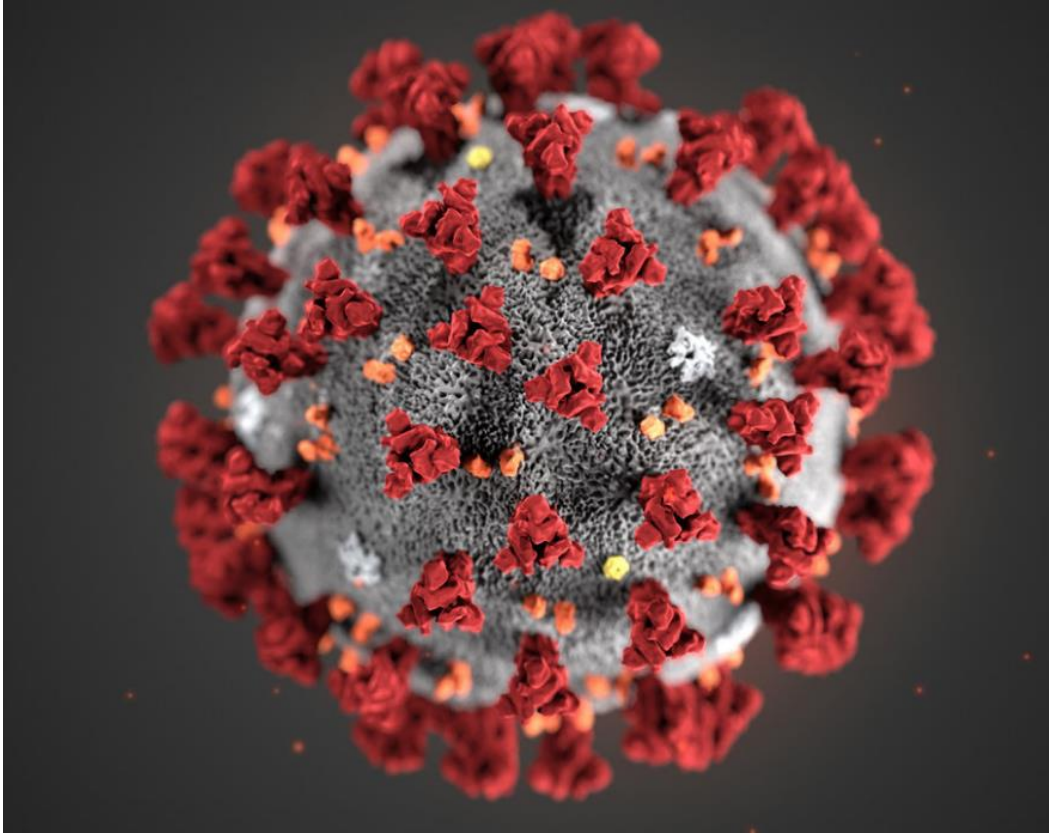


Kaiser Permanente Northern California Mitigation Phase Playbook Coronavirus Disease 2019 (COVID-19)



Disclaimer

This Playbook contains internal guidance for Kaiser Permanente based on information generally available as of the issuance date specified on the cover page.

This information is intended for clinicians only. Information for consumers can be found at: [cdc.gov](https://healthy.kaiserpermanente.org/alerts/p1/2019-novel-coronavirus-feb-2020) or <https://healthy.kaiserpermanente.org/alerts/p1/2019-novel-coronavirus-feb-2020>. This information and advice published or made available through this Playbook is not intended to replace the services of a physician, nor does it constitute a doctor-patient relationship. Information in this Playbook is provided for informational purposes only and is not a substitute for professional medical or public health advice.

Kaiser Permanente Northern California

Mitigation Phase Playbook

Coronavirus Disease 2019 (COVID-19)

LICENSE AGREEMENT

We are pleased to provide this Kaiser Permanente Mitigation Phase Playbook Coronavirus Disease 2019 (COVID-19) (“Playbook”) for informational purposes. By accessing or using the Playbook, you, on behalf of your organization (“you” and “your”), agree to the following terms and conditions:

License. Kaiser Foundation Health Plan, Inc., (“Kaiser Permanente”) grants you, and you accept, a perpetual, non-exclusive, non-assignable, non-sublicensable and non-transferable limited license to use, modify, copy and create derivative works, in whole or in part, of the Playbook for your own non-commercial, internal business purposes. This license does not include the right to use or display Kaiser Permanente’s name or trademarks in any manner except to the extent they have been incorporated by Kaiser Permanente into the Playbook and such use or display is necessary in order to use the Playbook as licensed. You may not remove or alter any of the proprietary markings or disclaimers included in the Playbook by Kaiser Permanente, including this License Agreement. Kaiser Permanente may terminate this license at any time with or without cause.

Disclaimer. The Playbook was developed by Kaiser Permanente for its own internal use based on information available at the time it was developed and is provided to you for informational purposes only and does not constitute medical advice. Authoritative guidance concerning COVID-19 should be obtained from the Centers for Disease Control and Prevention and other official sources. If you choose to utilize or implement all or part of the Playbook or any adaptations within your organization, such utilization or implementation should be completed in consultation with appropriate medical professionals and others with expertise in the applicable subject matter. Kaiser Permanente provides no assurances or representations as to the accuracy, effectiveness or usefulness of the Playbook and will not be responsible for providing any updates. KAISER PERMANENTE MAKES AND YOU RECEIVE NO WARRANTY, EXPRESS OR IMPLIED, UNDER THIS AGREEMENT, AND ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, AND ANY OTHER WARRANTIES ARE EXPRESSLY EXCLUDED. IN NO EVENT WILL KAISER PERMANENTE OR ANY ENTITY PARTICIPATING IN THE KAISER PERMANENTE MEDICAL CARE PROGRAM (“KP ENTITY”) BE LIABLE FOR ANY LOSS OF OR DAMAGE TO REVENUES, PROFITS OR GOODWILL OR OTHER SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, EXEMPLARY, OR PUNITIVE DAMAGE OF ANY KIND RESULTING FROM THE LICENSE GRANTED HEREUNDER, INCLUDING WITHOUT LIMITATION ANY INTERRUPTION OF BUSINESS, PERSONAL INJURY OR PROPERTY DAMAGE, UNDER ANY THEORY OF TORT, CONTRACT, WARRANTY, STRICT LIABILITY OR NEGLIGENCE, EVEN IF KAISER PERMANENTE HAS BEEN ADVISED, KNEW, OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. KAISER PERMANENTE SHALL NOT BE LIABLE TO YOU OR ANY OTHER PARTY FOR ANY LOSS OR DAMAGE WHATSOEVER OR HOWSOEVER CAUSED ARISING DIRECTLY OR INDIRECTLY IN CONNECTION WITH THIS LICENSE AGREEMENT, USE OF THE PLAYBOOK, OR OTHERWISE, EXCEPT TO THE EXTENT SUCH LIABILITY MAY NOT BE LAWFULLY EXCLUDED (IN WHICH CASE KAISER PERMANENTE’S LIABILITY IS LIMITED TO \$100).

Indemnification. To the extent permitted or authorized by law, you agree to indemnify, defend and hold Kaiser Permanente and the KP Entities and their respective employees, officers and agents, harmless, from and against any claims, lawsuits, damages, proceedings, or causes of action (including reasonable attorneys’ fees and any costs associated with defending such claims) arising from or relating to your use of all or any part of the Playbook.

Governing Law. This License Agreement shall be governed and construed in accordance with the laws of the State of California without regard to its conflict of laws principles. Any legal action shall be brought in and you consent to the jurisdiction of the state and federal courts located in Alameda County, California.

Table of Contents

Executive Summary	5
Virology	5
Strategies for Viral Control.....	5
COVID-19 Epidemiology in California and the West Coast.	6
Conclusions from the Virology and Epidemiology	6
Mitigation Strategy Outlined	7
Introduction and Purpose	10
COVID-19 Virology	11
General Strategies for Viral Control	11
Containment	11
Mitigation.....	11
Infection Control	11
Infection Control Planning Assumptions: Based on current data COVID-19 virology	12
Source Control and Screening Areas.....	12
PPE Stewardship and Isolation General Considerations	12
Cohorting of COVID-19 Patients.....	14
Cohorting of COVID-19 Patients and Reusable Equipment	14
Environmental Cleaning.....	14
Communications	14
Patient Education and Outreach.....	14
Physician and Staff Education	14
Human Resources	15
Healthcare Worker Exposure	15
COVID-19 Screening Workflows	15
Facility Access Points.....	15
Visitor Access	15
Call Center/Online Strategies	15
Online Messaging and Appointment Booking	15
Appointment and Advice Call Center Messaging.....	16
Appointment and Advice Call Center Staffing	16
Outpatient Clinics	16
Virtual Appointment Supply Management.....	16
Conversion of Existing Appointments to Telephone Appointment Visit (TAV)or Video Appointment Visit (VAV)	16

COVID-19 Clinic Workflows.....	17
Hospital Facilities.....	18
Emergency Department.....	18
Adult Inpatient.....	19
Direct ED Admit Workflow.....	20
Inpatient Admission from Medical Office Building (MOB) Workflow.....	21
Inpatient Admission via Ambulance Transfer.....	22
Inpatient Workflow: What to do when the patient gets to the unit.....	23
Respiratory Therapy Workflows Specific to COVID-19.....	25
Imaging Services.....	26
CT Workflows Specific to COVID-19.....	26
Portable X-Ray Mitigation Workflow.....	28
Intensive Care Unit.....	28
Adult Code Blue.....	29
Pediatric Code Blue.....	29
Neonatal Code Blue.....	31
Perioperative Planning Guidelines.....	33
Guiding Principles.....	33
Perioperative Services Plan.....	33
Perioperative Surgery Guidance.....	34
Surgical Approval Workflow.....	34
Pediatrics.....	35
Inpatient Planning.....	35
Inpatient Workflow.....	35
Maternal Child Health.....	36
Interfacility Transport to a Healthcare Facility by Neonatal or Pediatric Critical Care Transport Team.....	40
Transport Initiation: Referring facility discussion with medical control physician.....	40
Transport Team: Arrival at referring facility.....	40
Entering Ambulance.....	41
Aerosol Generating Procedures.....	41
Ambulance Notification and Preparation for Arrival.....	41
Ambulance Arrival.....	42
Ambulance Patient Rooming.....	42
Guidance for Accompanying Family Members or Caregivers:.....	42
Cleaning EMS Transport Vehicles after transporting a PUI or patient with Confirmed COVID-19.....	42

Pharmacy	43
Delivery System Strategy	44
Staffing to Maintain Critical Services	44
Communication.....	44
Laboratory/Testing	44
Community Evaluation.....	44
Hospital Evaluation	45
Care Continuum	45
Nursing Facilities	45
Home Health, Hospice and Other Home Care Programs.....	46
Appendices	48
Ambulatory – Covid-19 Mitigation Workflow Diagram	48
Emergency Department – Covid-19 Mitigation Workflow Diagram.....	50
Inpatient –Admission from Emergency Department (ED) Workflow Diagram.....	50
Inpatient – Admission from Medical Office Building (MOB) Workflow Diagram	52
Inpatient – Admission via Ambulance Transfer Workflow Diagram.....	53
Labor and Delivery – Covid-19 Mitigation Workflow.....	54
Respiratory Therapy – Covid-19 Mitigation Workflow Diagram.....	56
Imaging Services (revised 3/5/2020)	57
CT Workflows Specific to COVID-19 slide 1	57
CT Workflows Specific to COVID-19 slide 2	58
Portable X-ray and C-arm – Covid-19 Mitigation Workflow	59
Perioperative – Example of Resource Needs for Outpatient Urgent Bariatric Surgeries Resources Needed	60
Nursing Facilities Workflow (Updated 3/12/20).....	62

Executive Summary

Coronavirus Disease 2019 (COVID-19) community transmission is occurring in California outside of the current containment zones that exist at Travis Air Force Base (AFB) and several Northern California community hospitals. Given the length of time community transmission is suspected to have been occurring, the ability of the virus to be transmitted in an asymptomatic manner, and the inability to identify original sources of the infection, containment of the virus to terminate the outbreak is not feasible.

It is critically important that California moves from a containment strategy to a mitigation strategy immediately to slow the spread of the virus, reduce the surge on an already stressed healthcare system, provide the right level of care where the vast majority of Californians will only require time-limited home isolation, expand testing capability to increase hospital capacity, and to tailor isolation in medical facilities to the known mode of transmission of this virus which is via droplets.

Mitigation will allow us to maintain the function of our healthcare system in the midst of an anticipated significant increase in disease burden expected to last several months based on China's experience.

This playbook provides the summary for a mitigation strategy in the State of California and its hospital systems. Each of the items listed in the mitigation strategy section have detailed operational plans to support them.

Virology

COVID-19 is caused by the Severe Acute Respiratory Syndrome Coronavirus Type 2 (SARS-CoV-2). Much is still to be determined about the virus, but the following characteristics of the virus based on multiple early reports are the following:

- **Incubation Period:** Estimated to be **2-14 days**.
- **Mode of Transmission:** **Droplets which can spread 3-6 feet within a person coughing.** Reports out of China indicate most infections have occurred in close contacts with family, colleagues, or healthcare workers with a contagious individual. **Asymptomatic individuals have been documented to transmit the virus.** Some evidence of spread has occurred through contact with surfaces contaminated with droplets, but this does not appear to be the primary mode of spread.
- **Transmissibility:** The level of contagiousness is labeled the R_0 . The R_0 is estimated to be somewhere between 2-4 depending on the scientific paper. This means that one infected person will *on average* spread the virus to 2-4 individuals. This R_0 would make COVID-19 more transmissible than standard influenza and potentially similar to the SARS.
- **Severity:** **80% of individuals with documented COVID-19 disease have asymptomatic/mild illness.** Different reports **estimate the mortality rate to be between 2-3%.** The mortality rate is likely lower since asymptomatic individuals are less likely to seek care and get tested.
- **Convalescence:** The period at which an individual is clinically recovered and no longer capable of transmitting the virus is still to be determined. **CDC has determined that viral shedding may occur for 15-30 days after onset of infection.**

Strategies for Viral Control

1. **Containment:** **Containment strategies are designed to halt the spread of an infection. Ultimately the goal is to isolate individuals with the infection as well as those potentially exposed to the infection with the goal of preventing spread to the general population.** If successful, a containment strategy can prevent further spread and terminate an outbreak. Containment requires a high degree of resource intensive measures that include the use of airborne isolation rooms, personal protective equipment, healthcare personnel, and potentially other equipment. Containment measures work when a relatively small number of patients are infected in concentrated locales. However, when an infection spreads into a community, then the measures can be counterproductive since they do not scale to diagnosis, treatment, or containment for large populations.
2. **Mitigation:** **Mitigation strategies are designed to divide the patients based on severity of symptoms, so individuals receive the right level of care in the right setting. They are designed to minimize the effects of an infection on a population when the infection can no longer be contained.** Mitigation strategies allow for the appropriate use and deployment of resources to respond to a large-scale outbreak that is already embedded in the community.

COVID-19 Epidemiology in California and the West Coast: *These facts, which were accurate as of 3/6/20, are now out of date as there has been significantly more community spread, another Princess Cruise ship with numerous Covid-19 positive individuals docked and evacuated in Oakland, California, and an increased prevalence of ill Covid-19 positive patients and PUIs arriving to our Northern California clinics and hospitals.*

1. **Princess Cruise (Japan) Ship Evacuees:** More than 20 individuals of the cohort evacuated to Travis AFB have required transfer to hospitals because of COVID-19 positive test results. These individuals have had either minimal or no symptoms. Due to containment isolation precautions, they have required a significant amount of personnel and equipment resources, and most community hospitals can only take 1-2 patients given the resource intensive nature of care. No healthcare worker exposures have resulted from this cohort, and no documented secondary transmission has occurred. However, all of these individuals met the current definitions of a Person Under Investigation (PUI).
2. **Community Transmission:** There are two known COVID-19 cases in California with no known travel or other risk factors for COVID-19 acquisition. Solano and Santa Clara Counties each have one case, and both individuals have been hospitalized. Due to not meeting the standard definition of a PUI, multiple healthcare workers were exposed resulting in furloughing of large numbers of hospital staff. Hospital operations were significantly affected in the emergency departments, intensive care units, and other allied personnel functions.

These two individual cases are representative of community transmission. Both were exposed some 2-14 days prior to developing infection. Both likely exposed multiple individuals and transmitted the infection more than 1-2 weeks ago. Therefore, secondary and further generational spread has likely occurred in multiple locales in California. Due to the containment definition of a PUI, which has limited the scope of testing, and the lack of available testing, it is likely these cases represent the most ill members of a much larger community cohort that is largely asymptomatic/mildly symptomatic and actively transmitting the infection in the locales.

The Oregon and Washington experiences would indicate that community transmission is occurring widely on the West Coast of the continental United States.

Conclusions from the Virology and Epidemiology

COVID-19 is a disease that is primarily spread by droplets, is more easily transmitted than seasonal influenza, and can spread via asymptomatic individuals who would not normally seek medical care or evaluation. The West Coast epidemiology demonstrates that community transmission is already occurring. The testing strategy in the U.S. would only find severely ill individuals. Based on data from China and the length of time these two California individuals with no known travel or other risk factors for COVID-19 acquisition have been hospitalized (9-10 days), one would conclude:

- There is ongoing community transmission, likely now 2-3 generations from these two individuals
- If only 20% of individuals seek medical attention, then there are multiple mildly ill/asymptomatic individuals in the community who are transmitting the virus now despite inpatient containment measures.
- The current furloughing of healthcare workers will not stop the spread of the virus or secondary transmission because of the above. In fact, healthcare workers are likely to be exposed in the very community to which they are furloughed given the evidence of community transmission in California.
- The current containment focused PUI definition is being rendered irrelevant because any individual might be at risk for the infection given the evidence of community transmission.

Containment of COVID-19 is no longer possible with clear evidence of community transmission outside of the hospital containment zones. Containment measures are not designed to mitigate disease spread and have the opposite effect of placing strain on the healthcare system in the context of widespread disease. To preserve the health of the public, get the right care to the right patients, preserve the resources in terms of personnel and medical resources, a change to a mitigation strategy is critically important if California is to be successful in reducing the impact of COVID-19.

Mitigation Strategy Outlined

1. Use of Droplet Precautions: In healthcare settings, droplet precautions should be used. Use of an isolation mask, disposable gowns, gloves, and eye wear (goggles, safety glasses, or face shields) will provide protection for healthcare workers from this novel virus. This action will simplify workflows for larger volumes of patients and preserve the use of N-95 respirators, powered air purifying respirators (PAPRs), and controlled air purifying respirator (CAPRs) for true airborne diseases such as tuberculosis. For high-risk procedures such as intubation or bronchoscopy, airborne isolations would still be employed for suspected or confirmed COVID-19 patients.

Single rooms are sufficient for droplet precautions. Thus, any single room in a hospital could be used and significantly increase California's ability to care for a larger number of hospitalized COVID-19 patients. That would preserve airborne isolation infection rooms (AIIR or negative pressure rooms) for airborne diseases.

