

# H1N1 and your Allergic/Asthmatic Child

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# H1N1

- Definitions
- Epidemiology
- Disease prevention measures
- H1N1 and Asthmatic children
- Vaccines and Egg allergic children

# What is H1N1 Flu

- It is a new influenza virus causing illness in people
- “Swine” flu was first noticed in 4/2009 in the United States
- It did not come from pigs, but the virus is similar to viruses which cause illness in pigs

# The “Stats”

- Disproportionally affects persons younger than 25 years of age
- 144 deaths of children since 4/2009 in the United States
- Children ages 0-4 years have the highest hospitalization rate
- 70% of persons hospitalized had a condition recognized as “high risk”

# Seasonal flu deaths in children

- 2003/2004 – 153 deaths reported
- 2004/2005 – 47 deaths reported
- 2005/2006 – 46 deaths reported
- 2006/2007 – 68 deaths reported
- 2007/2008 – 83 deaths reported
  
- In 2008/2009 only 20% of children ages 5 – 18 years were vaccinated for the seasonal flu

# High Risk Groups

- Pregnant women
- Obese persons
- Persons with chronic diseases
  - Asthma/COPD
  - Diabetes
  - Congenital Heart Disease
- Persons younger than 25 years
- Health care workers

# Symptoms

- Fever
- Cough
- Runny nose
- Sore throat
- headache
- Body aches
- Chills
- Fatigue
- Vomiting/diarrhea

# Testing

- Four types
  - Rapid influenza diagnostic tests
  - Direct immunofluorescence assays
  - rRT-PCR
  - Viral culture (gold standard)
- Not recommended for routine diagnosis of the flu
- Recommended for hospitalized patients with symptoms of influenza and immunocompromised patients



# Anti – Viral Medications

- Tamiflu (oseltamivir) -
  - Patients 6 months and above
  - Liquid or capsules
  - Safe for pregnant women
  - Side effects of nausea, vomiting, unusual behavior
- Relenza (zanamivir) –
  - Patients 7 years old and above
  - Inhaled powder
  - Cannot be used for persons with asthma or heart disease
  - Dizziness, sinusitis, runny nose, cough, nausea, diarrhea, unusual behavior

# Who should take Tamiflu?

- Persons at greater risk for complications of the flu:
  - Children younger than age 2 (Note - children ages 2-4 have a higher rate of complications compared to older children)
  - Pregnant women
  - Adults 65 years and older
  - Persons with chronic medical illnesses
    - Asthma, heart disease, diabetes, HIV

# What can you do to help protect your family?

- Wash hands
  - 20 second hand wash (sing Happy Birthday twice)
  - Especially before and after meals
- Vaccinate family members when possible
- Stay Home !!!
- Boost their Immunity
  - Probiotics, yogurt or keifer every day
    - Children had 30% fewer viral infections
  - Stay hydrated
    - Immune cells function more effectively with good hydration

# Travel

- Do not travel if you have symptoms of the flu
- Other countries (not the US) are screening international travelers for the flu. Travel may be delayed because of this
- H1N1 is the predominant influenza virus in both the northern and southern hemispheres
- No significant difference found between the virus in different countries/hemispheres



**How to prevent the Flu**

# H1N1 Vaccine

- Two forms – Myst and Injectable
- May contain egg protein
- Similar safety profile to the seasonal flu vaccine
  - Soreness, low grade fever, muscle aches, nausea
- Children younger than 10 will need a vaccine booster

# H1N1 Inactivated vaccine

- Injected/Inactivated vaccine – you cannot get influenza from the vaccine
- Safe for persons with asthma or other chronic diseases
- May contain thimerisol
- May contain a significant amount of egg protein
- Approved for persons older than 6 months

# Live Attenuated nasal vaccine

- A live vaccine
- Approved for persons between 2 and 49 years of age
- May contain a significant amount of egg
- Side effects include – runny nose, cough, headache, fever and wheezing



# Who should get the H1N1 vaccine?

- Pregnant women
- Persons with children less than 6 months of age in their home
- Children 6 months through 4 years of age
- Children 5 through 18 years with a chronic disease
- Health care workers

# H1N1 Vaccine Availability

- Doses are being distributed to different areas based on the percentage of the population which live there.
- The United States Government has procured 250 million doses of the vaccine

# Pneumovax

- Strep Pneumonia is the leading cause of pneumonia, sinusitis and otitis media in children
- Boosts immunity against 23 different types of Strep pneumonia
- Prevnar covers 7
- Now recommended for any asthmatic patient over the age of two



## **The Incredible Edible Egg**

# Vaccines which contain Egg protein

- Seasonal Influenza vaccine (myst and injection)
- H1N1 vaccine (myst and injection)
- Yellow fever vaccine
  
- MMR (risk is more theoretic)

# Flu/Egg Allergy

- Amount of egg in a vaccine may vary between lots, and manufacturers
- Vaccines are usually safe if the amount of egg they contain is  $< 1.2$  micrograms/ml
- Egg allergic children should be evaluated by their allergists to determine if they are safe candidates for vaccination

# Flu Testing procedure

- Skin testing with the full strength vaccine
- Children with a history of anaphylaxis should then have intradermal testing with diluted vaccine.
- If both are negative, they may receive the vaccine with a 30 min observation period.

# What if testing's positive?

- Important to weigh the risks and benefits of not receiving the vaccine.
- In high risk patients, such as asthmatics, a desensitization protocol is recommended.



# What's on the Horizon for food allergies?

- Duke desensitization challenge for peanut and egg allergic children
- John Hopkin's sublingual protocol for desensitization
- Food Allergy Herbal Formula - 2

# Children's Hospital of Boston Food Allergy Study

- Using Xolair, an anti-IgE medication to help improve the safety of food desensitization protocols in food allergy patients with a history of anaphylaxis

Thank you! Questions?