



COVID-19 NURSING HOME WEBINAR COMBATING A SUPER-SPREADER APRIL 3, 2020

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Objectives

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1. To discuss the epidemiology of COVID 19.
2. To review CDC infection prevention guidance for long-term care.
3. To review Centers for Medicare and Medicaid Services (CMS) guidance for long term care.

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Epidemiology of COVID 19

- > 80% of fatalities in persons 60 years old or over
- No fatalities for persons 19 years old or younger
- China study – Percent deaths by comorbid condition (includes 72,314 records)
 - ▣ Hypertension – 39.7%
 - ▣ Cardiovascular disease – 22.7%
 - ▣ Diabetes – 19.7%
 - ▣ Chronic respiratory disease – 7.9%

Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) — United States, February 12–March 16, 2020. MMWR Morb Mortal Wkly Rep 2020;69:343-346. DOI: http://dx.doi.org/10.15585/mmwr.mm6912e2external_icon

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Epidemiology of COVID 19

- China study percent deaths by age group
 - ▣ 40 – 49 = 3.7%
 - ▣ 50 – 59 = 12.7%
 - ▣ 60 – 69 = 30.2%
 - ▣ 70 – 79 = 30.5%
 - ▣ 80 and over = 20.3%

The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) — China, 2020, China CDC Weekly, Vol 2, Feb 14, 2020

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Nursing Home in Washington

- Case identified Feb 28
- As of March 9: 129 cases associated with one facility aged 22 - 100
 - ▣ 81 residents (out of 130) with median age 81
 - ▣ 34 staff with median age of 42
 - ▣ 14 visitors with median age of 62.5
 - ▣ 23 deaths
- Symptom onset dates Feb 16 – March 5
 - ▣ Febrile respiratory illness and all residents negative for flu

McMichael TM, Clark S, Pogojans S, et al. COVID-19 in a Long-Term Care Facility — King County, Washington, February 27–March 9, 2020. MMWR Morb Mortal Wkly Rep 2020;69:339-342. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912e1external icon>

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Nursing Home in Washington

- Hospitalizations
 - ▣ 56.8% (46) of residents
 - ▣ 35.7% (5) of visitors
 - ▣ 5.9% (2) of staff
- Most common chronic conditions of facility residents infected
 - ▣ 69.1% (56) hypertension (6 residents had hypertension as only chronic condition)
 - ▣ 56.8% (46) cardiac disease
 - ▣ 43.2% (35) renal disease
 - ▣ 37.0% (30) diabetes

McMichael TM, Clark S, Pogojans S, et al. COVID-19 in a Long-Term Care Facility — King County, Washington, February 27–March 9, 2020. MMWR Morb Mortal Wkly Rep 2020;69:339-342. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912e1external icon>

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Nursing Home in Washington

- Infected staff included:
 - ▣ PT, OT assistant, housekeeping, nurse, CNA, health information officer, physician, and case manager
- Contributing factors: lack of adherence to precautions, staff working while symptomatic, lack of PPE and ABHR
- Fatalities among residents = 27.2% and 7.1% of visitors
- As of March 9, eight other skilled nursing and assisted living facilities had reported at least 1 COVID 19 case
 - ▣ Staff working in multiple facilities contributed to the spread of infection to other facilities

McMichael TM, Clark S, Pogojans S, et al. COVID-19 in a Long-Term Care Facility — King County, Washington, February 27–March 9, 2020. MMWR Morb Mortal Wkly Rep 2020;69:339-342. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912e1external icon>

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Clinical Presentation

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- Fever (83–99%)
- Cough (59–82%)
- Fatigue (44–70%)
- Anorexia (40–84%)
- Shortness of breath (31–40%)
- Sputum production (28–33%)
- Myalgias (11–35%)

Symptoms present at illness onset vary

Reference: CDC Interim Clinical Guidance for Management of Patients with COVID
<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

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Clinical Presentation

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- *“Among 1,099 hospitalized COVID-19 patients, fever was present in 44% at hospital admission, and developed in 89% during hospitalization.”*
- Atypical symptoms - sore throat, headache, cough with sputum production and/or hemoptysis, diarrhea and nausea/vomiting
- Older adults with comorbidities may have delayed onset of fever or respiratory symptoms and or atypical symptoms

References: CDC COVID Clinical Presentation Webpage <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html> Li Q, Guan X, Wu P, Wang X, Zhou L, et al. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia. *N Engl J Med.* 2020 Jan 29.

