

Influenza Immunization

Who are you
protecting?



What is Influenza?

- Influenza – acute respiratory illness with fever ($>38^{\circ}\text{C}$) and cough and one or more of the following:
 - Muscle aches, headache, malaise, joint pain, sore throat
- It is common for elderly not to have a fever
- Virus infects nose, throat, lungs
- Can be a severe illness – fatigue may last several weeks

Flu or Cold?

<u>Symptom</u>	<u>Cold</u>	<u>Flu</u>
Fever	Rare	Sudden onset, high (39°-40° C), lasts 3-4 days (may be absent in elderly populations)
Headache	Rare	Sudden onset
Body aches, pains	Generally mild	Usual, often severe
Fatigue	Generally mild	Usual, severe, may last 2-3 weeks
Chest discomfort, cough	Sometimes, mild	Usual, can be severe to moderate. Cough may last for weeks
Runny, stuffy nose	Common	Common
Sneezing	Common	Sometimes
Sore Throat	Common	Common
Diarrhea, nausea, vomiting	No	Rare. More common in children

Complications of Influenza Illness

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- Complications:
 - Ear infections
 - Sinus infections
 - Pneumonia
 - Death
- Worsening of chronic medical conditions:
 - Diabetes
 - Congestive Heart Failure (CHF)
 - Chronic Obstructive Pulmonary Disease (COPD)
 - Asthma

How are Influenza Viruses Spread?

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- Droplet spread:
 - Direct
 - Coughing or sneezing into the mouth, nose or eyes of another person
 - Indirect
 - Droplets fall onto surfaces
 - Touching contaminated surfaces may result in infection
 - The influenza virus survives:
 - On surfaces 2-12 hours
 - On hands for 5 minutes

Infectiousness and Spread

- Incubation Period
 - The virus enters a person's mouth, nose or eyes and they can become ill in 1-3 days
- Infectious Period
 - An infected person can spread the virus to others 24 hours prior to developing symptoms and for 3-5 days after symptoms start

Influenza Season

- Every year, new strains of Influenza A & B circulate causing seasonal epidemics
- Flu season = October – April
 - Peaks December – March
- Influenza A – more severe, causes more outbreaks in schools, daycares, long term care homes, retirement homes and hospitals
- Influenza B – tends to be seen near the end of flu season

Impact of Influenza

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- Every year
 - 5-10% of adults and 20-30% of children will become infected
 - 20,000 people will be hospitalized
 - 4000 people will die

Seasonal Influenza Prevention

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- Yearly vaccination is the single most effective way to prevent spread of influenza
 - Reduces risk of complications from influenza
 - Reduces number of outbreaks in Long Term Care Homes and Retirement Homes
 - Reduces deaths
- Yearly vaccination is needed:
 - Influenza viruses can mutate or change (shift/drift) from year-to-year
 - The flu viruses selected for inclusion in the vaccine are updated each year based on which flu virus strains are circulating

2016-17 Vaccine Strains

This year's vaccine provides coverage for:

Trivalent:

- A/California/7/2009 (H1N1)pdm09-like strain
- A/Hong Kong/4801/2014 (H3N2)-like virus
- B/Brisbane/60/2008-like virus

Quadrivalent:

- Above three strains plus:
 - B/Phuket/3073/2013-like virus

Health Care Worker (HCW) Duty of Care

"HCWs should consider it their responsibility to provide the highest standard of care, which includes annual influenza vaccination. In the absence of contraindications, refusal of HCWs to be immunized against influenza implies failure in their duty of care to patients."

*National Advisory Committee on Immunization (NACI)
2015*

Immunization

Break the Chain of Transmission!

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Priority Groups to Receive Influenza Immunization

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- People at high risk of complications from influenza
- People capable of transmitting influenza to those at high risk
- People who provide essential community services (HCWs, EMS, Police etc.)

Influenza Vaccination In Pregnancy

- Pregnancy
 - NACI – vaccine is safe in all stages of pregnancy and for breastfeeding mothers
 - No surveillance data associating influenza vaccine with fetal effects
 - During influenza season the risk of cardiopulmonary hospitalization in pregnant women increases especially in 2nd and 3rd trimester, making vaccination particularly important

Protecting the Vulnerable Population

By decreasing:

- Spread of influenza to elderly, higher risk residents
- Complications and worsening of chronic illness in residents
- Resident hospitalization and flu-related deaths

Protecting Staff

By decreasing:

- Use of antiviral medication and therefore, resistance to antiviral medication
- Side effects associated with antiviral medication
- Staff absence affecting quality of care for residents and workload for other staff

Side Effects of Influenza Vaccine

- Most people have no side effects or mild side effects:
 - Sore arm
 - Redness or swelling where shot was given
 - Small # of people get a fever or body aches– sometimes lasts 1-2 days
- Allergic reactions are rare

Talk to your doctor before getting a Flu shot if...