2. Placement of Patients:
 - a. Asymptomatic/Minimally Symptomatic: For patients with mild cold or minimal symptoms, they will be advised to stay at home (in home isolation) until well (resolution of fever, improvement in cough, etc.). They do not require specific testing. Evaluation will be done by phone or video visit. Follow up for worsening of symptoms can be done either via telemedicine via treatment protocols or self-transport to an appropriate clinic or emergency department based on severity of illness. The patients would be advised to not go to work or school as per our approach to influenza-like illness. Supportive measures at home are effective.
 - b. Designated Sites for Outpatient Evaluation: For those individuals with more significant cold, cough symptoms, evaluation at points of contact and designated sites which could include tents, alternate Testing Sites including "drive through" testing areas for COVID, flu, RSV testing of already evaluated patients, mobile units, or other clinic sites will be set up. For those individuals that need testing—self testing or healthcare worker administered testing using oropharyngeal/nasopharyngeal swabs would

- be done. This approach would allow for minimizing potentially infected persons through the entire clinic building and allow for efficient use and placement of personal protective equipment.
- c. Emergency Departments/Hospitals: A patient would be in a single room. Droplet precautions that include gloves, gowns, and eyewear would be used. If the number of hospitalized patients with COVID-19 increases significantly, cohorting would be possible with available testing. As an example, if two individuals were both known to be COVID-19 positive, then they could be placed in the same room. Cohorting would be determined based on infection prevention professionals in the hospital in conjunction with hospital leadership.
 - d. Alternate Hospital Settings: If the existing hospital infrastructure is overwhelmed, opening mobile hospitals that are available from the National Guard or the Department of Defense should be strongly considered. Placement of the mobile hospital units would be on state land given the DoD's current force protection order. Medical staffing would be coordinated through the California Emergency Medical Services Authority via volunteers, similar to actions taken during the recent Northern California fire responses.
 - e. Visitor Restrictions: As per approaches taken during the H1N1 pandemic, hospitals could institute visitor restrictions. Those with active colds, cough would be asked to not visit. Those individuals who are not close contacts (*e.g. not* family members) of the patient would be asked not to visit. Age restrictions are an additional option.
 - f. Discontinuation of Isolation: We would move to a strategy used for influenza. If there is resolution of symptoms (fever, reduction in cough, *etc.*) an individual could return to work or school. Outpatients would not require additional testing via Oropharyngeal/Nasopharyngeal swabs (OP/NP). Isolation would continue in the hospital setting until discharge or, if they were to stay in the hospital for a longer period of time, until OP/NP swabs return negative per current CDC guidelines.
3. Testing: A testing strategy would focus on defining the presence and extent of ongoing community transmission and aid in the determination of the need for isolation in inpatient settings.
 - a. Community Evaluation: During cold and flu seasons, we initially test inpatient and outpatient patients with suspected influenza. It is recommended we have testing available for both inpatients and outpatients at this time so we can define the extent of community spread, protect the hospital population who are not infected with COVID-19, and to efficiently use single rooms for isolation. Testing availability at the public health and community hospital level will be important to preserve hospital flow for either continuation or discontinuation of isolation. Once community spread is determined to be present, it is recommended that outpatient testing could be discontinued since the actions that need to be taken (*i.e.*, home isolation, supportive self-care) are clear, and there is no additional specific treatment for COVID-19 that would be altered by testing (unlike influenza where there are specific therapies available).
 - b. Hospital and Emergency Department Testing: COVID-19 testing should remain in place and available for the inpatient setting through the entirety of the epidemic because the results will determine the need for isolation.
 - c. Availability of Testing: Ideally COVID-19 testing would be available in the local public health department labs and eventually in hospital labs to facilitate efficient hospital workflows.
 4. Healthcare Workers (HCWs): Given the presence of community transmission, HCWs are just as, if not more likely, to be exposed in the community as they are in the hospital. Furloughing of individuals who have had a breach in Personal Protective Equipment (PPE) or were not using PPE for an individual being ruled out or with confirmed COVID-19 needs to be reconsidered.
 - a. Workplace Exposure to Suspect or Confirmed COVID-19 Patient: As per guidelines for exposure to influenza or other contagious diseases, the employee will perform delegated self-monitoring for fever, cough, and other symptoms. If they become ill, they should remain off work until their fever resolves and their cough and other symptoms are improving.

- b. Testing for COVID-19. Specific testing for COVID-19 would be done based on clinical severity as outlined above.
 - c. Symptomatic HCWs: Individuals with COVID-19 like symptoms, without known occupational exposure, would be off work as per existing guidelines. If clinically appropriate based on disease severity, undergo testing for COVID-19. If positive, the HCW remains off work until their fever has resolved and cough is improving.
5. Emergency Medical Service (EMS)/Transport: EMS and medical transport of suspected and confirmed cases of COVID-19 would use droplet precautions.

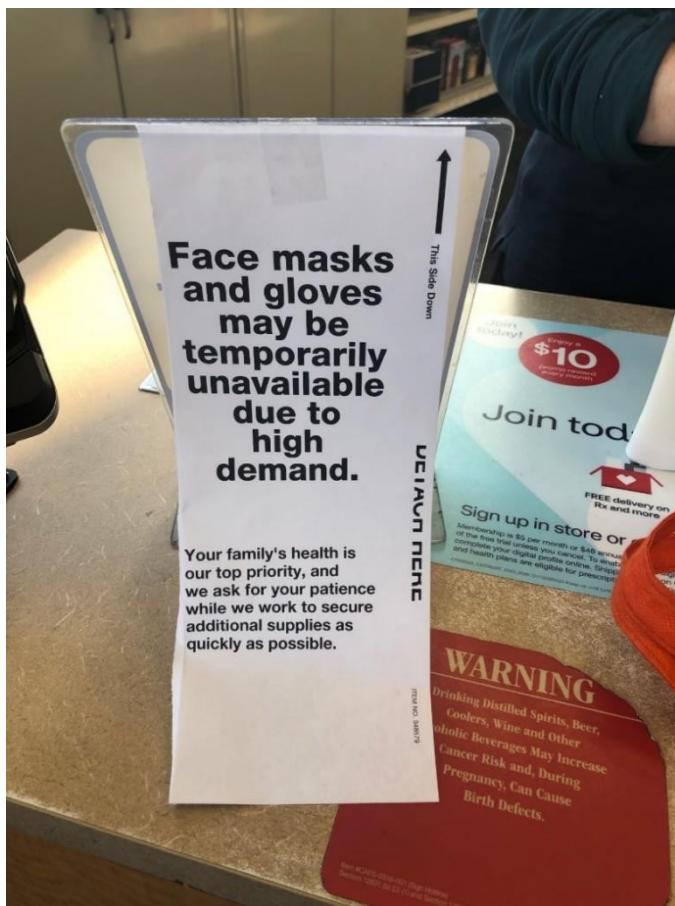
DRAFT

Introduction and Purpose

The current national guidelines for addressing the COVID-19 outbreak are based on containment principles. It is critically important that California moves to a mitigation strategy immediately to slow the spread of the virus, reduce the surge on an already stressed healthcare system, provide the right level of care where the vast majority of Californians will only require time limited home isolation, expand testing capability to increase hospital capacity, and to tailor isolation in medical facilities to the known mode of transmission of this virus which is via droplets.

Mitigation will allow us to maintain the function of our healthcare system in the midst of an anticipated significant increase in disease burden expected to last several months based on China's and other international experience.

This paper provides the summary for a mitigation strategy in the State of California and the hospital systems. Each of the items listed in the mitigation strategy section have detailed operational plans to support them.



COVID-19 Virology

COVID-19 is caused by the Severe Acute Respiratory Syndrome Coronavirus Type 2 (SARS-CoV-2). Much is still to be determined about the virus, but the following characteristics based on multiple early reports are the following:

- **Incubation Period:** Estimated to be **2-14 days**
- **Mode of Transmission:** **Droplets which can spread 3-6 feet within a person coughing.** Reports out of China indicate most infections have occurred in close contacts with family, colleagues, or healthcare workers with a contagious individual. **Asymptomatic individuals have been documented to transmit the virus.** Some evidence of spread has occurred through contact with surfaces contaminated with droplets, but this does not appear to be the primary mode of spread.
- **Transmissibility:** The level of contagiousness is labeled the R_0 . The R_0 is estimated to be somewhere between 2-4 depending on the scientific paper. This means that one infected person will *on average* spread the virus to 2-4 individuals. This R_0 would make COVID-19 more transmissible than standard influenza and potentially similar to the SARS.
- **Severity:** **80% of individuals with documented COVID-19 disease have asymptomatic/mild illness.** Different reports **estimate the mortality rate to be between 2-3%.** The mortality rate is likely lower since asymptomatic individuals are less likely to seek care and get tested.
- **Convalescence:** The period at which an individual is clinically recovered and no longer capable of transmitting the virus is still to be determined. However, the **CDC has determined that viral shedding may occur for 15-30 days after onset of infection.**

General Strategies for Viral Control

Containment

Containment strategies are designed to halt the spread of an infection. Ultimately the goal is to isolate individuals with the infection as well as those potentially exposed to the infection with the goal of preventing spread to the general population. If successful, a containment strategy can prevent further spread and terminate an outbreak. Containment requires a high degree of resource-intensive measures that include the use of airborne isolation rooms, personal protective equipment, healthcare personnel, and potentially other equipment. Containment measures work when a relatively small number of patients are infected in concentrated locales. However, when an infection spreads into a community, then the measures can be counterproductive since they do not scale to diagnosis, treatment, or containment for large populations.

Mitigation

Mitigation strategies are designed to divide the patients based on severity of symptoms, so individuals receive the right level of care in the right setting. They are designed to minimize the effects of an infection on a population when the infection can no longer be contained. Mitigation strategies allow for the appropriate use and deployment of resources to respond to a large-scale outbreak that is already embedded in the community.

Infection Control

Infection Control Planning Assumptions: Based on current data COVID-19 virology

- COVID-19 is primarily spread person-to-person via respiratory droplets between people who are in close contact. Respiratory droplets are too large to travel a long distance from the source.
- Respiratory droplets may drop on surfaces or objects, but this is not thought to be the main way the virus spreads.
- Respiratory droplets may be aerosolized during aerosol-generating high-risk procedures such as intubation, bronchoscopy, sputum induction, etc.
- Little is known about the duration of viral shedding or infectivity of the virus, but those exhibiting active symptoms become more infectious after several days.
- The time of survival and the conditions affecting the viability of COVID-19 in the environment are currently unknown. However, COVID-19 can be killed by any disinfectants with kill claim for enveloped viruses when used properly.

Source Control and Screening Areas

- Patients with minimal symptoms will be advised to stay at home until well (resolution of fever, improvement in cough, etc.). Evaluation by phone or video visit will be encouraged.
 - Patients will be advised to home isolate and work restrict until well.
 - These patients do not require testing.
- All patients presenting to a medical facility will be greeted at the entrance of each facility by Ambassadors. Ambassadors will conduct Safety Checkpoints at portals of entry. Patients who endorse cough or shortness of breath will be directed to put on a mask before they are directed to the appropriate venue.
- Sick employees must stay home.
- Screening areas for COVID-19 **need not be** a private room. However, patients must be at least 3 feet apart (with patient and/or staff masked) and provided privacy consistent with applicable state and federal law.

PPE Stewardship and Isolation General Considerations

- Overall PPE Stewardship Strategies
 - Development of a dedicated “Swab Swat Team” accountable for testing patients (relevant to outpatient/medical office building (OP/MOB), ED, and Hospital)
 - Greeter policies/workflows and restrictions of entrances (relevant to OP/MOB, ED, and Hospital)
 - Development of Alternative Testing Sites (relevant to OP/MOB)
- Specific PPE Stewardship Guidance
 - For process and implementation, identify a PPE Manager responsible for PPE stewardship
 - N95 Use
 - Use of expired N95 masks has been approved (by the CDC) once unexpired supply is exhausted
 - Re-use fit test units
 - N95 masks and fit-test units must be checked for integrity (wear and tear) and seal-check prior to use
 - Extended use for patient cohort (care for cohorted COVID positive patients, for example)
 - Re-use for airborne diseases with no contact precautions such as TB, measles
 - Surgical masks (with two ties)
 - Restrict to OR (Main, Ambulatory, Labor and Delivery (L/D), Interventional Radiology (IR), Cath Lab, sterile procedures in Procedure Rooms or line placement) use only
 - ONLY use inside the operating rooms and procedure rooms with ongoing surgery, sterile procedure or opened sterile items
 - Eye protection

- Use safety glasses for routine interactions with no procedures in lieu of goggles/face shield. For example, safety glasses should be used in routing interactions with those on Enhanced Precautions/COVID/PUI.
- Face shield and safety glasses can be cleaned with detergent and water after each use following manufacturer's instructions.
- **PAPR/CAPR**
 - Reserve the use of CAPR/PAPR for high-risk procedures on known patients with airborne diseases (e.g., TB) or COVID positive and PUIs
 - Assign dedicated staff to clean CAPRs and PAPRs
 - Clean hood of PAPR after each use with disinfectant wipes followed with a dampened cloth
 - Clean lens of CAPR after each use with disinfectant wipes followed with a dampened cloth
 - Additional Equipment
 - Use disposable supplies if available; otherwise, dedicate reusable supplies or equipment for patients suspected or confirmed to have COVID-19.
 - Reusable equipment must be cleaned routinely with hospital-approved disinfectant.
- **Initiate Airborne Precautions and wear PAPR/CAPR/N95** if performing or present in the room for high-risk procedures (intubation, bronchoscopy, sputum induction, suctioning, opening ventilator circuit, etc.) on patients suspected or confirmed to have COVID-19 and for patients sick enough to be in ICU for respiratory illness.
 - If available, perform high risk procedure in a **negative pressure room**; otherwise, a private room with closed door is adequate.
 - Work with Engineering to assist in conversion of rooms to negative pressure as possible
 - Limit high-risk procedures when impact to care is less obvious, i.e., nebulized medications without firm objective need, bronchoscopy when blind lavage will do, etc.
- **Limit transport and movement of PUI/COVID+ patients** outside of the room to medically necessary purposes.
 - Use alternative bedside procedures and imaging when possible.
 - Staff need not wear mask or other PPE if patient is wearing mask during transport.
 - Patient must be masked if ambulating outside the room or being transported for a procedure.
 - Those escorting patients/members with respiratory symptoms or suspected to have COVID-19 **need not wear mask**, if patient/member is **masked** and **staff able to maintain a minimum of 3-foot distance from patients**.
 - If patient is unable to wear mask, staff must put on mask while escorting.
 - Staff must wear full PPE if in direct contact (touching or providing care) with patient during transport
- **Avoid unnecessary testing and evaluation of patients** in isolation
 - Decrease vital sign assessments to medically appropriate intervals to match clinical condition and improvement in condition.
 - Testing and imaging only when needed for clinical indications (diuresis, clinically evident bleeding, change in urine output, change in tidal volumes, oxygenation, etc.)
 - Utilize alternative diagnostic methods rather than resource- and staff-intensive methods when appropriate (point of care ultrasound, etc.)
- **Use remote interaction with patients in isolation as appropriate**
 - 2-way intercom or phone
 - "Baby monitors" may suffice if patients unable to communicate
 - Remote telemonitoring equipment if available
- Droplet Precautions, Contact Precautions, and Eye Protection for patients suspected or confirmed to have COVID-19.

- **Negative pressure room NOT required unless patient needs high-risk procedures or requires critical care for respiratory illness.**
- Droplet Precautions for any patients with respiratory symptoms while being evaluated and treated.

Cohorting of COVID-19 Patients

- Patients on **Droplet Precautions** with **known respiratory disease/condition** other than COVID-19 may be cohorted according to policy and with local Infection Prevention / Infectious Disease (IP/ID) guidance.
- Patients **confirmed** with COVID-19 may be cohorted with local IP/ID guidance.
- PUIs must not be cohorted.

Cohorting of COVID-19 Patients and Reusable Equipment

- Patients **confirmed** with COVID-19 may be cohorted with local IP/ID guidance.
- Use disposable supplies if available; otherwise dedicate reusable supplies or equipment for patients suspected or confirmed to have COVID-19.
- Reusable equipment must be cleaned routinely with hospital-approved disinfectant.

Environmental Cleaning

- Rooms occupied by patients suspected or confirmed to have COVID-19 will be cleaned following protocols for routine daily and discharge cleaning.
- Environmental Services (EVS) will follow Droplet and Contact Precautions with eye protection while performing daily and discharge protocols for cleaning of room currently occupied by patients suspected or confirmed to have COVID-19.
- Rooms of discharged patients suspected or confirmed to have COVID-19 on Droplet Precautions **need not be closed** for 1 hour prior to cleaning (other than as specified below).
- Negative pressure rooms used by patients suspected or confirmed to have COVID-19 on **Airborne Precautions due to aerosol-generating procedures must be closed for at least 1 hour prior to cleaning. Room may be cleaned without waiting for 1 hour if EVS is wearing N95 mask.**

Communications

Patient Education and Outreach

- Email outreach to all members with generalized recommendations about COVID-19
- Prominent language content and visibility about COVID-19 across all patient technological platforms
- Outreach to members that explains shift to virtual care and education about what to expect should patients need to access care. Communications will develop materials that are appropriate for multiple audiences and translation of the information as appropriate.

Physician and Staff Education

- FAQs for Appointment and Advice Call Center (AACC) staff fielding a variety of questions
- Talking points and workflow to physicians about referral to Appointment and Advice Call Center for travel documentation
- Front Office Staff training to COVID-19 workflows
- Engage clinic directors to educate back office staff in COVID-19 workflows
- Functional communications about business operations, staff and service availability and regulatory agency imperatives
- We will provide standard talking points and information for leaders to cascade

- Clinical and operational questions
 - Epidemiology and outbreak updates
 - Workflow communications
 - Frequently asked questions
 - State of the response communications

Human Resources

Healthcare Worker Exposure

- If there is an exposure of an employee to a COVID-19 patient, the employee will self-monitor for symptoms of fever and upper respiratory tract infection
- If the employee does not have symptoms of fever or upper respiratory tract infection, the employee may continue to work
- If the employee experiences any symptoms of fever or upper respiratory tract infection, they will be tested for influenza and COVID-19 and remain off work according to the same practices used for influenza during flu season.

