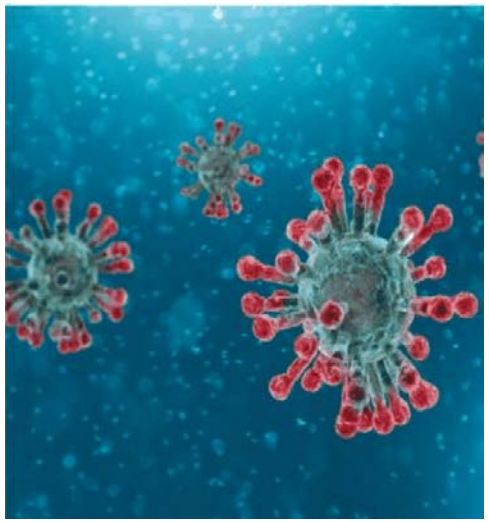
Preventing COVID-19 Transmission



- **Sylvia Garcia-Houchins, MBA, RN, CIC**
  Director, Infection Prevention and Control

The Joint Commission

Intended Audience

This webinar is being presented to update organizations on how COVID-19 is transmitted and key measures to prevent transmission based on CDC updates about the risk of transmission from individuals with asymptomatic and presymptomatic infection.

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Acknowledgement

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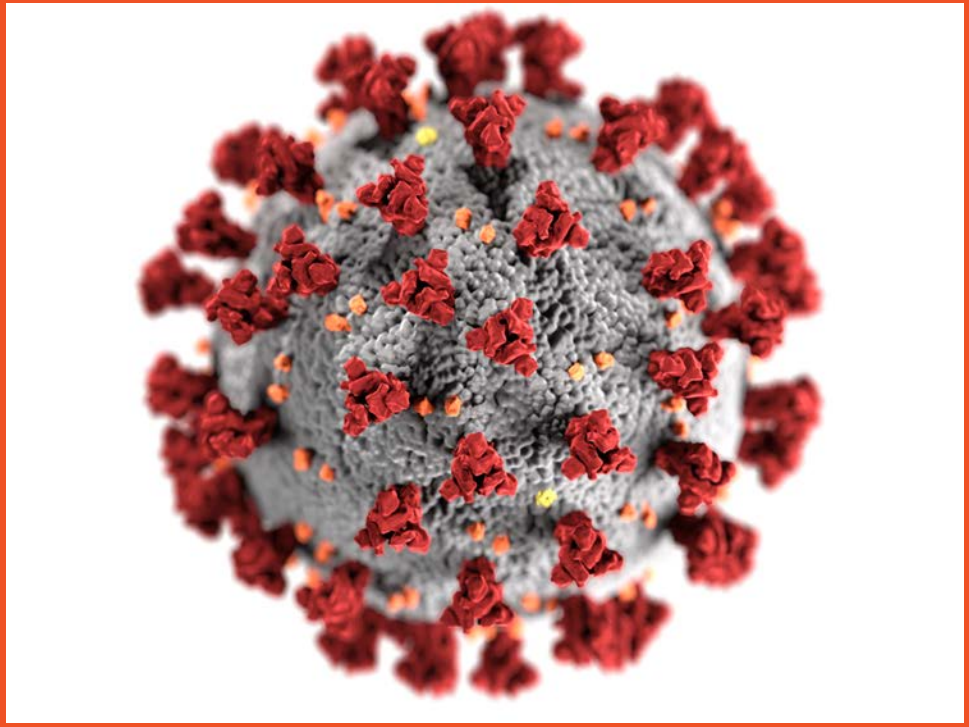
COVID-19



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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

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- 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**

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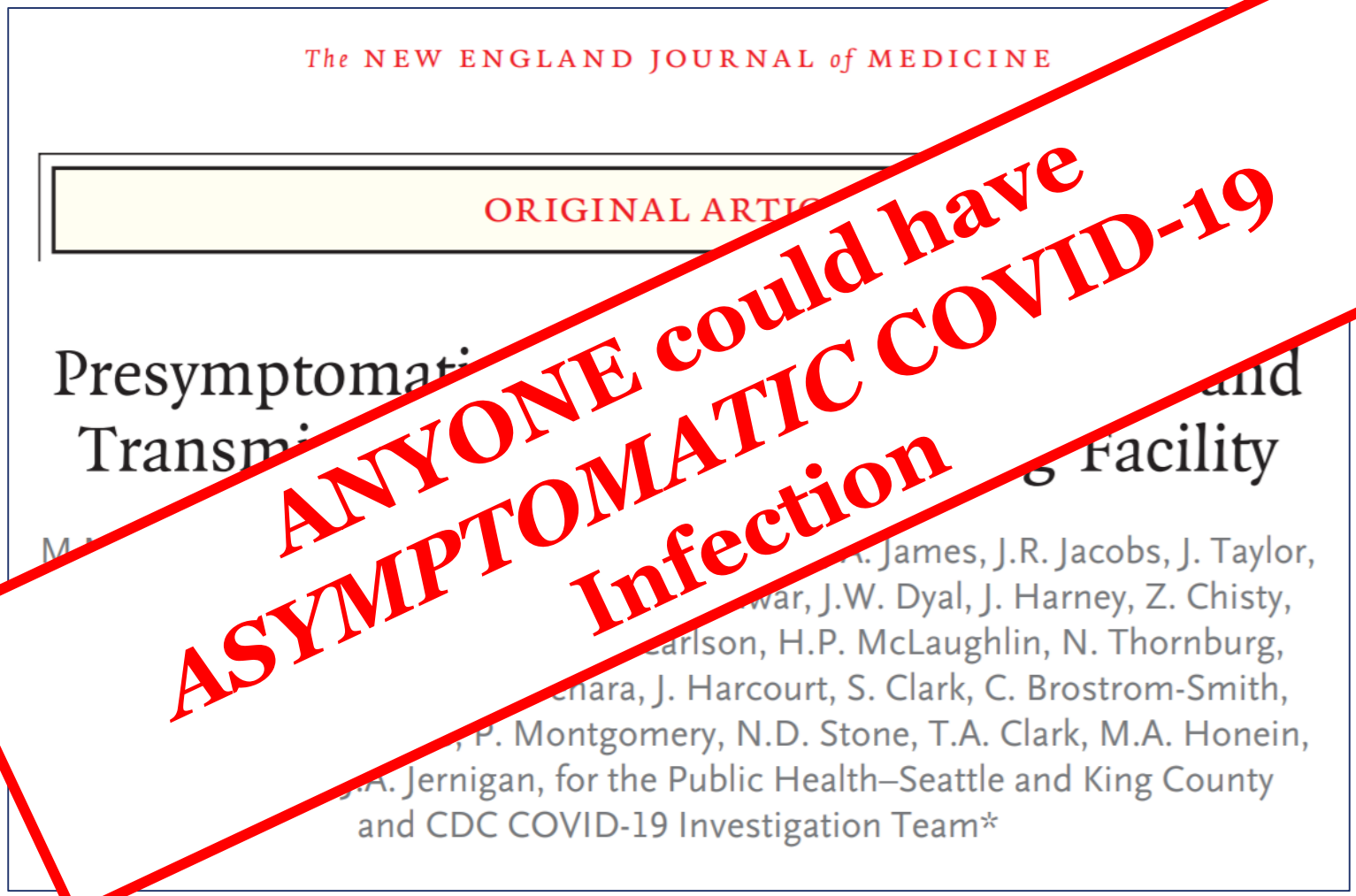
Presymptomatic and Asymptomatic Spread



