Decontamination for Children
In this Web clip, Michael Shannon, M.D., M.P.H., Chief of the Division of Emergency Medicine of Children's Hospital Boston, stresses the importance of implementing a pediatric decontamination training plan.

This resource was part of AHRQ's Public Health Emergency Preparedness program, which was discontinued on June 30, 2011, in a realignment of Federal efforts.
Review

The following slides contain many of the key points from the video.
Children breath more quickly.
- This can make them more susceptible to air borne toxins.

Have more permeable skin.
- Exposes them to a greater amount of toxins when it lands on their skin or clothes.

Their immune systems are less mature.
- Makes them susceptible from overwhelming infections from biological agents.

They have fewer fluid reserves.
- Because of this, vomiting and diarrhea are more likely to lead to shock.

Harder to maintain internal body temperature.
- Hypothermia will set in faster than it does in adults.
Potential Behavioral Issues

Young children are commonly non-verbal

• Can lead to missing key information or important physical findings.
• Become inconsolable when introduced to unknown or fearful situations.
• Don’t have self preservation skills and may flee into harms way.
• Can be difficult to handle in a decontamination environment, particularly when staff are wearing PPE.
People will enter the Ed at a rate that makes traditional intake processes and tracking impossible.

- Tracking young children as patients.
  - Can be difficult since many children may be nonverbal.
  - Consider alternatives such as taking photos.
Communicating while fully equipped in PPE can be difficult

• Because of this, programs need to purchase special equipment, develop hand signals, or develop some other means of nonverbal communication.
Healthcare facilities must prepare for patients coming to their facilities

- Siting the systems necessary for efficient and effective decontamination.
  - Pediatric decontamination
  - Safe removal of clothing
  - Thorough showering
Permanent vs. Portable

Permanent facilities:
• Always ready and have important components in place and readily available.
• Difficult to scale.
• Require appropriate venting, such as a HEPA venting system.

Portable facilities:
• Very easy to scale if the necessary materials are available.
• Only occupies its area when it is erected for use.
• Requires time and trained engineering staff to remove from storage and set up.
When siting a location for your decontamination showering system, you need to take into consideration:

- Proximity to emergency department.
- Efficient transfer for patients.
- How to minimize interferences with other ED activities.
  - Such as ambulances
- Partially sheltered areas.
- Permanent storage is needed to house equipment.
- When siting for a permanent location you must always remember that these facilities DO NOT scale well.
  - Having a plan for numbers beyond what your permanent facility can handle is a great deterrent.
Zone Deployment

Three zones should be set up for decontamination:

1. **Hot zone**
   1. Area with actual or potential contamination and the highest potential for exposure.

2. **Warm zone**
   1. Transition area between hot and cold zones.
   2. Where decontamination activities take place.

3. **Cold zone**
   1. Area of the site that is free from contamination.
   2. Should be used as a planning/staging area.
Points to Consider

Capacity and surge issues need to be taken into account.

• How to keep the process efficient and how to keep patients comfortable during the process

After the disaster

• Parents become patients
  • Having a child who is comforted by a parent will help the entire process to be more efficient.

Infants

• Gloves that protect first receivers come at a severe loss to dexterity.
• Extra care must be taken when handling infants and very young children.
If your facility is running properly:

• You can process 100 children as easily as you can process 5.
• Showering time should be kept the same for all patients
  • 5 minutes per child
  • This should allow you to handle 12 children per hour per shower
Pediatric decontamination programs should be supported by:

1. Local programs
   • Fire department
   • Police department

2. State programs
   • Board of Health

3. Federal programs
   • FEMA
Requires an assessment of costs for:

• Startup phase
• PPE
• Supplies and materials
• Ongoing maintenance and training
• Cost tracking for reimbursement to local, state, and federal programs.
Questions?

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