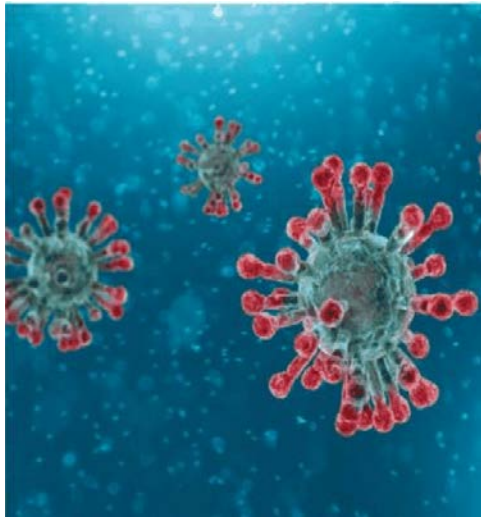


# Preventing COVID-19 Transmission in Ambulatory Surgery Centers



- **Sylvia Garcia-Houchins, MBA, RN, CIC**  
**Director, Infection Prevention and Control**
- **Lorrie Cappellino, RN, MS, CNOR**  
**Surveyor, Ambulatory Health Care**
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**Director of Engineering, Standards Interpretation Group**

# Intended Audience

This webinar is being presented to help organizations planning to resume elective procedures.

Focus on key issues and prevention strategies to consider prior to resuming elective procedures in ambulatory surgical centers based on what we know about COVID-19.

# Acknowledgement

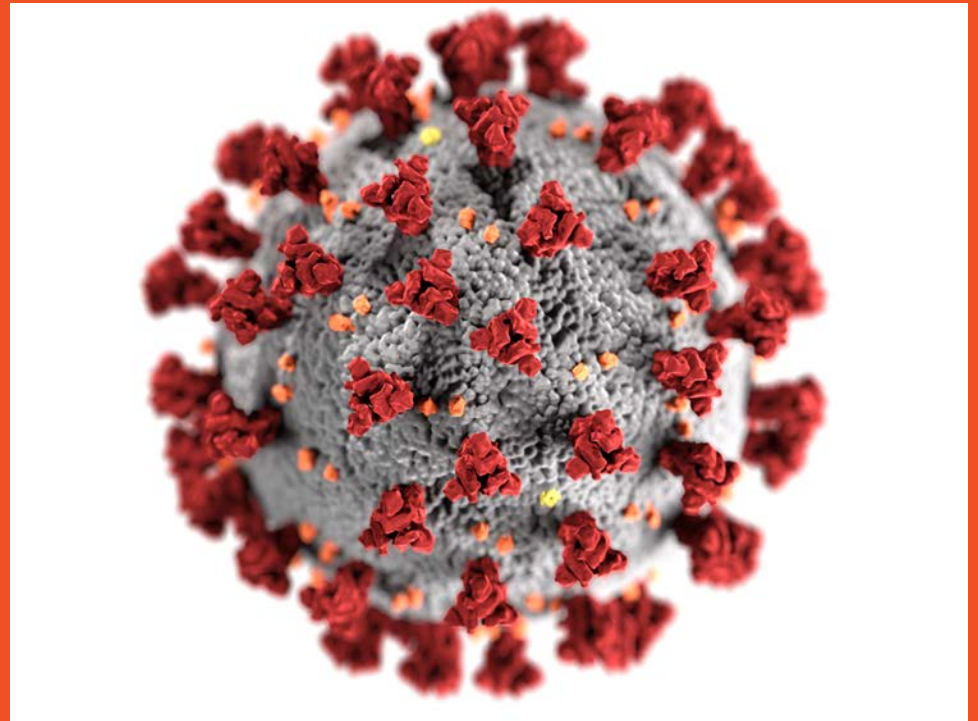
# The Joint Commission Disclaimer

These slides are current as of **May 5, 2020**. The Joint Commission reserves the right to change the content of the information, as appropriate.

These slides are only meant to be cue points, which were expounded upon verbally by the original presenter and are not meant to be comprehensive statements of standards interpretation or represent all the content of the presentation. Thus, care should be exercised in interpreting Joint Commission requirements based solely on the content of these slides.

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# COVID-19



# Remember How Transmission Occurs



Source: CDC\Brian Judd  
<https://phil.cdc.gov/details.aspx?pid=11161>

- Person to person via droplets (6 feet)
- Airborne transmission (aerosol generating procedures)
- Transmission via surfaces
  - viable for hours to days on surfaces

**Asymptomatic and Presymptomatic SARS-CoV-2 Infections in  
Residents of a Long-Term Care Skilled Nursing Facility —  
King County, Washington, March 2020**

- 23 of 76 (30.3%) surveyed tested positive for COVID-19
  - 10 had symptoms (8 typical; 2 atypical)
  - 13 had no symptoms
    - 10 developed symptoms (mean interval 3 days)
    - **3 did not develop symptoms**

# Presymptomatic and Asymptomatic Spread

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

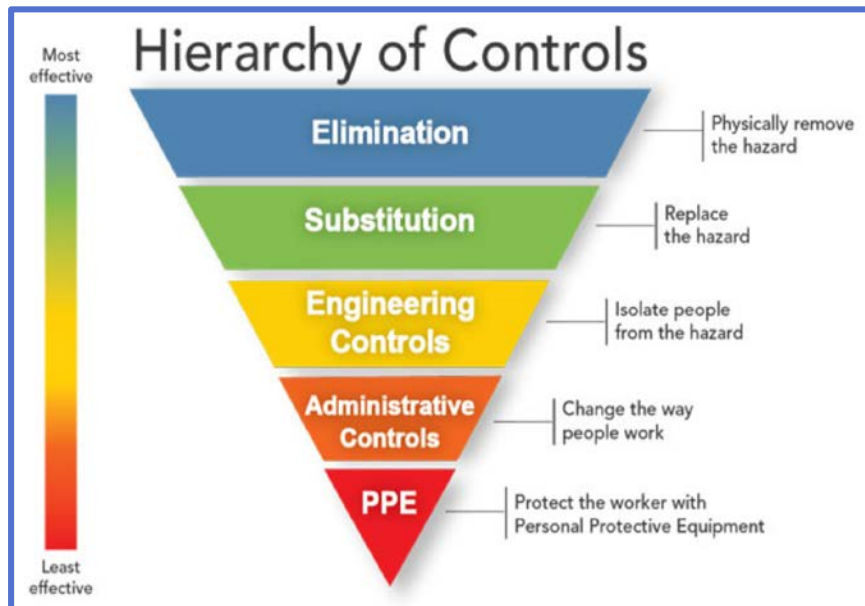
Presymptomatic and Asymptomatic SARS-CoV-2 Infection in a Health-Care Facility

**ANYONE could have ASYMPTOMATIC COVID-19 Infection**

M. A. James, J.R. Jacobs, J. Taylor, J. Harney, Z. Chisty, J.W. Dyal, J. Harney, Z. Chisty, J. Carlson, H.P. McLaughlin, N. Thornburg, J. Harcourt, S. Clark, C. Brostrom-Smith, P. Montgomery, N.D. Stone, T.A. Clark, M.A. Honein, J.A. Jernigan, for the Public Health–Seattle and King County and CDC COVID-19 Investigation Team\*



# Use What We Know to Stop Transmission



- Elimination – limit visitors
- Substitution – block vs general anesthesia
- Engineering controls – smoke evacuator
- Administrative controls – take staff temperatures
- PPE – source control

# Use What We Know to Stop Transmission

- Source Control
- Social Distancing
- Appropriate PPE
- Hand Hygiene
- Clean and disinfect surfaces



Modified from : CDC\Brian Judd  
<https://phil.cdc.gov/details.aspx?pid=11161>

# Source Control: Universal Masking

- Patients/Visitors
  - Face covering
- Healthcare Workers
  - Leaving home - face covering
  - Direct patient care – medical mask
  - No direct care – face covering



## Statement on Universal Masking of Staff, Patients, and Visitors in Health Care Settings April 23, 2020

On April 13, 2020, the U.S. Centers for Disease Control and Prevention revised its [infection prevention and control recommendations](#) related to COVID-19. To address [asymptomatic and pre-symptomatic transmission](#), CDC recommended that healthcare facilities “...implement source control for everyone entering a healthcare facility (e.g., healthcare personnel, patients, visitors), regardless of symptoms...” Source control involves having people wear a cloth face covering or facemask over their mouth and nose to contain their respiratory secretions and thus reduce the dispersion of droplets from an infected individual. This will decrease the possibility that anyone with unrecognized COVID-19 infection will expose others and will allow organizations to forgo contact tracing if a case is identified. For source control to be effective, it requires that everyone wear a mask within healthcare buildings to [prevent droplet and \(to a lesser degree\) aerosol spread](#) of respiratory viruses such as COVID-19.

The Joint Commission supports the CDC’s recommendations. The Joint Commission believes that universal masking within healthcare settings is a critical tool to protect staff and patients from being infected by asymptomatic and presymptomatic individuals and should be implemented in any community where coronavirus is occurring. Even a single case of community spread of COVID-19 means that healthcare facilities and staff are at risk because other asymptomatic and presymptomatic patients may come in for care and inadvertently infect staff. This document summarizes key steps and provides materials that may be helpful in implementing this recommendation.

### Patients and Visitors

All patients and visitors should be instructed to wear a cloth mask when entering any healthcare building. If they arrive without a cloth mask, one should be provided. If there is a sufficient supply of medical grade facemasks one may be provided instead of a cloth mask. In accordance with CDC recommendations, facemasks and cloth face coverings should not be placed on young children under age 2, anyone who has trouble breathing, or anyone who is unconscious, incapacitated or otherwise


<https://www.jointcommission.org/-/media/tjc/documents/resources/patient-safety-topics/infection-prevention-and-hai/covid19/universal-masking-statement-04232020.pdf>

# Source Control: Modify Practices


## Respiratory Etiquette: Conventional

Stop the spread of germs that make you and others sick!



# Cover your Cough



Cover your mouth and nose with a tissue when you cough or sneeze or cough or sneeze into your upper sleeve, not your hands.




Put your used tissue in the waste basket.




You may be asked to put on a surgical mask to protect others.

# Clean your Hands

after coughing or sneezing.



or



**MDH** Michigan Department of Health  
300 N. Zeeb Road, Lansing, MI 48915  
616.224.3444 • TDD/TTY: 616.224.2767  
www.michigan.gov/mdh

**APIC** American  
Prevention  
Association  
Collegeville, PA



## Source Control : NEW

### STOP THE SPREAD OF CORONAVIRUS

#### Wear a mask when you leave home!

- Help protect our healthcare workers by wearing a mask in our building, just as you would anywhere outside your home.
- To help conserve supplies, use cloth or homemade masks when visiting us, performing essential work or errands while also observing social distancing guidelines.