ANYONE could have ASYMPTOMATIC COVID-19 Infection

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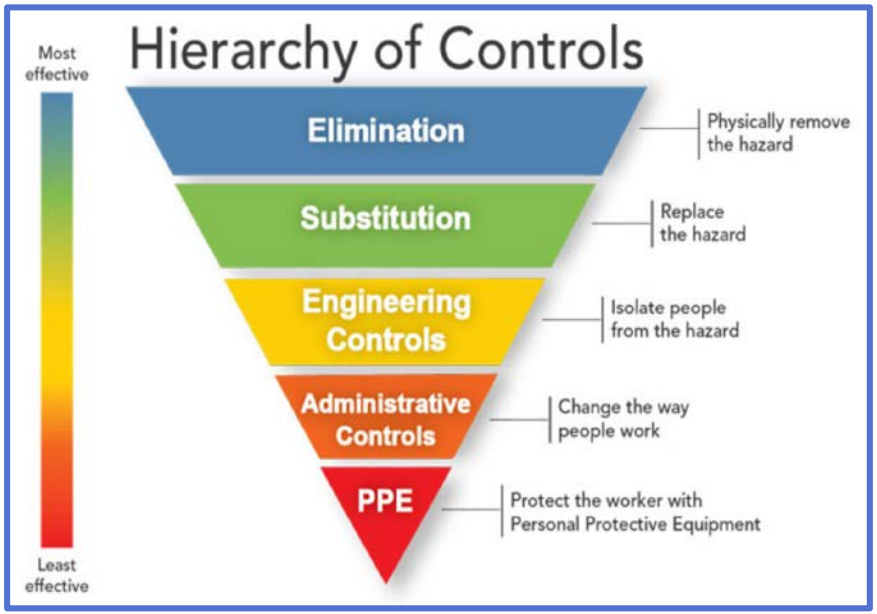
Use What We Know to Stop Transmission



https://www.cdc.gov/niosh/topics/hierarchy/default.html

- Elimination – limit visitors
- Substitution – telehealth instead of in-person
- Engineering controls – Plexiglass shields
- Administrative controls – take staff temperatures
- PPE – source control and protection

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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

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Source Control: Universal Masking

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

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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/covid19/universal-masking-statement-04232020.pdf

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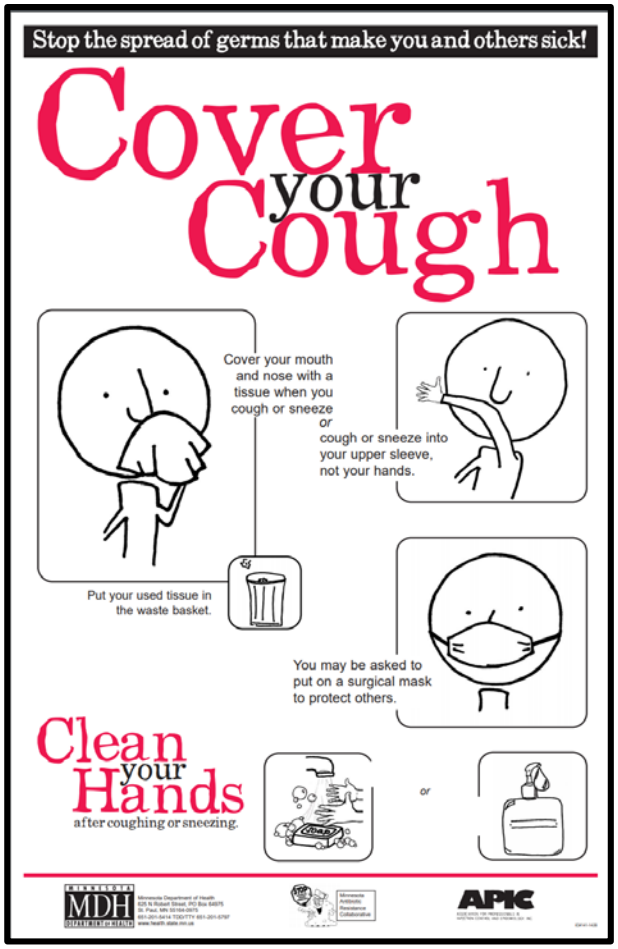
Source Control: Modify Practices

