



COVID-19 ALF WEBINAR COMBATING A SUPER-SPREADER APRIL 2, 2020

**A.C. Burke, MA, CIC, VP of Health Care Quality
RB Health Partners, Inc.**

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Objectives

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

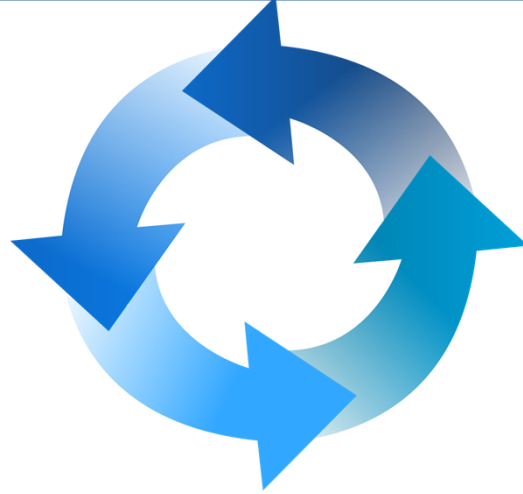
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Chain of Infection

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Six elements of infection:

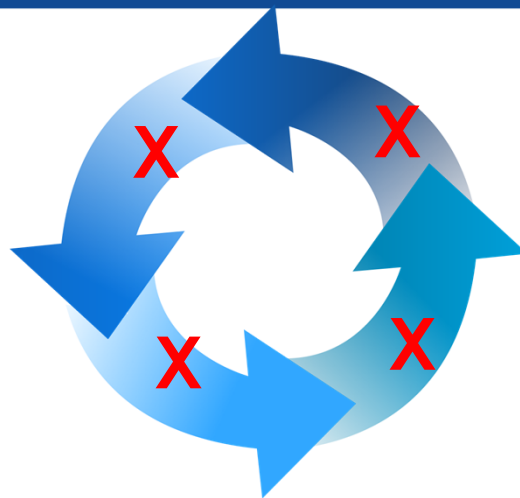
1. An infectious pathogen
2. A place to stay
3. A way to get out
4. A way to travel
5. A way to get in
6. A new victim



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Goal

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BREAK THE CHAIN OF INFECTION

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Prevention Bundles

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Core prevention strategies

- Hand hygiene
- Standard and Transmission-based precautions
 - ▣ Resident cohorting
- Environmental Cleaning and disinfection

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Hand Hygiene

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**Alcohol based hand rub is the
PREFERRED
way to clean your hands
EXCEPT...**

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Hand Hygiene

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...When hands are visibly soiled, for *C. difficile* infections, and infectious diarrhea.

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Hand Hygiene

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- Policy and procedure
- Educate staff
- Competency check off/return demonstration
- Observation and feedback to staff
- Reinforce compliance

Resources

<https://www.cdc.gov/handhygiene/>

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Standard Precautions

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- Applies to care of all patients/residents regardless of their diagnosis or presumed infection status
- Includes protecting yourself from exposures to blood and body fluids including;
 - ▣ Blood,
 - ▣ All body fluid secretions and excretions, except sweat, regardless of whether or not blood is visible,
 - ▣ Non-intact skin, and
 - ▣ Mucous membranes.

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Standard Precautions

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- 3 Main components
 - ▣ Hand hygiene
 - ▣ Personal protective equipment (PPE)
 - ▣ Respiratory hygiene/cough etiquette
- Other components
 - ▣ Injection safety
 - ▣ Medication storage and handling
 - ▣ Cleaning and disinfection of devices and environmental surfaces

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Personal Protective Equipment (PPE)

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Use PPE to protect from exposures to blood and body fluids

- Gloves – protects hands from body fluids as well as contaminated equipment
- Gowns - Protect skin and clothing from splashes or sprays of blood and body fluid
- Mask- Protect mouth and nose from potential contact with respiratory secretions or sprays of body fluid
- Eye protection – Protects eyes from splash, spray, and respiratory secretions

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GLOVES ARE NOT ENOUGH

Wearing gloves is **NOT** a substitute for cleaning your hands.