#### Perform Hand Hygiene when entering and leaving the facility, the patient's room, or your home.

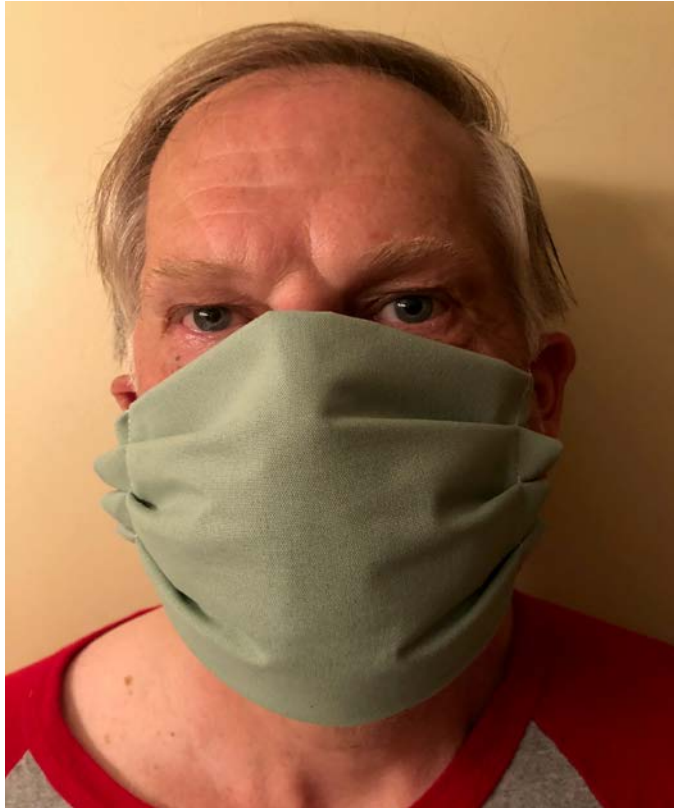


Wash hands with soap and water or clean hands with alcohol-based sanitizer



Modified from CDC.gov

# Source Control: Face Coverings and Masks



Reduces Droplet Dispersal  
Variable Filtration  
Depending on Material  
**NOT PPE**



Reduces Droplet Dispersal  
“Standard” Filtration  
**PPE: Needed for direct patient care**  
**ASTM 1: Minimum for Surgical Care**

# Resources

Poster Available at:  
<https://www.jointcommission.org/-/media/tjc/documents/covid19/universal-masking-statement-04232020.pdf>

## Do's and Don'ts

Do's and Don'ts for Health Care Staff Wearing  
Facemasks During the COVID-19 Pandemic\*

### Do's

- ✓ Wear a cloth or medical facemask whenever you are within 6 feet of other people.
- ✓ Wear a medical facemask as personal protective equipment when providing direct care.
- ✓ Change your facemask if it is damaged (e.g., torn, wet or visibly soiled) or becomes hard to breathe through.
- ✓ Remove ear loop facemasks by handling only the ear loops and tie face masks by handling only the ties.
- ✓ Perform hand hygiene before and after removing a facemask.
- ✓ Practice extended use of disposable medical facemasks (e.g., do not remove mask except to discard) rather than reuse (e.g., remove and store mask between uses) if supplies are limited.
- ✓ In crisis situations, if a facemask must be re-used, store and handle in a manner that prevents contamination of the inside of the mask and wash hands after re-applying.

### Don'ts

- ✗ Wear a cloth facemask as personal protective equipment (e.g., when providing direct care to a patient).
- ✗ Remove your mask unless you are at least 6 feet away from other people, this includes co-workers, visitors and patients.
- ✗ Touch the front of a used mask during use or removal.
- ✗ Wear a facemask that is soiled, damaged or hard to breathe through.
- ✗ Wear a medical facemask for aerosol generating procedures (use an N95, Elastomeric, or Powered Air Purifying Respirator for these procedures).
- ✗ Reuse medical facemasks unless the organization has reached crisis situation and has contacted the local health authority and no alternative or additional supplies can be anticipated.

\* Facemasks are just one element that should be used in conjunction with other measures, such as social distancing, to protect people from exposure to COVID-19. When facemasks are worn as PPE they must be used with other PPE as determined by the clinical situation and facility policies and procedures.

# Social Distancing



# Adequate Supply of PPE Available

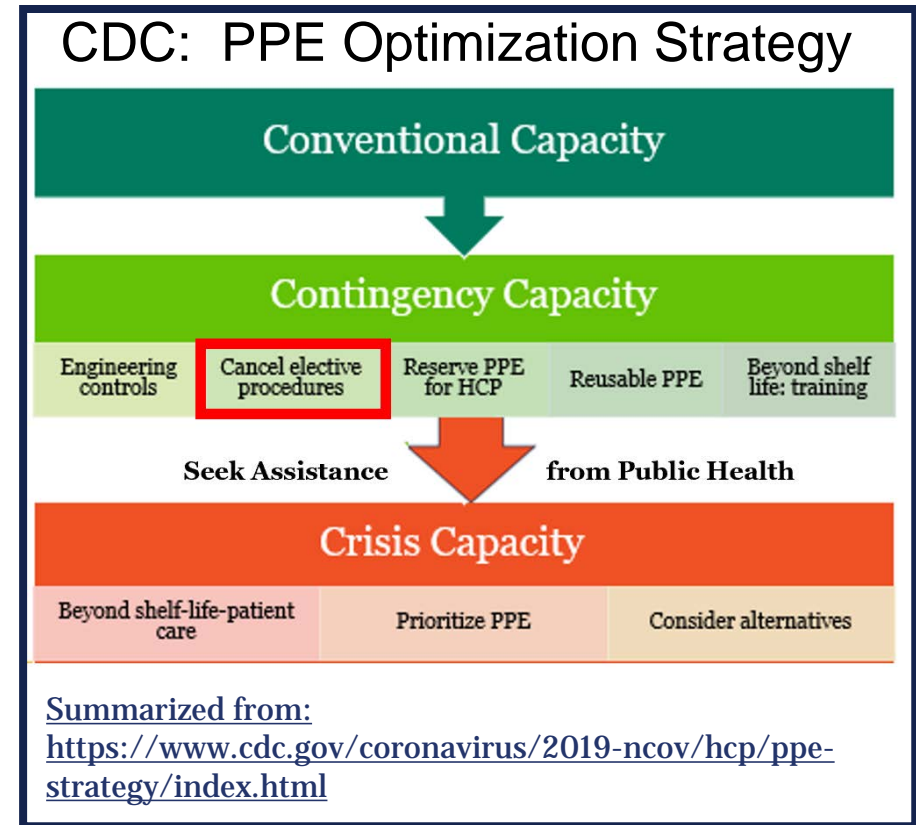
Joint Statement: Roadmap\*

Principle:

- Adequate PPE

Policies:

- Adequacy of PPE
- Training and use: follow non-crisis standards
- Conservation




\* Available at <https://www.facs.org/covid-19/clinical-guidance/roadmap-elective-surgery>



# Estimate PPE Use

- The rate of use depends on multiple factors including
  - Number of patients
  - Number of staff
  - Types of procedures
  - Processes in place to conserve PPE
  - Availability

## PPE Burn Rate Calculator

[Personal Protective Equipment Burn Rate Calculator](#)  [3 sheets]

This spreadsheet can help healthcare facilities plan and optimize the use of personal protective equipment (PPE) for response to coronavirus disease 2019 (COVID-19). [Get the Instructions](#)

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control.html>

# Routine Patient Care

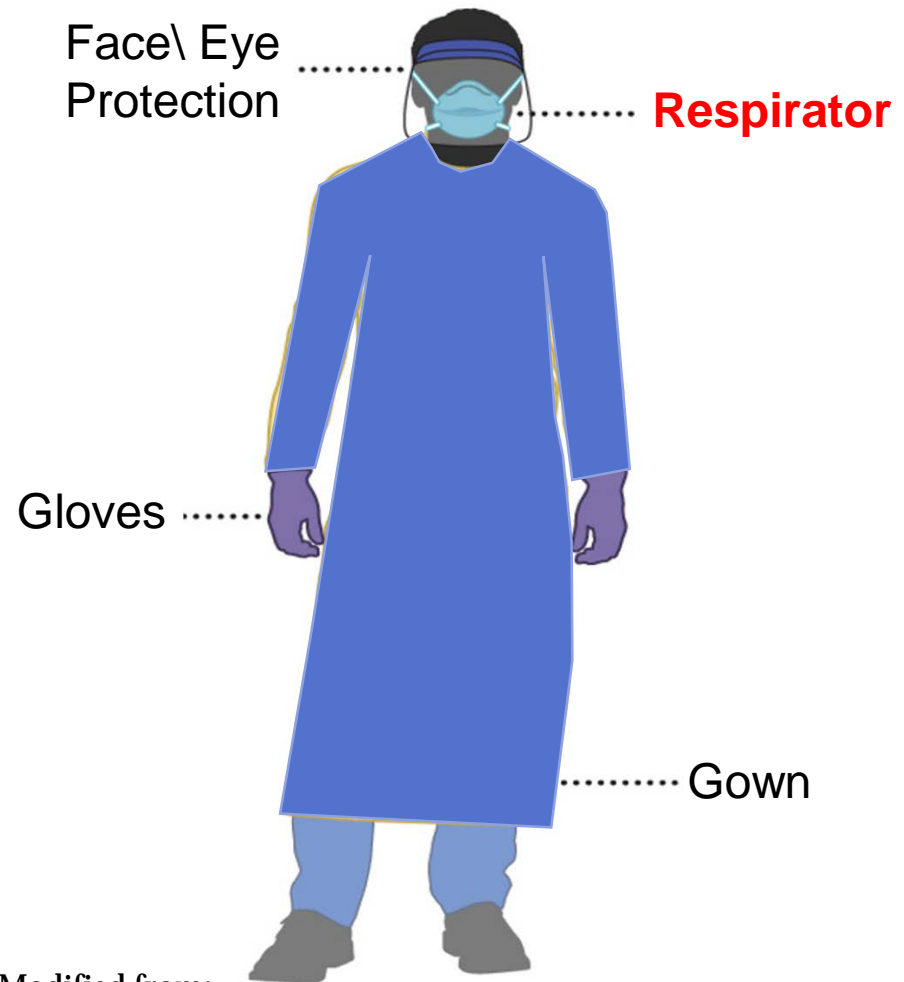
- Practice source control
- Follow standard and transmission based precautions
  - Switch to medical facemask if PPE is indicated
  - Type of gown is dependent on type of exposure anticipated
  - Eye protection should have solid sides