Respiratory Etiquette:
Conventional



Source Control :
NEW

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

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Resources

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

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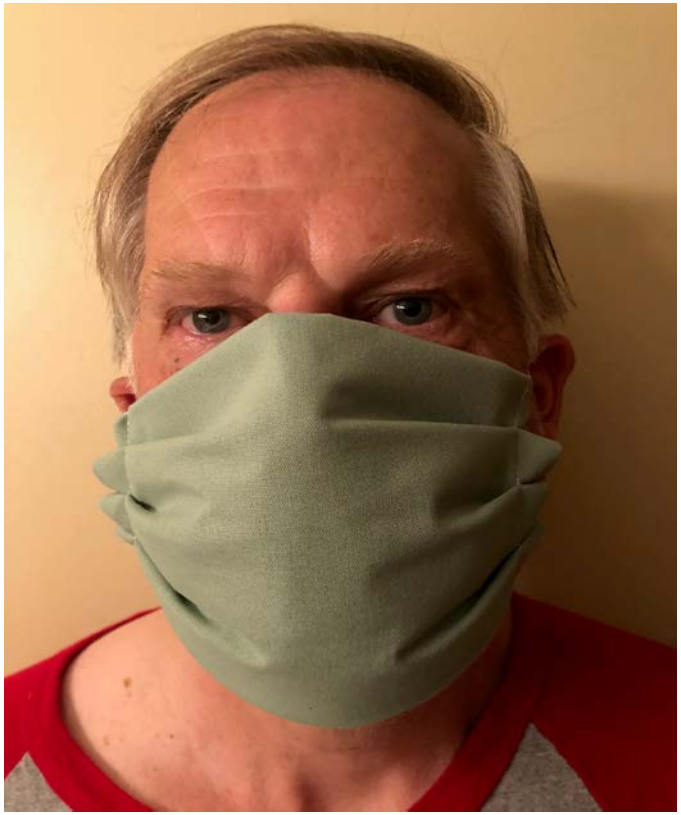
Source Control: Face Coverings and Masks



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

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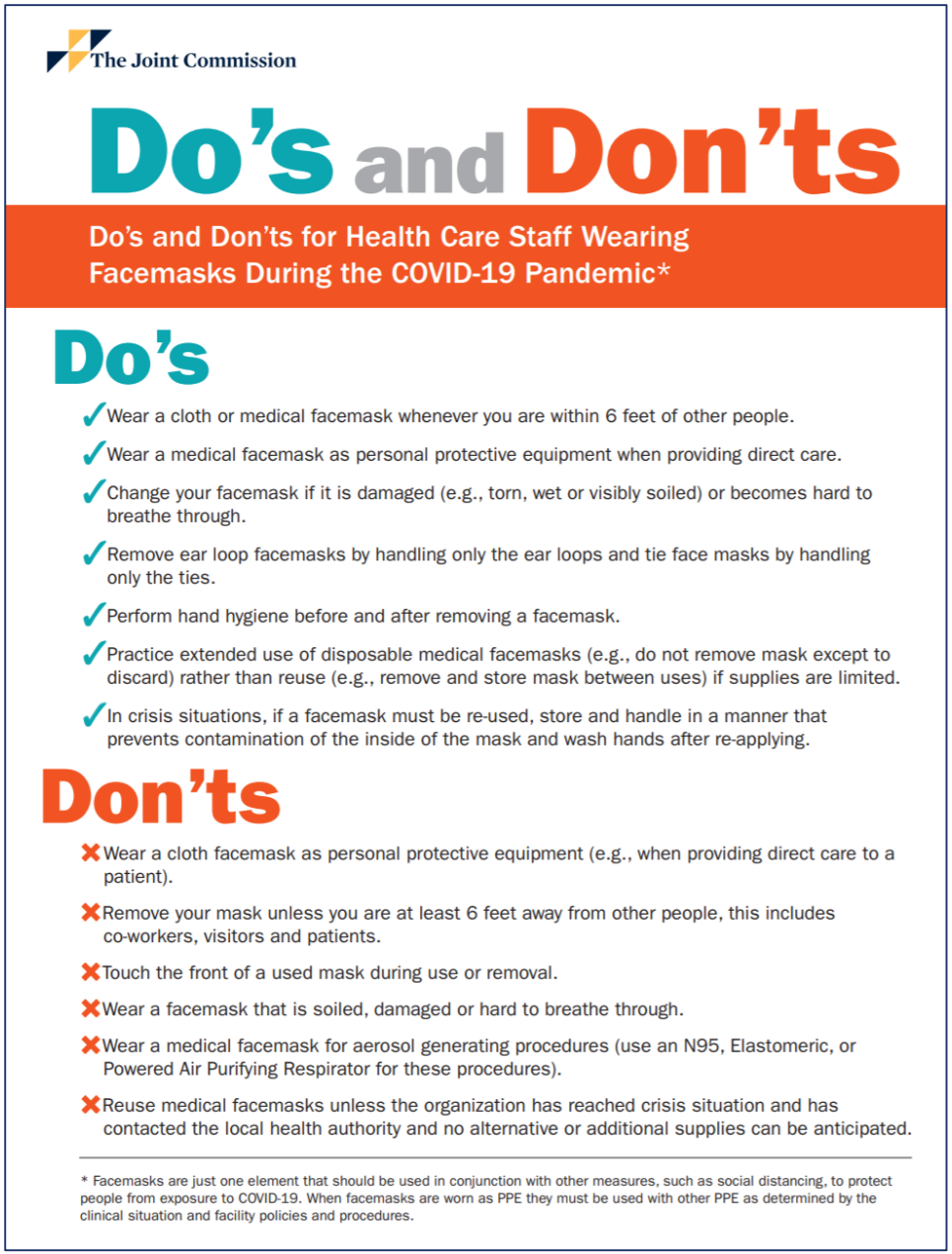
Resource:: https://www.fda.gov/media/137121/download

Resources

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



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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.