COVID-19 Screening Workflows

Facility Access Points

- Access to the medical facility will be limited to main portals of entry
- Ambassadors will be stationed at main portals of entry
- Ambassadors will conduct Safety Checkpoints at portals of entry
 - Patients who endorse cough or shortness of breath will be directed to put on a mask before they are directed to the appropriate venue

Visitor Access

- Limit one person to accompany the member for the appointment or visit the member while hospitalized
 - Visitors are restricted in the patient room to only one visitor at a time, and only if essential for the patient's emotional well-being and care. Clinical exceptions to this restriction may apply in Labor/Delivery settings under the clinician's guidance.
 - Individuals with symptoms of upper respiratory infection will be restricted from visiting
 - Anyone 14 or younger who is not a patient is not allowed to visit at this time
 - Instruct visitors and caregivers to wear a mask when outside the patient room and to clean hands before entering and leaving the patient room. All visitors should follow respiratory hygiene and cough etiquette precautions while in the facility.
 - Discourage visitors and caregivers from public locations within the medical facility (e.g. waiting room, cafeteria)
- Pediatric Patients
 - Limit visitors to a single caregiver when possible

Call Center/Online Strategies

Online Messaging and Appointment Booking

- Prominent messaging on kp.org with advice and clear instructions on COVID-19 questions/concerns

- Enhance online booking infrastructure and guidelines to channel patients with respiratory symptoms to the Appointment and Advice Call Center (AACC) with preferential booking of Telephone Appointment Visit or Video Appointment Visit in Adult Family Medicine, Pediatric and Gynecology service lines
 - In the event of surge, there is an option to turn off online Direct Appointment Booking and route all requests through the Appointment and Advice Call Center where trained staff can provide higher level of support

Appointment and Advice Call Center Messaging

- Taped information on COVID-19 for all members who call
- If Asymptomatic: FAQs addressing questions and miscellaneous concerns
- If Symptomatic: members with symptoms concerning for COVID-19 will be directed towards Telephone Appointment Visit or Video Appointment Visit when medically appropriate in Adult Family Medicine, Pediatric, and Gynecology service lines

Appointment and Advice Call Center Staffing

- Staff protocols to provide information at the appropriate level and improve advice rates
- Increased RN staffing and Clinical staffing (virtual or physical) to assist with increased volume of calls for URI symptoms
- All hands-on deck to assist with increased call volumes as needed

Outpatient Clinics

Virtual Appointment Supply Management

- Where appropriate, convert Directly Observed Visits (DOV) to virtual visits.
- Telephone appointment visits (TAV)/Video Appointment Visits (VAV) for booking in a timely manner
 - Outpatient clinics will increase TAV and VAV capacity by increasing available physicians and shift diverting physicians into the COVID-19 TAV/VAV queue
 - During surge, will further increase TAV and VAV capacity by creating regional pool of physicians from different KP facilities
- Build a **COVID-19 expert consulting team** to staff Telephone Appointment and Video Appointment Visits

Conversion of Existing Appointments to Telephone Appointment Visit (TAV) or Video Appointment Visit (VAV)

- Adult Family Medicine, Pediatrics, Gynecology
 - Medical Assistant will review clinic schedule daily to route chief complaints of cold/cough/respiratory symptoms to Telephone Appointment Visit or Video Appointment Visit when possible:

Service Line	Prospective Schedule Review: Converting Existing Appointments to TAV/VAV
AFM	<ul style="list-style-type: none"> • Implement MA/MD prospective schedule review each morning (PRIORITIZE AS FOLLOWS):

	<ul style="list-style-type: none"> ○ MA to call with scripting to offer VAV/TAV: <ul style="list-style-type: none"> ● (1) DOV appointments for cough/cold/flu/fever ● (2) Kp.org booking for “Other concerns” or “Other kp.org illness”. ● (3) Kp.org bookings for “Physical”. ○ For scenarios (1) and (2), call patient for more info, confirm if cold or flu symptoms. <ul style="list-style-type: none"> ● If screen positive, offer VAV/TAV. ● If screen negative, ok to come in and provide reassurance. ○ For scenario (3), consider whether appointment can be delayed.
PED	<ul style="list-style-type: none"> ● Implement MA/MD prospective schedule review each morning (PRIORITIZE AS FOLLOWS): <ul style="list-style-type: none"> ○ MA to call with scripting to offer TAV/VAV: <ul style="list-style-type: none"> ● Priority 1: kp.org DOV booking for “cough/cold” & “fever” ● Priority 2: kp.org DOV booking for all other “illness” complaints ● Priority 3: AACC DOV booking for any symptomatic concerns
GYN	<ul style="list-style-type: none"> ● Implement MA/MD prospective schedule review each morning (PRIORITIZE AS FOLLOWS): <ul style="list-style-type: none"> ○ MA to call with scripting to offer VAV/TAV: <ul style="list-style-type: none"> ● KP.org booking for “gyn other” and all counseling appointments (STD, BC, menopause) vaginitis and bleeding ● AACC bookings for symptomatic concerns as above. ○ MA to call for COVID symptom screening: <ul style="list-style-type: none"> ● All other GYN DOVs including Paps, routine care and procedures (e.g. Colpo) <ul style="list-style-type: none"> ● If screen positive for COVID screening, convert appointment to VAV/TAV with OBGYN ● If screen negative, ok to come in and provide reassurance. OK to offer VAV/TAV if appropriate. ○ MA call Prenatal patients for screening only. <ul style="list-style-type: none"> ○ If screen negative, ok to come in.

- Subspecialties
 - Chief and Managers will review the week’s upcoming schedules for opportunities to convert clinic schedule to Telephone Appointment Visit or Video Appointment Visits for specialized or chronic disease care
 - Review lab ordering practices to avoid bringing fragile patients onsite if it is not necessary

COVID-19 Clinic Workflows

Candidates for COVID-19 testing may be identified via virtual appointments or through planned and incidental physical arrivals

1. Planned Arrivals for Suspected COVID-19

- Patient has spoken with clinical staff and is prepared with information on where to go and what to expect
- Clinical staff are prepared for arrival of patient with materials, appropriate PPE, and pre-ordered tests per Infectious Diseases guidance.
- Employ the use of Alternative Testing Sites for COVID-19

- Alternative Testing Sites may include areas within or adjacent to medical facilities (**e.g. surge tent, “drive-through” sites**)
- Alternative Testing Sites should only be used by patient confirmed to be appropriate candidates for COVID-19 testing which have been approved by a physician.

2. Incidental Arrivals

- Utilize Ambassadors at the Medical Office Building Entrances
 - Limit points of entry to the Medical Office Buildings with pre-designated stations manned by Ambassadors
 - Ensure appropriate supplies for infection control are available at entrances (e.g. masks, hand sanitizer)
 - Upon arrival, Ambassador will screen patients on arrival for cough or shortness of breath and guide to appropriate screening area
 - Maintain 3-foot distance and wear appropriate PPE per Infectious Disease (ID) guidance
 - **If patient has cough or shortness of breath, place isolation mask on patient**
 - Recommend all visitors be excused from the screening area, with the exception of an adult family member for a pediatric patient, or a necessary caregiver for an adult patient
 - Patients with cough will be escorted from waiting room and into private room as quickly as possible—maintain 3-foot distance and wear appropriate PPE per ID guidance
 - Physician notification of patient arrival to screening area by staff or Assistant Nurse Manager (ANM)
 - Physician assessment in screening area using appropriate PPE per Infectious Disease guidance
 - If patient is suspected of COVID-19, consult with Infectious Disease regarding testing
 - Follow guidance for alternative testing sites above.

Hospital Facilities

Emergency Department

- Screening Areas
 - Screen patients for cough or shortness of breath.
 - For patients with cough or shortness of breath, cohort patients in the screening area during assessment:
 - Droplet/contact/eye protections
 - 3-foot minimum distance from other patients
 - Reasonable and appropriate privacy considerations
 - PPE must be changed between patients only for staff members who are unable to maintain a minimum distance of 3-feet from the patient
 - Recommend all visitors be excused from the screening area, with the exception of an adult family member for a pediatric patient, or a necessary caregiver for an adult patient
 - Physician notification of patient arrival to screening area by staff or ANM
 - Physician assessment in screening area uses droplet/contact/eye precautions for minimally symptomatic patients to determine if discharge to home is possible after rapid evaluation and treatment
 - Screening areas may utilize alternative care space.
 - Licensed
 - Patient care rooms
 - Other licensed areas
 - Unlicensed areas within and around ED
 - ED hallway beds and chairs

- ED waiting room
- ED administrative space (e.g. offices, conference rooms)
- Surge tent or care area
- Patient Assessment
 - Patient escorted and roomed in single ED treatment room following escorting guidelines
 - Use droplet/contact/eye protection unless critically ill or otherwise indicated by Infectious Disease
 - High risk procedures will be performed in a negative pressure room if available; otherwise, a single room with closed door is adequate
 - Contact designated ID physician for further guidance on COVID-19 testing, treatment and disposition
- Patient Discharge
 - Contact ID for COVID-19 testing recommendations
 - Discharge with appropriate prescriptions, COVID-19 discharge instructions and follow-up
 - Give patient isolation mask and escort out of ED when appropriate transportation available

Adult Inpatient

- Hospital Census
 - Assess resource management and potential discharge barriers daily
 - Regional command center support to monitor capacity at each medical facility
- Level of Care
 - Maximize appropriate level of care for every patient (ex: Telemetry guidelines to ensure appropriate telemetry floor bed use)
 - Minimize use of Foley, restraints, oxygen, continuous pulse oximetry as clinically indicated
- Cohorting of COVID patients
 - Attempts should be made to cohort COVID patients with one team of clinical providers to minimize exposure to staff
 - Create a specialized rotating team of clinical providers who manage COVID patients
 - Cohort COVID patients in rooms and on medical floors within the hospital
- Care of patient
 - Limit staff entering patient's room to essential personnel
 - Limit exams, lab draws, and imaging to essential testing only
 - Utilize remote methods of communication as appropriate (cell phone, monitors, etc.)
- Staffing
 - Monitor staff with healthcare exposures and/or furlough
 - Flex staff administrative time to clinical time as needed
 - Regional staffing pool to support medical facilities with staffing contingencies
 - Contact the Regional Command Center with staffing needs that arise
- Guiding Principles
 - Standardize best-practice clinical and operational workflows
 - Mitigate spread in our communities
 - Protect healthcare workers
 - Resource stewardship in all decisions
 - Collaborate agnostic of service line and tailor to nuances
 - Identify potential unintended consequences and try to mitigate
 - Seek technology; incorporate KP HealthConnect (EHR) and IT to make it easier to do the right thing

- Align to the current Infection Control Mitigation Plan for COVID-19 located here
- Identify and reduce redundancy, waste, and inefficiencies in workflows and practice to optimize resources
- Infection Control Guidelines
 - Use of Droplet Precautions: Use Droplet Precautions, Contact Precautions, and Eye Protection for patients suspected or confirmed to have COVID-19. **Negative pressure room is NOT required.**
 - Those escorting patients/members with respiratory symptoms or suspected to have COVID-19 **need not wear mask**, if patient/member is **masked**
 - If patient is unable to wear mask, staff must put on mask while escorting
 - Staff must wear full PPE if in direct contact (touch)
 - **PAPR/CAPR or N95 Use**: PAPR/CAPRs or N95s will only be used when performing or present in the room during high risk procedures on patients suspected or confirmed to have COVID-19
 - Single rooms are sufficient for droplet precautions. Thus, any single room in a hospital could be used and significantly increase California's ability to care for a larger number of hospitalized COVID-19 patients. That would preserve airborne isolation infection rooms (AIR or negative pressure rooms) for airborne diseases. **Negative pressure room is NOT required.**
- Guidelines for Staffing
 - Staffing for patients who are COVID-19 positive or a PUI:
 - **Staffing with a negative pressure isolation room (if required)**: 1:2 assignment
 - Staffing on units:
 - Provide a private room for the patient. Patients **confirmed** with COVID-19 may be cohorted with local IP/ID guidance
 - Use clinical judgment to determine acuity for the patient assignment
 - Escalate questions and scenarios that come up to manager that require consideration
 - Before employees provide high risk care to a PUI or COVID patient:
 - Validate competency on isolation precautions
 - Validate competency on proper donning and doffing technique
 - Validate N95 fit testing (if using N95)
- Hospital Workflows Defined Specific to Access
 - Patients may be admitted to the Inpatient units in at least three different ways:
 - Direct ED Admit
 - Direct admit from a Medical Office Building
 - Ambulance transfer

Direct ED Admit Workflow

Step 1: Identify

- House Supervisor (HS) RN receives notification of COVID positive or Person Under Investigation (PUI) to be admitted

Step 2: Escalate

- House Supervisor notifies the Administrator on Call (AOC) to activate command center, if not already activated, of incoming patient. As COVID cases in the U.S. increase, command center activation may not be indicated

Step 3: Isolate

- House supervisor coordinates the team to transfer patient to the admitting unit: Ensure the current appropriate PPE is ordered
- Team: consists of:
 - Personnel to support transport to inpatient unit
 - Receiving MD
 - Receiving RN
 - Assistant Nurse Manager
 - Infection Control (or designee after hours)

Step 4: Isolate

- House Supervisor arranges transportation for admit, and huddles with transporting and receiving staff. Transfer patient to unit once team is briefed.
- Confirm patient will be masked during transport
- PPE for staff not required for masked patients as long staff maintains a minimum of 3-foot distance from patient
- Confirm transfer path is clear and secure
- Arrange for transportation in a dedicated elevator

Step 5: Protect Caregiver/Family/Friends

- Notify restriction on visitors for patients suspected or confirmed to have the COVID-19 virus (see visitor section above)
- Sick family or caregivers who arrive with patients should not be permitted to stay with the patient unless the patient is pediatric
- Designated visitor must wear a mask when outside of the patient room

Step 5.1: Protect Admitting RN and Admitting MD

- Refer to current *Inpatient Workflow below and admit per outlined admission process

Inpatient Admission from Medical Office Building (MOB) Workflow

Step 1: Identify

- House Supervisor (HS) RN receives notification of COVID positive or Person Under Investigation (PUI) to be admitted from admitting MD

Step 2: Escalate

- House Supervisor notifies the Administrator on Call (AOC) to activate command center, if not already activated, of incoming patient. As COVID cases in the U.S. increase, command center activation may not be indicated

Step 3: Isolate

- AOC or HS coordinates the patient transfer from MOB through the local command center
- AOC or HS will communicate local command center instructions on how to transfer the patient to the unit

Step 4 Isolate

- House Supervisor arranges transportation for admit, and huddle with transporting and receiving staff. Transfer patient to unit once team is briefed

- Follow the recommendations of the AOC or local command center on transportation and point of entry to hospital

Steps 5 and 5.1 are same as Direct Admit Workflow

Step 5: Protect Caregiver/Family/Friends

- Notify restriction on visitors for patients suspected or confirmed to have the COVID-19 virus (see visitor section above)
- Sick family or caregivers who arrive with patients should not be permitted to stay with the patient unless the patient is pediatric
- Designated visitor must wear a mask when outside of the patient room

Step 5.1: Protect Admitting RN and Admitting MD

- Refer to current *Inpatient Workflow below and admit per outlined admission process

Inpatient Admission via Ambulance Transfer

Steps 1-3 same as Direct Admit to Inpatient

Step 1: Identify

- House Supervisor (HS) RN receives notification of COVID positive or Person Under Investigation (PUI) to be admitted

Step 2: Escalate

- House Supervisor notifies the Administrator on Call (AOC) to activate command center, if not already activated, of incoming patient. As COVID cases in the U.S. increase, command center activation may not be indicated

Step 3: Isolate

- House supervisor coordinates the team to transfer patient to the admitting unit: Ensure the current appropriate PPE is ordered
- Team: consists of:
 - Personnel to support transport to inpatient unit
 - Receiving MD
 - Receiving RN
 - Assistant Nurse Manager
 - Infection Control (or designee after hours)

Step 4: Isolate

- House Supervisor arranges transportation for admit, and huddles with transporting and receiving staff. Transfer patient to unit after team is briefed
- Medical facility staff will meet ambulance personnel at a designated location outside the medical facility. KP staff will wear PPE appropriate for the patient's condition and will bring a KP gurney for transport to the facility bed.
- Use KP bed or gurney to move the patient into the hospital from the point entry
- Bring PPE for the transfer team and patient
- Follow workflow for transfer of patient from the ambulance into the medical center

Steps 5 and 5.1 are same as Direct Admit Workflow

Step 5: Protect Caregiver/Family/Friends

- Notify restriction on visitors for patients suspected or confirmed to have the COVID-19 virus (see visitor section above)
- Sick family or caregivers who arrive with patients should not be permitted to stay with the patient unless the patient is pediatric
- Designated visitor must wear a mask when outside of the patient room

Step 5.1: Protect Admitting RN and Admitting MD

- Refer to current [Inpatient Workflow](#) below and admit per outlined admission process

Inpatient Workflow: What to do when the patient gets to the unit

Once Notification is received from ED or clinic of need for bed for known or suspect COVID-19 patient, the following steps are taken:

Step 1: Prepare room for admit

- Secure isolation supplies (isolation masks, gowns, eye protection, gloves, hand sanitizer. If high risk procedures are anticipated, N95 respirators, PAPR/CAPRs and storage station for after use); if applicable gather PAPR/CAPR supplies if a high-risk procedure is anticipated
- Confirm dedicated or disposable patient-care equipment (e.g., blood pressure cuffs, stethoscope)
- Ensure communication device located in room and phone number known
- Post Droplet and Contact Precautions signs on the door outside the patient's room

Step 2: Arrange transportation for admit: Huddle with transporting and receiving staff

- [Confirm patient will be masked during transport](#)
- Confirm that primary caregiver / household contacts that are accompanying the patient are masked within the facility

Once patient enters the unit the staff will:

Step 3.1: Prepare to enter room:

- Perform hand hygiene
- Put on a gown; fasten at the neck and back
- Put on isolation mask
- Put on eye protection
- Put on gloves

Or,

Step 3.2: Prepare to enter room if using PAPR/CAPR/ N95

- Perform hand hygiene
- Follow Donning Protocols

Infection Control procedures while performing patient care inside room

- Remember to keep hands away from mouth, nose and eyes
- Limit surfaces touched to minimize contamination
- Change gloves throughout care delivery if torn or heavily contaminated
- Perform hand hygiene between glove use

- Place all waste generated from the room of a known or suspect COVID-19 patient into a red biohazard bag and leave in the room

Caregivers

- Must be able to go to and from the patient room with minimal distractions
- Enforce guidelines that restrict visitors to PUI or COVID positive patients
- Receive recent education on infection control practices and wear PPE per policy
- Commit to collaborating to minimize the spread of infection by:
 - Hand hygiene before entering and leaving the patient room
 - To minimize contamination, wear proper PPE when providing all care to the patient
 - Contact
 - Droplet
 - Airborne (as indicated)
 - Isolation

Equipment and Supplies

- Minimize opportunities for contamination both internally and externally through transfers
- Use dedicated or disposable patient-care equipment (e.g., blood pressure cuffs, stethoscope)
- If must use reusable equipment, clean and disinfect after use according to manufacturer's instruction

Removal of waste and transportation

- Cleaning of transportation (e.g. ambulance gurney, larger bed, wheelchair) or other medical devices (e.g. portable x-ray, cardiac ultrasound, etc.)
 - Clean equipment within the room maintaining > 3 feet distance from masked patient before leaving the room and before doffing the PPE
 - If a cleaning distance of > 3 feet from the patient cannot be maintained in the patient room, the equipment should be wiped down and moved to a nearby empty room and then fully cleaned. That second room would then require terminal cleaning for COVID-19
- Waste will be removed from room per EVS protocol, packaged, stored and hauled away from our facilities in accordance with the requirements of the medical waste vendor

Preparing to exit isolation room if using isolation mask or surgical mask

- Remove gown and gloves inside the room, place in red biohazard waste
- Remain at least 3 feet from patient while removing PPE
- Perform hand hygiene
- Put on clean gloves
- Remove eye protection and place in red biohazard waste bag/container
- Remove gloves and perform hand hygiene
- Put on clean gloves and exit the room
- Remove gloves and perform hand hygiene
- Put on clean gloves and remove mask in hallway if no anteroom. Discard in red biohazard waste bag/container

Preparing to exit airborne isolation room if using PAPR/CAPR/N95

- Remove gown and gloves inside the room, place in red biohazard waste. Remain at least 3 feet from patient while removing PPE
- Perform hand hygiene and put on clean gloves
- Wipe outside of PAPR/CAPR device with quaternary ammonium, alcohol, or bleach wipe, or equivalent. Begin with cleanest area in back first, moving around to front
- Remove gloves and perform hand hygiene

- Put on clean gloves and exit the room
- Remove gloves, perform hand hygiene and put on clean gloves to remove hood/helmet
- Place all PAPR/CAPR supplies into biohazard carrying container for transport to reprocessing location