# Aerosol Generating Procedures

## Examples of aerosol-generating procedures:

- Intubation
- Extubation
- Nebulizer treatments
- Cardiopulmonary resuscitation
  - Manual ventilation
  - Open suctioning
- Bronchoscopy



Modified from:  
<https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html>

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# Filtering Facepiece Respirators

**Confirm safe to use in area of sterile environment**



**N95 (or higher) mask**

Disposable  
Filters airborne particles  
Requires fit testing



**Elastomeric Filtering Facepiece**

Reusable device  
Requires fit testing  
May be disinfected



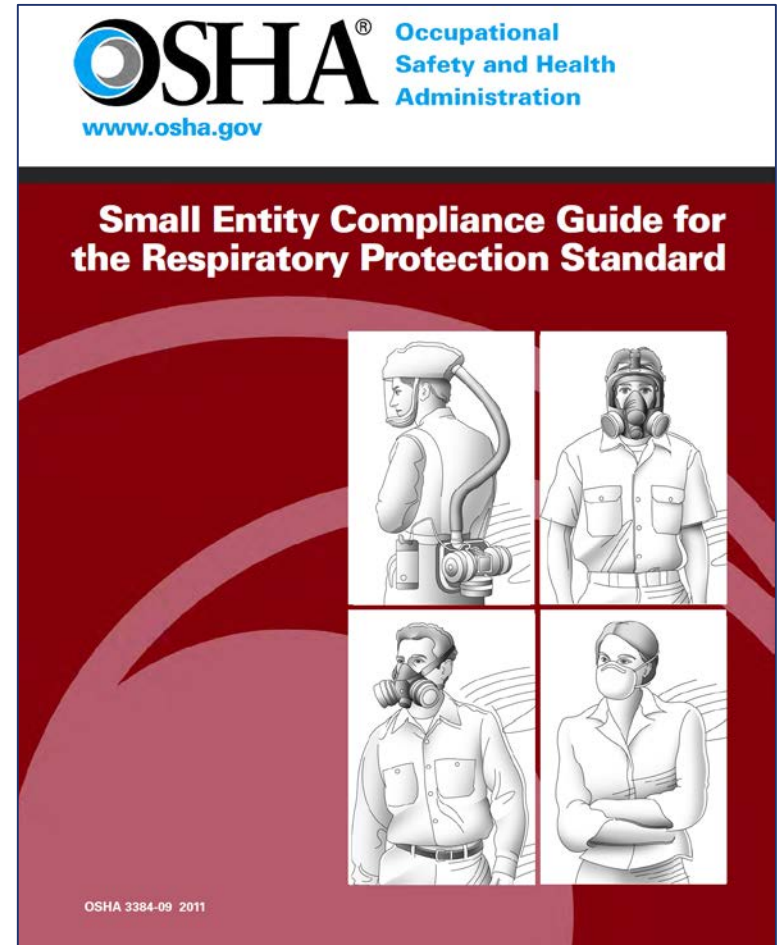
**Powered Air-Purifying Respirator (PAPR)**

Reusable device  
Battery operated  
Half or full facepiece

# Respiratory Protection Program

## OSHA Requirement

- Depends on type of respirator
- May include
  - Medical Evaluation
  - Fit Testing
  - Fit Check



Resource Link:

<https://www.osha.gov/Publications/3384small-entity-for-respiratory-protection-standard-rev.pdf> All Rights Reserved.

# PPE Checklist

|                              | Face Covering /Mask* | Gown | Gloves | Eye/Face Protection |
|------------------------------|----------------------|------|--------|---------------------|
| <b>Screening Area</b>        |                      |      |        |                     |
| <b>Patient</b>               |                      |      |        |                     |
| <b>Staff</b>                 |                      |      |        |                     |
|                              |                      |      |        |                     |
| <b>Reception Area</b>        |                      |      |        |                     |
| <b>Patient</b>               |                      |      |        |                     |
| <b>Staff</b>                 |                      |      |        |                     |
|                              |                      |      |        |                     |
| <b>Preop Hold</b>            |                      |      |        |                     |
| <b>Patient</b>               |                      |      |        |                     |
| <b>Staff &amp; Providers</b> |                      |      |        |                     |
|                              |                      |      |        |                     |
| <b>OR</b>                    |                      |      |        |                     |
| <b>Patient</b>               |                      |      |        |                     |
| <b>Perioperative Team</b>    |                      |      |        |                     |
| <b>Present for AGP</b>       |                      |      |        |                     |
|                              |                      |      |        |                     |
| <b>PACU</b>                  |                      |      |        |                     |
| <b>Patient</b>               |                      |      |        |                     |
| <b>Staff</b>                 |                      |      |        |                     |

*\*1 – Face Covering; 2 – Medical Mask; 3 – Surgical Mask; 4 – Respirator*

**AGP** = Aerosol generating procedure

*(Vendor and escort screening at point of entry and appropriate face covering/PPE per facility protocol) \_\_\_\_\_ 22*

# Sample PPE Checklist

|                              | Face Covering /Mask* | Gown                          | Gloves | Eye/Face Protection |
|------------------------------|----------------------|-------------------------------|--------|---------------------|
| <b>Screening Area</b>        |                      |                               |        |                     |
| <b>Patient</b>               | 1                    |                               |        |                     |
| <b>Staff</b>                 | 1/2                  |                               | X      |                     |
| <b>Reception Area</b>        |                      |                               |        |                     |
| <b>Patient</b>               | 1                    |                               |        |                     |
| <b>Staff</b>                 | 1                    |                               |        |                     |
| <b>Preop Hold</b>            |                      |                               |        |                     |
| <b>Patient</b>               | 1                    |                               |        |                     |
| <b>Staff &amp; Providers</b> | 1                    | Per standard precautions      |        |                     |
| <b>OR</b>                    |                      |                               |        |                     |
| <b>Patient</b>               | 1                    |                               |        |                     |
| <b>Perioperative Team</b>    | 3                    | Per operative attire policy   |        |                     |
| <b>Present for AGP</b>       | 4                    | X                             | X      | X                   |
| <b>PACU</b>                  |                      |                               |        |                     |
| <b>Patient</b>               | 1                    |                               |        |                     |
| <b>Staff</b>                 | 1/2/3/4              | Per standard precautions /AGP |        |                     |

**\*1** – Face Covering; **2** – Medical Mask; **3** – Surgical Mask; **4** – Respirator

**AGP** = Aerosol generating procedure

(Vendor and escort screening at point of entry and appropriate face covering/PPE per facility protocol)

# Sample PPE Checklist

|                              | Face Covering /Mask* | Gown                          | Gloves | Eye Protection /Face Shield |
|------------------------------|----------------------|-------------------------------|--------|-----------------------------|
| <b>Screening Area</b>        |                      |                               |        |                             |
| <b>Patient</b>               | 1                    |                               |        |                             |
| <b>Staff</b>                 | 1/2                  |                               |        |                             |
|                              |                      |                               |        |                             |
| <b>Reception Area</b>        |                      |                               |        |                             |
| <b>Patient</b>               |                      |                               |        |                             |
| <b>Staff</b>                 |                      |                               |        |                             |
|                              |                      |                               |        |                             |
| <b>Preop Hold</b>            |                      |                               |        |                             |
| <b>Patient</b>               |                      |                               |        |                             |
| <b>Staff &amp; Providers</b> | 1                    | Per standard precautions      |        |                             |
|                              |                      |                               |        |                             |
| <b>OR</b>                    |                      |                               |        |                             |
| <b>Patient</b>               | 1                    |                               |        |                             |
| <b>Periopersonnel</b>        | 3                    | Per operative attire policy   |        |                             |
| <b>Preop</b>                 | 4                    | X                             | X      | X                           |
|                              |                      |                               |        |                             |
| <b>PACU</b>                  |                      |                               |        |                             |
| <b>Patient</b>               | 1                    |                               |        |                             |
| <b>Staff</b>                 | 1/2/3/4              | Per standard precautions /AGP |        |                             |

**OSHA REQUIRES That Organizations Perform A Hazard Assessment**

**\*1 – Face Covering; 2 – Medical Mask; 3 – Surgical Mask; 4 – Respirator**

**AGP = Aerosol generating procedure**

*(Vendor and escort screening at point of entry and appropriate face covering/PPE per facility protocol)*



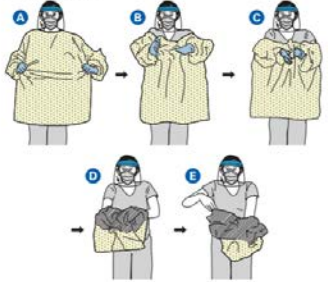


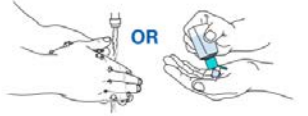
# Training and Competency of Staff

- Lots of resources
  - Joint Commission site
  - Videos
  - YouTube
  - Posters


EVERYONE needs the same message

**HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE)**  
**EXAMPLE 2**

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

- 1. GOWN AND GLOVES**
  - Gown front and sleeves and the outside of gloves are contaminated!
  - If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer.
  - Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands.
  - While removing the gown, fold or roll the gown inside-out into a bundle.
  - As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container.
- 2. GOGGLES OR FACE SHIELD**
  - Outside of goggles or face shield are contaminated!
  - If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer.
  - Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield.
  - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container.
- 3. MASK OR RESPIRATOR**
  - Front of mask/respirator is contaminated — **DO NOT TOUCH!**
  - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer.
  - Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front.
  - Discard in a waste container.
- 4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE**

**PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE**



Source:

<https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf>

# Disinfection of Hard Surfaces

- EPA-registered, hospital or healthcare disinfectant
- If not available, consider EPA-registered Institutional or residential disinfectants

(<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>)