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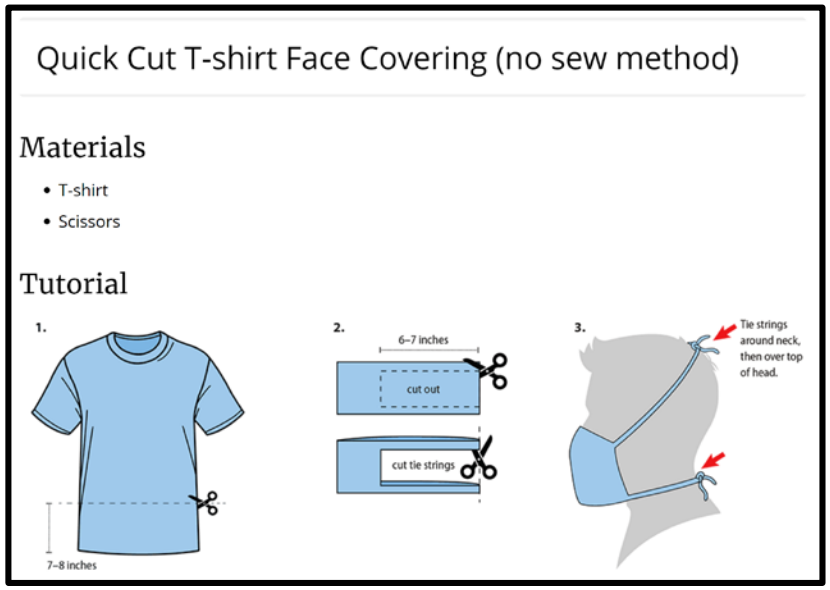
Need to Preserve Staff Supplies

EXAMPLE: "***MAKE A MASK***" Campaign:

- Post instructions on your website
- Ask volunteers to make or donate cloth masks
- Provide supplies at entrance



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

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Safety When Masking Not Possible

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

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Social Distancing

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Routine Patient Care During Pandemic

- 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

https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html

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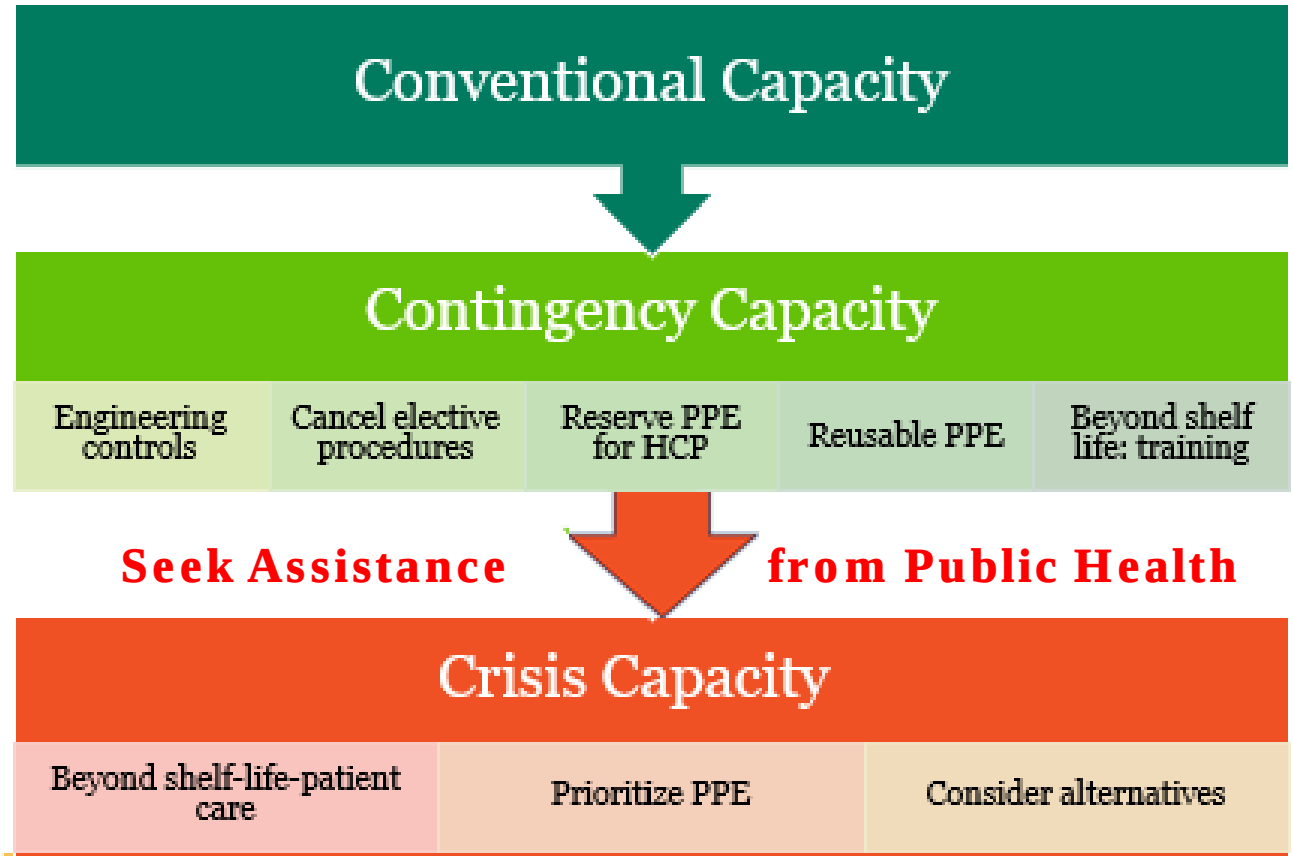
CDC: PPE Optimization Strategy