Transport

- Bag soiled reusable components in container with a biohazard label and place in a designated secure area to be transported to Sterile Processing Department (SPD) for reprocessing
- No PPE is required in transporting soiled PAPR/CAPR that are inside a clean biohazard transport container

Waste Management

- All waste from COVID-19 patient both PUI and confirmed needs to be placed in a red biohazard bag
- **PUI/SUSPECT COVID-19** patient waste should be placed in a biohazardous (red bag) waste or pharm/sharps container for disposal as medical waste. Currently there are no additional medical waste vendor requirements for PUI/SUSPECT COVID-19 patient waste; manage in accordance with the site's current medical waste workflow
- **CONFIRMED COVID-19** patient medical waste [biohazardous (red bag), pharm/sharps waste] is required to be managed separately from all other site generated medical waste when removed from the treatment room. Site-specific workflows are required for transporting, packing, and storing for off-site treatment, and on-site treatment in steam sterilizer
 - Off-site shipment of confirmed COVID-19 patient medical waste (red bag and pharm/sharps containers) for treatment and disposal must be packaged and marked "C" with a circle in accordance with the requirements of the site's medical waste vendor
 - On-site treatment of confirmed COVID-19 patient medical waste (red bag only) being treated via steam sterilization will be done in accordance with site's written procedure for transporting and loading COVID-19 waste in the sterilizer

Environmental Cleaning

- EPA-registered hospital disinfectants should be used per instructions for use (IFUs)
- EVS personnel to wear isolation mask, gown, gloves and eye protection and follow COVID-19 donning and doffing protocols

PAPR/CAPR Cleaning, if used

- If blood and/or body fluids contaminate the filter of the CAPR, dispose of per medical waste policy
- Don PPE prior to cleaning PAPR/CAPR
- Wipe down the inside and outside of the entire equipment with hospital approved disinfectant wipe
- Begin with the cleanest area inside the helmet/hood then clean outside. Follow manufacturer's instructions for use to ensure all components of device are cleaned
- Remove PPE and perform hand hygiene
- Be sure proper contact time of disinfectant is achieved, and the unit is dry
- Return clean ready to use device to designated clean area

Respiratory Therapy Workflows Specific to COVID-19

A. Guidelines for Direct Care

- Full PPE should be observed when in direct contact with patient, less than 3 feet (gown, gloves, eye protection, and isolation mask)
- PAPR/N95 should be worn during **high risk procedures** (intubation, nebulizer treatment, Bipap, CPAP, bronchoscopy, sputum induction, open suctioning (not closed suctioning on vent-see standard ATD list))

- Perform high risk procedure(s) in a negative pressure room if available; otherwise, a private room with door closed is adequate.
- Nebulization of medication is considered high risk and should be reviewed for appropriateness before administration
- Patients who are COVID positive on Droplet Precautions may be cohorted
- PUIs must not be cohorted

B. Equipment

- Use disposable equipment when possible
- A disposable stethoscope should be placed in patient room
- Identify/ Inventory/Procure Respiratory equipment needed (ventilators, tracheostomy sets, etc.)
- Respiratory Therapy (RT) Managers to order supplies as needed but not in excess to ensure adequate availability throughout KP Northern California
- Home CPAP units may not be brought into facilities for use by patients who are confirmed positive or suspected for COVID-19. Utilize hospital CPAP machines.
- Continue current workflow for cleaning/disinfecting of equipment

C. Therapies

- Every shift all ordered Respiratory Therapy modalities should be evaluated for necessity
- Oxygen need only be administered if necessary and should be weaned as applicable
- When possible, small volume nebulizer should be converted to metered dose inhaler with spacer
- High Risk procedures (intubation, bronchoscopy, sputum induction, nasotracheal suctioning) should be reviewed with the HealthCare Team for necessity

D. ABG Sample Processing for Negative Pressure/ Isolation Room

- While inside the patient room place sample in biohazard bag
 - Remove gloves, gown and eyewear inside the room (do not remove mask)
 - Perform hand hygiene and apply new gloves
 - Exit room. Double bag the sample with a clean biohazard bag in the anteroom (if available)
 - Remove gloves, perform hand hygiene, put on clean gloves
 - While in anteroom remove the N95, remove gloves and perform hand hygiene
 - Transport the sample to ABG room for processing, place biohazard bag on the counter
 - Remove gloves, perform hand hygiene and apply clean gloves
 - Enter accession number, run sample, and discard bags in red biohazard waste container
 - Remove gloves and discard. Perform hand hygiene and apply clean gloves
 - Complete results in the computer. Place label on syringe and discard in sharps container
 - Discard gloves and perform hand hygiene, then apply new gloves. Wipe counter with designated cleaner
 - Discard gloves and perform hand hygiene
- *when possible, use the Radiometer PICO ABG kits for less contact.

E. Staff Floating

Ideal state: Recommend to limit floating from adult to newborn to reduce risk

Imaging Services

CT Workflows Specific to COVID-19

- A. See CT Workflow in [Appendix](#) for additional information

B. Notification received from ED or Inpatient unit of need for CT exam for known or suspect COVID-19 patient

Step 1: Prepare CT Suite for patient arrival—IDENTIFY ONE CT UNIT TO UTILIZE

- Secure isolation supplies (isolation masks, gowns, eye protection, gloves, hand sanitizer); if applicable gather N95 respirators or PAPR/CAPR supplies
- Confirm dedicated or disposable patient-care equipment (e.g. blood pressure cuffs, stethoscope)
- Notify EVS to prepare for terminal clean of CT Suite
 - Instruction STOP sign for the post care process

Step 2: Arrange transportation to CT: Huddle receiving staff (CT Team)

- Confirm patient will be masked during transport
- Confirm PPE for transportation staff
- Confirm maintenance of cleared/secure pathways
- Arrange for transportation in a dedicated elevator. If patient is masked during transportation, elevator does not need terminal clean
- Confirm that primary caregiver / household contacts that are accompanying the patient are masked within the facility

Step 3: Follow Infection Prevention Donning/Doffing PPE Reference Cards for use of N95 or PAPR/CAPR

Prior to Entering the Patient room

- Prior to entering the patient room, check in at the nurses' station to inform RN that you are there to perform an imaging study
- Sign into the logbook. Make sure to clearly write all of your information into each field of the sign in sheet
 - If no log present, notify RN or prior to entry
- All PPE is located in the anteroom area of the patient's room

Infection Control procedures while performing patient care inside room

- Remember to keep hands away from mouth, eyes and nose
- Limit surfaces touched to minimize contamination
- Change gloves throughout care delivery if torn or heavily contaminated
- Perform hand hygiene between glove use

Place all waste generated from the room of a known or suspect COVID-19 patient into a red biohazard bag and leave in the room.

Removal of waste and transportation

- Cleaning of transportation (e.g. ambulance gurney, larger bed, wheelchair) or other medical devices (e.g. portable x-ray, cardiac ultrasound, etc.)
 - Clean equipment within the room maintaining > 3 feet distance from masked patient before leaving the room and before doffing the PPE
 - If a cleaning distance of > 3 feet from the patient cannot be maintained in the patient room, the equipment should be wiped down and moved to a nearby empty room and then fully cleaned. That second room would then require terminal cleaning for COVID-19
- Waste will be removed from room per EVS protocol, packaged, stored and hauled away from our facilities in accordance with the requirements of the medical waste vendor
- EVS will prepare to terminal clean the CT suite and room will remain out of service for duration

Special considerations:

- After Imaging the patient, leave the imaging plate in the room
- Ensure signage is posted prominently:
 - Portable Please Do Not Remove This Portable From its Current Location Unless Instructed by A Member of the Radiology Management Team. Make sure to Follow All Standard and Droplet Cleaning Precautions

Portable X-Ray Mitigation Workflow

Step 1: Prepare for portable x-ray: **IDENTIFY ONE PORTABLE XRAY UNIT TO UTILIZE**

- Remove unnecessary equipment/supplies that cannot be covered during imaging
- Supplies to take with you:
 - 4 C-arm covers (1 back up set)
 - 4 Imaging Plate covers (1 back up set)
 - 2 Exposure button covers (1 back up set)

Step 2: Prior to Entering the Patient room

- Prior to entering the patient room, check in at the nurses' station to inform RN that you are there to perform an imaging study
 - Identify where portable will be housed with restriction for final cleaning
- Sign into the logbook. Make sure to clearly write all of your information into each field of the sign in sheet
 - If no log present, notify RN or ANM prior to entry

Step 3: Follow Infection Prevention Donning/Doffing with appropriate PPE

- All PPE is located in the anteroom area, of the patient's room

Step 4: Prepare x ray with C-arm covers

- Use the provided C-Arm Drape to cover the Portable x-ray unit
- Cover the base of the Portable x-ray unit with a C-Arm Cover
- Cover the exposure button with the provided blue cover
- Double bag the imaging cassette

Step 5: During Care

- Enter room once logged in, PPE donned
- **Follow Infection control procedures and removal of waste instructions for CT scan above, Step 3**

Step 6: Post portable x-ray

- Clean the portable x-ray unit within the room maintaining >3 feet distance from masked patient **before** leaving the room and **before** doffing the PPE
- If a cleaning distance of >3 feet from the patient cannot be maintained in the patient room, the equipment should be wiped down and moved to a nearby empty room and then fully cleaned
 - The nearby secondary room will then require terminal cleaning for COVID 19
- Wipe down the body of the portable x-ray unit with Sani-Cloth or Clorox wipes
- Wipe down the touchscreen of the portable x-ray with Sani-cloth or Clorox wipes
- Follow manufacturer's dry time recommendations

Step 7: Ensure the imaging plate is cleaned per droplet precaution process

Step 8: Apply sign to unit as in instructions for CT scan above, Step 3

Step 9: Park unit in secondary room/space

Intensive Care Unit

- Optimize hospital flow to allow for ICU decompression
 - Use strict telemetry monitoring criteria for transfer of patients from ICU level of care

- Discharge workflow optimization needed. Use Advanced Practice Provider resources if needed
- Expand care delivery outside of ICU using standardized assessment and treatment protocols
 - Decrease unnecessary aerosol medication administration (scheduled inhalers and prn aerosol/nebulized treatments only if needed)
 - Flex noninvasive rescue ventilation, chronic ventilators, some infusions to non-ICU hospital beds
- ICU Surge Strategies
 - Flex nursing ratios if staff shortages occur in the cases of emergency need
 - Mitigate possible post-exposure furloughs and potential increase in workload for RT department
 - Regional ICU command center to provide oversight of ICU capacity
 - Alternate care locations for patients in need of high-level critical care
- ICU Personal Protective Equipment Considerations
 - Closed inline ventilator circuit suctioning does not require PAPR/CAPR/N95 use
 - Initiate airborne precautions for high risk procedures (intubation, bronchoscopy, sputum induction, suctioning, opening ventilator circuit, etc.) on patients suspected or confirmed to have COVID-19

Adult Code Blue

- General Principles
 - **All providers entering the room should be appropriately trained in use of the appropriate PPE. All appropriate PPE must be in place prior to entry.**
 - In a non-trauma code, begin chest compressions with all healthcare providers donning the required PPE prior to entering the room
 - The patient should be initially ventilated with a bag-valve mask by a healthcare provider wearing appropriate PPE. Do not begin intubation until all personnel are wearing the appropriate PPE
 - During intubation, all persons present in the room should wear a PAPR or CAPR
 - Prior to any transfer, the patient should receive new bed linens
 - If intubated, the patient is to be placed on a ventilator, so that there is a filtered contained circuit
 - If transfer of the patient is required after intubation, all persons in the room should doff and degerm prior to moving the patient. Then, if in close contact with the patient during transfer, each person should don a new gown, gloves, eye protection and respiratory protection
 - All equipment will remain in room after code event
 - Await infection preventionist direction in removal of cart, contents and other equipment brought into the room
 - If Interosseous needed: wipe with bleach solution/ wipe and leave on crash cart until further direction given
 - Glidescope: wipe down with bleach solution/wipe and leave in room until further direction given
 - Patients should be transferred to a negative pressure room if immediately available. If a negative pressure room is not available, the patient can be placed in a private room with closed door

Pediatric Code Blue

- General Principles:
 - It is imperative that anyone entering the patient's room be safe in doing so. This is fundamental to all situations and is supported by ethical considerations.
 - **Do not enter the room if you have not been appropriately trained in use of the appropriate PPE, and either fit tested for an N95 or trained for appropriate use of a CAPR/PAPR if intubation is occurring. All appropriate PPE must be in place prior to entry.**

- Initial Steps:
 - In a non-trauma code, begin chest compressions with all healthcare providers donning the required PPE prior to entering the room N95 with face shield or CAPR/PAPR. If not already in CAPR and PAPR all staff should transition to CAPR/PAPR as soon as possible.
 - The patient should be initially ventilated with a bag-valve mask by a healthcare provider wearing appropriate PPE (N95 with face shield or CAPR/PAPR).
 - Do not begin intubation until all personnel are wearing the appropriate PPE (CAPR/PAPR)
- Recommended Personnel:
 - Inside Room- Utilize the existing code blue team which can include:
 - Pediatric HBS/Pediatric Intensivist/ Emergency Physician- Team Lead
 - Anesthesiologist/Secondary Intensivist – Place airway/ Vascular Access if needed
 - Primary RN – SBAR, Health connect look up/Chest compressor
 - Secondary RN – Recorder
 - Resource RN – Medication Nurse / Defibrillator/Float
 - Respiratory Therapy (n=2) – Assist in airway management/Chest Compressor
 - Secondary Pediatric HBS – Chest Compressor/ medication administrator if needed
 - Outside Room:
 - Observer – one or two RN’s to oversee PPE for staff responding to code
 - Pharmacist – Providing consultation or medication delivery
 - House Supervisor – Overseeing and approving all staff entering room
 - Unit ANM- Assist with tasks as needed
 - Laboratory -- Will pick up and deliver all patient samples
 - Security – Crowd control
 - Staff who should not assist in code response:
 - Medical Students
 - Residents without proper PPE training
 - Any individual not fit tested for care of the identified individual
 - Patient Care Technicians
 - Non - direct care nurses
 - Physicians not identified in this algorithm
 - EVS
 - Social Services
- Transfer: If needed – Team will develop a plan for transport with approval from House Supervisor before proceeding
 - Prior to any transfer, the patient should receive new bed linens if possible
 - If intubated, the patient should be placed on a ventilator, so that there is a filtered contained circuit
 - If transfer of the patient is required after intubation, all persons in the room should doff and degerm prior to moving the patient. Then, if in close contact with the patient during transfer, each person should don a new gown, gloves, eye protection and N95 respirator mask or CAPR/PAPR to be worn during transfer
 - Patients should be transferred to a negative pressure room if immediately available. If a negative pressure room is not available, the patient can be placed in a private room with closed door
- Crash Cart/Equipment - Do not remove from room!
 - All equipment will remain in room after code event
 - Nursing staff will wipe down with bleach solution/ wipe
 - Will await infection preventionist direction in removal of cart, contents and other equipment brought into the room
 - If Interosseous needed: wipe drill with bleach solution/ wipe and leave on crash cart until further direction given

- All airway equipment including Glidescope or CMAC: wipe down with bleach solution/wipe and leave in room until further direction given
- Recommendations
 - If not already done, immediately train local code team to proper PPE procedures
 - Perform simulation with your local teams and share best practices that can be applied regionally
 - Ensure there are adequate PPE supplies available locally
- References
 - Clinical management of severe acute respiratory infection when Novel coronavirus (2019-nCoV) infection is suspected: Interim Guidance- World Health Organization
 - Policies:
 - Code Blue Response
 - Respiratory Protection Program

Neonatal Code Blue

- PPE will be available at the bedside in the NICU at all times
- Should a baby require code/ intubation/any aerosolized procedure/NICU resuscitation, team resuscitating the baby will don PPE prior to resuscitating the baby
- Do not begin intubation/aerosolized procedure until all “mandatory” personnel are wearing the appropriate PPE, including CAPR/PAPR. “Mandatory” personnel for emergent intubation are defined below
- Use caution when performing aerosol generating procedures (e.g. sputum production, open suctioning of airways should be avoided if possible.)
- If intubated, the patient should be placed on a ventilator, so that there is a filtered contained circuit.
- “Mandatory” personnel who must be present and don CAPR/PAPR prior to emergent neonatal intubation are the:
 - Neonatologist/Neonatal MD- team lead
 - Primary Nurse
 - Primary Respiratory therapist
- The remainder of the neonatal code team who may remain in the room who are also to be donned with PPE including CAPR/PAPR are:
 - Secondary RN- recorder
 - Resource RN- for medication administration
 - Secondary neonatologist/ neonatal MD
- Staff who may remain outside the room:
 - Pharmacist – Providing consultation or medication delivery. May enter room if needed after donning PPE.
 - Charge nurse – Overseeing and approving all staff entering room
 - Unit ANM- Assist with tasks as needed
 - Laboratory -- Will pick up and deliver all patient samples
 - Security – Crowd control
- Staff who should not assist in code response
 - Medical Students
 - Residents without proper PPE training
 - Any individual not fit tested for care of the identified individual
 - Patient Care Technicians
 - Non - direct care nurses
 - Physicians not identified in this algorithm
 - EVS

- Social Services
- Limit the number of personnel present during aerosolized procedures to only those essential for patient care and procedural support.
- Crash Cart/Equipment - Do not remove from room!
 - All equipment will remain in room after code event
 - Nursing staff will wipe down with bleach solution/ wipe
 - Will await infection preventionist direction in removal of cart, contents and other equipment brought into the room
 - All airway equipment including Glidescope: wipe down with bleach solution/wipe and leave in room until further direction given
- Patient Transfer within hospital
 - If moving patient, for any reason, from one location to another within the hospital, the team already caring for the patient will doff and degerm prior to moving the patient.
 - Then, each team member transporting the patient should don a new gown, gloves, eye protection and N95 respirator mask to be worn during transfer in case there is a need for close contact with patient during transport.
 - The baby should be moved in a closed isolette during transport within the hospital.
- General Considerations
 - Until information is available regarding viral shedding after clinical improvement, discontinuation of isolation precautions should be determined on a case-by-case basis, in conjunction with local, state, and federal health authorities.
 - Do not enter the room if you have not been appropriately trained in use of the appropriate PPE, and fit-tested for an N95 mask if intubation is occurring. All appropriate PPE must be in place prior to entry!
 - All staff in contact with the baby must don PPE at all times.
 - Options for housing NICU patients in order of preference
 - Negative pressure room if available
 - Private room with closed door
 - If neither of these options are available at your facility, please contact the MCH leadership team and/or the regional command center for guidance on where to house the patient
- Recommendations
 - If not already done, immediately train local code team to proper PPE donning and doffing procedures
 - Ensure all NICU staff are fit tested for N-95 masks
 - Perform simulation with your local teams and share best practices that can be applied regionally
 - Ensure there are adequate PPE supplies available locally.
- References
 - COVID-19 Regional Infection Control Guidance 3/6/20 Code Blue Response for Pediatric (under 14 years) Persons in Special Precautions (COVID-19)
 - Centers for Disease Control: Recommendations for Patients with Confirmed Coronavirus Disease 2019 (COVID-19) or Persons Under Investigation for COVID-19 in Healthcare Settings Last updated online 2/21/20
 - Centers for Disease Control: Interim Considerations for Infection Prevention and Control of Coronavirus Disease 2019 (COVID-19) in Inpatient Obstetric Healthcare Settings Last viewed 3/6/2020

Perioperative Planning Guidelines

Guiding Principles

- Unless stricter or more directive guidelines have been issued by the CDC for a specific geography (such as Santa Clara County), Perioperative Services will use our existing contingency plan in event of severe staff or bed shortages due to the impact of COVID-19.
- Process includes plan to perform urgent/emergent cases if all relevant staff/supplies/ support services are in place. Decisions are made through communication with local and regional command center.
- Perioperative services will also communicate through local and regional command center when and how to hold/cancel elective cases if insufficient staff/supplies and/or support services are not available.
- Contingency plan includes communication scripts for staff and patients.
- Perioperative Services also maintains an extensive document for use in Command Centers as to what is required to have for categories of specialty procedures including clinical requirements, i.e. lab tests and staff competency. Also included is supply and implant needed before starting the procedure. This document will serve as a guide for resources required.