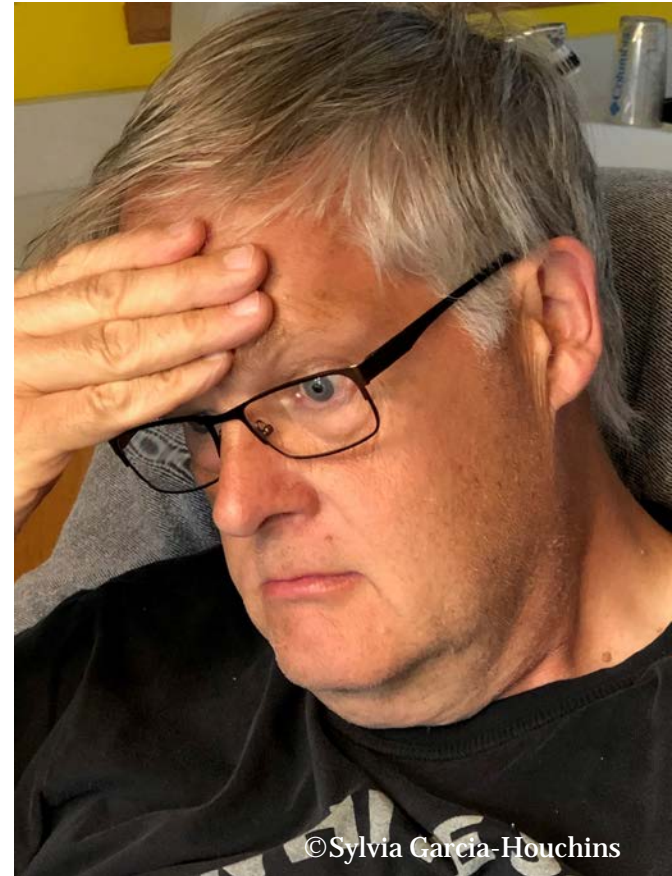
# Disinfection of Soft Surfaces

- Clean
  - Remove visible contamination, if present
  - Clean with cleaners for soft surfaces
- Disinfect
  - If able to launder, follow manufacturer's instructions warmest water setting for the item and dry completely
  - Products with the EPA-approved emerging viral pathogens claims  
(<https://www.americanchemistry.com/Novel-Coronavirus-Fighting-Products-List.pdf>) for porous surfaces

**Are You Ready To Resume  
Elective Cases?**

# Human Resources – Our #1 Priority

- Availability
- Readiness
- Commitment
- Outside stressors



# Staff

- Face covering
- Screening for symptoms
- Illness
- Personal and family safety

# Starting Point - Resuming Elective Cases

- State rules and local requirements
- Supplies
- Physical Plant
- Patients
- Testing, if required

# Recommendations for Testing

- #1 follow state requirements
- If NO state requirements, *consider* CDC guidance
  - If regional presence is high: consider testing
  - If little or no regional presence
    - Proceed if no symptoms
    - Delay if symptoms



# Patients with Positive Test

- #1 - follow local health authority requirements
  - If no local health authority requirement *consider* CDC recommendation
    - Delay elective procedure until:
      - two negative results  $\geq$  24 hrs apart
- OR**
- at least 72 hours since symptom resolution **and** at least 7 days since symptoms first appeared

# Additional Considerations

- Recommendations and guidance
- Prevalence of community COVID-19
- Priority cases
- Resources/skills match case selection



# Consideration for Case Selection

- Prioritize cases
  - Backlog
- High risk procedures
  - Aerosol generating procedures
  - Proximity to airway
- Patient health criteria selection

# Ambulatory Surgery Centers

## Lower Risk of AGP

- Cardiac/vascular intervention labs\*
- Eye surgery centers\*
- Radiology suites
- Telehealth organizations
- Pain clinics

\*This population may have higher risk factors based on demographics

## Higher Risk of AGP

- Endoscopy centers
- ENT centers
- Dental surgery centers

# Allocation of Time and Resource

- Time between cases
- Modified hours
- Staff needs time to recover and prepare
- Adjust operating pace

# Ramping Up

- Test processes
- Rehearsal and dry-run
- Document processes & lessons learned
- Implement changes
- Reassess once open

# Identify Your Weakest Link

- Do your staff know how COVID-19 is transmitted and how to prevent spread?
- Do you have the supplies and equipment to protect your staff and patients?
- Can you provide supplies and equipment needed to care for the patient in all phases of care?
- Are your staff and patients committed to decreasing the risk of transmission?
- Are you depending on a test that has false negatives?

# ASC Specific Prep



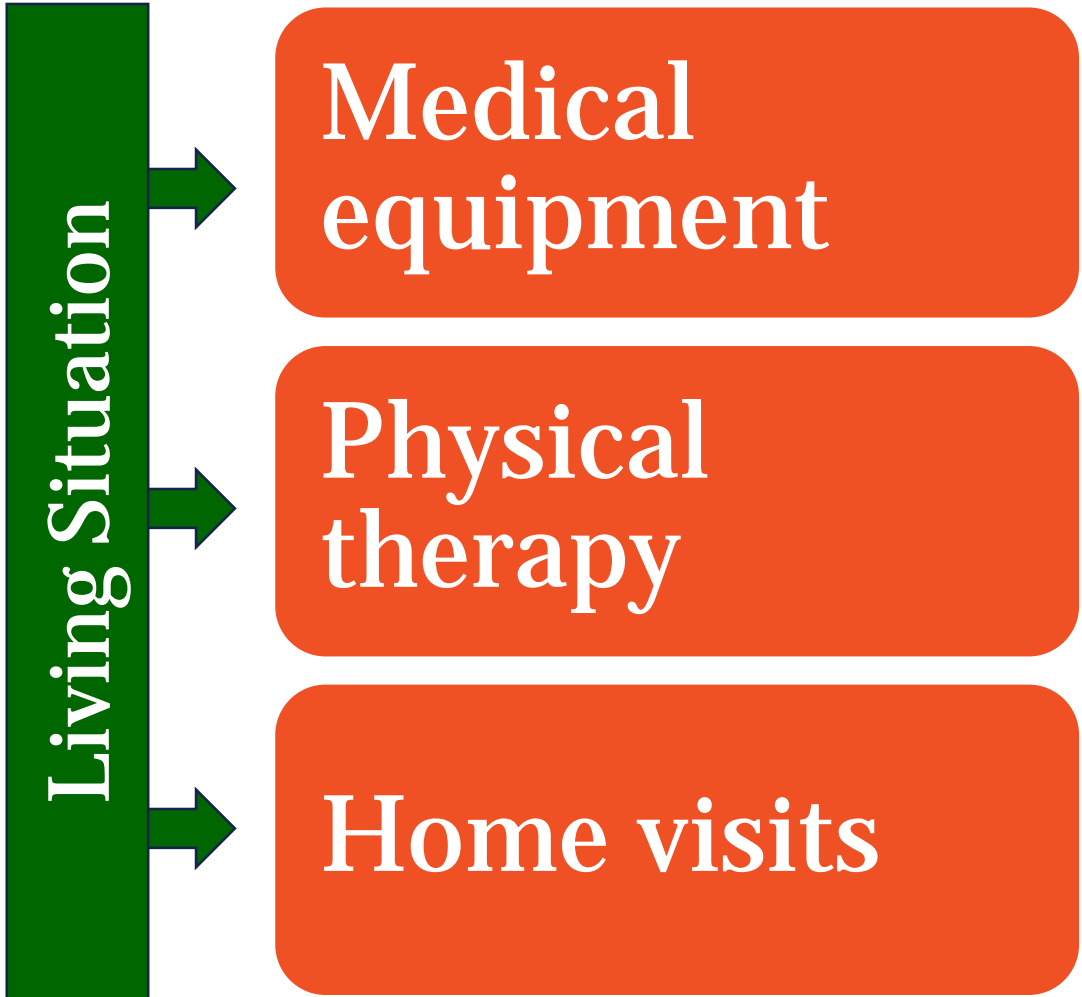
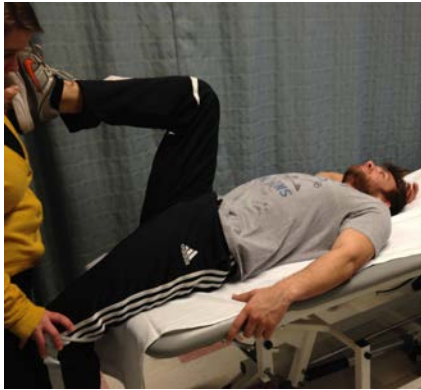
# Safety When Masking Not Possible

- Meals
  - Examples
    - Grab and go
    - Pre-packaged meals
    - Staggered breaks and lunches
- Changing masks
  - Staggering times
  - Distancing

# Contractors

- Educate on new procedures
- Report to designated area
- Screening
- Face covering vs PPE

