



Stanford  
Children's Health

**Pediatric Infectious Diseases Program for Immunocompromised Hosts**

# PIDPIC SOT Working Group

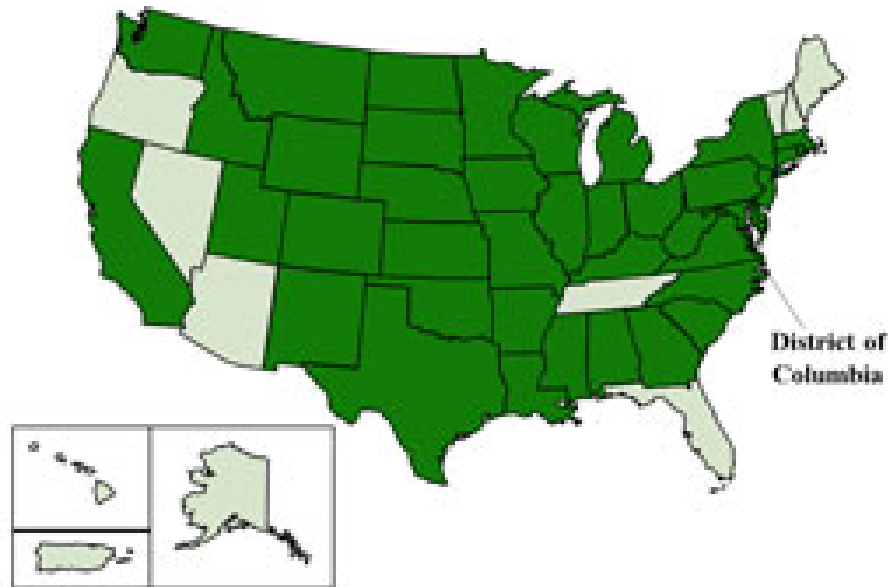
9.30.14

# New and Emerging

- Enterovirus D68 (EV-D68)
  - Cluster first reported in August from Kansas City and Chicago
    - Higher than usual rates of severe respiratory hospitalizations
      - 20 of 36 cases confirmed with EV-D68
  - Not new
    - original isolation of EV-D68 in California in 1962
    - National Enterovirus Surveillance System received 79 EV-D68 reports during 2009–2013
    - Small clusters of EV-D68 associated with respiratory illness were reported in the United States during 2009–2010

# Current Epidemic

- From 8.5-9.29 443 people in 40 states and the District of Columbia with respiratory illness caused by EV-D68.



# Cases

- Age range 6 weeks- 16 years (median 4-5)
- 70% had underlying asthma
- All patients had difficulty breathing and hypoxemia, 95% admitted to ICU
  - One pt required ECMO
- Only about 20% had wheezing and 22% with fever
- In Colorado, 9 children hospitalized with sudden onset of limb weakness
  - 4 have EV-D68 from nasal washes

# Enterovirus

- Over 100 types
  - Clinical spectrum is broad, from respiratory, to GI, to febrile rash and neurologic
- Enteroviruses commonly circulate in summer and fall. We're currently in middle of the enterovirus season, and EV-D68 infections are likely to decline later in the fall.

# Testing/Treatment

- NP or OP for Enterovirus PCR
- Other specimens, rectal, stool, CSF
- No treatment available but in transplant patients with severe illness may try IVIg.

# Influenza

- Influenza:
  - All pretransplant patients > 6mo
    - TIV or LAIV
  - All posttransplant patients > 6mo
    - QIV preferred but if not available TIV
    - 2 doses first season after transplant regardless of age
    - Consider 2 doses if enhanced immunosuppression previous 3 months
    - Consider 2 doses if recipient to be exposed to LAIV at school or home
  - All family members > 6mo
    - Preference given to QIV/TIV but LAIV not contraindicated

# 2014-2015 Composition

- Trivalent
  - A/California/7/2009 (H1N1)-like virus, an A/Texas/50/2012 (H3N2)-like virus, and a B/Massachusetts/2/2012-like (Yamagata lineage) virus
- Quadravalent
  - + B/Brisbane/60/2008-like (Victoria lineage)
- Both IIV and LAIV have both tri and quadravalent



# LAIV

- ACIP has now issued preference of LAIV for children 2-8yrs
- LAIV recipients shed attenuated virus
- Risk of infection from exposure to vaccine virus not known
- Highest shedding shown to be day 2, with mean days of shedding of 7
- It is reasonable to assume that transplant recipient who has received flu vaccine has some immunity to the LAIV virus

# LAIV

- It is important to educate families of the potential risk but to reinforce that the risk is not known
- If a family member gets LAIV, good handwashing and cough hygiene, as well as potentially avoiding very close contact for one week may reduce the risk of exposure
- If a recipients school is doing school wide LAIV administration
  - The family may want to take extra precautions when the child's class is vaccinated including good handwashing and potentially not attending school.
  - During campaigns the family may also consider not having the child attend large group settings such as assemblies, plays, and other school wide events
  - It does not seem necessary to avoid after school activities and other social events

# RSV Prophylaxis

- Recommended for high risk groups
  - Infant and children < 24mo
  - Immediate posttransplant
- Recommended monthly syngis (Nov-Mar) for:
  - Candidates < 24 mo
  - Posttransplant <24 mo

# RSV and Parainfluenza

- Recipient
  - If symptomatic and requiring hospitalization: Inhaled ribovarin before transplant and IVIg (400mg/kg) after transplant x1
  - If symptomatic and not hospitalized no interventions, if transplant becomes available and still symptomatic, IVIg and ribovarin if feasible:
  - if no symptoms at time of organ offer, no intervention
- Donor positive
  - no interventions

# Respiratory Viruses

- **Rhinovirus and Human MetaPneumovirus**
  - Recipient: If symptomatic: before and after transplant IVIg (400mg/kg) x1
  - Donor positive, no interventions
- **Influenza**
  - Recipient: If symptomatic: oseltamivir (5 days can straddle transplant)
  - Donor positive: start oseltamivir in donor and finish a total of 5 day course in recipient

# Respiratory Viruses

- Adenovirus: delay transplant
- If no time to test and identify the infecting organism and patient symptomatic, send respiratory PCR and give IVIg 400mg/kg
- Symptoms are objective evidence of URI/LRI no fever. ? CXR pretransplant?

# Respiratory Infections 12.13-9.14