CONTAMINATION DURING GLOVE REMOVAL IS COMMON

- ▶ Your hands can get contaminated while wearing or removing gloves.
- ▶ Cleaning your hands after removing your gloves will help prevent the spread of potentially deadly germs.

**Protect Yourself.
Protect Your Patients.**



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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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Transmission-based Precautions

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- In addition to Standard Precautions
- Implemented when a patient/resident is suspected of or known to be colonized or infected with an epidemiologically important organism, novel or targeted MDRO, or highly infectious microorganism
 - ▣ Airborne
 - ▣ Contact
 - ▣ Droplet
 - ▣ For long-term care: Enhanced Barrier Precautions

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Transmission-based Precautions

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- “Go to” resources
- CDC/HICPAC Guidelines for Isolation Precautions and MDROs
Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee
 - ▣ 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings
<http://www.cdc.gov/ncidod/dhqp/pdf/isolation2007.pdf>
 - ▣ Appendix A
<https://www.cdc.gov/infectioncontrol/guidelines/isolation/appendix/index.html>

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Transmission-based Precautions

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- Airborne – negative pressure airborne isolation room, N95 mask or powered air purifying respirator (PAPR)
- Contact – gowns and gloves
- Droplet – mask
- Enhanced barrier precautions – gowns and gloves for high contact care activities

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Transmission-based Precautions

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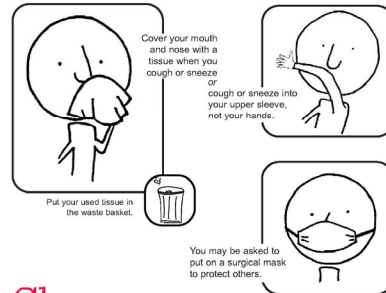
Applied presumptively!

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Respiratory Etiquette

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

Cover your Cough



Clean your Hands

after coughing or sneezing.



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Environmental Cleaning

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- Healthcare grade disinfectant products
- Use in accordance with manufacturer's instructions
- High-touch surfaces
- Daily and terminal cleaning
- Equipment cleaning
- Assigning responsibility
- Policy, procedure, staff training, and competency validation

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COVID-19

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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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Clinical Presentation

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- Symptoms: fever, cough, myalgia or fatigue, and shortness of breath
- *“Among 1,099 hospitalized COVID-19 patients, fever was present in 44% at hospital admission, and developed in 89% during hospitalization.”*
- Less common symptoms: sore throat, headache, cough with sputum production and/or hemoptysis, gastrointestinal symptoms such as diarrhea and nausea

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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COVID Precautions

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Standard, contact, and droplet with eye protection

- N95 preferred if available; otherwise use facemask
- 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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Putting PPE ON

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.

ENTER room

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

Taking PPE OFF

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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- www.netec.org
- <https://repository.netecweb.org/exhibits/show/ppe-cons/ppe-cons>

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Biohazard Contamination and Waste

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Occupational Safety and Health Administration (OSHA) defines biohazard waste as:

- Liquid or semi-liquid blood or other potentially infectious materials (OPIM);
- Items contaminated with (*visible*) blood or OPIM and which would release these substances in a liquid or semi-liquid state if compressed;
- Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; and
- Contaminated sharps

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Other Potentially Infectious Material

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- Cerebrospinal fluid
- Synovial fluid
- Pleural fluid
- Pericardial fluid
- Amniotic fluid
- Semen
- Vaginal secretions
- Body fluid that is visibly contaminated with blood
- Human tissue or organ unfixed
- Cultures and laboratory items contaminated with HIV or HBV

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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
- Disinfect eye protection
- 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

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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 with close contact to positive resident who was not wearing appropriate PPE and exclude from work for 14 days

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

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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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Training Plan

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- Signs and symptoms of COVID-19
- Visitor screening procedures and documentation
- Staff screening procedures, what should they do if they develop symptoms at work, and exclusion policy
- Resident monitoring procedures and social distancing
- Infection prevention, COVID precautions, and prevention bundle
 - ▣ Proper donning and doffing of PPE

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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 ALF WEBINAR
WHAT IS KNOWN AND CURRENT GUIDANCE
APRIL 2, 2020

A.C. Burke, MA, CIC, VP of Health Care Quality
RB Health Partners, Inc.

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