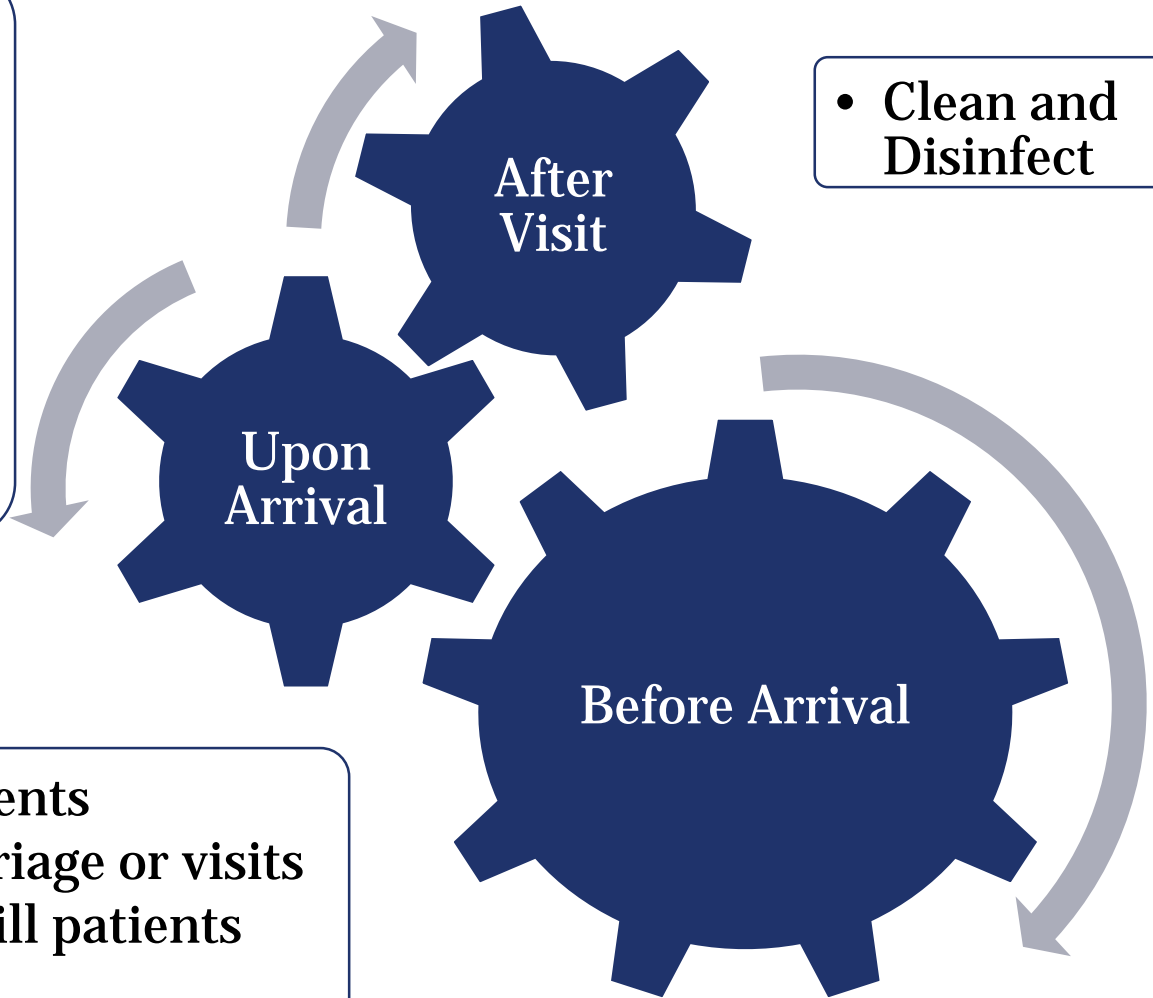
# Support After Discharge



# Limit Exposure: Patient Flow

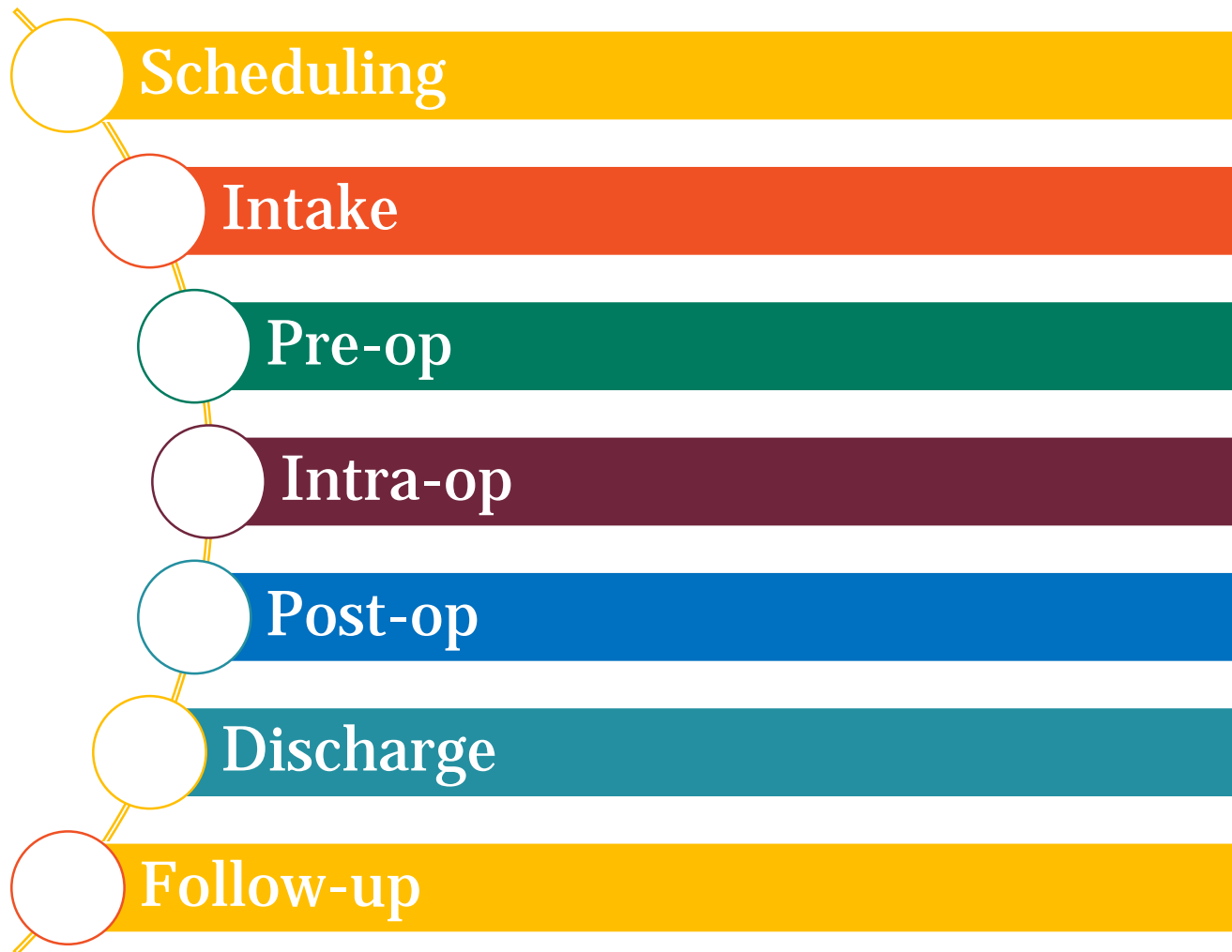
- Symptomatic vs asymptomatic patients
- **Source control:** Limit droplet dispersal (e.g. homemade mask)
- Care of suspected COVID patient

- Clean and Disinfect



- Call Patients
- Virtual triage or visits
- Plan for ill patients

# Ambulatory Surgery Phases



# Scheduling

# Patient Assessment/Education

- Patient questionnaire
- Update instructions
  - Face covering
  - Notify of illness

## Use of Cloth Face Coverings to Help Slow the Spread of COVID-19

### How to Wear Cloth Face Coverings

Cloth face coverings should—

- fit snugly but comfortably against the side of the face
- be secured with ties or ear loops
- include multiple layers of fabric
- allow for breathing without restriction
- be able to be laundered and machine dried without damage or change to shape

### CDC on Homemade Cloth Face Coverings

CDC recommends wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies), **especially** in areas of significant community-based transmission.

CDC also advises the use of simple cloth face coverings to slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as an additional, voluntary public health measure.

Cloth face coverings should not be placed on young children under age 2, anyone who has trouble breathing, or is unconscious, incapacitated or otherwise unable to remove the cloth face covering without assistance.

The cloth face coverings recommended are not surgical masks or N-95 respirators. Those are critical supplies that must continue to be reserved for healthcare workers and other medical first responders, as recommended by current CDC guidance.

### Should cloth face coverings be washed or otherwise cleaned regularly? How regularly?

Yes. They should be routinely washed depending on the frequency of use.



<https://www.cdc.gov/coronavirus/2019-ncov/downloads/DIY-cloth-face-covering-instructions.pdf>

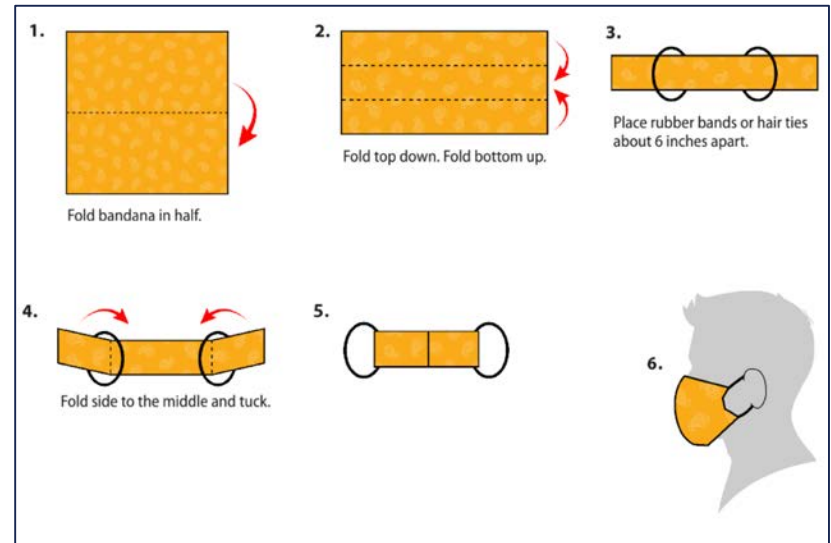
# Time and Resources

- New method for first case priority
- Timing facilitates physical distancing
- Adequate cleaning and disinfecting ORs
- Safe number of cases-patient-staff ratio



# Calls

- Consider calling all scheduled patients
- Virtual phone triage
  - Initial patient assessment
  - Education
  - Resources
- Administrative options