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Asymptomatic and Pre-symptomatic

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- A healthcare worker introduced COVID 19 into LTCF and within 10 days seven residents were symptomatic and positive for COVID 19.
- Almost all (93%) of the residents were tested 16 days after the introduction of COVID 19 into the facility and 30% of the residents had positive results despite early adoption of infection prevention and control practices.
- Of the residents who were positive, 57% were asymptomatic.
- **Using symptom-based screening alone in a SNF could fail to identify approximately half of the residents with COVID 19.**

Kimball A, Hatfield KM, Arons M, et al. Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020. *MMWR Morb Mortal Wkly Rep.* ePub: 27 March 2020. DOI: <http://dx.doi.org/10.15585/mmwr.mm6913e1external icon>

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Prevention Recommendations for LTC

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In addition to core prevention bundle:

- Universal mask use by staff
- Once you have a positive person, place everyone on unit/facility on COVID precautions
- Identify staff members with close contact to positive resident who were not wearing appropriate PPE and exclude from work for 14 days

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assessment-hcp.html>

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COVID Precautions

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Standard, contact, and droplet with eye protection

- N95 preferred if available; otherwise use facemask
 - N95 needed for aerosol generating procedures
- Eye protection with face shield (i.e. preferred) or goggles or any eye protection that covers all the way around the eyes
 - Prescription glasses do not provide sufficient protection
- Applied presumptively!

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Facemask vs. N95

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- Facemask
 - ▣ Loose fitting
 - ▣ Large droplets
- Respirator
 - ▣ Individual fit
 - ▣ FIT testing
 - ▣ Filter for small particles
 - ▣ Example: N95

FACEMASK ≠ RESPIRATOR

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Eye Protection

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Goggles or face shields

- Should fit snugly over and around eyes
- Personal glasses not a substitute for goggles

Face shields


- Should cover forehead, extend below chin and wrap around side of face

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COVID-19 Personal Protective Equipment: Donning


Donning Step 1: Perform Hand Hygiene

- Apply one pump of hand sanitizer to the cupped palm of one hand
- Rub hands palm to palm
- Rub the right palm over the back of the left hand with interlaced fingers and vice versa
- Rub both palms together with fingers interlaced
- With the left thumb clasped in the right palm, rub rotationally and switch
- Cup the hands and place the backs of fingers to opposing palms and rub side to side with fingers interlocked
- Rotationally rubbing the clasped fingers of the right hand in a circular pattern on the palm of the left hand and vice versa
- Continue to rub both hands together until the sanitizer is dry




Donning Step 2: Don Gown

- Double check gown for defect and untie any knots in the PPE
- Don the gown by inserting your arms into the sleeves with the opening to the back
- Tie the neck and waist ties in bows that are easy to release as this will facilitate easy removal by eliminating the need to struggle with untying knots




Donning Step 3: Don N95 Respirator

- Hold the respirator in the palm of your hand with straps facing the floor
- Place N95 respirator on your face covering your nose and mouth
- Pull the bottom strap over the top of your head and place at the nape of your neck below the ear
- Pull the upper strap over and place it behind your head towards the crown of your head
- Mold the nose piece using pads of fingers over the cheeks and bridge of your nose to obtain a tight seal. Be careful not to pinch the nose
- Perform a seal check by taking a few deep breaths and feeling around the mask for escaping air to ensure there is good seal against the skin
- Staff must resist the temptation to adjust the N95 respirator while in the patient care area




Donning Step 4: Don Face Shield and/or Goggles

- Don the face shield so that the foam headpiece rests on your forehead.
- If you are wearing goggles, ensure they are not interfering with the fit of the N95 respirator and are sitting comfortably and secure over your eyes.
- Eye glasses are not a substitute for eye protection. If you are wearing glasses for vision support, ensure they also are secure and comfortable.
- At no time should eye protection be readjusted in the patient care area.
- If face shield or goggles fog up it is likely because there is not a good seal of the N95 respirator to the healthcare workers face



Donning Step 5: Don Gloves

- Don patient care gloves to a size that is comfortable and conducive to providing patient care
- Prior to donning gloves, the gown cuff may need to be pulled towards the knuckles to prevent the gown sleeves from riding up.
- Ensure there is no skin exposed between the gown and glove cuffs.
- The white cuff of the gown should be completely covered by the glove.