Perioperative Services Plan

Critical Workforce Shortage: Prioritizing Surgical Cases according to impact	
1	Mild Workforce Impact: <ul style="list-style-type: none"> ▪ Prioritize cases on volume according to staff numbers.
2	Moderate Workforce Impact : <ul style="list-style-type: none"> ▪ Prioritize all urgent /emergent cases. ▪ Consider if elective outpatient cases can proceed if staff is available
3	Severe Workforce Impact: <ul style="list-style-type: none"> ▪ Cohort patients that need specialty surgery to medical centers that have required staffing with specialty-specific competencies and supplies to perform procedure i.e. Cardiac, Neuro Surgery
Critical Reduction in Hospital Bed Access	
1	Mild Workforce Impact <ul style="list-style-type: none"> ▪ Prioritize cases on volume according to bed numbers in individual Medical Centers
2	Moderate Workforce Impact: <ul style="list-style-type: none"> ▪ Prioritize urgent /emergent cases based on beds available. Perform only out-patient elective surgery
3	Severe Workforce Impact: Cohort patients that need specialty surgery to medical centers that have required staffing and supplies to perform procedure i.e. Cardiac, Neurosurgery
Critical Impact to Sterile Processing	
1	Reusable surgical instruments and patient care equipment <ul style="list-style-type: none"> ▪ Review daily critical supplies to support cleaning, decontamination, high-level disinfection, and sterilization of reusable surgical instruments and patient care equipment (i.e. IV, PCA, SCD pumps). <ul style="list-style-type: none"> ○ PPE ○ Detergents ○ Germicidal/Sani-Cloth ○ HLD/s ○ Test strips ○ Sterrad Cassettes ○ Biologicals ○ Wrapping Materials: Sterilization Peel packs & Wrappers (all sizes) ○ Sterilization rigid containers supplies locks, indicator cards, filters ○ Sterilization performance controls: Steam Integrators Class V, Sterrad indicators, steam and Sterrad sterilization indicator tape.
2	Single-Use Items: Track inventory for single use items <ul style="list-style-type: none"> ○ Laryngoscope equipment, blades, handles, stylets, GVL/glide scopes, bronchoscopes ○ Trach trays ○ Cutdown trays

	<ul style="list-style-type: none"> ○ Suture sets ○ Minor sets ○ Thoracostomy sets ○ Respiratory Therapy accessories ▪ Workflows: <ul style="list-style-type: none"> ○ MOR - Point of use pre-cleaning/treatment. High risk/confirmed pt. items will be held for an hour prior
3	Staffing Sterile Processing: <ul style="list-style-type: none"> ▪ Ensure SPD employees are Fit Tested ▪ Received training for Donning/Doffing ▪ Trained on cleaning of CAPR & PAPR ▪ Trained on transport of contaminated items and equipment
Supply Chain	
1	Leadership from KPHP and TPMG attend daily Supply Chain Daily Update and COVID 19 Daily Planning Workgroup
2	Escalate and track critical shortages of staff, supplies, implants, and medication to trigger prioritization of surgery
3	Check supplies, implants, and meds before entering the room

Perioperative Surgery Guidance

- For each surgery: Prior to proceeding with any surgery, confirm adequate supply of
 - Staffing for ORs including Physician(s), Nursing, and Scrub Techs
 - Support Services (such as Blood Bank, Radiology, Pathology, EVS, etc.)
 - Sterile Processing
 - PreOp and PACU staff
 - In-patient bed availability: Med Surg, ICU and Telemetry
 - Supplies, Implants, Instruments and Equipment
 - Medications
- If COVID-19 Virus impact is **mild**, normal workflows will continue.
- If COVID-19 Virus impact is **moderate or greater**
 - **Follow local surge planning** with respect to cancelling AM Admit patients (these are the elective outpatients who are planned to have an admission after surgery)
 - **Prioritize patients** with Urgent, Cancer, 2 week, and Cardiac issues. For other elective surgeries, if medical necessity is equal, those with shorter length-of-stays should be prioritized over longer length of stay patients to decrease the impact on hospital beds. Consider home recovery when feasible.
 - Please confirm adequate supply of all elements for safe surgery as described above.
- If COVID-19 Virus impact is **Widespread/Severe**, see section below for workflows.

Surgical Approval Workflow

If COVID-19 Virus /Census impact is **Widespread/Severe** the **Surgical Approval Workflow** is required:

Each facility will have TWO - THREE persons in their local command center designated as surgical service experts. One of these surgical service experts will be available to respond to all calls within 15 minutes, and on site during peak working hours.

Ensure the essential Resources Needed for Surgery is reviewed by the operating surgeon together with the local command center expert to confirm adequate supply of the resources prior to proceeding with the case. Checklists have been created for all procedures by surgical specialties.

If further evaluation is needed in order to determine if the patient needs surgery: If the operative surgeon feels further evaluation is indicated, the local command center surgical service expert will assist in reviewing and finding resources as needed.

If further evaluation is needed in order to determine if a SPECIALTY SERVICES PATIENT needs surgery:

(Specialty Services are those which are not offered by the local hospital; examples are Cardiac Surgery, Neurosurgery, Spine, Thoracic, Hepatobiliary, etc.) If the Specialty Services operating surgeon feels additional evaluation is indicated in order to make a plan for surgery, that surgeon or a local designate will contact his/her local command center surgical service expert to review and find resources as needed.

Patient needs surgery: When it is determined that a patient needs surgery, the operating surgeon and command center surgical service expert will review Resources Needed for Surgery with the OR manager on duty to be certain that everything needed for the operation is available at the local facility before proceeding to the Operating room. If resources are not available, the Local Command and Regional Command Center will huddle to determine best plan for the patient including transfer to another KP facility or community partner facility.

Specialty Services patient needs surgery:

(Examples of SPECIALTY services which may not be offered at the local hospital are CV Surgery, Neurosurgery, Spine, Thoracic and Hepatobiliary.)

When it is determined that a patient needs surgery, the relevant local surgeon and/or Specialty Services surgeon will have a virtual conference with the Specialty Services hospital local command center surgical service expert. Together they will review Resources Needed for Surgery, so the operating specialty surgeon is certain that everything needed is available at the relevant hospital prior to patient transfer or proceeding with surgery.

Example Scenarios:

- Facility A is the KP destination receiving facility for the Specialty services patient, but KP Facility A has only some of the support resources needed for Specialty Surgical patient
- KP Facilities B and C each have some of the support resources required that Facility A is lacking and together all three facilities have the needed resources
- Regional Command Center surgical service's expert will coordinate transport of the needed resources from Facility B and C to Facility A. (Regional Command Center will keep a list at all times of which resources are available at each facility and which can be transported on short notice.)

Pediatrics

Inpatient Planning

Based on most current information about the virus:

1. COVID-19 can cause respiratory illness requiring hospitalization
2. Nosocomial spread has been documented with COVID-19
3. Our goals of inpatient admission for patients with confirmed or suspected COVID-19 is to:
 - a. Provide excellent patient care
 - b. Limit spread of COVID-19 to health-care workers thru appropriate PPE and isolation
 - c. Diagnose COVID-19 quickly and accurately

Inpatient Workflow

- I. Notification received from ED or clinic of need for bed for known or suspect COVID-19 patient
 - a. Prepare private room for admit
 - i. Secure isolation supplies (isolation masks, gowns, eye protection, gloves, hand sanitizer); if applicable gather N95 and / or PAPR/CAPR supplies

- ii. Confirm dedicated or disposable patient-care equipment (e.g., blood pressure cuffs, stethoscope)
 - iii. Obtain HCW and Visitor tracker logs
 - iv. Ensure communication device located in room and phone number known
 - v. Post Droplet and Contact Precautions and eye protection signs on the door outside the patient's room
- II. Arrange transportation for admit: Huddle with transporting and receiving staff
 - a. Confirm patient will be masked during transport
 - b. Confirm PPE for transportation staff
 - c. Confirm maintenance of cleared/secure pathways
 - d. Arrange for transportation in a dedicated elevator
 - i. If patient is masked during transportation, elevator does not need terminal clean
 - e. Confirm that primary caregiver / household contacts that are accompanying the patient are masked within the facility
- III. Patient arrival in hospital room
 - a. Preparing to enter room
 - i. Perform hand hygiene
 - ii. Put on a gown; fasten at the neck and back
 - iii. Put on isolation mask
 - iv. Put on eye protection
- IV. Infection Control procedures while performing patient care inside room
 - a. Remember to keep hands away from face and head
 - b. Limit surfaces touched to minimize contamination
 - c. Change gloves throughout care delivery if torn or heavily contaminated
 - d. Perform hand hygiene between glove use
- V. Caregiver instructions / expectations
 - a. Must go straight to/from room (e.g. not stop and eat in the cafeteria, etc.)
 - b. Agree to an active check for symptoms daily and to restrict visitation if symptoms develop
 - c. Receive instruction on infection control practices and wear PPE as instructed:
 - i. Clean hands before entering and leaving the patient room
 - ii. Wear mask when outside the patient room
 - iii. To minimize contamination on their clothes and body, wear gown and gloves when providing direct care such as feeding, bathing, etc.
- VI. Refer to separate PPE and waste removal protocols for additional details.

Maternal Child Health

OB Telephone Advice Screening

- Pregnant patients without ILI (Influenza Like Illness) will receive AACC (Appointment and Advice Call Center) and Labor and Delivery (L&D) Telephone advice per standard workflows
- Pregnant patient with ILI calling the AACC:
 - AACC will screen patient and manage per protocol
 - AACC RN will transfer patients with an obstetrical concern to the L&D home facility for telephone advice and phone consultation with the OB MD
- Pregnant patient with ILI calling L&D
 - L&D RN will screen patient for obstetrical concern and manage per telephone advice protocol

- L&D RN will transfer patient with ILI and NO obstetrical concern to the AACC RN for telephone advice and management per AACC protocol via 1 (855)206-1797 and ask to connect with a call center RN
- Work in progress to internalize these screening questions into Labor and Delivery L&D Telephone Advice protocols

Arrival to L&D

- In an effort to reduce patient movement throughout the hospital for both patient experience and to reduce exposure, patients will be assessed at point of entry or point of contact with staff
- If patient has no obstetric issues, patient will be sent to ED
- If patient has obstetric concerns, patient will be sent to L&D
- Pregnant patients arriving to L&D without ILI
 - Ask COVID screening questions per protocol
 - L&D triage and observation per standard workflows
- Pregnant patients arriving to L&D with ILI will be masked and roomed immediately
 - Isolation room preferred, if available. Private room with door closed also acceptable
 - Family members will also be masked
 - The medical team will wear Personal Protective Equipment (PPE) as defined by the IP workflows and the L&D unit guidelines to prevent exposure
 - L&D triage and observation per standard workflows
 - Notification of ANM and House Supervisor to assist in escalation of Suspected COVID / PUI (Patient Under Investigation) workflow

Arrival to ED

- Pregnant patients arriving to the ED without ILI will be screened for risk of infection using ED screening workflows and then sent to L&D
- Pregnant patients arriving to the ED with ILI without an obstetrical concern will require ED screening and isolation workflows per standards of ILI
 - OB MD consultation in the ED will occur per standard workflows
- Pregnant patients arriving to the ED with ILI and an obstetrical concern will be masked and escorted to L&D for evaluation
 - Notify L&D ANM and House Supervisor to assist in escalation of PUI workflow and transfer of the patient to the L&D unit

Labor and Delivery

- Patients in labor with ILI will be cared for by as few staff as possible to minimize exposure
- Delivering patients with ILI will preferentially be roomed in an isolation room if available or a private room with the door closed as a second option for labor and delivery
 - The labor patient will remain masked for the duration of labor and delivery
 - The medical team will wear Personal Protective Equipment (PPE) as defined by the IP workflows and the L&D unit guidelines to prevent exposure
- Patients requiring Cesarean Section for delivery will be masked during surgery and moved to an isolation room if available or a private room with the door closed as a second option, rather than the open bay/multi-bed Post-Anesthesia Recovery (PAR)

Resuscitation at Birth of Baby Born to Mom who is COVI-19 Exposed or Positive

- The team resuscitating the baby will don PPE (Personal Protective Equipment) prior to entering the delivery room (DR) or operating room (OR)
 - Gloves
 - Isolation gown
 - N-95 mask

- Eye protection
- The neonatologist or neonatal MD will additionally don with Controlled Air Purifying Respirator (CAPR) or Powered Air Purifying Respirator (PAPR) if there is high risk of the baby needing intubation.
- Babies born to COVID-19 positive mothers should be considered Persons Under Investigation (PUI). As such, infants should be isolated after birth.

- Upon completion of resuscitation,
 - NICU admission
 - If the baby is being admitted to the NICU, the team will doff PPE prior to exiting the DR/OR and don clean PPE for transport to NICU
 - Baby will be transported in a closed isolette
 - The NICU personnel receiving the baby will don PPE prior to arrival and interaction with the baby
 - Well baby admission
 - If the baby is being admitted to well-baby, the team will doff PPE prior to exiting the DR/OR and don clean PPE prior to transport of baby
 - Baby will be transported in a closed isolette
 - The team receiving the baby will don PPE prior to arrival and interaction with the baby
 - Baby may be placed in an open crib if in an isolation room
 - See “Labor and Delivery Peripartum COVID 19 workflow” for post-delivery management and breastfeeding recommendations for caring for the newborn infant

After Delivery

- Although it is well recognized that the ideal setting for the care of a healthy newborn while in the hospital is within the mother’s room, the risk of serious complications in newborns infected with COVID-19 is unknown. Recently COVID-19 infection was reported in a 30-hour old newborn. It is suspected that transmission occurred postnatally. The risk of prenatal transmission is unlikely, but unknown
- To reduce the risk of COVID-19 transmission to the newborn, we recommend that facilities consider temporarily separating the mother who is ill with suspected or confirmed COVID-19 from her baby following delivery during the hospital stay
 - Separation is favored if:
 - Mother tests positive for COVID-19, or
 - Mother meets Centers for Disease Control and Prevention (CDC) criteria for PUI (patient under investigation)
 - Separation is **not** favored if:
 - Mother is asymptomatic, or
 - Mother does not meet CDC criteria for PUI
- The risks and benefits of temporary separation of the mother from her baby should be discussed with the mother by the health care team, and decisions about temporary separation should be made in accordance with the mother’s wishes
 - Infants separated from their mothers may be housed in a private room, as available, with an asymptomatic family member or healthy caregiver with the door closed since data about asymptomatic transmission of COVID-19 is limited
 - Healthy family or staff members present to provide care (e.g., diapering, bathing) and feeding for the newborn, should use appropriate PPE including gown, gloves, face mask, and eye protection
 - If there is no family member to care for the infant, the infant will need to be placed in an incubator in the nursery away from other infants. Contact and droplet precautions with eye protection should be worn by all medical personnel providing care to the infant

- The mother or any symptomatic adult requires a surgical mask if they are within 3-6 feet of the infant
- The optimal length of temporary separation in the hospital has not been established and will need to be assessed on a case-by-case basis after considering factors to balance the risk of mother-to-infant COVID-19 transmission versus maintaining maternal-infant bonding. Some considerations might include:
 - if the mother has been afebrile without antipyretics for >24 hours, and
 - the mother can control her cough and respiratory secretions.
- If co-location (aka as “rooming in”) of the newborn with his/her ill mother in the same hospital room occurs in accordance with the mother’s wishes OR is unavoidable due to a hospital’s configuration, nursery constraints, lack of availability of isolation rooms, or other reasons, facilities should consider implementing measures to reduce COVID-19 exposure of the newborn including:
 - using physical barriers (e.g., a curtain between the mother and newborn)
 - keeping the newborn more than 6 feet away from the ill mother
 - ensuring a healthy adult is present to care for the newborn
 - If no healthy adult is present in the room to care for the newborn, a mother with suspected or confirmed COVID-19 should put on a facemask and then practice hand hygiene before each feeding or other close contact with her newborn. The facemask should remain in place during contact with the newborn.

Breastfeeding Recommendations

We do not know whether mothers with COVID-19 can transmit the virus via breast milk though the risk if suspected to be low since COVID-19 is transmitted through respiratory droplets. Whether and how to start or continue breastfeeding should be determined by the mother in coordination with her family and healthcare provider

- A mother with confirmed COVID-19 or who is a symptomatic PUI should take all proper precautions to avoid spreading the virus to her infant, including:
 - Washing her hands before touching the infant
 - Wearing a face mask, if possible, while feeding at the breast
 - If expressing breast milk with a manual or electric breast pump, the mother should wash her hands before touching any pump or bottle parts and follow recommendations for proper pump cleaning after each use
 - Consider having someone who is well feed expressed breast milk to the infant
- If needed, a dedicated breast pump should be provided. Prior to expressing breast milk, mothers should practice hand hygiene
- After each pumping session, all parts that come into contact with breast milk should be thoroughly washed and the entire pump should be appropriately disinfected per the manufacturer’s instructions

Nursery

- When a newborn of a mother with suspected or confirmed COVID-19 is housed in a room instead of the mother’s room, the newborn can be cared for by a non-ill person using droplet and contact precautions with eye protection. The infant should be closely observed for signs of infection.
- Symptomatic mothers, caregivers, and family members should not enter the infant’s room
- A newborn that develops signs of possible illness should remain in droplet and contact precautions with eye protection and examined by a physician

Visitation

- Visitors should be limited to persons who are necessary for the patient’s emotional well-being and care, preferably a single visitor during the hospital stay. Visitors who have been in contact with an infected patient before and during her hospitalization are a possible source of COVID-19 for other patients, visitors, and staff. All visitors should be screened for signs and symptoms of fever and acute respiratory illness before being allowed to enter the hospital or unit, and only asymptomatic persons should be allowed to visit. Masks should be used liberally for family members if there is a question of exposure to the infected patient.

- Facilities should provide instruction, before visitors enter patients' rooms, on hand hygiene, limiting surfaces touched, and use of PPE according to current facility policy while in the patient's room.
- Visitors should be instructed to limit their movement within the facility.