Standard practices

Modifications to standard practices

Not necessarily aligned with standard practices

https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html

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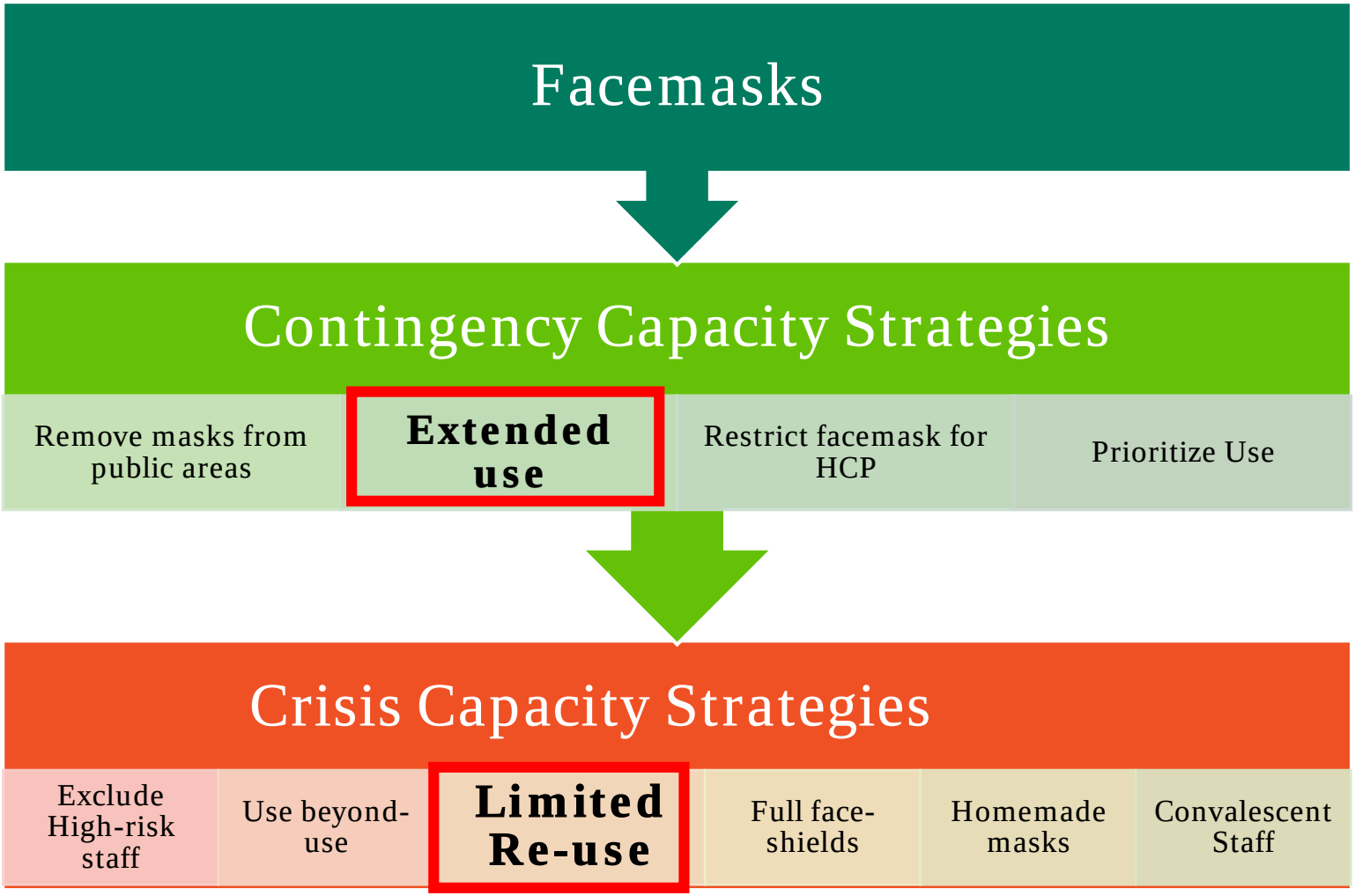
CDC: Facemask Optimization Strategy



https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html Accessed April 12,2020

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CDC: Eye\ Face Optimization Strategy

Eye\ Face Protection

Contingency Capacity Strategies

Shift to re-usable devices	**Extended use**	Prioritize Use

Crisis Capacity Strategies

Use beyond shelf life	Re-prioritize Use	Consider safety glasses

https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/eye-protection.html Accessed April 12,2020

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CDC: Gown Optimization Strategy

Gowns

Contingency Capacity Strategies

Cloth gowns	Coveralls	Expired gowns	International standards	Prioritize Use

Crisis Capacity Strategies

Extended use	Reprioritize Use

https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/isolation-gowns.html Accessed April 12,2020

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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

