Expressed breast milk or
breastfeeding with PPE

Father/labor support person
considered direct contact,
cannot visit

Visitation

Father/labor support person
wears PPE in room but does not
care for infant

Management of Infants Admitted to NICU

Infant does not require respiratory support

Infant on respiratory support (non-invasive or ETT)

Single patient room or semi-private room with curtain
Infant in incubator
Enhanced droplet precautions

Room precautions

Negative pressure room
Infant in incubator
N95+ eye protection

Expressed breast milk

Feeding

Expressed breast milk

Father/labor support person considered direct contact, cannot visit until mom rules out

Visitation

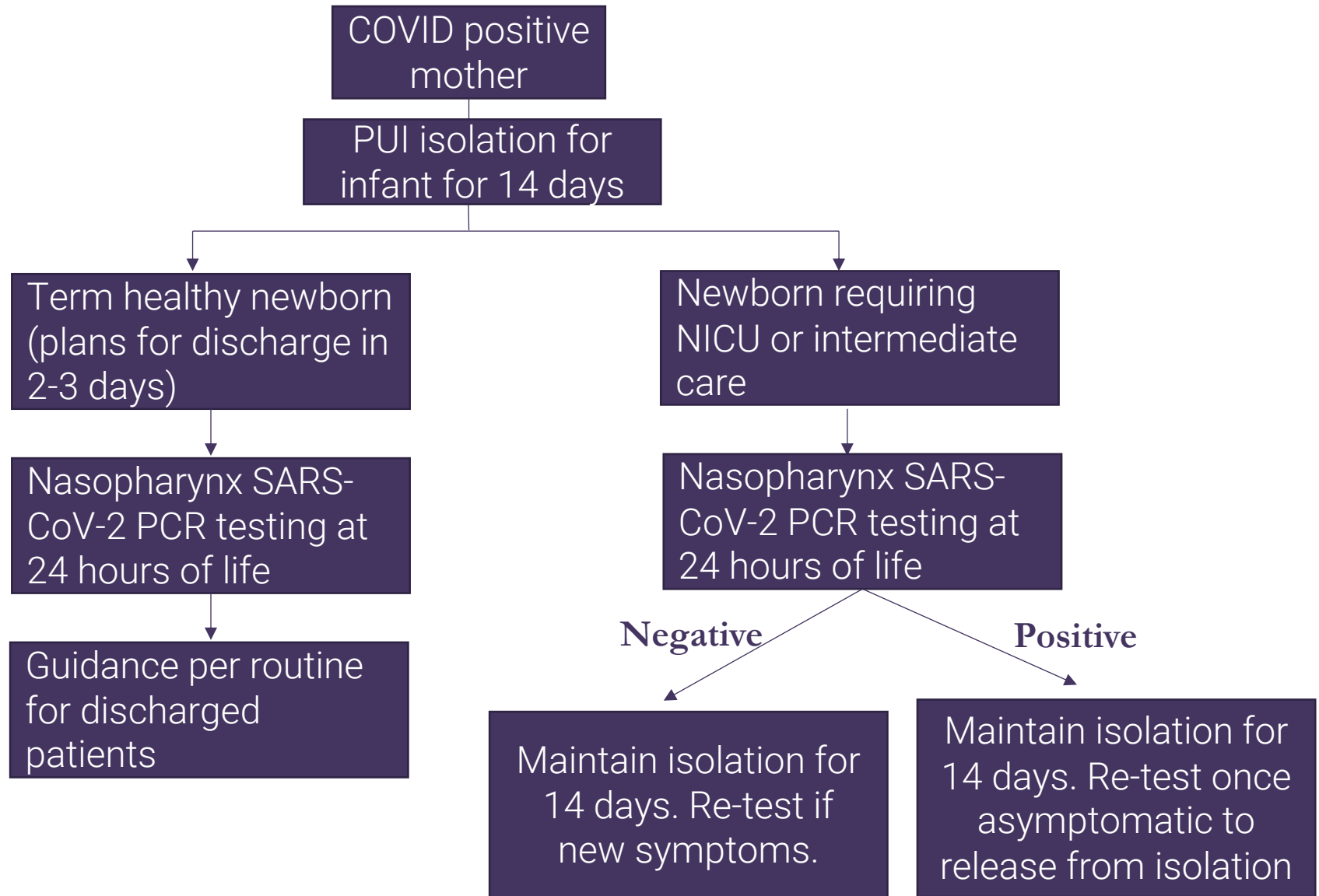
Father/labor support person considered direct contact, cannot visit until mom rules out