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- You have a history of a severe reaction to previous Flu shot or vaccine
- You are sick with a fever (wait until symptoms improve)
- You have a history of Guillain-Barré Syndrome (a rare severe paralytic illness) within 8 weeks after receiving a Flu shot

How does the Vaccine Work?

- A vaccine is a substance that stimulates the immune system to make antibodies
- The body needs 2 weeks after vaccination to achieve optimal immunity for the current flu season
- The next time the person is exposed to that flu strain, the immune system responds so quickly that the virus is destroyed before it causes infection

Myths

- Common misconceptions:
 - I don't need another flu shot – I got one last year
 - I received the vaccine last year but still got the flu; therefore the vaccine doesn't work
 - The vaccine causes the flu
 - I haven't had the flu in recent years; therefore I'm not at risk of getting the flu or transmitting it to the patients for whom I care

Influenza Vaccine Contents

- Egg protein
 - Egg allergic individuals can be vaccinated against influenza
- Formaldehyde
 - Is produced naturally in the body and helps with metabolism
 - There is about 10x the amount of formaldehyde in an infant's body at any time than there is in a vaccine
- Mercury (Thimerosal)
 - The flu shot contains a very small amount of one form of mercury which does not accumulate in the body as other forms of mercury can
 - A can of tuna contains 2 ½ x the amount of mercury compared to the amount found in a flu shot, and the mercury found in vaccines is excreted from the body much faster

Tamiflu

- The primary antiviral drug used in the treatment of Influenza
 - Overuse of Tamiflu could lead to resistance, making it ineffective
- Used in LTC facilities to stop the spread of the virus
 - Prevents the virus from replicating
 - Lessens/shortens effects and duration of flu symptoms
- Not a replacement for the flu shot

Tamiflu

- Average Prophylactic Rx
 - Tamiflu 75mg PO OD for 10 days
 - Dispensing fee \$9.97 - \$11.99
 - Tamiflu 10 tabs = \$66.25
 - Average Cost for 10 day Rx: \$76.22 - 78.24+tax
- Cost is potentially higher
 - outbreaks can be longer than 10 days
 - possibility of multiple outbreaks in a season
 - Outbreaks at more than one employer

Unimmunized Staff During a Flu Outbreak

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- During an Influenza Outbreak unimmunized staff are required to take Tamiflu for the duration of the outbreak
- Tamiflu is only available by physician's prescription
- Tamiflu is not a replacement for the flu shot

No Immunization and No Antiviral...

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- Staff not immunized or not taking appropriate antivirals:
 - will be excluded from working in the outbreak area for the duration of the outbreak
 - will be excluded from working elsewhere for three days after exposure to the outbreak area

Big Shot Challenge PRIZES!!

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GET YOUR FLU SHOT AND WIN!

- All immunized staff from:
 - Retirement homes
 - Long term care homes
- Invited to participate in draws and will be eligible for several prizes
- Sponsored by the Region of Waterloo Public Health

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If you are sick with influenza-
like illness, stay home.

Infection Control Measures

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- Hand hygiene
 - Reduces transmission of influenza and other pathogens
- PPE
 - Gloves, gowns, masks, eye protection
- Cough Etiquette
 - Cover mouth/nose when coughing or sneezing with tissue or sleeve
 - Use tissues and dispose of promptly
 - Offer mask to persons who are coughing
 - Turn away from people to cough

Resources

- Region of Waterloo Public Health: www.waterlooregion.ca/ph
- Ontario Ministry of Health and Long-Term Care: www.health.gov.on.ca
- National Advisory Committee on Immunization (NACI) Statement on Seasonal Influenza Vaccine for current season <http://www.phac-aspc.gc.ca/naci-ccni/index-eng.php>
- Canadian Immunization Guide: <http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php>
- Public Health Agency of Canada: www.phac-aspc.gc.ca
- World Health Organization: www.who.int
- US Centers for Disease Control and Prevention: www.cdc.gov

Questions??

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