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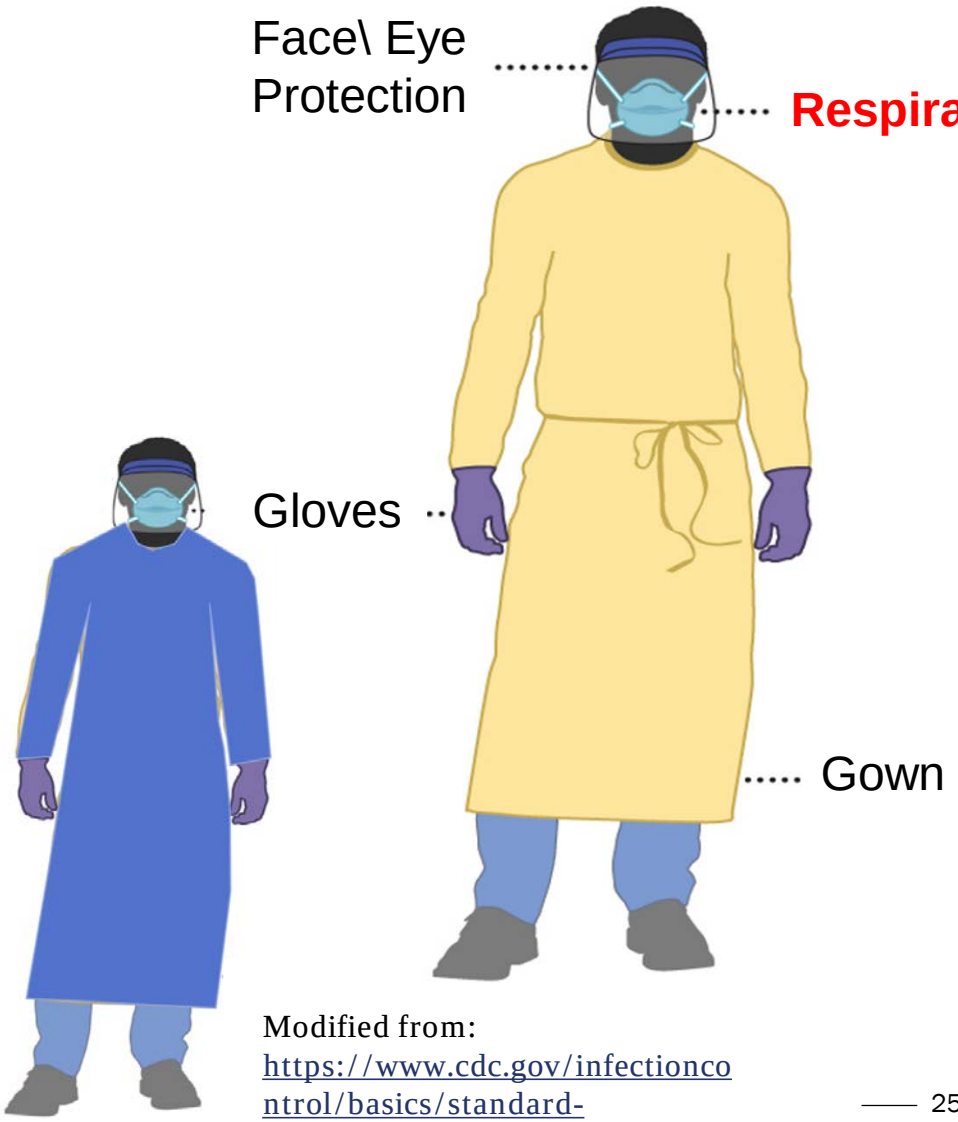
Aerosol Generating Procedures

Examples of aerosol-generating procedures:

- Intubation/ extubation
- Endoscopy
- Nebulizer treatments
- Cardiopulmonary resuscitation
- Manual ventilation
- Open suctioning
- Dental procedures



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

Resource: https://www.cdc.gov/coronavirus/2019-ncov/hcp/elastomeric-respirators-strategy/index.html
https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/powered-air-purifying-respirators-strategy.html

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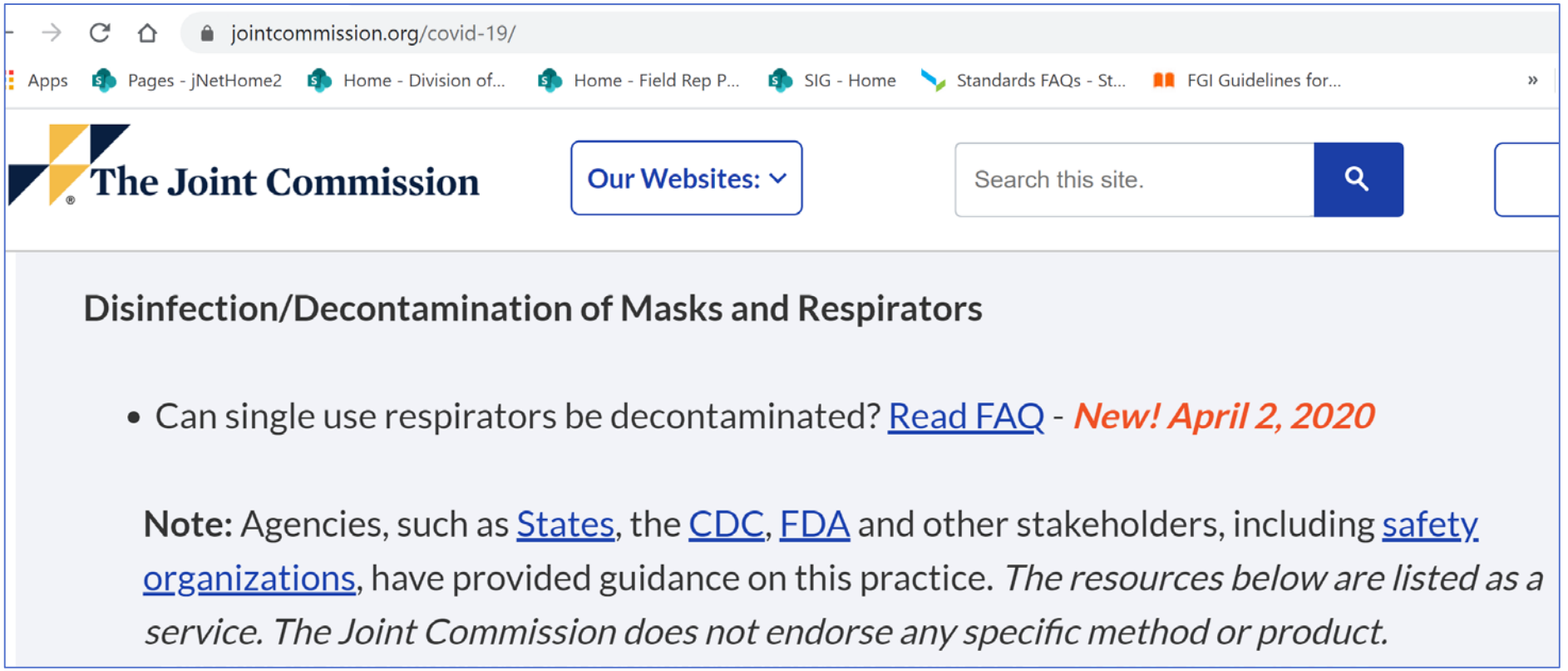
Joint Commission Coronavirus Website