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PPE Donning and Doffing Sequences

Donning

- Hand hygiene
- Gown
- Respirator/mask
- Eye protection
- Gloves

Doffing

- Hand hygiene
- Gown
- Gloves – hand hygiene
- Eye protection (may keep on for extended wear)
- Hand hygiene
- Mask (may keep on for extended wear)
- Hand hygiene

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17 PPE Conservation Sequence

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Putting ON PPE

What You Need


View the PPE video at med.emory.edu/PPE




Contact gown



Mask




Face shield or goggles




Gloves

Gown + Gloves


1 Remove any personal items and jewelry and put in secure location, not in pockets.




2 Sanitize hands.



3 Put on contact gown outside room. Open-end faces your back. Tie the back of the gown.




4 Put on gloves over the cuffs of the gown.




Mask + Eyes


5 Put on mask.



6 Fit mask to nose.




7 Put on face shield or goggles.




Entry


8 Sanitize gloves.



9 **ENTER room**



10 Do not touch face or re-adjust mask or face shield inside room.




Taking OFF PPE


Gown + Gloves

View the PPE video at med.emory.edu/PPE


1 Sanitize gloves.




2 Cross arms and grip gown on shoulders. Pull and break gown in controlled fashion.



3 Roll the gown towards your hands. Remove the gloves with the gown. Dispose of gloves and gown.




4 Sanitize hands.




EXIT patient room

Eyes


5 Put on new gloves.



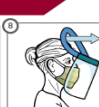
6 Sanitize gloves.



7 Do not touch face.




8 Remove face shield by the strap over your head without touching your skin.




Mask


9 Sanitize gloves.



10 Pinch loops and pull them back and off of your ears. Do not let loops touch your face.




11 Pull loops off without touching your face with them or your hands. Remove the mask.



Wash

12 Remove gloves.



13 Head immediately to handwashing station. Wash hands with soap and water.



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PPE Training Resources

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CMS Tools

- https://www.nebraskamed.com/sites/default/files/documents/covid-19/donning_stepbystep_03062020.pdf
- <https://www.nebraskamed.com/sites/default/files/documents/covid-19/covid-19-personal-protective-equipment-doffing-step-by-step.pdf>
- Video <https://www.youtube.com/watch?v=twE8UtwndeQ&feature=youtu.be>

Other options

- www.netec.org

Putting on respirator – CDC NIOSH

- <https://www.cdc.gov/niosh/docs/2010-133/pdfs/2010-133.pdf>

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CDC Guidance

Optimizing use of PPE

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

- Extended wear of masks and face shields/eye protection during a shift
 - Extended use is preferred over re-use
- Mask – goal of 1 per shift
- Eye protection – can be disinfected
- Policy/procedure and train staff

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Gowns

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- Can wear gown for multiple patients ONLY if providing care for patients positive for COVID-19 and no other co-infections; otherwise gowns need to be discarded after use
- Gowns worn to protect clothing vs. gowns worn to prevent transmission
- Gown alternatives
 - ▣ Cloth “gowns” that are washable
 - ▣ Plastic type “gowns”

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Prevention Recommendations LTC

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- Establish one section of building for 14-day COVID isolation upon admission/re-admission
 - ▣ Implement COVID precautions
 - ▣ Cohort residents and staff for this area
- Establish section to house COVID positive residents
 - ▣ Cohort residents and staff for this area

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CMS Guidance March 13, 2020

- Essential visitors only – those providing healthcare
 - ▣ Must be screened with temperature check
 - ▣ Keep log
- No communal dining
 - ▣ Residents requiring assistance may come to dining room if a distance of 6 feet is maintained between residents
 - ▣ May need to offer multiple meal times