Testing recommendations for Newborn Infants

- In evolution!
 - Guidance from Puopolo & Kimberlin: SARS-CoV-2 PCR testing at 24h & 48h of life
 - NP swabs
 - Throat
 - Rectal
 - All 6 swabs must be negative to rule out COVID
- Stanford local guidance:
 - Babies are not tested until mom's COVID status is known

Testing for infant born to COVID-19 positive mother

Proposed plan:



Management of Non-Newborn Infants

Infant does not require respiratory support

“COVID landing zone” in acute care unit
Enhanced droplet precautions

Infant on respiratory support (non-invasive or ETT)

“COVID landing zone” in PICU
Airborne precautions

Room precautions

Expressed breast milk vs. breastfeeding

Feeding

Expressed breast milk

One parent stays in isolation room and does not leave

Visitation

One parent stays in isolation room and does not leave


Testing: routine respiratory PCR panel and COVID testing sent concurrently

Other clinical considerations

- Delayed identification of mom as a PUI after delivery
 - Fever – is it chorioamnionitis, non-COVID ILI, or COVID-19?
 - Respiratory symptoms – delayed presentation of COVID-19 vs. other postpartum etiologies? (AFE, pulmonary edema)
 - Implications for possible exposure when not separated from mom and/or placed in open bay room
- Do you test infants who present with fever, GI symptoms in the absence of respiratory symptoms?
- NICU infants who develop respiratory symptoms during their hospitalization?

Alignment challenges for large healthcare systems

- Institutional alignment: what happens when guidelines created for a predominantly adult disease may or may not apply to the newborn?
 - Differential interpretation of CDC guidelines: do you go with the most conservative recommendation or modify when provisos are offered?
- Not doing early/empiric intubation to avoid AGPs from non-invasive support
 - Rationale for placement in incubator to minimize exposure to HCWs



Surge planning for COVID-19 OB units and NICUs

Kay Daniels & Alexis Davis

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Specifics for Surge: Types

1. **Conventional/crowding capacity:** Spaces, staff, and supplies used are consistent with daily practices within the institution
2. **Contingency capacity:** Spaces, staff, and supplies used are **not consistent with daily practices** but maintain or have minimal effect on usual patient care practices
3. **Crisis capacity:** Adaptive spaces, staff, and supplies are not consistent with usual standards of care but provides sufficiency of care in the setting of a **catastrophic disaster**

Surge/Contingency Planning

We are here to discuss contingency planning: Spaces, staff, and supplies used are **not consistent with daily practices**.

- Space
- Staff
- Supplies

Space

1. Cancel elective procedures
2. Expediate PP discharges- increase beds
 - Shorten hospital stays for low risk normal spontaneous vaginal deliveries from 48->24 hours or less if patient desires.
 - Consider same shortened stay for uncomplicated cesarean section from 4 days->2/3 days
3. Determine which rooms can be repurposed for your surge need.
 - Which rooms can be used for COVID 19 labor rooms either negative pressure or with the addition of a HEPA filter
4. Determine areas where you can cohort COVID 19 patients
 - Cohorting allows for conservation of equipment/supplies. The same nurse can use the same n95 between patients (extended use) but must replace gown and gloves.

