

Novel H1N1 Influenza

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H1N1-the story

- In April of 2009, CDC was alerted to 2 children in California with a novel strain of H1N1 influenza
- At about the same time, Mexico reached out to US and Canada asking for help with a cluster of severe respiratory illness
- Confirmed that some of the Mexico cases had the same strain as California

- Alert was sent out to public health to look for severe respiratory illness with ties to Mexico
- June 11, 2009- WHO declares pandemic level 6 indicating new strain with sustained community transmission in at least 3 continents

Clinical Aspects

- Fever (94%), cough (92%), sore throat (66%)
- 25% diarrhea and 25% vomiting
- Around 9% requiring hospitalization
- Age groups: only 5% older than 51 years old, 40% are 10-18 years
- Incubation period 2-7 days

Diagnostics

- RT-PCR for swine flu done daily M-F, results back for inpatients in 24-48 hours
- Priority to inpatients so need to make sure requisition indicates location of patient, co-morbidities
- RT-PCR is >95% sensitive for novel H1N1 virus
- If negative, set up for culture

Treatment

- Mild URTI not meeting ILI criteria
 - No treatment
 - No testing
- ILI with no co-morbidities, treat if within 48 hrs of onset, if treat, test
- ILI with co-morbidities, treat even if over 48 hrs, but consult ID
- SRI- treat even if past 48 hrs, consult ID

Infection Control

- Review of Guidelines
- Differences with PHAC
- SHEA position paper
- Duration of Isolation

Routine Practices

- Perform hand hygiene frequently
 - Wash with soap and water
 - Use alcohol based handrub
- Teach and encourage Respiratory etiquette for all suspect ILI patients
 - Perform hand hygiene
 - Cough into sleeve/ tissue
 - Wear surgical/procedure mask whenever visitors or staff are in room

Droplet/ Contact Precautions

- Accommodation
 - Single room is preferable
 - Cohorting with other ILI patients if required
 - Separation of minimum 1 meter, if possible 2
- Masks
 - Surgical/procedure mask should be worn by HCW within 1 meter (possible 2) of patient
 - Masks should only be worn once, changed if wet, if front of mask is touched and if contaminated by patient secretions

- Eye Protection
 - Should be worn within 1 or if possible 2 metres of patient
- Gloves
 - Should be worn when entering room or patient's designated bed space in shared room
 - Remove upon leaving room/bedspace

- Gowns
 - Only if clothing or forearms will have direct contact with patient
 - Or
 - with frequently touched surfaces/objects which have an increased risk of being contaminated by respiratory secretions

- Equipment
 - Patient care equipment should be dedicated to the patient
 - Reusable equipment must be cleaned and disinfected before use on another patient
 - Hospital grade disinfectant is effective

Aerosol Generating Procedures

- HCW (everyone in room)
 - Wear N95 mask, eye protection, gloves and long sleeved gown
- Administrative controls
 - Most experienced personnel
 - Minimum number of personnel
 - Controlled non-emergent manner
 - Sedate if intubation required
 - signage

- Engineering controls
 - Negative pressure room with air vented directly outside or through hepa unit
 - Single room with door closed if negative pressure room unavailable
- Environmental controls
 - Discard or clean/disinfect all contaminated equipment before leaving room

Procedure List

- Nebulized therapy
- Use of bag/valve mask to ventilate patient
- Endotracheal intubation
- Open airway suctioning
- Chest tube insertion or thoracentesis
- Bronchoscopy or upper airway endoscopy
- Tracheostomy
- Sputum induction

PHAC guidelines

- N95 mask if patient has forceful cough and not compliant with cough etiquette
- Adds taking nasopharyngeal swab, chest physiotherapy as aerosol generating procedure

SHEA position paper

- Asking CDC to back down from N95 use
- Evidence to date that H1N1 spread as seasonal flu
- Data for aerosol transmission is minimal

- Recommends:
 - droplet precautions
 - N95 if aerosol generating procedures but remove np swabs and nebulizing treatment

Duration of Isolation

- Current CDC guideline:
 - Until 7 days after onset of symptoms
 - OR until asymptomatic, whichever is longer

HCW prophylaxis

- WRHA guideline:
- If unprotected exposure
 - Not wearing N95 during aerosol generating procedure
 - Not wearing surgical mask within 1-2 meters of coughing confirmed/probable patient
 - No eye protection and had spray in eye
- offer prophylaxis within 4 days