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CMS Guidance March 13, 2020

- Staff screened for each shift
 - ▣ Temperature checks
- Monitor residents for symptoms
- Review how supplies are received from vendors
- Reinforce hand hygiene
- Reinforce cleaning and disinfection

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CDC Discontinuing Precautions for Recovering Positive Patients

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Test-based strategy

- Resolution of fever without the use of fever-reducing medications **and**
- Improvement in respiratory symptoms (e.g. cough, shortness of breath), **and**
- Negative results of an FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive nasopharyngeal swab specimens collected ≥ 24 hours apart (total of two negative specimens)

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CDC Discontinuing Precautions

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Non test-based strategy

- At least 3 days (72 hours) have passed *since recovery*; defined as resolution of fever without the use of fever-reducing medications **and** improvement in respiratory symptoms (e.g. cough, shortness of breath); **and**,
- At least 7 days have passed *since symptoms first appeared*

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Disinfecting Surfaces

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- COVID-19 is very susceptible to disinfectants
 - ▣ Coronaviruses are enveloped viruses
 - ▣ Enveloped virus = easiest to kill
 - ▣ Non-enveloped virus = hard to kill
 - ▣ Mycobacteria = harder to kill
 - ▣ Spores = hardest to kill
- EPA List N for emerging viral pathogens
 - ▣ Label claim of 1 small or 1 large non-enveloped virus

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Room Cleaning for COVID Patient

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CDC recommendations

- If patient is in room, must wear PPE that is required for healthcare workers
- Consider having nursing staff perform daily cleaning to limit staff in room and PPE use
- For terminal cleaning
 - ▣ Reference CDC guidance for airborne contaminant removal based on air changes per hour to determine how long to keep door closed and room empty prior to entry when only using PPE for standard precautions

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COVID Risk Assessment

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COVID Infection Control Risk Assessment (ICRA)

- Policies and procedures
- Staff trained
- Competencies and competencies validated
- Supplies for PPE, including alternative options
- N95 or equivalent vs. face mask
 - ▣ Nebulizer treatments
- Co-horting of residents and staff

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Training Plan

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- Signs and symptoms of COVID-19
- Visitor screening procedures and documentation
- Staff screening procedures and what should they do if they develop symptoms at work
- Employee exclusion policy
- Resident monitoring procedures and social distancing
 - ▣ Mask use for residents when they are out of their room
 - ▣ Admission/re-admission policy

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Training Plan

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- COVID precautions
 - ▣ Proper donning and doffing of PPE
 - ▣ Universal mask use
 - ▣ Extended use of PPE
- Observations for adherence
- Cleaning and disinfection

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Regulatory Surveys

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- Policies and procedures for COVID-19
 - ▣ Employee exclusion, staffing issues, visitor & staff screening, transmission-based precautions, PPE use
 - ▣ Other infection prevention and control policies and procedures
- Surveillance plan and surveillance documentation
- Notification procedures for transferring residents
- Visitor & staff screening logs
- Procedures for maintaining social distancing practices – canceling of communal dining and group activities

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Regulatory Surveys

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- Signage for communicating precautions
- PPE supplies and requests
- Respiratory hygiene
- Environmental cleaning and disinfection
- Hand hygiene and necessary supplies
- Competencies
 - Hand hygiene including observations, donning and doffing PPE, signs and symptoms of COVID-19, use of disinfection products, what to do if staff develop symptoms

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Additional Resources

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- CDC Self-assessment tool/Checklist
https://www.cdc.gov/coronavirus/2019-ncov/downloads/novel-coronavirus-2019-Nursing-Homes-Preparedness-Checklist_3_13.pdf
- CMS focused survey tool
https://www.ahcancal.org/facility_operations/disaster_planning/Documents/self-assessment.pdf
- CDC Air Contaminant Removal Table
<https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html#tableb1>

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THANK YOU



COVID-19 NURSING HOME WEBINAR
WHAT IS KNOWN AND CURRENT GUIDANCE
APRIL 3, 2020

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