Staff: RN

- **Change in nursing to patient ratio**
 - Utilize non-OB/med surge nurses to do routine patient care allowing L&D or advanced practice nurses to concentrate on OB related issues
 - ✓ Reading fetal heart tracings
 - ✓ Magnesium or oxytocin drips
 - Use centralized monitoring if available : station a nurse in shifts to watch the strips with phone number with each nurse to alert if abnormality seen
- **Change in responsibilities for documentation**
 - Need protocols written reflecting changes
- **Extending shifts**
 - Eight to 12 hours or from 12 hours to 16 hours
 - Offer incentives for staff to work overtime
- **Reassign nursing administrative staff**
 - Assume patient care roles

Staff: MD

1. Consolidate MD groups and provide group care
2. If in a teaching hospital , consider independent care given by your licensed senior residents and fellows
3. Keep MDs “in reserve”
 - Have MDs work 1 week at a time and others staying at home in case of attrition from illness
 - In case of exposure with no symptoms and non-immunocompromised can return to work with a mask
4. Have OB designated MDs
 - Avoid having OB/GYN MDs going to ED for GYN consults (at high risk for COVID exposure) and then coming back to work on L&D
5. Use non-MD providers to their highest-level scope of practice
 - NP to do postpartum rounds
 - CNMs triage/postpartum rounds

Supplies: Shortages

1. Fetal monitors

- Use dopplers and intermittent monitoring for low risk patients
- Use single monitor for 2 patients by using twin mode

2. Oxygen availability: Each room has 2 oxygen outlets (1 mom & 1 baby)

- Have splitter available in the rooms to accommodate doubling up of patients to accommodate 2 babies and 2 moms

3. PPE

4. Blood products

Supplies: Shortages

Anticipated

- Masks – review CDC guidelines

Checklist for Healthcare Facilities: Strategies for Optimizing the Supply of N95 Respirators during the COVID-19 Response



[Strategies for Optimizing the Supply of N95 Respirators](#) offers a series of strategies or options on how healthcare facilities can optimize supplies of disposable N95 filtering facepiece respirators when there is limited supply availability. This checklist is intended to help healthcare facilities prioritize the implementation of the strategies following the prioritization used in the concept of surge capacity. The following strategies are categorized in a continuum of care and further organized according to the hierarchy of controls, as defined below.

Conventional Capacity Strategies consist of providing patient care without any change in daily practices

Engineering Controls reduce exposures for healthcare personnel (HCP) by placing a barrier between the hazard and the HCP.

- Isolate patients in an airborne infection isolation room (AIIR)
- Use physical barriers such as glass or plastic windows at reception areas, curtains between patients, etc.
- Properly maintain ventilation systems to provide air movement from a clean to contaminated flow direction

Administrative Controls refer to employer-dictated work practices and policies that reduce or prevent hazardous exposures.

- Limit the number of patients going to hospitals or outpatient settings by screening patients for acute respiratory illness prior to non-urgent care or elective visits
- Exclude all HCP not directly involved in patient care (e.g., dietary, housekeeping employees)
- Reduce face-to-face HCP encounters with patients (e.g., bundling activities, use of video monitoring)
- Exclude visitors to patients with known or suspected COVID-19
- Implement source control: Identify and assess patients who may be ill with or who may have been exposed to a patient with known COVID-19 and recommend they use facemasks until they can be placed in an AIIR or private room.
- Cohort patients: Group together patients who are infected with the same organism to confine their care to one area
- Cohort HCP: Assign designated teams of HCP to provide care for all patients with suspected or confirmed COVID-19
- Use telemedicine to screen and manage patients using technologies and referral networks to reduce the influx of patients to healthcare facilities

continue on next page

Supplies: Shortages

Blood

With a continued risk to blood product supply, we ask for your quick review of and adherence to transfusion and care guidelines below.

The use of restrictive transfusion practices has been shown to be equivalent or better for patient care in many scenarios and should be practiced at all times. During this time of uncertainty, it is imperative to use transfusion judiciously.

RBC transfusions:

1. Send type and screen and blood type verification sample in a timely manner (on new patients) to ensure that type-specific blood can be issued and O-neg universal inventory preserved for emergencies
2. Transfuse symptomatic patients only when **hemoglobin <7 g/dl**. A higher threshold of 8 g/dl should be considered only for patients with significant coronary artery disease.
3. Review daily lab testing and minimize #/frequency of draws to only those that will impact clinical decision making.