Reference: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html>

Interfacility Transport to a Healthcare Facility by Neonatal or Pediatric Critical Care Transport Team

If a patient with an exposure history and signs and symptoms suggestive of COVID-19 requires transport to a healthcare facility for further evaluation and management by ambulance, the following actions should occur during transport:

Transport Initiation: Referring facility discussion with medical control physician

- The sending Emergency Department or Hospital Unit should discuss concerns about a COVID-19 PUI when requesting transport and admission.
- The Pediatric/Neonatal Transport team will confer with Medical Control Physician (MCP), receiving RN leadership, house supervisor, nurse and RT leader on duty.
- The receiving facility should initiate any just-in-time testing needed for personal protective equipment (PPE).
- **The Medical Control Physician will discuss donning and doffing of PPE with the referring facility.**
- The local command center should be aware of incoming transport.
- Transport personnel should gather appropriate PPE prior to leaving on transport.
- **Transport team will perform team huddle prior to departure to review donning and doffing plan and review equipment checklist.**
 - Team will be equipped with necessary equipment including:
 - N95 respirators
 - Disposable gowns-recommended
 - Gloves
 - Eye Protection (Goggles/face shields)
 - CAPR/PAPR's -will be available in the unlikely event of procedures that may lead to aerosolization of COVID-19 (intubation, nebulizer treatments, bag-valve mask, etc.).
 - Tyvek suits (aka Bunny Suits)-are not recommended due to increased difficulty in doffing. The highest risk for exposure occurs during the doffing process. Any facilities supporting use of Tyvek suits should ensure appropriate staff training in doffing.

Transport Team: Arrival at referring facility

- Transport team members, upon arrival to patient room, will perform hand hygiene and don appropriate PPE.
- Team will perform local stabilization, assessment, and patient transfer to gurney while in appropriate PPE.
- Older children and adolescents may wear a mask if tolerated.
- Team will perform hand hygiene, doff PPE as they exit the room with gurney.
- Security will arrive to escort team to ambulance.
- While outside of the room, the team will perform hand hygiene, re-don clean PPE appropriate to level of interventions required. This will include gloves and a respirator at minimum. A minimum of 2 team members will push the gurney/isolette and they will then move with the patient and gurney out of the facility to the ambulance.
- Drivers, if they provide direct patient care (e.g., moving patients onto stretchers), should wear all recommended PPE. After completing patient care and before entering an isolated driver's compartment, the driver should remove and dispose of PPE and perform hand hygiene to avoid soiling the compartment.

- If the transport vehicle does not have an isolated driver's compartment, the driver should remove the face shield or goggles, gown and gloves and perform hand hygiene. A respirator should continue to be used during transport.

Entering Ambulance

- The team will enter the vehicle and secure patient and appropriate devices. The team will remain in PPE for the duration of the transport.
- Keep the patient separated from other people as much as possible.
- Family members and other contacts of patients with possible COVID-19 should not ride in the transport vehicle, if possible.
- If riding in the transport vehicle, family members should perform hand hygiene and wear an isolation mask.
- Isolate the ambulance driver from the patient compartment and keep pass-through doors and windows tightly shut.
- When possible, use vehicles that have isolated driver and patient compartments that can provide separate ventilation to each area.
- Close the door/window between these compartments before bringing the patient on board.
- During transport, vehicle ventilation in both compartments should be on non-recirculated mode to maximize air changes that reduce potentially infectious particles in the vehicle.
- If the vehicle has a rear exhaust fan, use it to draw air away from the cab, toward the patient-care area, and out the back end of the vehicle.
- Some vehicles are equipped with a supplemental recirculating ventilation unit that passes air through HEPA filters before returning it to the vehicle. Such a unit can be used to increase the number of air changes per hour (ACH) ([Resource Link](#)).
- If a vehicle without an isolated driver compartment and ventilation must be used, open the outside air vents in the driver area and turn on the rear exhaust ventilation fans to the highest setting. This will create a negative pressure gradient in the patient area.
- Follow routine procedures for a transfer of the patient to the receiving healthcare facility (e.g., wheel the patient directly into an Airborne Infection Isolation Room).

Aerosol Generating Procedures

- In addition to the PPE described above, ambulance clinicians should exercise caution if an aerosol-generating procedure (e.g., oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, Continuous Positive Airway Pressure (CPAP), Bilevel Positive Airway Pressure (BiPAP), or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR) is necessary.
 - In these scenarios, a PAPR or CAPR is preferred if possible. (Donning CAPR and PAPRs may require crew to exit the vehicle on the side of the road and may subject crew to additional risk)
 - Respiratory Therapy managers should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.
- If possible, the rear doors of the transport vehicle should be opened and the Heating-Ventilation Air Conditioning (HVAC) system should be activated during aerosol-generating procedures. This should be done away from pedestrian traffic.

Ambulance Notification and Preparation for Arrival

- The ambulance crew should notify the facility 15 minutes prior to arrival.
- PEDI/PICU/NICU Nurse Manager will notify Pediatric Physician, appropriate unit staff, EVS, and security.
- Security will provide access and control of prearranged ambulance arrival area and liaise with any law enforcement personnel.
- KP Environmental Services (EVS) will provide a Category A waste receptacle for the PPE in the outside designated doffing area for ambulance personnel.

Ambulance Arrival

- Ambulance personnel should not enter the medical facility wearing PPE.
- Ambulance personnel will be met in the ambulance bay by hospital personnel.
- When the arriving patient is unloaded from the ambulance, Transport personnel will doff in the ambulance bay per CDC and agency protocols and deposit PPE into KP-provided Category A waste receptacle.
- Transport Crew will re-don PPE in ambulance bay and move to the hospital unit and room with security escort.
- If additional staff is available from the receiving unit, consider sending a team donned in appropriate PPE to retrieve the patient and transport them to the appropriate inpatient unit.

Ambulance Patient Rooming

- PEDI/PICU/NICU Nurse Manager and Intensivist or Hospital physician will room patient and any accompanying family members in an appropriate isolation room.
- See [COVID-19 Inpatient workflow](#).

Guidance for Accompanying Family Members or Caregivers:

- Receive instruction on infection control practices and wear PPE as instructed:
- Clean hands before entering and leaving the ambulance
- Wear mask, gown and gloves when providing direct care

Cleaning EMS Transport Vehicles after transporting a PUI or patient with Confirmed COVID-19

- After transporting the patient, leave the rear doors of the transport vehicle open to allow for sufficient air changes to remove potentially infectious particles.
- The time to complete transfer of the patient to the receiving facility and complete all documentation should provide sufficient air changes.
- When cleaning the vehicle, EMS clinicians should wear a disposable gown and gloves, eye protection, and N-95 mask.
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly, to include the provision of adequate ventilation when chemicals are in use. Doors should remain open when cleaning the vehicle.
- Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for SARS-CoV-2 (the virus that causes COVID-19) in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed.
- Clean and disinfect the vehicle in accordance with standard operating procedures. All surfaces that may have come in contact with the patient or materials contaminated during patient care (e.g., stretcher, rails, control panels, floors, walls, work surfaces) should be thoroughly cleaned and disinfected using an EPA-registered hospital grade disinfectant in accordance with the product label.
- Clean and disinfect reusable patient-care equipment before use on another patient, according to manufacturer's instructions.
- Follow standard operating procedures for the containment and disposal of used PPE and regulated medical waste.
- Follow standard operating procedures for containing and laundering used linen. Avoid shaking the linen.

General Strategies

- Ambulance personnel are expected to follow PPE guidelines consistent with CDC/CDPH/EMS protocols
- On transfer of a PUI to a KP facility, medical facility staff will meet ambulance personnel at a designated location outside the medical facility. KP staff will wear PPE appropriate for the patient's condition and will bring a KP gurney for transport to the facility bed.
- KP staff will escort the patient and accompanying family to designated COVID-19 or PUI evaluation and assessment area within the facility
- Kaiser Permanente (KP) medical facilities will provide an area outside the medical facilities for ambulance personnel to doff their personal protective equipment and clean their ambulance after arrival with a COVID-19 PUI. Ambulance personnel will not enter a KP facility wearing contaminated PPE (unless the patient becomes acutely unstable and ambulance crew are required for safe transfer into the facility).
- KP will provide appropriate biowaste containers in the ambulance bay to permit ambulance providers to dispose contaminated waste.

Pharmacy

Delivery System

Supporting virtual care and self-care at home to deliver our services to our members:

- Mail Order
 - Engaging physicians and staff to promote Mail Order as a primary vehicle for non-urgent prescriptions
- Same Day Delivery to Home
 - For urgent supplies and medications
- Tents/Curbside
 - To support this workflow for mildly ill or proxy

Staffing

Depending on staffing levels we will prioritize services:

- Inpatient pharmacy services
- Hospital Discharge pharmacies
- Oncology services
- Anticoagulation clinical services
- Home infusion
- KP Northern California mail order pharmacies and Call Center
- Outpatient pharmacy access through external pharmacy network and strategically opened KP outpatient pharmacies

Communications

- Workflows and plans to protect pharmacy staff members from members that have respiratory symptoms
- Triggers for PPE protection needs for pharmacy staff (i.e. consultation)
- Partnering with EVS on waiting room and counter surfaces cleanliness plan
- Communicate and follow HR guidelines for employees with respiratory symptoms
- Communication tools for members
- Encourage refills from mail order rather than physical locations as needed
 - At this time, we are not recommending early refills for our members

Delivery System Strategy

Guiding principles: getting medications to patients minimizing face-to-face interactions

- Developing aligning workflows to support of virtual visits
- Determine what medications are needed same day
- Alternate delivery models
- Understand what interactions what must be in person (e.g. oncology, Home Infusion, Continuum, End-of-Life)
- Relaxing of Refill too soon (only when required)

Staffing to Maintain Critical Services

Considerations:

- School closures/childcare issues
- Anxiety/concern for personal health (call-offs)
- Illness (call-offs and quarantine)

Prioritization of services based on staffing levels:

- Inpatient pharmacy services
- Hospital Discharge pharmacies
- Oncology services
- Anticoagulation clinical services
- Home infusion
- KP NORTHERN CALIFORNIA mail order pharmacies and Call Center
- Outpatient pharmacy access through external pharmacy network and strategically opened Kaiser outpatient pharmacies

Communication

- Keeping our members and Employees safe:
- Communication and plans to protect pharmacy staff with workflows if members present with cough/cold symptoms.
- Working with EVS to train employees and managers to clean waiting room and counter surfaces on a scheduled plan.
 - Education and Training Plan
 - Townhalls
 - Leadership Rounding
 - Centralized staffing and scheduling

Laboratory/Testing

Community Evaluation

- Testing should be available for both inpatients and outpatients for community surveillance
- Once community prevalence is established, outpatient testing should be discontinued
 - Supportive treatment based on symptomatology will be recommended

Hospital Evaluation

- COVID-19 testing should be available in local public health department labs medical facility labs for the duration of the COVID-19 outbreak
- Once community prevalence is established, outpatient testing should be discontinued
 - Supportive treatment based on symptomatology will be recommended
- Inpatient testing will continue for the duration of the outbreak because decisions regarding isolation will be made based on these results.

Care Continuum

The Care Continuum includes areas such as partner nursing facilities, internal hospice and home health agencies, and other home care programs. The Continuing Care After-Hours Advice Program (CCAP) provides guidance and support to members in the Care Continuum.

Nursing Facilities

1. Transfer to Nursing Facility
 - a. No COVID-19 positive patient can be sent to a nursing facility unless the 14-day isolation period has expired.
2. Transfer out of Nursing Facility for Testing, Procedure or Dialysis
 - a. Please see COVID-19 Recommendations for Nursing Facilities for details on transfers
3. Patient Care at Nursing Facility
 - a. Screen patients for respiratory symptoms (cough) or shortness of breath
 - i. **If patient does not present with respiratory symptoms (cough) or shortness of breath, follow normal care protocols**
 - ii. If patient is **unstable** and presents with respiratory symptoms (cough) or shortness of breath, mask the patient
 1. If needed, follow appropriate transfer policy.
 2. Consult with ID for COVID-19 testing
 - iii. If patient is **stable** and presents with respiratory symptoms (cough) or shortness of breath
 1. Assess patient and if no clear alternative diagnoses for symptoms consult with ID for COVID-19 testing
 2. If there are clear alternative diagnoses for symptoms, then follow normal care protocols
 - b. Utilize PPE and Isolation per Infectious Disease guidance.
 - c. All nursing facilities should follow the COVID-19 response checklist below.

COVID-19 Response Checklist

Identify Single point of entry to facility

Post signage for visitors

Limit and screen visitors per most current CMS Memo: Guidance for Infection Control and Prevention of Coronavirus Disease 2019 (COVID-19) in nursing homes
Maintain visitor log
Monitor PPE supply status. Notify KP SNF Service Director and KP URC/Case Manager if less than 1-week supply for any of the following: Masks, goggles/shields, gloves, gowns
Ensure staff have been trained in proper PPE
Maintain hygiene supplies (hand sanitizer, soap, paper towels, tissues, Clorox wipes), including supply monitor
Reinforce proper hand hygiene
Maintain infection control surveillance line listing for patients and staff demonstrating respiratory symptoms
Implement plan to communicate to KP physician and KP SNF Service Director if any patient meets PUI criteria or confirmed COVID-19
Implement patient care and isolation workflows (see KP recommendations)
Designate staff for care of PUI/confirmed COVID 19 positive
Maintain readily available contact information <ul style="list-style-type: none"> • County health department • KP physician, KP SNF Service Director
Reinforce sick leave expectations/training
Maintain Log of absent/sick employees
Develop contingency plan for staff shortage
Ensure emergency policy/plan reviewed with staff
Implement environmental and shared device cleaning/disinfection plan

For additional details see appendix.

Home Health, Hospice and Other Home Care Programs

1. Screen patients and anyone in the home (household contacts) for respiratory symptoms (cough) or shortness of breath during the referral screening process and prior to scheduling all visits
 - a. Visits will be scheduled or confirmed based on screening
 - b. If patients or anyone in the home **do not** have respiratory symptoms (cough) or shortness of breath, proceed with home visits per normal care protocols
 - c. If patients or anyone in the home **does** have respiratory symptoms (cough) or shortness of breath,
 - Indicate the presence of symptoms in the electronic health record using the appropriate documentation
 - Consult with ID for COVID-19 testing
 - Utilize PPE and Isolation per Infectious Disease guidance.
 - d. If the patient/household contact has an emergent medical need:
 - Instruct the patient/family to call 911
 - Alert the ID Physician of the contact with patient/family and instructions to call 911.
 - e. If the patient/household contact has an urgent medical need (not requiring a 911 call):
 - Consult with ID Physician regarding next steps and inform patient/family of plan
 - If the decision is made for the patient to be seen in a Kaiser Permanente Emergency Department, follow appropriate transfer policy and inform Emergency Department of patients impending arrival as well as discussion with Infectious Disease Physician
 - f. If the patient/household contact is medically stable:
 - Consult with ID Physician regarding next steps and inform patient/family of plan

2. If clinician is already conducting home visit with a patient and/or anyone in the home (household contact) **who has** cough and shortness of breath not related to their current clinical condition:
 - a. Maintain a minimum of 6 feet from patient and/or household contact
 - b. Continue screening process for suspected COVID-19
 - Assess whether the patient has a fever
 - Assess whether the person been in contact with any known or suspected COVID-19 person
 - c. If upon assessment patient confirms presence of fever and/or contact with any known or suspected COVID-19 person:
 - Ensure the person has gone to another room.
 - Perform hand hygiene.
 - Consult ID Physician.

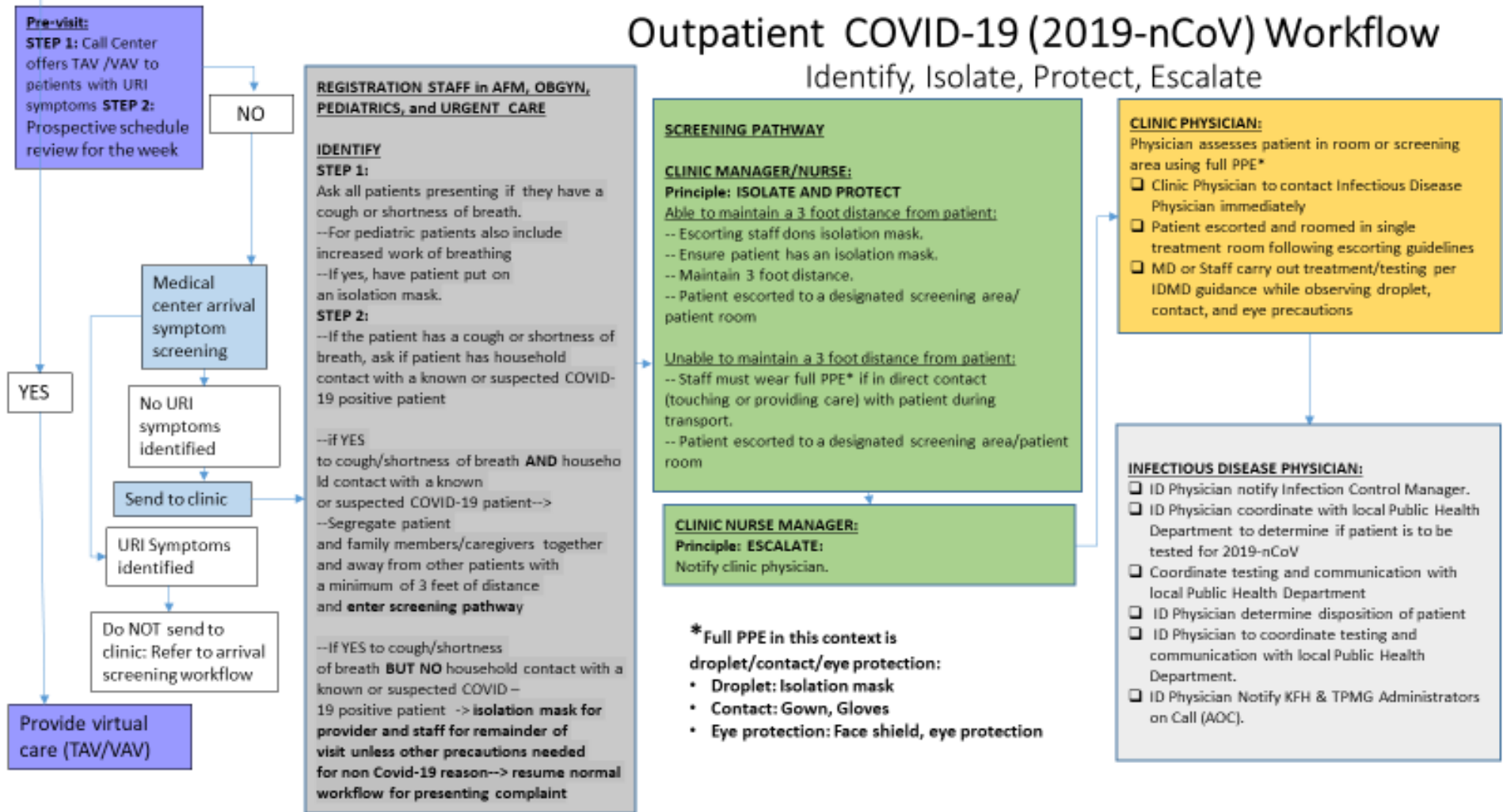
DRAFT

Appendices

Ambulatory – Covid-19 Mitigation Workflow Diagram

Outpatient COVID-19 (2019-nCoV) Workflow

Identify, Isolate, Protect, Escalate



* NOTE: Good Infection Prevention practice includes maintaining respiratory etiquette year-round by masking those who complain of respiratory issues.

