Mass Casualty or Epidemic Events: A Pediatric Twist

Epidemics, Mass Casualties, Chemical and Radiation Exposures

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What is Surge?

- Any time normal daily activities are overwhelmed
- Resources have to be reassessed and redeployed
- Could be fast
  - Think earthquake, bomb or major crash
- Could be evolving
  - Think epidemic or wildfires
When Surging

• Need to share resources to provide the best care for the greatest number. More limited expertise for Pediatrics
• Need to help each other
Tiered Response

- Circles of help
- Decide on plan before emergency
- Identify needs - equipment, supplies, people
Pediatric Surge

- Children are not little adults (but are the same species)
  - One size does not fit all
  - Different responses to same medical problem
  - Anxiety overall
- Comfortable with children?
  - Anxious?
- Ask questions
  - Medical expert command center
Mass Casualties

- Natural
- Man Made
- Children are 25% of the population
- Neonates pose special problems
- Evacuation
- Separation
- Protection
Hazardous Materials Exposure

- Think about the possibility in advance
- How are you going to detect
- How are you going to decontaminate?
  Differences for Pediatrics
- Keep families together
- Privacy
Traumatic Disasters

- Usual business completely changes
- Triage outside ED
- Must decide what injuries you can actually manage and help
- Less skilled treat minor wounds and splint fractures
- Most skilled do triage
- Triage moves in one direction
Traumatic Disasters

- May not have usual diagnostic tools
- Work as teams who stay with patient
- How are you going to chart and communicate
- Surgical cases
  - Orthopedic
  - Neurosurgery
Traumatic Disasters

- Operations
  - Most of the instruments are the same?
  - The principles are the same
  - You do not have to have small hands to operate on children
Surgical Care in Disasters

• Orthopedic
  ▫ Pin and cast and alignment
  ▫ Remember – bones are growing and have growth plates

• Neurosurgical
  ▫ Skull fractures will have EDH as bone is vascular
Surgical Care in Disasters

• General pediatric surgery
  ▫ Same principles as adult surgery
  ▫ Control hemorrhage
  ▫ Damage control
  ▫ More resilient
  ▫ Post operative care needs to be easy
Infectious Events
Why are Children Especially Vulnerable?

- Natural curiosity
- Developing immune system
- Increased respiratory rate
- Skin is thinner
- Smaller body reserves
- Dependency on others for care
Types of Infectious Disease Emergencies

- Outbreak – Sudden rise in occurrence of a disease
- Epidemic – Occurrence of a disease
- Pandemic – Spreading worldwide
- Bioterrorism – Biological agent is deliberately released
Action to Prevent Group Spread

- Identification
- Educate caregivers
- Enhanced hygiene and sanitation
- Symptom screening
- Exclusion and isolation guidelines
- Prophylactic medications
- Onsite immunizations
- Use of PPE
- Parental communication
- School/day care closures
Measles

Fever and Rash?.......Consider Measles

Measles cases continue to be identified in California in returning international travelers. Measles is highly contagious. Please protect patients, visitors, and staff!

Keep an eye out for measles symptoms:

Suspect measles in patients with:
- fever and rash
- history of international travel or contact with international visitors in the prior 3 weeks.

Note: A history of 2 doses of MMR vaccine does not exclude a measles diagnosis.

Prodrome
- Mild to moderate fever
- Cough
- Coryza
- Conjunctivitis

Rash onset
- Fever spikes, often as high as 104°F to 105°F
- Red, maculopapular rash that may become confluent—typically starts at wrists, then face, and spreads rapidly down body
- Koplik’s spots (tiny blue-white spots on the bright red background of the buccal mucosa) may be present

Act immediately if you suspect measles:

- Implement airborne infection control precautions immediately, mask and isolate patient—negative pressure room, if available.
- Permit only staff immune to measles to be near the patient.
- Notify your local health department immediately.
- Expedite measles serologic testing (IgM and IgG) at a public health lab; use of commercial labs may delay diagnosis.
- Safeguard other facilities: assure airborne infection control precautions before referring patients.
- Do not use any regular exam room for at least 2 hours after a suspected measles patient has left the room.

Visit www.GetImmunizedCA.org for more information

A message from California Department of Public Health: Immunization Branch
Ebola Virus Disease

- Incubation period 2-21 days (mean 4-10 days)
- Symptoms:
  - Initially symptoms include fever, chills, myalgia, malaise
  - Later symptoms include diarrhea, nausea, vomiting, abdominal pain
  - Chest pain, SOB, headache, confusion
- Signs:
  - Maculopapular rash (day 5-7) with possible desquamation, conjunctival injection, hiccups, seizures, petechiae, ecchymosis, hemorrhage
- Laboratory findings:
  - Leukopenia, lymphopenia, thrombocytopenia
  - Elevated amylase, transaminitis, proteinuria, increased PT and PTT
Enterovirus D68

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Influenza

Attention:

Flu season visitation restrictions are in effect. In an effort to reduce transmission of flu to patients and their loved ones, only “Partners in Care” may visit inpatient units.

All other visitors are limited to 1st floor waiting areas and the cafeteria. We encourage you to contact the patient and family by phone or video chat.

Thank you for your understanding and help in protecting the health of our patients.

Rady Children’s Hospital San Diego
Going to the Arabian Peninsula?
A new disease called MERS has been identified in some countries.
The risk to most travelers is low, but you should take these steps to prevent the spread of germs:
- Wash your hands often.
- Avoid touching your face.
- Avoid close contact with sick people.

Symptoms include fever, cough, and shortness of breath.

If you get sick within 14 days of being in the Arabian Peninsula, call a doctor and tell the doctor where you traveled.

For more information: visit www.cdc.gov/travel or call 800-CDC-INFO.
TRAVELERS' HEALTH
TRAVEL SAFE. TRAVEL SMART.

GOING TO THE AMERICAN TROPICS?
MOSQUITOES spread diseases such as CHIKUNGUNYA and DENGUE.

Mosquitoes bite day and night. Prevent mosquito bites by using insect repellent.

DON'T LET MOSQUITOES RUIN YOUR TRIP.
For more information: call 800-CDC-INFO (232-4636) or visit www.cdc.gov/travel.

GOING TO THE CARIBBEAN?
MOSQUITOES spread diseases such as CHIKUNGUNYA and DENGUE.

Protect yourself by preventing mosquito bites.

DON'T LET MOSQUITOES RUIN YOUR TRIP.
For more information: call 800-CDC-INFO (232-4636) or visit www.cdc.gov/travel.

http://wwwnc.cdc.gov/travel/notices
Infants with Microcephaly
Avian Influenza

- Avian influenza viruses do not normally infect humans, but human cases have occurred.

- Illnesses in humans from avian influenza virus infections have ranged in severity from mild to severe.

- Human infections with avian influenza viruses have most often occurred after contact with infected birds or their secretions or excretions.

- Three prominent subtypes of avian influenza A viruses are known to infect people (H5, H7 and H9 viruses).
In Our Future

- Avian Flu
- MERS CoV
- Ebola
- More
Summary

- Prepare
- Organize
- Proactive
- Collaborative Surge Plan