Platelets transfusions: transfusions should be considered for counts below the following thresholds

1. **<10k** for non-bleeding patients, without planned procedure
2. **<20k** for low risk procedures such as line placements, paracentesis, thoracentesis, and lumbar punctures
3. **<50k** for bleeding patients or prior to most surgeries. Plt >50k should be reserved for neurosurgical procedures.
4. For procedures requiring transfusion, it should be started alongside the procedure or immediately before to mitigate consumption and sequestration.
5. Antifibrinolytic agents such as aminocaproic acid and tranexamic acid should be considered to help control bleeding.
6. Cardiopulmonary bypass patients with bleeding should get TEG testing to guide the need for specific product therapy instead of empiric transfusion of multiple products.

Plasma transfusions: avoid prophylactic therapy based on INR prior to procedures. Meta-analysis finds that patients with INR ≤ 2.0 do not have higher bleeding risk compared to normal range INR across a wide variety of minor and major procedures.

Consultation with transfusion medicine (**Pager #12027 staffed 24/7**) and hematology (**SHC: p#27436 SCH/LPCH #24362**) is encouraged with any blood product questions, especially on patients with platelet refractoriness or bleeding.

Governor's Suspension: Government code section 8571

- The Governor can suspend any regulatory statute if he/she determines that compliance would prevent/delay the mitigation of the effects of a state emergency

California Department of Public Health Standards and Guidelines for HealthCare Surge during an Emergency

OB disaster planning webinars

Quarterly webinars for OB disaster planning on Zoom

Friday March 27, 1 pm

Join from PC, Mac, Linux, iOS or Android:

<https://stanford.zoom.us/j/529012742>

Or iPhone one-tap (US Toll): +18333021536,,529012742# or
+16507249799,,529012742#


Or Telephone: Dial: +1 650 724 9799 (US, Canada, Caribbean Toll) or +1
833 302 1536 (US, Canada, Caribbean Toll Free)

Meeting ID: 529 012 742

Or email: Kdaniels@Stanford.edu

Surge capacity planning – NICU considerations

- NICUs often built with limited isolation rooms
 - Older, open bay style not able to provide airborne precautions
 - Smaller/lower level NICUs often lacking isolation capacity
→ some PUI babies will require transfer to regional NICUs if requiring respiratory support due to risk for AGPs
- Stanford plan for overflow when NICU airborne capacity is reached
 - PICU triage: PICU vs. NICU care/oversight
 - Ad hoc conversion of open bay room to cohort COVID PUI babies not requiring aerosol generating procedures



Considerations for Pregnant Healthcare Providers

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Pregnant Healthcare Providers (HCP)

- Data is very limited about the susceptibility of pregnant women to COVID-19
- Pregnant healthcare providers should adhere to general infection prevention and control practices per CDC guidance
- Per CDC: *“Facilities may want to consider limiting exposure of pregnant HCP to patients with confirmed or suspected COVID-19, especially during higher risk procedures (e.g. aerosol generating procedures) if feasible based on staffing availability.”*

Policy at LPCH Stanford for Pregnant Healthcare Providers (HCP)

- Pregnant providers and staff should limit, whenever possible, direct care of patients with confirmed or suspected COVID-19
- The available data do not support removing pregnant providers from work at this time, however this should be reassessed as additional data are available
- Recommendation for pregnant staff to avoid all in-person patient contact after 37 weeks to decrease maternal infection risk and the chance of mother-infant separation after birth if mother is COVID-19+



Closing

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CPQCC and CMQCC data collection on COVID

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- **Goals:** Keep track of maternal and neonatal cases of COVID-19. Collaborative support of our members.
- **Each unit, please email:** Jennifer H. Kang (jeehwang@stanford.edu) with:
 1. Best contact info for your unit on COVID-19 data
 2. Any cases of COVID-19 in mother and/or baby
 3. Any issues surrounding COVID-19 that you may experience
 - For future webinar topic
 - For supporting each other during this time in best practices and resources

Q&A

Christina Oldini

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THANK YOU!

For access to today's slides and webinar recording and additional COVID-19 resources for maternal/infant health please visit:

www.CAperinatalprograms.org

***For further information or questions please contact:
info@cmqcc.org or info@cpqcc.org***