Purpose: To provide guidance to practitioners caring for pediatric patients during a disaster.
Disclaimer: This guideline are not meant to be all inclusive, replace an existing policy and procedure at a hospital or substitute for clinical judgment. These guidelines may be modified at the discretion of the healthcare provider.

Initial Management of All Pediatric Patients with Influenza Like Illness (ILI)

- Stabilize ABCs (Airway, Breathing, and Circulation)
- Obtain weight (actual or use of weight/length based tool)
- Monitor
  Heart Rate (HR), Blood pressure (BP), Oxygen Saturation (SpO_2), mental status, temperature, perfusion, urine output, bedside glucose
- Perform history & physical exam
- Provide oxygen if patient is hypoxic or in acute distress (goal is SpO_2 > 95%).
  - O_2 blow-by or NC if in mild distress
  - O_2 15L NRB or partial rebreather for moderate to severe distress
  - O_2 15L BVM for severe distress/arrest
- Consult Pediatric Care Medical Specialist for assistance with care of the acutely and critically ill patient, to individualize the care of patient, if patient does not improve and needs to be transferred and as needed for further support and consult.

Management for All Pediatric Patients with ILI

TREATMENT

See **Pediatric Respiratory Care Guideline** for airway/respiratory management of children

Strategic National Stockpile (SNS):

During a Class 2 or Class 1 Health and Medical Emergency Event (multiple regions or entire state is affected by Pandemic and state disaster declaration has been issued), IDPH may deploy federally supplied medication, medical supplies and medical equipment from the CDC SNS to assist hospitals with the care and treatment of influenza like illness of all patients, including children and newborns. Request for such resources should occur through the Request for Medical Resources process indicated in the Illinois Health and Medical Care Response Plan (ESF-8).

Immunization:

Annual vaccination is the most important method to prevent seasonal influenza infection. All people > 6 months old should receive the vaccination. Children, their caregivers and other members of their household should be screened for the need to receive the vaccination during a pandemic.

Antivirals:

Each pandemic may differ in the recommended medication for treatment and prophylaxis. Consult the Local Health Department, Pediatric Care Medical Specialist and/or the Centers for Disease Control and Prevention (CDC) for medication and pediatric dosing recommendations.

Hydration:

Ensure children maintain adequate hydration when experiencing an influenza like illness.

Monitor urine output:

Normal urine output: at least 1 mL/kg/hr

IV/IO Fluids: replacement

Birth -28 days:

Bolus 0.9%NS at 10 mL/kg

28 days:

Bolus 0.9% NS at 20 mL/kg

Infectious Control Measures

Droplet isolation

- Maintained on hospital patients with suspected or confirmed influenza for 7 days after the onset of symptoms or for 24 hours after resolution of fever and respiratory symptoms, whichever is longer
  - Children may have prolonged viral shedding and may need isolation longer

Facemasks and Children:

- Helps provide a physical barrier and blocks large particle droplets when coughing/sneezing
- Should be used on children with:
  1. ILI symptoms
  2. Immuno-suppression or chronic illnesses
  3. ILI symptoms who have to leave hospital/exam room
  4. Asymptomatic children in crowded health care settings (i.e. ED waiting room)
- Considerations:
  1. Masks should not be placed on infants or any pediatric patient who is anxious, restless, vomiting, lethargic or in respiratory distress
  2. Use pediatric sized/child friendly masks if available. Adult sized masks can be folded in half to fit children's smaller faces.

See EMSC's *Children and Facemask….To Mask or Not to Mask*….. for more information on page 72.

Triaging upon entry to hospital

All patients and visitors should be screened upon entry to building for ILI and the need for PPE

Promptly separate out unexposed and exposed asymptomatic children from symptomatic children and adults (see cohorting)

For the wellbeing of the child (asymptomatic or symptomatic), it is best to keep caregiver (asymptomatic or symptomatic) with child

Provide facemasks to all who have signs/symptoms of respiratory infection/ILI

Visitor restrictions

Primary caregivers should not be restricted to visit their child regardless if they are potentially infectious.

Mask and other appropriate barrier methods should be implemented.

Testing

Surveillance and testing: frequency of reporting and testing will be determined by state and federal recommendations and reflect the pandemic severity index level

- Need to have in place ways to monitor community acquired and health care-associated transmissions

Special considerations

Psychosocial needs of Children: experience from isolation/disease containment may be traumatic for children and families and have similar effects as natural disasters. It is important to implement strategies during a pandemic to help build the resiliency of children and parents.

Resource Allocation

For information on resource allocation, see: EMSC's *Resource Allocation Strategies for the Pediatric Population* and within the IDPH ESF-8 Plan: Catastrophic Incident Response Annex

Cohorting

Consider cohorting children by age group as well as the groups listed below. If separating those who are suspected/ exposed/symptomatic from those who are non-ILI/exposed and asymptomatic into separate areas is not possible, cohorting in same area can be accomplished by maintaining a distance of 6 feet between these two groups.