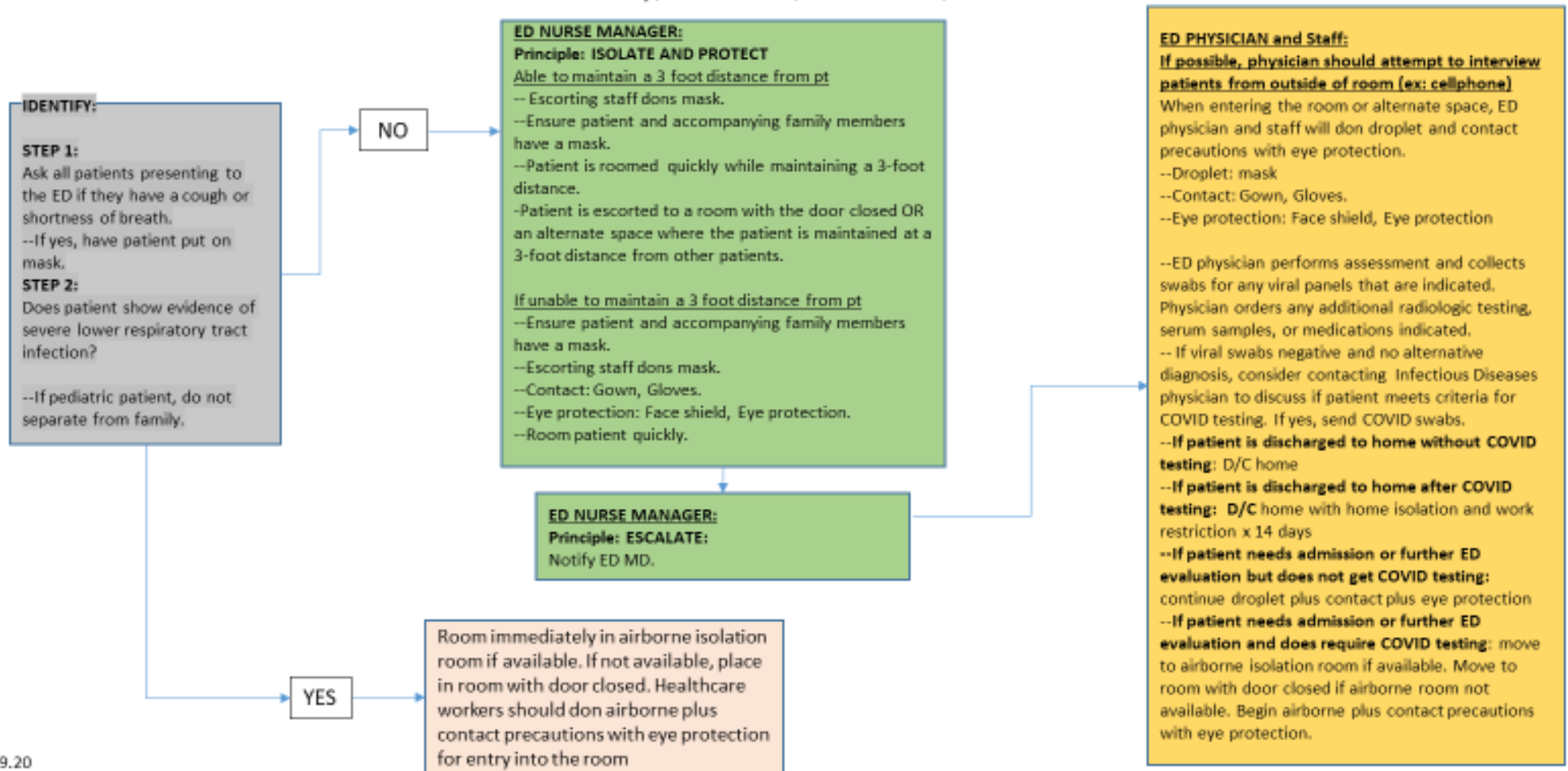
Additional Guidance

- **IDENTIFY: NOTE FOR CAREGIVERS:**
 - Limit visitors to a single caregiver when possible.
 - While in ED, instruct caregiver to remain with patient.
 - Instruct caregivers to wear an isolation mask when outside the patient room and to clean hands before entering and leaving the patient room.
 - If more than a single caregiver recommend that, if possible, additional visitors leave the medical facility after screening. Strongly discourage additional visitors /caregivers remain in public locations (e.g., waiting room, cafeteria) in medical center.
- **ISOLATE AND PROTECT NOTE FOR CAREGIVERS:** Recommend all visitors be excused from the screening area with the exception of an adult family member for a pediatric patient or a necessary caregiver for an adult patient. See Note for Caregivers.
- **SCREENING AREA COHORTING:** Patients may be cohorted in the screening area while being assessed provided the following are maintained:
 - 3 foot minimum distance from other patients.
 - Reasonable privacy considerations.
 - PPE must be changed between patients.



Emergency Department Adult and Pediatric COVID-19 workflow

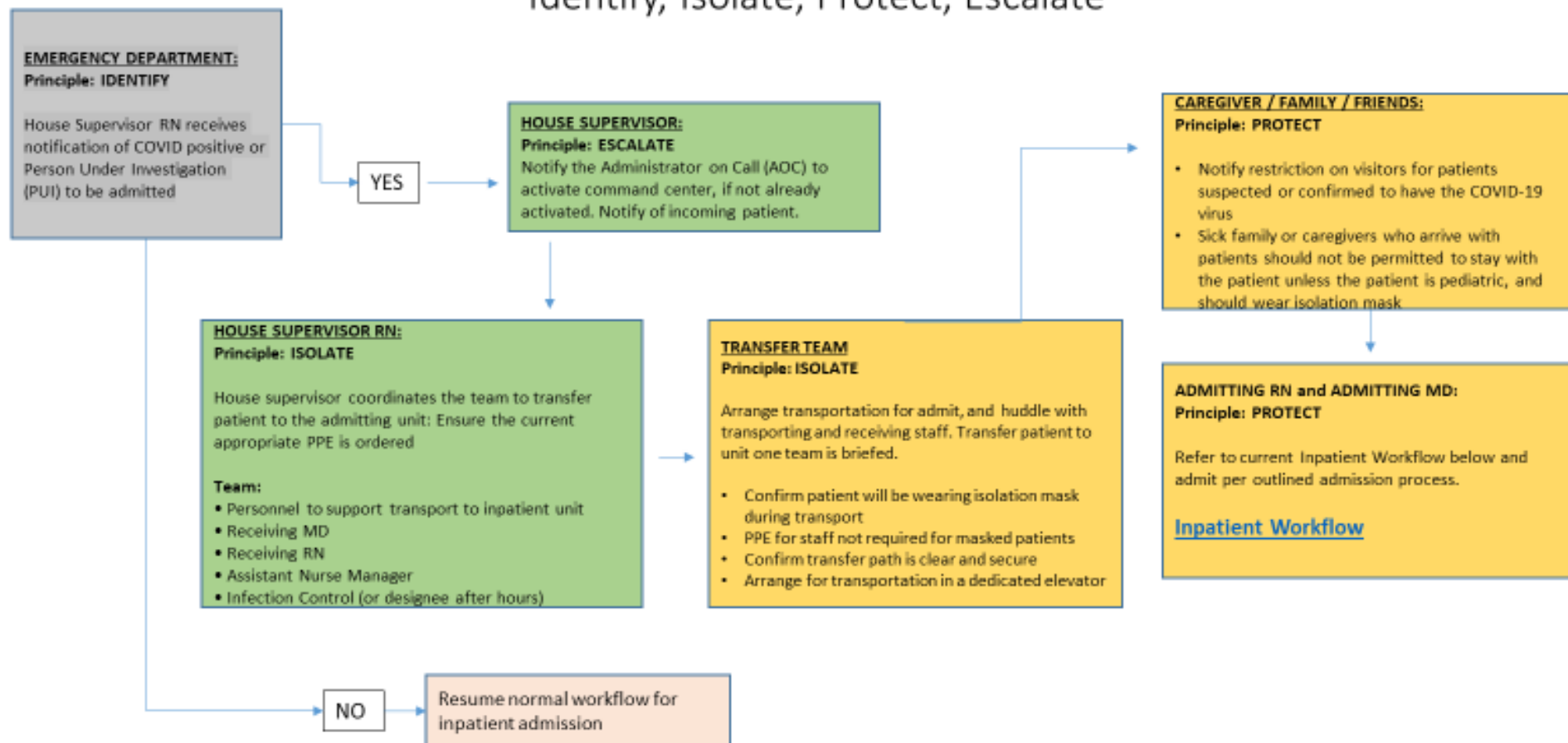
Identify, Isolate, Protect, Escalate



3.9.20

Inpatient COVID-19 (ED Admit)

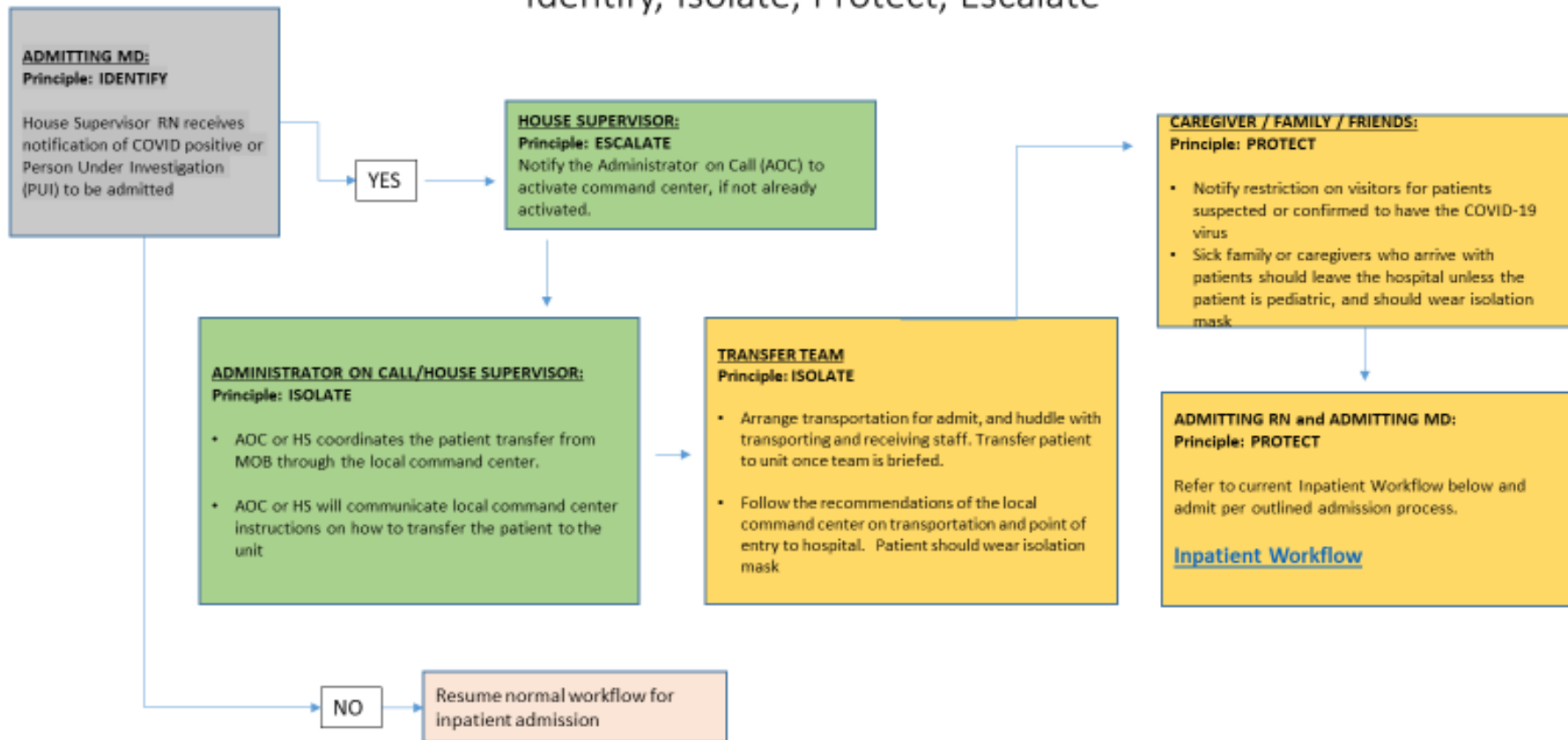
Identify, Isolate, Protect, Escalate



V3.3.20PCS NOTE: Good Infection Prevention practice includes maintaining respiratory etiquette year-round by masking those who complain of respiratory issues



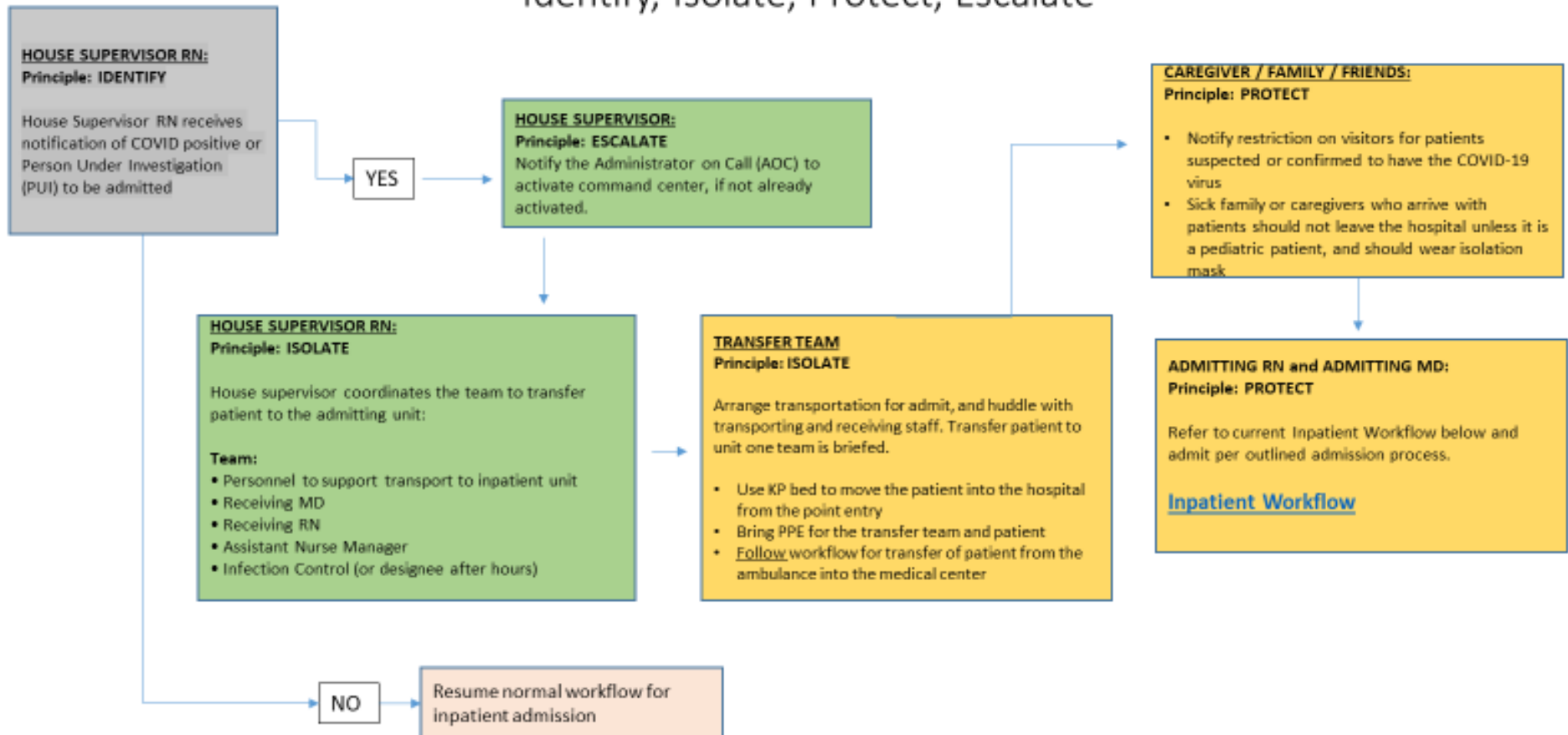
Inpatient COVID-19 (MOB Admit) Identify, Isolate, Protect, Escalate



V3.3.20PCS NOTE: Good Infection Prevention practice includes maintaining respiratory etiquette year-round by masking those who complain of respiratory issues



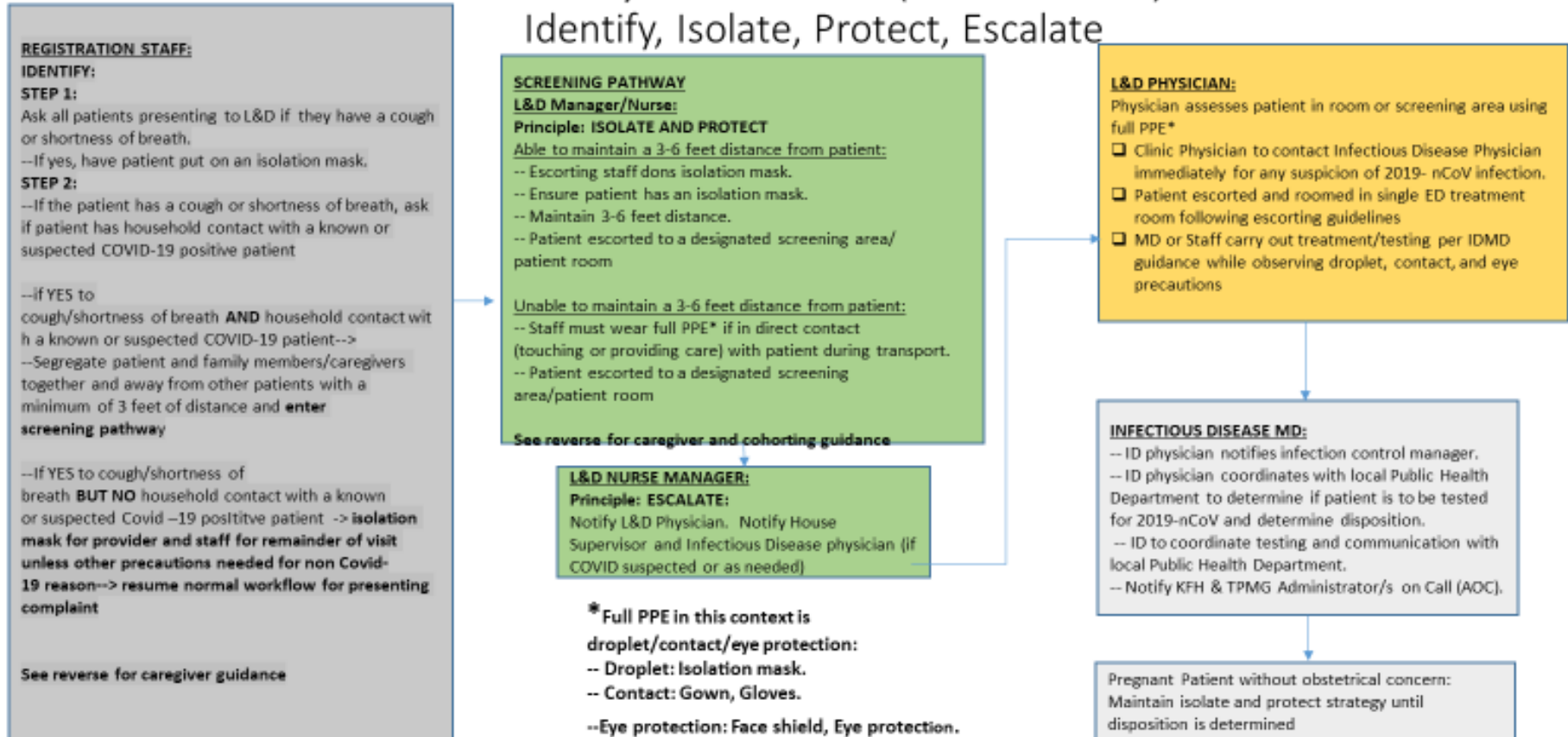
Inpatient COVID-19 (Ambulance Transfer) Identify, Isolate, Protect, Escalate



3.3.20PCS NOTE: Good Infection Prevention practice includes maintaining respiratory etiquette year-round by masking those who complain of respiratory issues

Labor and Delivery COVID-19 (2019-nCoV) Workflow

Identify, Isolate, Protect, Escalate



NOTE: Good Infection Prevention practice includes maintaining respiratory etiquette year-round by masking those who complain of respiratory issues

3.3.20



Additional Guidance

- **IDENTIFY: NOTE FOR CAREGIVERS:**
 - - Limit visitors to a single caregiver when possible.
 - - While in ED, instruct caregiver to remain with patient.
 - - Instruct caregivers to wear an isolation mask when outside the patient room and to clean hands before entering and leaving the patient room.
 - - If more than a single caregiver recommend that, if possible, additional visitors leave the medical facility after screening. Strongly discourage additional visitors /caregivers remain in public locations (e.g., waiting room, cafeteria) in medical center.
- **ISOLATE AND PROTECT NOTE FOR CAREGIVERS:** Recommend all visitors be excused from the screening area with the exception of an adult family member for a pediatric patient or a necessary caregiver for an adult patient. See Note for Caregivers.
- **SCREENING AREA COHORTING:** Patients may be cohorted in the screening area while being assessed provided the following are maintained:
 - 3 foot minimum distance from other patients.
 - Reasonable privacy considerations.
 - PPE must be changed between patients.