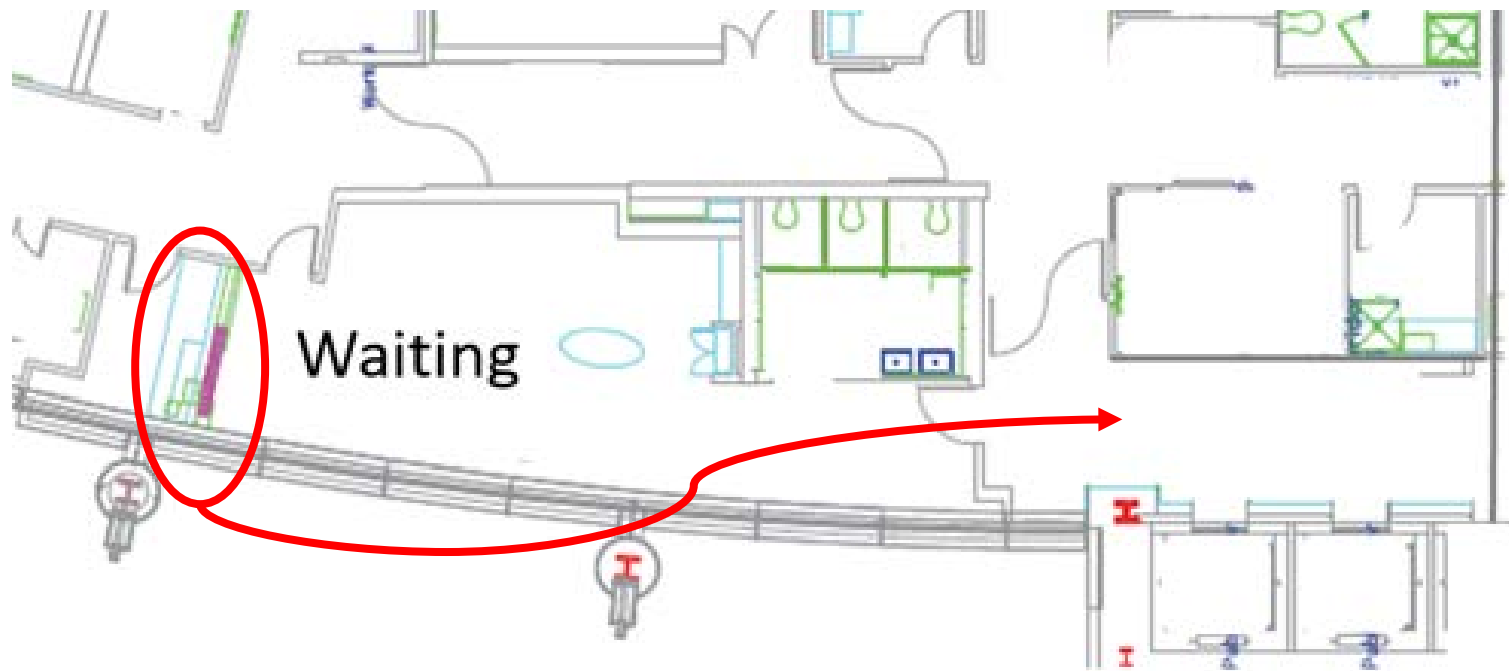


Resource: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>

# Intake



# Initial Screening



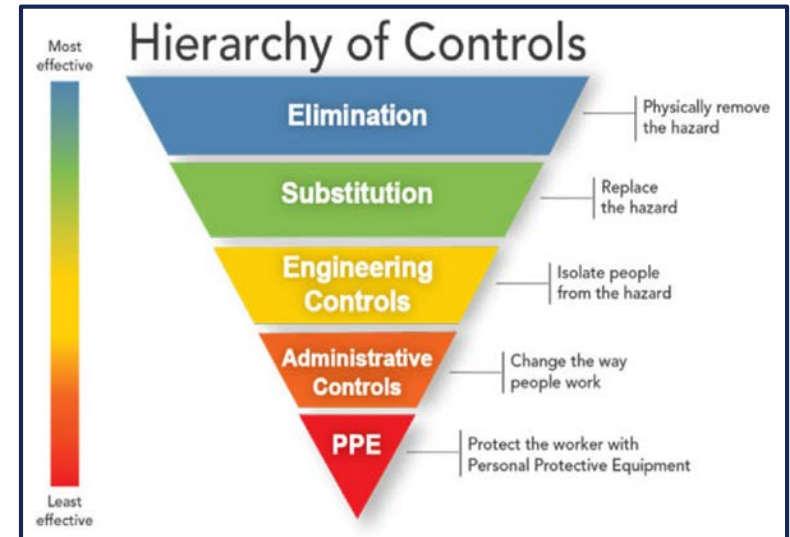
# Arrival

- Patient: Face covering and hand hygiene
- Screening
  - Temperature/symptoms
  - Current/recent illness
  - Recent exposure
  - Social distancing
- Determine PPE for staff



# Check-in

- Face covering
- Elimination – consider online payment
- Engineering control - physical barrier
- Practicalities of no touch environment

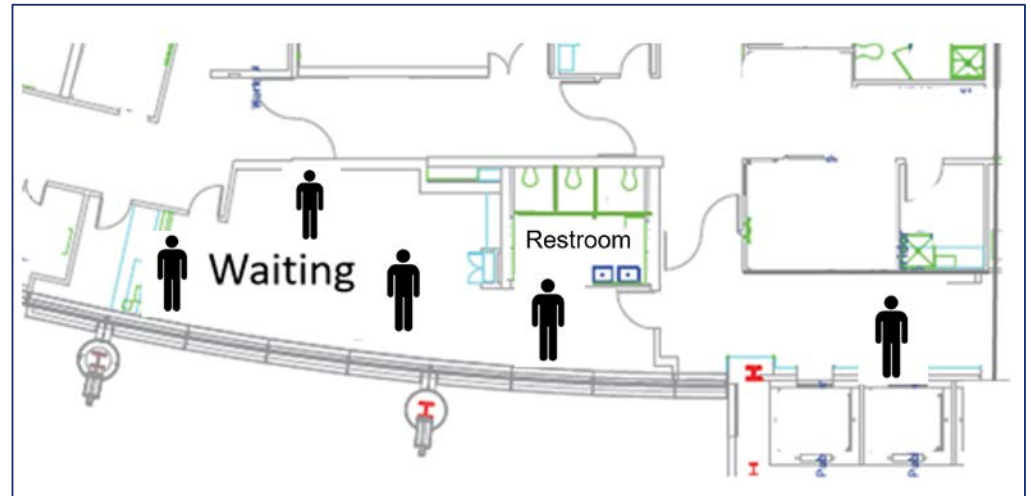


<https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html>

# Escorts

Consider

- Limits
- Driving distance
- Communication

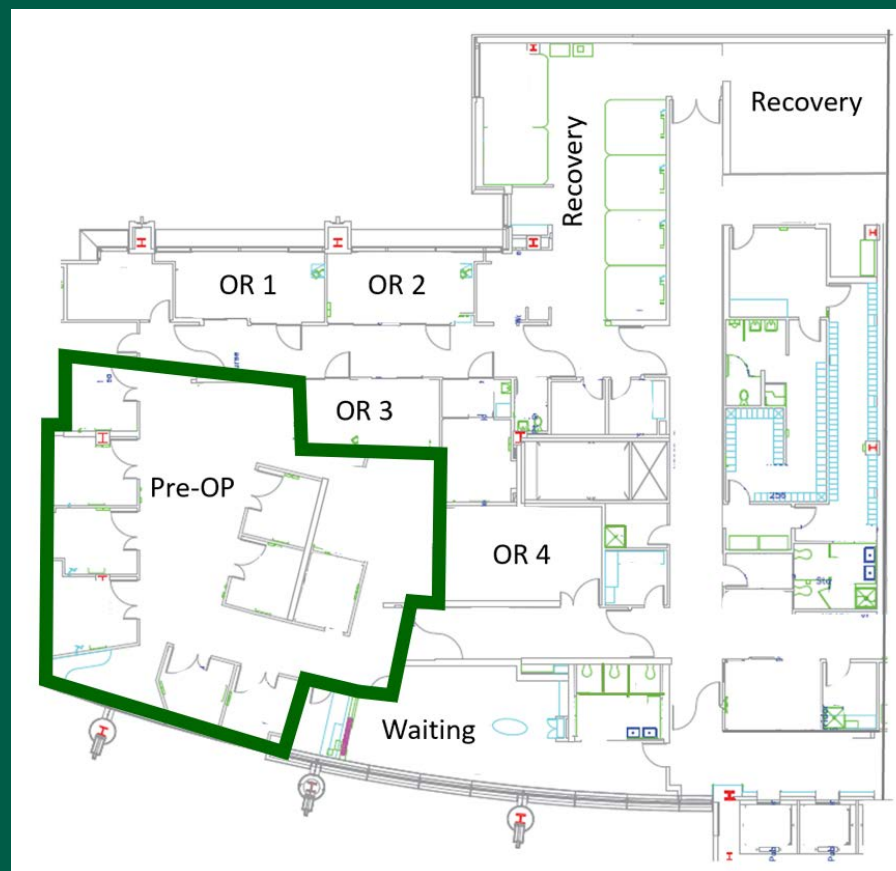


# Waiting Area

- Remove remote controls, magazines, toys, drinks
- Monitor high-touch areas
- Bathroom accommodation
- Environmental cleaning



# Preop





# Preop Holding Area Processes

- Changing clothes
- Securing patient valuables



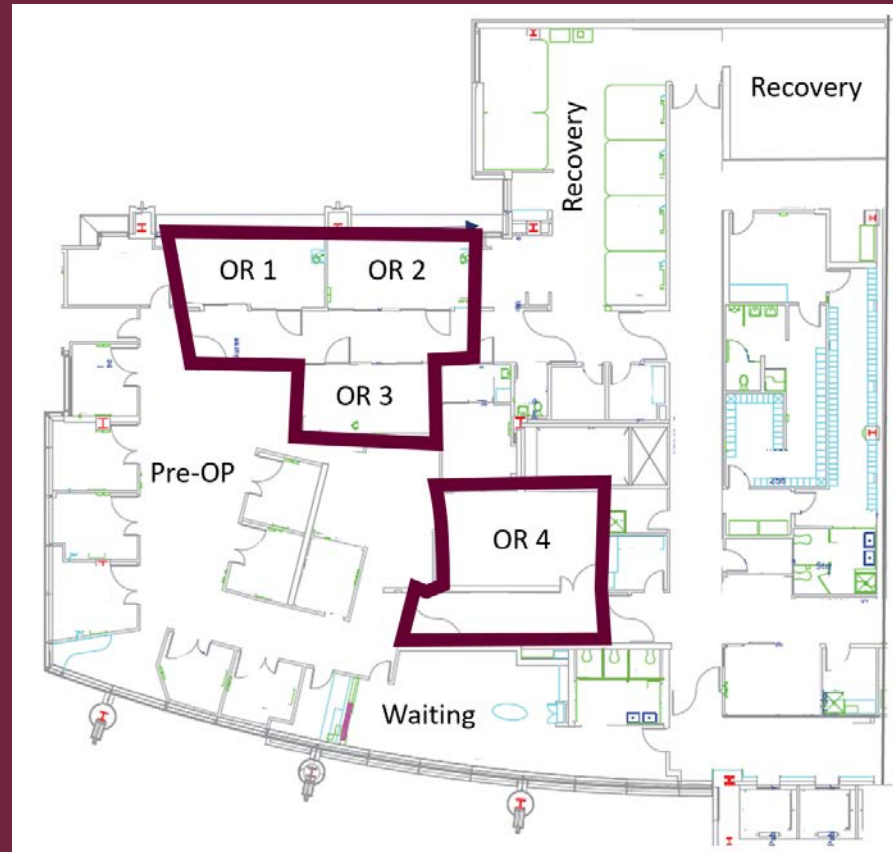
# Preop Holding Area Processes

- PPE expectations
- Space, flow and distancing
- Supply management
- Airway assessment

[https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Finfection-control%2Fcontrol-recommendations.html#Patient\\_Place ment](https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Finfection-control%2Fcontrol-recommendations.html#Patient_Place ment)



# Intra-op



# Types of Procedures

## Lower Risk of AGP

- Cardiac/vascular intervention labs\*
- Eye surgery centers\*
- Radiology suites
- Telehealth organizations
- Pain clinics

\*This population may have higher risk factors based on demographics

## Higher Risk of AGP

- Endoscopy centers
- ENT centers
- Dental surgery centers

# Aerosol Generating Procedures

Things to consider:

- Limit personnel
- Ventilation
- Distancing
- Equipment
- PPE



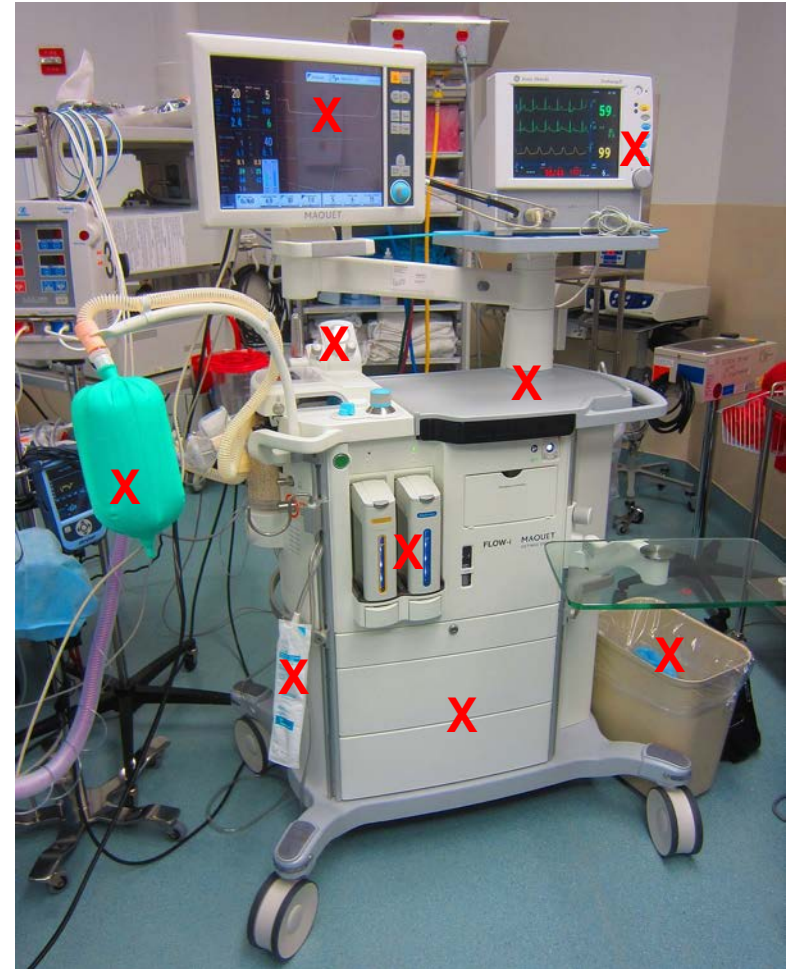
Source: Intubation of suspected COVID-19 patients  
<https://www.youtube.com/watch?v=iIGAmyZr4Y>

# Anesthesia Risk Points

- Clean/dirty workflow
- Hand hygiene
- Environmental cleaning

Resources: <https://www.apsf.org/novel-coronavirus-covid-19-resource-center/>

<https://anesthesiology.pubs.asahq.org/article.aspx?articleid=2763452>



This Photo by Unknown  
Author is licensed under  
CC BY-SA

X – anesthesia machine  
with high touch points 62

# Examples of Engineering Controls

## Barrier



Source: Twitter: Ed Mariano MD, Stanford Medical

## Mask over tube

Source-Extubation of patients with COVID-19  
BJA: British Journal of Anaesthesia. 2020 April 9



## Intubation Box



Source: -Taipei Times-Virus Outbreak: Local doctor's invention adopted in Philippines. March 25, 2020

## Smoke evacuator, fluid reservoir and sterile suction tip



Source: Source Smoke Evacuator Picture-Vol.36, No5 May 2020, OR Manager, Page 19

# Surgical Room Turnover

## 1. Airborne Contaminant Removal

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency \*

| ACH 5 ¶ | Time (mins.) required for removal<br>99% efficiency | Time (mins.) required for removal<br>99.9% efficiency |
|---------|---|---|
| 2       | 138   | 207   |
| 4       | 69  | 104   |
| 6*      | 46  | 69  |
| 8       | 35  | 52  |
| 10*     | 28  | 41  |
| 12*     | 23  | 35  |
| 15*     | 18  | 28  |
| 20      | 14  | 21  |
| 50      | 6   | 8   |

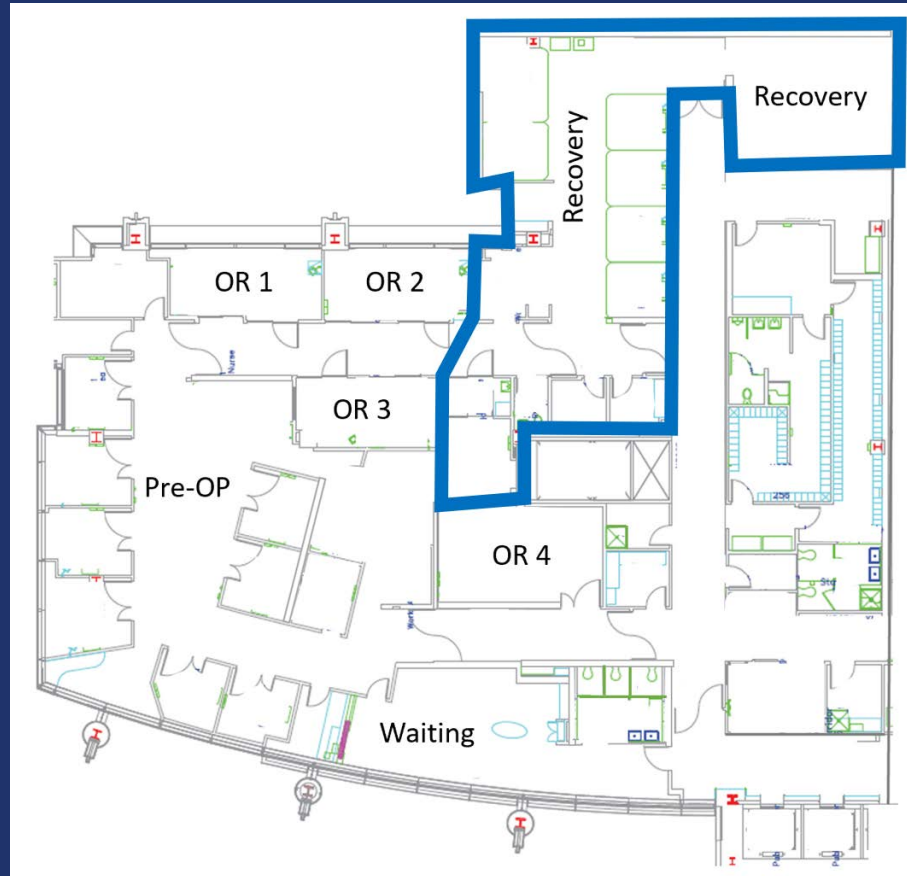
<https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html#tableb1>

- AGP procedure performed
  - Limit entry
  - Time based on air exchanges to clear aerosols

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-faq.html> *What PPE should be worn by environmental services (EVS) personnel who clean and disinfect rooms of hospitalized patients with COVID-19?*



# Postop

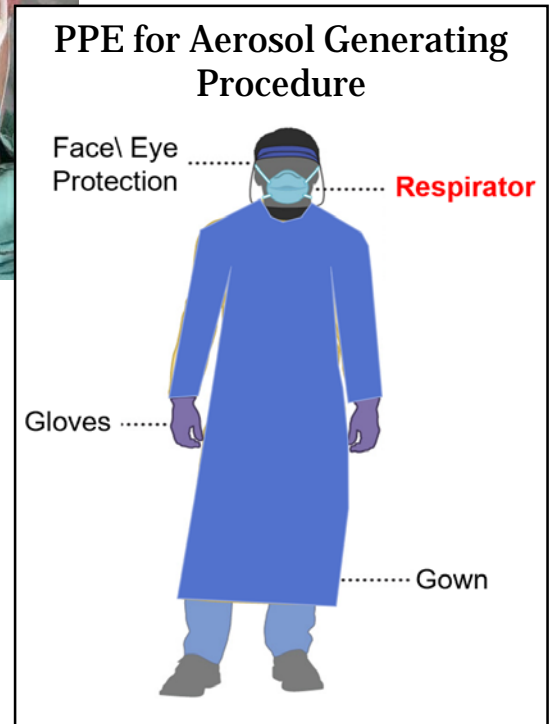


# Recovery

- Aerosol generating examples
  - Oral\nasal airways
  - Suctioning
  - Pulmonary toileting
  - Nebulizer treatment



Photo: COURTESY OF KELLI DUNHAM-Guest Writer on HUFFPOST March 31, 2020



Modified from:  
<https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html>

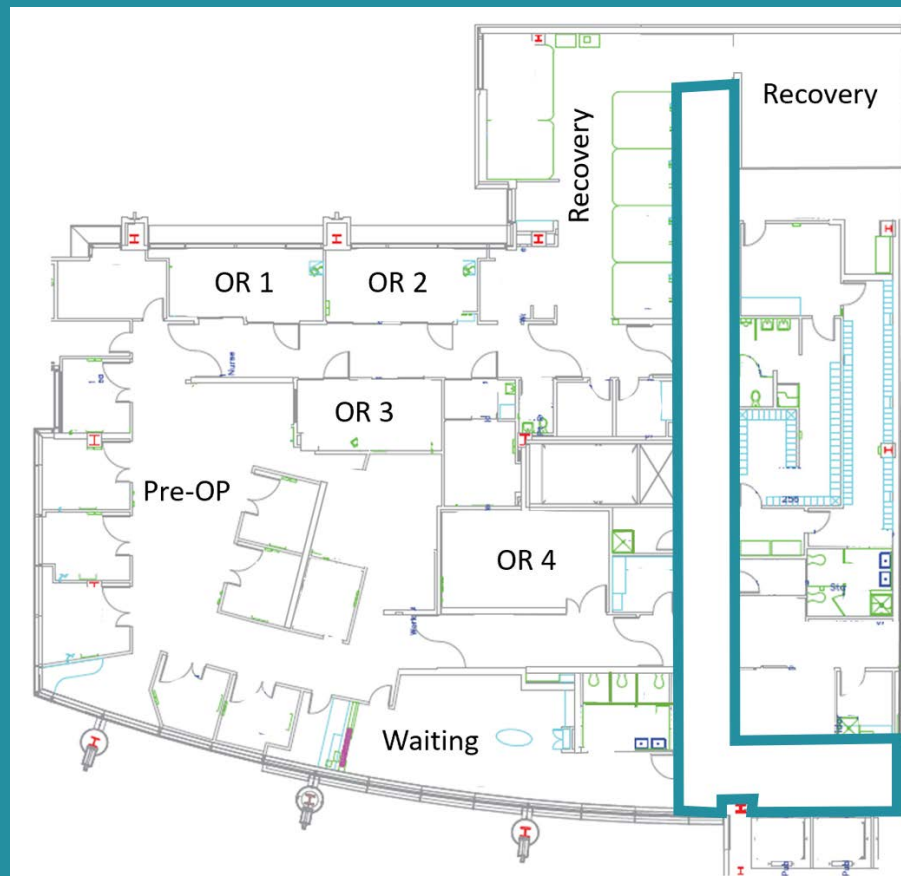
# Standard Protocols

- Source control
- Distancing
- Curtains and doors
- Escort restrictions
- PPE
- Environmental cleaning