https://www.jointcommission.org/en/covid-19/ PPE Section

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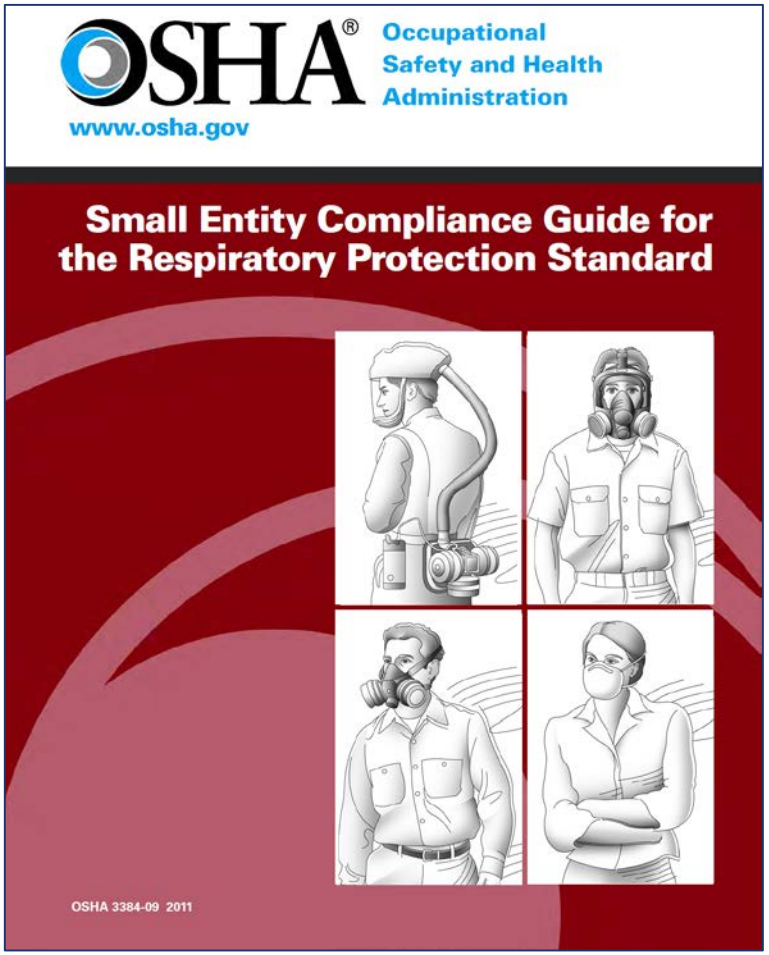
Respiratory Protection Program

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

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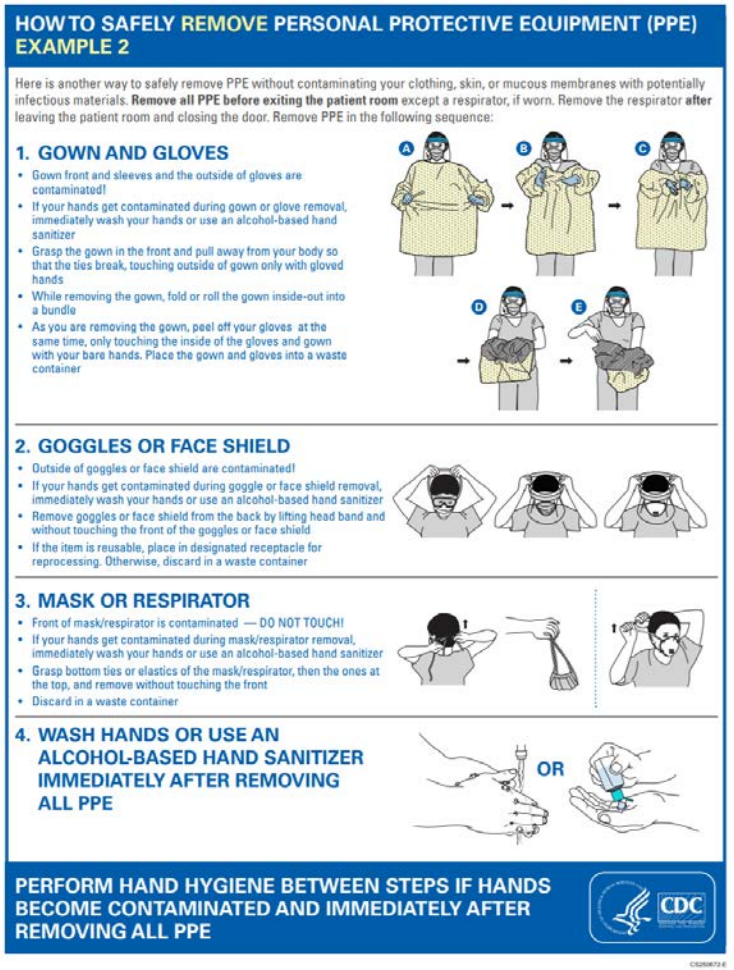
Training and Competency of Staff PPE

- Lots of resources
  - Joint Commission Site: Videos
  - YouTube
  - Posters

EVERYONE needs the same message



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

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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)

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Room Turnover After Aerosol Generating Procedure (AGP)

1. Airborne Contaminant Removal

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

ACH § ¶	Time (mins.) required for removal 99% efficiency	Time (mins.) required for removal 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

- If 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?*

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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

From: https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html

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Be Prepared: Identify Your Weakest Link

- Does 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?

