ENVIRONMENTAL INFECTION CONTROL
Agenda

Hazard
Process
Interim Control
Permanent Control
Resource
Referral

Design Professional
Referral

State Licensure
Bureau of Nursing
Home and Resident Care
Referral

County

Public Department of Health
Hazard

Infectious Agent

**Corona Virus:** A large family of viruses that cause illness ranging from the common cold to more severe diseases

**SARS-CoV-2:** The name of the virus that causes COVID-19

**COVID-19:** The name of the disease caused by the SARS-CoV-2 virus
Hazard

Communicable Disease

![Diagram showing the impact of intervention on the spread of a communicable disease.](image-url)
The LTC facility must prevent the development and transmission of **communicable diseases** and infections ....

42 CFR 483.80
F880
The LTC facility must establish and maintain an infection prevention and control program designed to provide a safe and sanitary environment ....

42 CFR 483.80
F880
The LTC facility must document a risk assessment utilizing an all-hazards approach....

42 CFR 483.73
E-0006
Wisconsin Department of Health Services

Hazards

Wisconsin Top Five

1. Tornado
2. Communicable disease
3. Cyber attack
4. Ice / snow storm
5. Flood
Hazards
Risk Management

Step 1: Risk assessment
Step 2: Implementation
Step 3: Lessons learned
Step 4: Plan improvements
Process

Break the Chain

THE CHAIN OF INFECTION

Susceptible host
Reservoir
Portal of entry
Portal of exit
PPE

Infectious agent
### Process

**Air Purge - CDC**

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Process

- Elimination: Physically remove the hazard
- Substitution: Replace the hazard
- Engineering Controls: Isolate people from the hazard
- Administrative Controls: Change the way people work
- PPE: Protect the worker with Personal Protective Equipment
Process

Elimination
- Physically remove the hazard

Substitution
- Replace the hazard

Engineering Controls
- Isolate people from the hazard

Administrative Controls
- Change the way people work

PPE
- Protect the worker with Personal Protective Equipment

Least effective
Process

1. Elimination: Physically remove the hazard
2. Substitution: Replace the hazard
3. Engineering Controls: Isolate people from the hazard
4. Administrative Controls: Change the way people work
5. PPE: Protect the worker with Personal Protective Equipment
Process

Administrative Controls

Detection
Symptom-based strategy
Signs and/or Symptoms
Atypical manifestations
Screening

Policy / Plan
Test-based strategy
Comprehensive Segregation
Dedicated staff
Adequate supplies
Process
Process
Process

Break the Chain

THE CHAIN OF INFECTION

Susceptible host
Infectious agent
Reservoir
Portal of entry
Portal of exit
Transmission mode
Process

Harder to kill

- Prions
- Bacterial spores
- Mycobacteria
- Nonenveloped viruses
- Fungi
- Bacteria
- Enveloped viruses

Easier to kill

SARS-CoV-2
Control*

Plan Commitment

* Interim *
Control*

Passive

Sealed Joints
Control*

Active
Sealed “Return”
Control

HEPA Filtration

10,000 Dust Particles → HEPA Filter → 3 Dust Particles

ASHRAE
Control

HEPA Filter Media
Control*

Portable HEPA Unit
Control*

N95 Mask

95% Efficiency

HEPA Units

99.97% Efficiency
Control*

- Portable HEPA Unit in Resident Room
- HEPA exhaust to Exterior
- Sealed Return
- Sealed Perimeter
Control*

Portable HEPA unit outside Resident Room

Seal Return

Seal Perimeter
Control*

Negative Test
Control

Hand Washing
Control

Hand Washing

Simple
Soap & Water
20 seconds
Permanent Control

Wisconsin Commercial Building Code

Chapter SPS 364

2015 International Mechanical Code plus amendments
Designer
Control*
100% Outside Air

[Diagram showing airflow and control mechanisms]
Designer

HVAC Unit

HEPA Filter
Designer

HVAC Unit

Coil Treatment

Ultraviolet Light
Plan Review

DHS

- Architectural
- Ventilation

DSPS

- Plumbing
Installation
Installation
Installation
Installation
Resources

CDC Guidelines for Environmental Infection Control in Health Care Facilities [www.cdc.gov]
Summary

Hazard
Process
Interim Control
Permanent Control
Resource
Thank You
David R. Soens