COVID - 19

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Novel Coronavirus - COVID-19

- A new coronavirus
- China – 2019
- Animal to human transmission
- Human to human transmission
  - Viral illness
  - Only seriously ill develop pneumonia
  - First U.S. Case – Washington State
Causative Organism

- SARS CoV-2 Virus
Signs & Symptoms

- Fever
- Cough
- Tightness in chest
- Shortness of breath

**Newly added:** Headache, sore throat, chills, loss of sense of smell or taste, muscle pain
Risk Groups

- Older adults
- People who have serious chronic medical conditions like:
  - Heart disease
  - Diabetes
  - Lung disease
  - Immunocompromised – any age
- All age groups

• CDC, March 9, 2020
Close Contact - Defined

- Being within 6 feet or within the room area for a **prolonged** period of time without PPE
- Caring for, living with, visiting, or sharing a healthcare waiting room or room with a nCoV patient
- Having direct contact with infectious secretions of a nCoV patient while not wearing PPE
COVID-19

Clinical Features
• Fever & symptoms of lower respiratory illness
• Fever or symptoms of lower respiratory infection

Epidemiologic Risk
• Travel from Wuhan City, China
• OR
• 14 days before symptoms, close contact with a person under investigation (PUI) while that person was ill
• 14 days close contact with a ill laboratory-confirmed patient

CDC Jan. 17, 2020
Mode of Transmission

- Respiratory — droplet precautions (WHO/CDC)
- Contact Precautions — (WHO/CDC)
Incubation Period

• 2 - 14 days after exposure
Testing Issues

Doctors order will be needed
Types of Testing

- **Antigen** – looking for the virus
- **Antibody** – to identify who has had the virus
Conflicting statements from CDC
CDC - Transmission

Mixing droplet and airborne

What does that mean?
• Patient wearing a facemask which can efficiently block respiratory secretions from contaminating others and the environment

• Basic infection control – contain at the source!
Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for COVID-19 in the United States
Interim EMS Guidelines – COVID-19

- CDC – Review EMS guidelines to decide PPE to be used
Environmental Controls

- Insuring proper ventilation (exhaust fan)
- Environmental cleaning – standard disinfectant agents
NIOSH Statement

- Engineering controls with regard to COVID-19 would include the use of HVAC systems in a vehicle. A recent NIOSH study showed that particle clearance could be improved by the use of the rear vent fan (when positioned on the “high” setting) in conjunction with the provision of outside air through the vehicle’s main HVAC systems.
Cleaning / Disinfection

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.
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<th>Cleaning High Touch Areas</th>
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- 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.
This question is a key one to ask when evaluating the purchase of any automated disinfection system.

This question was recently answered by Dr. William Rutala a nationally recognized expert in disinfection and sterilization. In an interview for Healthcare Hygiene Magazine, January, 2020, Dr. Rutala stated:

“the rationale for rigorous manual cleaning/disinfection before use of UV technology, for example, is that organic material can interfere with disinfection technologies.

Thus, surfaces must be cleaned/disinfected prior to use of automated disinfection technology.”
Early recognition & control source

Place surgical mask on patient

Apply Standard precautions for all patient

Good hand hygiene

Implement – droplet and contact precautions

When applicable airborne precautions (AGPs)

• Samples for testing – lower resp., upper resp., serum specimens – open suctioning, intubation, bronchoscopy, CPR
Respiratory Protection

• Surgical mask Vs. N95’s
  • Depends on risk

• CDC EMS Interim Guidelines
PPE

- Gloves – double gloves are not needed
- Cover gown or coveralls
- Protective eyewear
- Surgical masks/ respirators
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

1. GLOVES
   - Outside of gloves are contaminated
   - If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
   - Using a gloved hand, grasp the palms area of the other gloved hand and peel off first glove
   - Hold removed glove in gloved hand
   - Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
   - Discard gloves in 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 or ear piece
   - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. GOWN
   - Gown front and sleeves are contaminated
   - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
   - Unbutton gown from below,folioing shirt that无声 (doesn't touch) your body when reaching for ties
   - Pull gown away from neck and shoulders touching inside of gown only
   - Burn gown inside out
   - Fold or roll into a bundle and discard in a waste container

4. 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
   - Snap bottom ties or velcro of the necktie/pajarita, then the area at the top, and remove without touching the front
   - Discard in a waste container

5. 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
Define Exposure
Exposure

• Risk Assessment - Patient s/s and duration of exposure

  • High Risk – HCP performed or were present when AGPs were performed on patients with COVID-19 without use of PPE

  • Medium Risk – prolonged close contact with COVID-19 patients and HCP hands or mucous membranes were exposed
EMS agencies should develop sick-leave policies for EMS personnel that are nonpunitive, flexible, and consistent with public health guidance. Ensure all EMS personnel, including staff who are not directly employed by the healthcare facility but provide essential daily services, are aware of the sick-leave policies.

• CDC EMS Interim Guidelines
Quarantine
Antivirals – studies have begun

At least 8 companies in several countries are working on a vaccine
Questions from the Infection Control Community

Substitutions, alternatives, reuse and reprocessing of gowns, goggles, and masks/respirators to conserve supplies

Accessing PPE for patients receiving care at home

- Education of staff and patients to prevent **misuse** and **overuse** of PPE
Unresolved Issues - Quarantine

- Income loss – 14 days
- Getting groceries
- Getting medications
CDC – Statement of Shortage of N95s

• Interim Infection Prevention and Control Recommendations for Patients with Suspected Coronavirus Disease 2019 –

  • Update PPE –
    “Based on local and regional situational analysis of PPE supplies, facemasks are an acceptable alternative when the supply chain of respirators cannot meet the demand”

CDC, March 10, 2020
Center for Medicare & Medicaid Services

• “today’s CMS memo implements CDC guidance by stating that facemasks are an acceptable temporary alternative to respirator”...

• CMS, March 11, 2020
FDA Statement of Masks - Shortages

- If Surgical Masks and/or Gowns Are Running Low:
  - Extend the use of single use gowns for healthcare providers without changing the gown between patients with the same infectious disease diagnosis or exposure who are maintained in a confined area. If the gown becomes contaminated, replace it.
  - Use surgical masks and/or gowns that meet CDC recommendations and/or ANSI standards for fluid resistance and bacterial filtration efficiency.
  - Prioritize the use of unexpired FDA-cleared surgical masks for healthcare providers in procedures where it is important to protect the healthcare provider and/or the patient from risk of exposure to blood and body fluids.
  - Use surgical masks beyond the manufacturer-designated shelf life in a setting where there is a lower risk of transmission (e.g., non-surgical). The user should visibly inspect the product prior to use and, if there are concerns (such as degraded materials or visible tears), discard the product.
  - Re-use surgical masks during care for multiple patients where they are used to protect the healthcare provider from an activity with low transmission risk (such as dispensing medications) and thus do not create a risk to the healthcare provider or patient. If the mask becomes contaminated, replace it.
  - Be aware that counterfeit masks and gowns may be on the market, especially during this time of reduced supply.

FDA, March 11, 2020
Getting Medications

• There is discussion regarding extending refill times and Extending mail in service

• Nothing has been mentioned about funds to pay for medication
KEEP CALM AND CARRY ON
Questions?

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