Management of Influenza in Skilled Nursing Facilities: Perspectives on Infection Prevention & Use of Antiviral Agents

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No Conflicts of Interest
Objectives

▪ Discuss infection prevention strategies to reduce the risk of transmission of influenza to residents, visitors, and staff in skilled nursing [and long term care] facilities
▪ Review the indications for antiviral treatment and chemoprophylaxis
▪ Outline the role of visitor precautions and restrictions in preventing and controlling influenza in skilled nursing facilities
Guiding Principles of Infection Prevention
Infection Prevention Strategies

- Standard Precautions
- Hand Hygiene
- Transmission-Based Precautions: Droplet Precautions
- Respiratory Hygiene/Cough Etiquette
- Additional Infection Control Tips and Prevention Measures
- Enhanced Environmental Cleaning
Standard Precautions

“If it is wet and not yours, use precautions”

Standard precautions are a set of infection control practices used to prevent transmission of diseases that can be acquired by contact with blood, body fluids, non-intact skin (including rashes), and mucous membranes. These measures are to be used when providing care to all individuals, **whether or not they appear infectious or symptomatic.**
Standard Precautions

▪ Perform hand hygiene
▪ Use personal protective equipment (PPE) whenever there is an expectation of infectious material
▪ Follow respiratory hygiene/cough etiquette principles
▪ Ensure appropriate patient placement
▪ Properly handle and properly clean and disinfect patient care equipment and instruments/devices; clean and disinfect the environment appropriately
▪ Handle textiles and laundry carefully
▪ Follow safe injection practices; wear surgical mask when performing lumbar puncture
▪ Ensure healthcare worker safety including proper handling of needles and other sharps
The Five Moments of Hand Hygiene
Hand Hygiene – What Are We Missing?

Missed areas:
- Back of hands
- Between webs of fingers
- Thumb
- Finger tips
Droplet Precautions

Prevents inoculation of the eyes, nose, and mouth by infectious droplets from infectious agents such as influenza. Droplets do not suspend in the air like tuberculosis and “drops” to the ground by the time it travels 6 feet.

“The solution to pollution is dilution”

When transporting residents: source control
• Mask resident when transporting from one area to another
• Ensure hand hygiene
• Change to clean clothes

The half mask version
Aerosol-Generating Procedures (suctioning, breathing treatments):

Don’t forget the eyes

Remember: hand hygiene!!
So, keep your hands off your face and practice hand hygiene often.

Inoculation of virus into mucous membranes of eyes, nose or mouth.

*Millions of disease-causing germs*
Enhanced Environmental Cleaning of Frequently Touched Areas

- The flu virus can “live” on some surfaces for up to 48 hours.
- FACT: Routine cleaning of surfaces may reduce the spread of flu.
- Flu viruses are killed by:
  - Heat above 167°F [75°C]
  - Common household cleaning products can also kill the flu virus:
    - chlorine (bleach)
    - hydrogen peroxide
    - soap and dishwashing liquids
    - iodine-based antiseptics (Betadine® type liquid)
    - alcohols
    - Usual healthcare cleaning agents: quaternary ammonium compounds

So, clean those hands!!
Additional Infection Control Tips and Prevention Measures

- Keep symptomatic residents should stay in their own rooms as much as possible
- Restrict residents from common activities and having all their meals served in their room
- Screen employees and visitors for illness.
- Furlough ill health care personnel and discourage ill visitors discouraged from visiting

How long to isolate?
- CDC recommends droplet precautions be continued for 7 days after illness onset OR
- Until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer
- SNFs and LTCFs should have plans to be able to continue droplet precautions if necessary for returning residents who were hospitalized with influenza
Additional Infection Control Tips and Prevention Measures: Posting Visual Alerts

Upon Entry and During Visit to a Healthcare Setting

- Provide adequate supply of hand sanitizers and receptacles
- Screen visitors for viral illness
Additional Infection Control Tips and Prevention Measures

- Place residents in private rooms or cohort residents suspected of having influenza.
- Ensure Spatial separation of > 6 feet and drawing the curtain between beds for residents housed in multi-bed rooms.
- Communicate information about residents with suspected, probable, or confirmed influenza to appropriate health care personnel before transferring them to other departments or facilities.
Treatment and Prophylaxis of Influenza
Treatment of the “flu”

• Tamiflu® and other anti-influenza agents are effective only against the “flu” virus

• Most effective when started within 48 hours of symptom onset:
  • Targeted for high risk group or very sick with the “flu”
  • Generally, healthy people do not need to be treated

• **ANTIBIOTICS do not work for the “flu” or any other respiratory viruses**
Mechanism of Action of Drugs for Influenza

Xofluza™ prevents replication

Tamiflu® prevents the virus from escaping and infecting other cells

The influenza virus mutates very rapidly and can split into many strains that circulate simultaneously each winter that may result in the drug no longer effective
Duration of Chemoprophylaxis

When is chemoprophylaxis indicated:

For control of outbreaks in institutional settings, antiviral chemoprophylaxis is recommended for all residents who are not ill, including those who have received influenza vaccination.

How long should a resident be given chemoprophylaxis?

CDC recommends antiviral chemoprophylaxis for a minimum of 2 weeks, and continuing up to 1 week after the last known case was identified.

What about healthcare workers?

- For unvaccinated health care personnel
- For newly-vaccinated staff, antiviral chemoprophylaxis can be offered for up to two weeks
- If the outbreak is caused by a strain of influenza virus that is not well-matched by the vaccine, chemoprophylaxis can also be offered for all employees, regardless of vaccination status

In lieu of chemoprophylaxis, monitor for flu-like symptoms/illness for healthcare personnel and early initiation of antivirals.
Watch for These Emergency Warning Signs

▪ Difficulty breathing or shortness of breath
▪ Chest or abdominal pain or pressure
▪ Sudden dizziness
▪ Confusion
▪ Severe or persistent vomiting
▪ Worsening symptoms despite 72 hours of treatment
▪ Flu-like symptoms that improve, but then return with fever, worsening cough, sputum production, shortness of breath
Complications of the “flu”

• Inflammation of the heart
• Sinus and ear infections
• Worsening of chronic bronchitis
• Worsening of congestive heart failure
• Pneumonia
  • Caused by the “flu” virus
  • Bacteria: pneumococcus, Staph
How to decrease the risk of getting the bacterial pneumonia that sometimes develops after the “flu” and other respiratory viruses?

• The risk of invasive infection caused by the “pneumonia” bacteria (pneumococcus) is nearly 10 times that of young adults

• There are 2 vaccines: Pneumovax23 and Prenar13

• These vaccines also protect against blood poisoning and meningitis cause by this bacteria
Summary

- Adhere to infection prevention guidelines to prevent the spread of influenza and other respiratory viruses
  - Practice hand hygiene: frequency and quality
  - Ensure standard precautions
  - Promote respiratory hygiene and cough etiquette
  - Keep hands off the face
  - Maintain spatial separation – 6 feet
  - Stay home if ill and screen visitors

- Be familiar with treatment of and prophylaxis for influenza guidelines

- Know the warning signs when a resident may be developing a secondary bacterial pneumonia
“The belt fastened while running will come undone while running”

Ethiopian Proverb