Modified from Photo above

# Discharge



# Discharge Planning

**Traffic pattern: leaving building**

**Transportation back to residence**

- **Car**
- **Bus/Ride Share/Taxi**

**Follow up:**

- **Follow-up phone call**
- **Screen for possible COVID-19**

**Follow Up**

# If Case Identified in Patient or Staff Member

- Notify public health immediately
- Review measures to prevent transmission
- Identify potential exposure points
  - Patients not masked
  - Staff not masked
  - Aerosol generating procedures

# Exposure Monitoring and Return to Work

**1-** Level of exposure

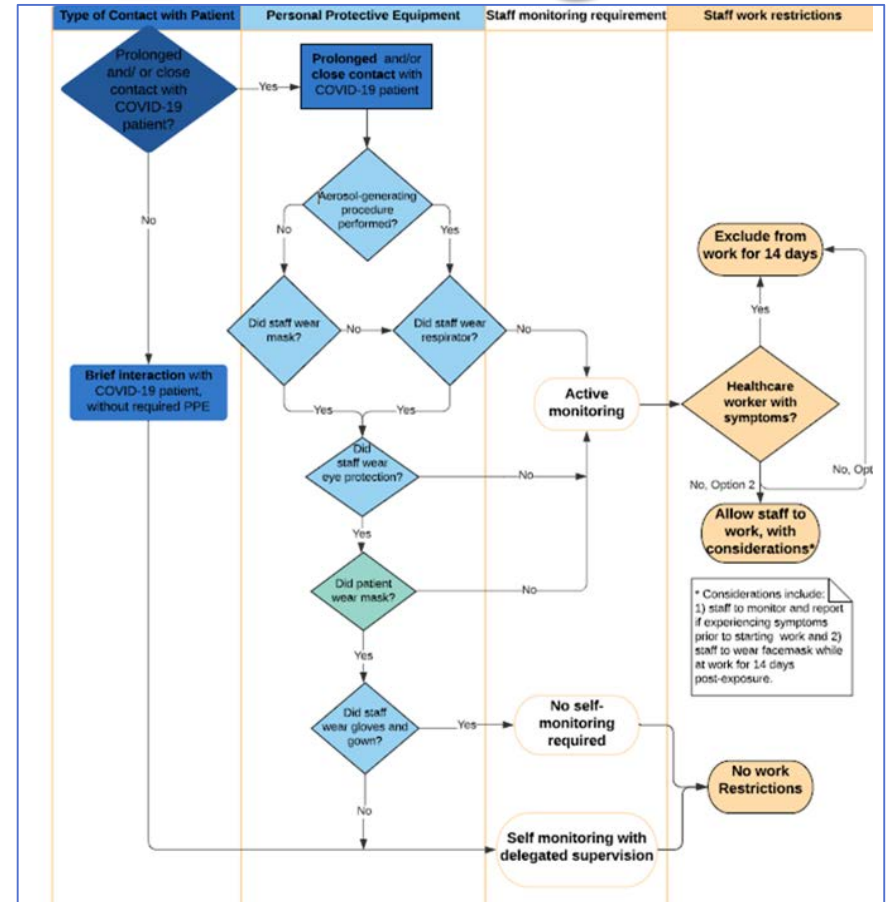
**2-** PPE used



**3-** Symptom monitoring

**4-** Work restrictions

**1 2 3 4**





# Physical Environment

# Inspection, Testing and Maintenance (ITM)

- Inspection, testing, and maintenance
  - Up to date on fire alarm and sprinkler system testing and inspection?
  - Ventilation filtration
    - Confirm manufacturer recommendation is followed
    - rH and temperature
    - Air exchange rates

# Reopening Tasks

Although not exhaustive, recommend evaluating the following issues prior to re-opening

- Reestablish contracts/agreements: cleaning, shredding, etc.
- Sterilizers maintenance and quality controls
- Fire extinguishers inspection

# Reopening Tasks

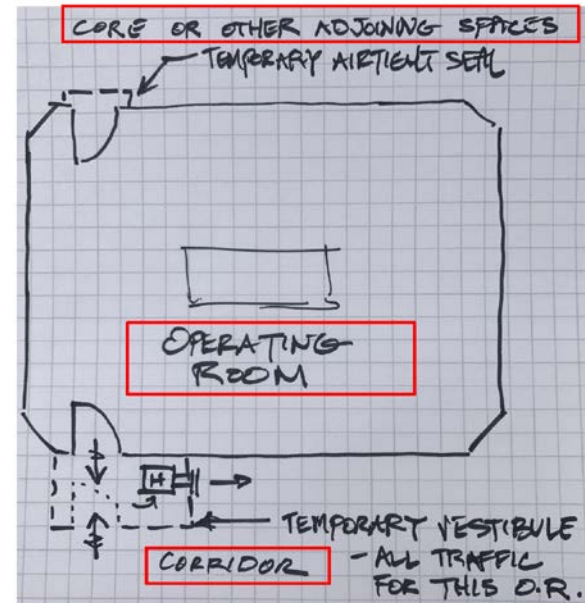
- Refrigerated medications maintained
- Flush all water fixtures\*
- Perform maintenance on ice machines\*
- Ensure medical equipment is functional
  - Defibrillator
  - Anesthesia machines
- Notify insurance carrier
- Notify local authority having jurisdiction

# Fire Drills

- Quarterly
  - What if the building has been closed?
    - Review protocol for staff
  - What if the building is now a hospital?

# Aerosol Generating Procedures

- Standard OR Procedures
  - Limit personnel to those needed
  - Keep door closed
- Not Required
  - Create temporary ante-room (ASHRAE)
  - Use of point source control
  - Rebalance room (not recommended by ASHE\*\*)



Picture Source: \*ASHRAE COVID-19 Guidance  
<http://tc0906.ashraetcs.org/documents/COVID%2019%20%20GUIDANCE%20-%20ASHRAE%20Revised3-25-2020.pdf>  
Accessed April 6, 2020

\*\*ASHE: [https://www.ashe.org/covid-19-frequently-asked-questions?utm\\_source=General%20Announcements&utm\\_medium=email&utm\\_campaign=4%2E10%2E20%20COVID%2D19%20Resource%20Rou](https://www.ashe.org/covid-19-frequently-asked-questions?utm_source=General%20Announcements&utm_medium=email&utm_campaign=4%2E10%2E20%20COVID%2D19%20Resource%20Rou)  
[ndup](https://www.ashe.org/covid-19-frequently-asked-questions?utm_source=General%20Announcements&utm_medium=email&utm_campaign=4%2E10%2E20%20COVID%2D19%20Resource%20Rou)

# Staff Health and Wellbeing

# Mental Well Being



- Communication
  - Updates/process changes
  - Share good news
  - Provide staff way to voice concerns
  - Limit non essential email, alerts
- Encourage self-care
  - Meditation
  - Extracurricular activities



# Provide Reassurance and Reducing Stigma

## SHARE FACTS ABOUT COVID-19

Know the facts about coronavirus disease 2019 (COVID-19) and help stop the spread of rumors.

**FACT 1** Diseases can make anyone sick regardless of their race or ethnicity.

Fear and anxiety about COVID-19 can cause people to avoid or reject others even though they are not at risk for spreading the virus.

**FACT 2** For most people, the immediate risk of becoming seriously ill from the virus that causes COVID-19 is thought to be low.

Older adults and people of any age who have serious underlying medical conditions may be at higher risk for more serious complications from COVID-19.

**FACT 3** Someone who has completed quarantine or has been released from isolation does not pose a risk of infection to other people.

For up-to-date information, visit CDC's coronavirus disease 2019 web page.



CS11484.4 01/16/2020

**FACT 4** There are simple things you can do to help keep yourself and others healthy.

- Wash your hands often with soap and water for at least 20 seconds, especially after blowing your nose, coughing, or sneezing; going to the bathroom; and before eating or preparing food.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.

**FACT 5** You can help stop COVID-19 by knowing the signs and symptoms:

- Fever
  - Cough
  - Shortness of breath
- Seek medical advice if you
- Develop symptoms
- AND
- Have been in close contact with a person known to have COVID-19 or if you live in or have recently been in an area with ongoing spread of COVID-19.

[cdc.gov/COVID-19](https://www.cdc.gov/COVID-19)

The screenshot shows the CDC website for COVID-19. The main heading is 'Stress and Coping'. On the left, there is a navigation menu with options: Symptoms & Testing, Prevent Getting Sick, Daily Life & Coping (selected), Household Checklist, Running Errands, Stress & Coping, and Reducing Stigma. On the right, under 'On This Page', there are links for 'Outbreaks can be stressful', 'Everyone reacts differently to stressful situations', 'Take care of yourself and your community', and 'Parents'. There are also links for 'People at higher risk', 'Coming out of quarantine', and 'Responders'. The CDC logo and name are at the top left, and a search bar is at the top right.

<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/reducing-stigma.html>

# Resources



Our Websites: ▾

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Resources ▾

About Us ▾

## Coronavirus (COVID-19)

Trusted Guidance. Trusted Resources.

The Joint Commission recognizes the incredible challenge that health care organizations and front-line workers face with the COVID-19 crisis. Read a [letter](#) and watch a [video](#) from our CEO.

### Statements to Support Our Health Care Providers

March 31, 2020 - [Joint Commission Statement](#) on Use of Face Masks Brought From Home

March 27, 2020 - [Public Statement](#) on the Shortages of Critical Medical Equipment

Our goal in creating this resource page is to support health care professionals and organizations on the front lines of the COVID-19 pandemic. The situation is changing rapidly, and recommendations have been changing with similar speed. We also know everyone is facing a deluge of information. Therefore, we are trying to provide only the information that best meets the needs of health care workers and leaders. We will continue to update this library of internal and external resources for our customers and the public. If you have other questions, need other resources, or have leading practices you would like to share, please visit our contact us page.

[Contact us](#)

Personal Protective Equipment (PPE) - New Resources Added

+

Ventilators

+

Staffing

+

Creating Capacity for Surge Patients - New Resources Added

+

COVID-19 FAQs and Resource Finder - New Resources Added

+

Behavioral Health Care - New Resources Added

+

<https://www.jointcommission.org/covid-19/>

# Questions?

Use the Standards Interpretation Site

<https://web.jointcommission.org/sigsubmission/sigquestionform.aspx>