Consider the following opportunities to separate/cohort groups:

1. Upon entry to hospital (ED)
    a. ILI Assessment/Triage Area and waiting room
    b. Non-ILI Assessment/Triage Area and waiting room
2. In ED
    a. Suspected/Exposed and Symptomatic Treatment Areas
    b. Non ILI/Exposed and Asymptomatic Treatment Areas
3. Inpatient units/rooms
    a. Confirmed Influenza
    b. Suspected/Exposed to ILI (may be merged with Confirmed Influenza as pandemic progresses and resources are limited)
    c. Not exposed/Immune and Asymptomatic

Perinatal and Newborn Considerations:

1. Whenever possible, keep health mothers and newborns together. Consider alternate sites of care for mothers and newborns who are Not exposed/Asymptomatic.
2. Hospitalized pregnant labor with either suspected or confirmed influenza should be placed on droplet precautions and adhere to respiratory hygiene, cough etiquette, hand hygiene and PPE
3. During delivery, droplet precautions should be maintained
4. After delivery:
    a. CDC recommends hospitals consider temporarily separating newborns from the mother in cases of suspected or confirmed influenza during hospital stay
        i. Length of separation has not been established but recommendations based on H1N1 virus:
            1. Mother received antivirals for > 48 hours
            2. Mother afebrile without antipyretics for > 48 hours
            3. Mother able to control her cough and respiratory secretions
    b. If separation not possible/accepted, allow newborn to room –in with mother but create physical barriers (i.e. curtains between mother and newborn), keeping newborn > 6 feet away from ill mother and ensure a health adult is present to care for newborn. If/when mother has direct contact with newborn, mother should wear a facemask and practice hand hygiene.
    c. Newborns of mothers with suspected or confirmed influenza can be cared for in the newborn nursery as long as no symptoms are present and should be cared for by non-ill staff. If the newborn develops symptoms, they should be placed on droplet precautions
5. Discharge home:
    a. Encourage immediate family who will have contact with newborn to receive influenza vaccination
    b. Encourage a vaccinated, non-ill family member to provide care to newborn at home until mother's symptoms resolve

General Influenza Concepts for All Patients

Infectivity of the Influenza Virus:

- Incubation period= 1-3 days
- Period of Communicability= Infectious 1 day before onset of symptoms and may be longer than 7 days after onset of symptoms

Influenza virus is inactivated by hospital germicides, household cleaning products, soap, hand wash or hand hygiene products

It is critical that infection prevention and control policies/procedures are maintained to decrease the transmission of influenza in the hospital setting.

- Hand Hygiene for staff, patients and visitors
- Hygiene measures to minimize influenza transmission
- PPE (mask use, gloves)
- Cleaning, disinfecting and sterilizing patient care equipment
- Environmental control (i.e. housekeeping)

Pandemic Severity Index: CDC uses fatality ratio as the critical driver for forecasting a pandemic's severity. This can help forecast the impact of a pandemic and enable recommendations to be made for mitigation strategies.

CHILDREN AND FACEMASKS
....TO MASK OR NOT TO MASK....

Why should children wear facemasks?

- Provide a physical barrier between the mouth/nose and the immediate environment
- Block large particle droplets from coughs and sneezes

Who should wear facemasks?

- Children presenting with Influenza Like Illness (ILI)
- Children presenting with immuno suppression or chronic illness
- Children with ILI who leave the hospital/exam room to go to the bathroom or diagnostic procedures
- Healthy children in a crowded healthcare setting (i.e. emergency room waiting area)

Who is at higher risk for infection?

- Children under 5 years of age
- Children who have asthma, chronic pulmonary, cardiovascular, hepatic, hematological, neurologic, neuromuscular or metabolic disorders such as diabetes
- Children who are immunosuppressed (caused by medications or by HIV)
- Children and adolescents who are receiving long term aspirin therapy and who might be at risk for experiencing Reyes Syndrome after influenza virus infection

How to keep facemasks on children?

- If available, ideally use a pediatric sized/child friendly mask
- Educate children and families on the need to keep the mask on, even when talking, coughing or sneezing

  Make it fun for children:

  - Create a game for putting/keeping the mask on (i.e. superhero type mask)
  - Use of positive reinforcement measures (i.e. stickers)
  - Use older children as role models for keeping them on (i.e. older siblings)
  - Praise child for a job well done

Assessing pediatric patients wearing facemasks

- Good assessment of the pediatric patient is important, especially those under 6 months who cannot receive the influenza vaccine. Be alert to subtle changes.
- Do not use facemasks on pediatric patients who are anxious, restless, vomiting, lethargic, or in respiratory distress
- Routinely assess children wearing a mask, **especially if quiet**, to assure that their condition is not deteriorating
- Be aware of the risk of misidentifying children when multiple siblings are wearing masks and undergoing treatment

What to do when supplies of pediatric facemasks are limited

- Promote and educate on cough and sneeze etiquette
  - If available, review learning materials (e.g. CDC brochures, Sesame Street cough etiquette video)
  - Provide sufficient hand sanitizer, tissues or wipes and disposal containers
- Fold adult sized masks in half and fit them across their small faces
  - Ask children to decorate their "special" mask (non-toxic markers, stickers, crayons)
- Cohort symptomatic (influenza like illness) children
  - If separating siblings (families), be sure to have enough staff members to assist. If this is not possible, consider separating families with flu symptoms from other well families and children
- Avoid close contact - keep healthy children at least 6 ft apart from ILI patients
- Adopt visitor policies, restricting children during a pandemic outbreak

Remember to:

Properly dispose of used pediatric facemasks and wash your hands

References:

1) Hohenhaus, Susan M., Responding to the Threat of Pandemic Flu in Pediatric Patients. ENA Connection. 2009 Nov; 3.3 (10): 8
2) Interim Recommendations for Facemask and Respirator Use to Reduce 2009 Influenza A (H1N1) Virus Transmission. http://www.cdc.gov/h1n1flu/masks.htm
3) School Nurse Emergency Care Course, Fifth Edition. Maywood, IL: Illinois Emergency Medical Services for Children; 2016.
4) Esther Munoz, RN, BSN, CIC, When and How to Wear A Facemask. Phoenix Children's Hospital. 2009

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EMSC Illinois Emergency Medical Services for Children www.stritch.luc.edu/emsc