RESPIRATORY Therapy COVID-19 (2019-nCoV Workflow) Identify, Isolate, and Treat

Maintain department isolation:
Isolate & Protect
 Patient who is confirmed positive or suspected for Covid-19 requires full PPE*

- Door is to remain closed
- Patient to wear isolation mask if able
- If the patient is masked the healthcare practitioners need not wear a mask during transport
- Full PPE* should be observed when in direct contact
- See high risk/aerosolized procedure note next box

PROVIDING RESPIRATORY THERAPY SERVICES
Guidelines for Direct Care

- Full PPE* should be observed when in direct contact with patient, less than 3 feet (gown, gloves, eye protection, and isolation mask)
- Patients may be cohorted while being assessed provided the following are maintained:
 - Droplet/contact/eye precautions (see Full PPE definition below)
 - 3-foot minimum distance from other patients
 - Reasonable privacy consideration
 - PPE must be changed between patients
- **IF patient requires high-risk/aerosolized procedure** (e.g., intubation, nebulizer treatment, BIPAP, CPAP, sputum induction, open suctioning (not closed suctioning on vent – see standard ATD list), initiate Airborne Precautions and wear PAPR, CAPR or N95 respirator in addition to gown, gloves and eye protection. Perform high risk procedure in a negative pressure room if available; otherwise, a private room with closed door is adequate.
- Nebulization of medication is considered high risk and should be reviewed for appropriateness before administration

Equipment

- Use disposable equipment when possible
- A disposable stethoscope should be placed in patient room
- Home CPAP units should not be brought into facilities for use by patient who are confirmed positive or suspected for COVID-19. Utilize hospital CPAP machines.

Therapies

- Every shift all ordered Respiratory Therapy modalities should be evaluated for necessity
- Oxygen need only be administered if necessary and should be weaned as applicable
- When possible, small volume nebulizer should be converted to metered dose inhaler with spacer
- High Risk procedures (intubation, bronchoscopy, sputum induction, nasotracheal suctioning) should be reviewed with the HealthCare Team for necessity

***Full PPE in this context is droplet/contact/eye protection:**
 -- Droplet: Isolation/Surgical mask
 -- Contact: Gown, Gloves.
 -- Eye protection: Face shield, Eye protection

- ABG Sample Processing**
- While inside the patient room place sample in biohazard bag
 - Remove gloves, gown and eyewear inside the room (do not remove mask)
 - Perform hand hygiene and apply new gloves
 - Exit room, in the anteroom double bag the sample with a clean biohazard bag
 - Remove gloves, perform hand hygiene, put on clean gloves
 - While in anteroom remove the N95, remove gloves and perform hand hygiene
 - Transport the sample to ABG room for processing, place biohazard bag on the counter
 - Remove gloves, perform hand hygiene and apply clean gloves
 - Enter accession number, run sample, and discard bags in red biohazard waste container
 - Remove gloves and discard. Perform hand hygiene and apply clean gloves
 - Complete ABG results in the computer. Place label on syringe and discard in sharps container
 - Discard gloves and perform hand hygiene, then apply new gloves. Wipe counter with designated cleaner
 - Discard gloves and perform hand hygiene
- *when possible, use the Radiometer PICO ABG kits for less contact.

DISCONTINUING RESPIRATORY CARE:
 Patient has met Care Plan Goals and no longer needs Respiratory Therapy intervention

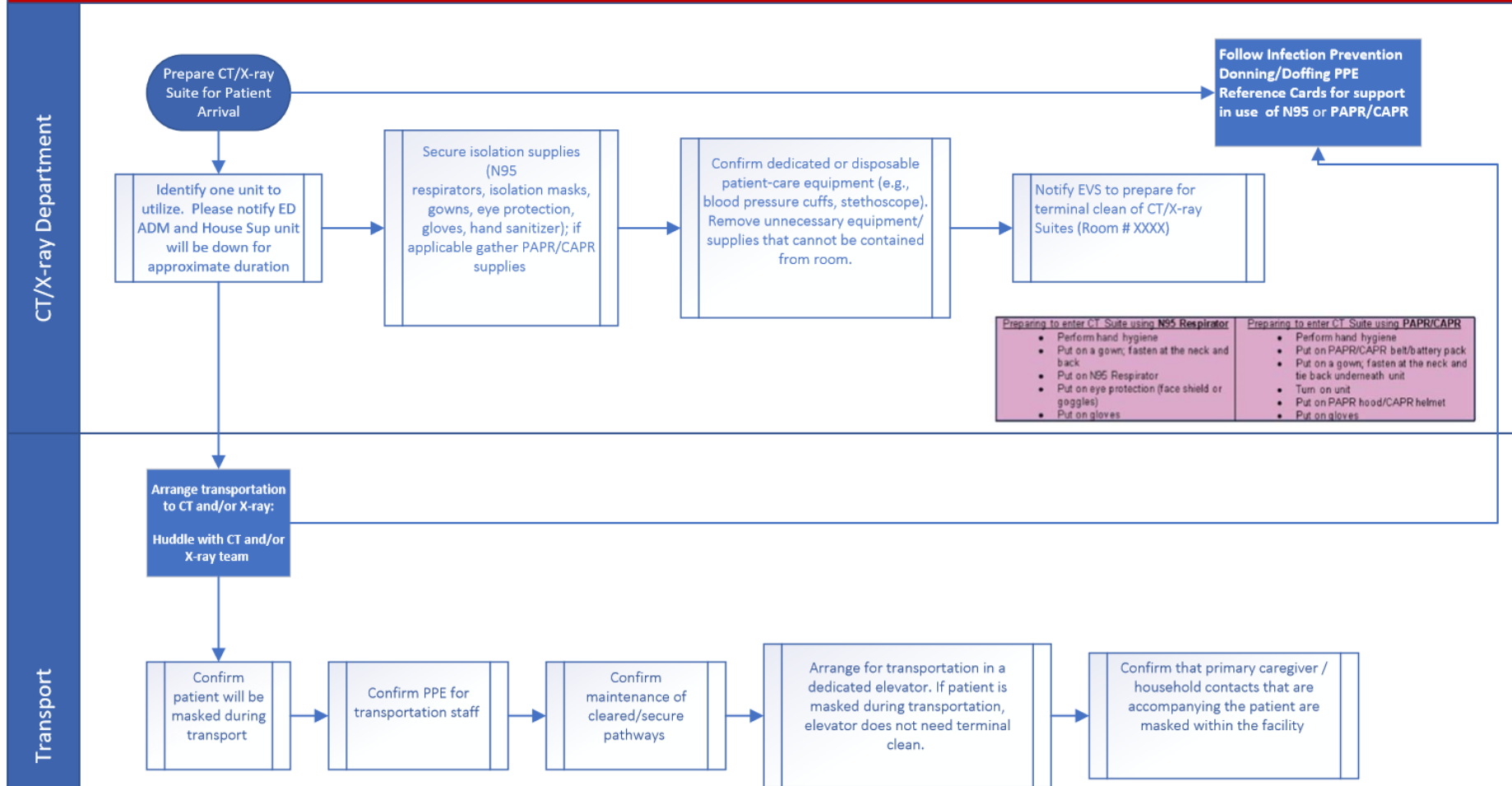
- All disposable items after patient use should be placed in red biohazard bag
- All non-disposable equipment should be disinfected per infection control guidelines

V3.3.20

CT Workflows Specific to COVID-19 *slide 1*

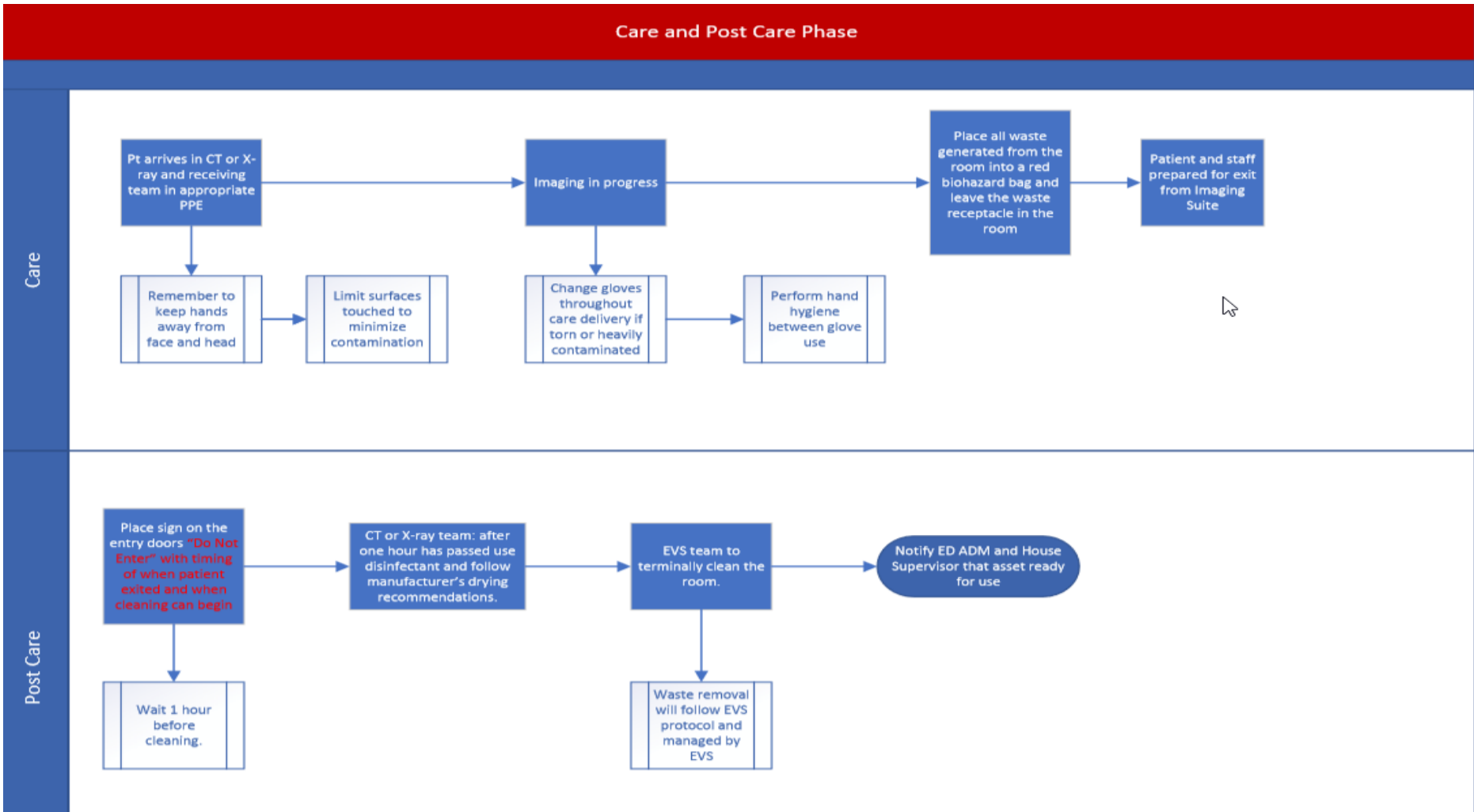
COVID-19 IMAGING SERVICES WORKFLOW: CT and X-ray Department

Preparation Phase



CT Workflows Specific to COVID-19 slide 2

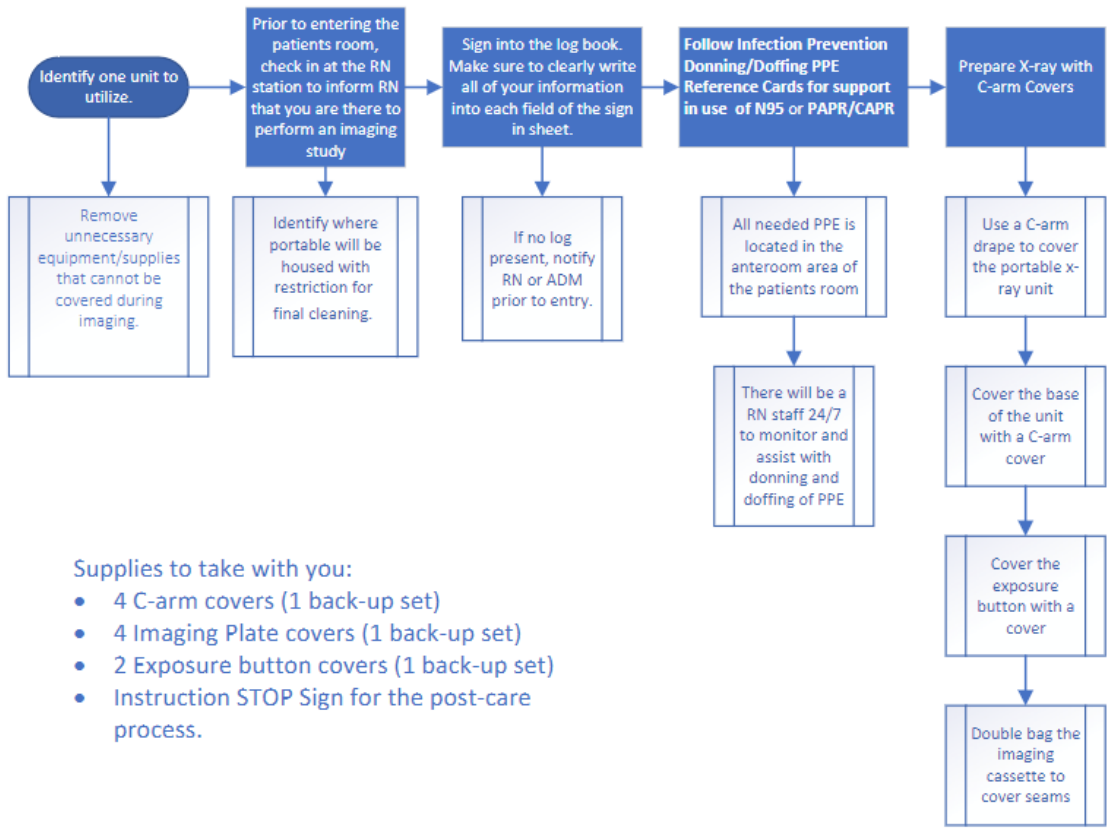
Care and Post Care Phase



Portable X-ray and C-arm – Covid-19 Mitigation Workflow

COVID-19 IMAGING SERVICES MITIGATION WORKFLOW: Portable X-ray

Portable X-ray



Supplies to take with you:

- 4 C-arm covers (1 back-up set)
- 4 Imaging Plate covers (1 back-up set)
- 2 Exposure button covers (1 back-up set)
- Instruction STOP Sign for the post-care process.



Version 2
3/5/2020

While in the patient's room

Infection Control procedures while performing patient care inside room

- Remember to keep hands away from face and head
- Limit surfaces touched to minimize contamination
- Change gloves throughout care delivery if torn or heavily contaminated
- Perform hand hygiene between glove use
- **Place all waste generated from the room of a known or suspect COVID-19 patient into a red biohazard bag and leave in the room.**



Removal of waste and transportation

- Cleaning of transportation (e.g. ambulance gurney, larger bed, wheelchair) or other medical devices (e.g. portable x-ray, cardiac ultrasound, etc.)
 - Clean equipment within the room maintaining > 3 feet distance from masked patient before leaving the room and before doffing the PPE.
 - If a cleaning distance of > 3 feet from the patient cannot be maintained in the patient room, the equipment should be wiped down and moved to a nearby empty room and then fully cleaned. That second room would then require terminal cleaning for COVID-19.
- Waste will be removed from room per EVS protocol, packaged, stored and hauled away from our facilities in accordance with the requirements of the medical waste vendor.
- EVS will prepare to terminal clean the CT suite and room will remain out of service for duration.

Step 4: Cleaning the portable x-ray unit:

Perioperative – Example of Resource Needs for Outpatient Urgent Bariatric Surgeries Resources Needed

The document embedded below details resources needed for specific surgeries to take place. It is to be utilized by local command centers to determine readiness to perform surgeries as required, and to coordinate the transfer of resources if necessary.

OUTPATIENT: URGENT BARIATRIC SURGERIES	Preop Nurse	OR Nurse	OR Tech	PACU Nurse	iSTAT Lab only (OR must have iSTAT)	EVS	Sterile Processing	Discharge to Home	Check Supplies, Implants, Instruments
<i>REMOVAL OF LAP BAND LAPAROSCOPIC</i>	X	X	X	X	X	X	X	X	X
<i>GASTRIC REMOVAL RESTRICTIVE DEVICE, LAPAROSCOPIC</i>	X	X	X	X	X	X	X	X	X
PATIENTS REQUIRING MORE THAN JUST OR: URGENT BARIATRIC SURGERIES	same as Outpatient plus the following	Lab services	Blood Bank Please indicate: "Definite Need" or "Type & Screen - rare need"	Med Surg bed and Nursing staff	Telemetry bed and Nursing staff	ICU bed and ICU nursing staff	Respiratory Therapy		
<i>GASTRIC BYPASS REVISION</i>	X	X	if patient presents with shock and dead gut	X	X	if patient presents with shock and dead gut	if patient presents with shock and dead gut		
<i>GASTRIC BYPASS ROUX-EN-Y LAPAROSCOPIC</i>	X	X		X	X				
<i>GASTRIC BYPASS ROUX-EN-Y OPEN</i>	X	X		X	X				
<i>GASTRIC REVISION OF GASTRIC RESTRICTIVE PROCEDURE LAPAROSCOPIC</i>	X	X		X	X				
<i>HERNIA REPAIR INTERNAL LAPAROSCOPIC</i>	X	X		X	X				
<i>HERNIA REPAIR INTERNAL OPEN</i>	X	X		X	X				
Laparoscopy diagnostic									
Gastric anastomoses revision									
Gastric pyloric patch repair perforation.									

Nursing Facilities Workflow (Updated 3/12/20)