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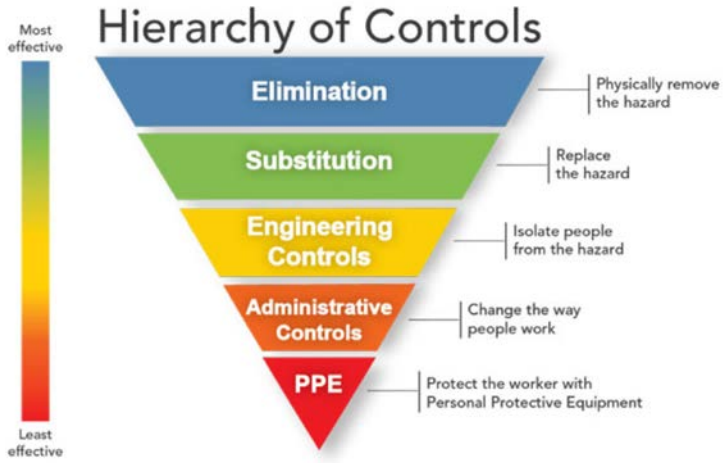
Summary for COVID-19

- Organizations must have a holistic approach to anticipating and addressing issues
- Communicate and collaborate with front-line staff to implement solutions that provide for everyone's safety and well-being
- Use only credible sources for information and planning



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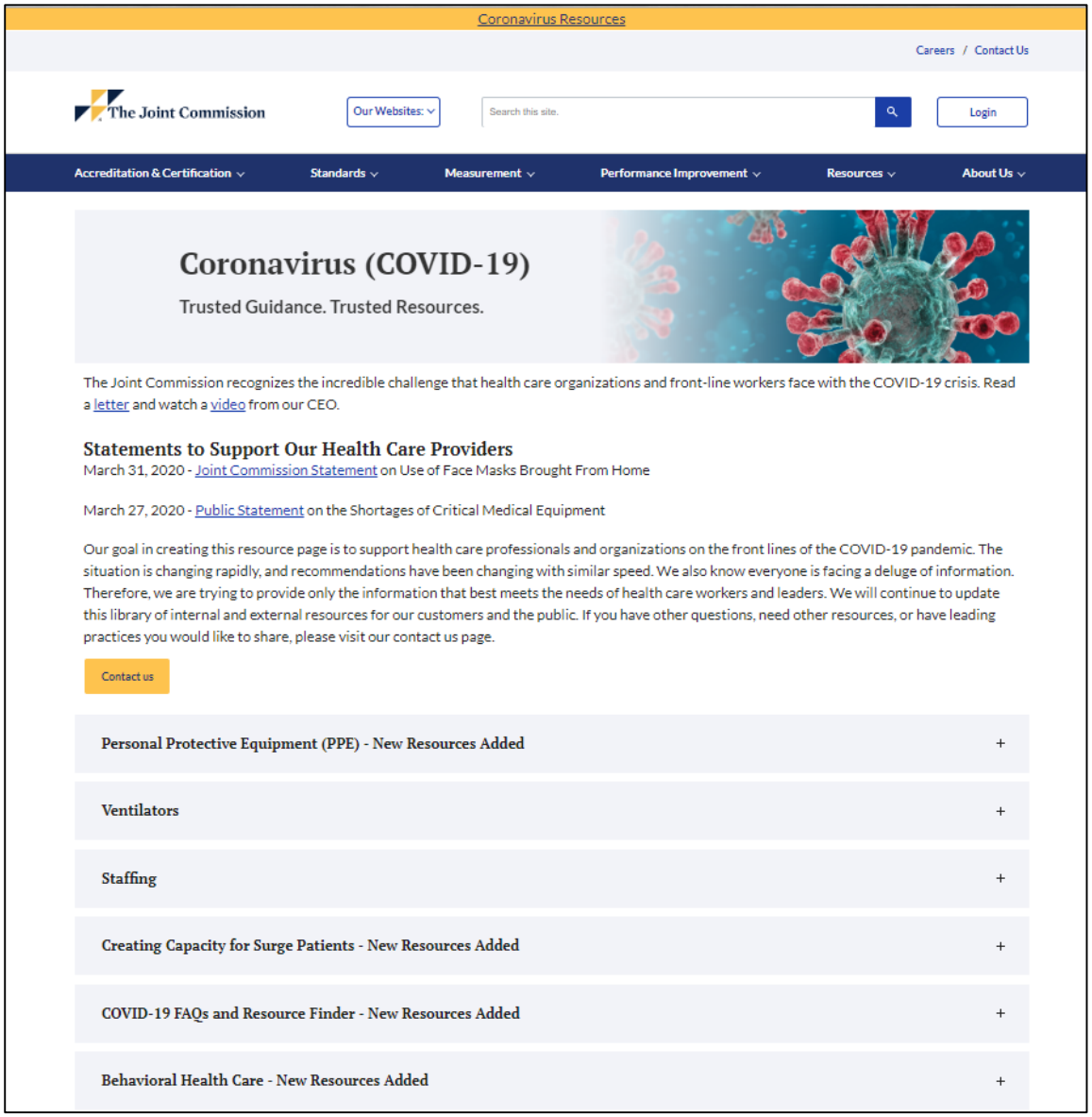

https://www.jointcommission.org/covid-19/

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Questions?

Use the Standards Interpretation Site

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

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