Chemical Casualties: A Systems Approach to Effective Hospital Preparedness

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Chemical Casualties: A Systems Approach to Effective Hospital Preparedness

Objectives:

1. Understand the background and context.
2. Review the development and implementation of a simple “decon” system.
3. Understand the full range of issues in comprehensive preparedness for chemical casualties.

“Weapons of Mass Destruction”

WMD vs CBRNE

Mass Terrorism Preparedness in Context

Background...

Mass Terrorism Preparedness

In the Context of Current Medical/Economic Realities

Hospital CEO Definition of "Disaster" (2002)??

Hospital CEO Definition of “Disaster” (2002)??

- The latest financial statement!!!

Hospital CEO Definition of Weapons of Mass Destruction (pre-9/11/2001)??

Hospital CEO Definition of "Weapons of Mass Destruction"

- Medicare
- Managed Care

Medical Preparedness for Catastrophic Events

Do hospitals have an obligation to prepare for the catastrophic WMD terrorist event?

Medical Preparedness for CBRNE Events

Local risk assessment:

⇒ *The (Old) George Washington University Hospital perspective*.

Medical Preparedness for WMD Events

Local risk assessment:

⇒ *The Hospital perspective: who creates "the risk"???*

Next Question:

⇒ *Why is the Hospital assuming the cost of preparing for "Their" risk???*

Medical Preparedness for Catastrophic Events

Public policy issues:

- Medical Economics 2002
- Little healthcare surge capacity
- Little probability of repayment for preparedness costs
- Possible economic penalty for preparedness

Hospital Preparedness for Catastrophic Disasters

- A PUBLIC SAFETY INITIATIVE
- It MUST be funded as such…

Medical Preparedness for Catastrophic Events

Do hospitals have an obligation to prepare for the catastrophic WMD terrorist event?

Does the hospital community have an obligation to become more forceful in educating policy makers and funding agencies?

EMERGENCY RESPONSE

"An anthrax scare paralyzed part of the District in April 1997 when a package was delivered to the international headquarters of B'nai B'rith, sparking an hours-long chemical hazard alert that closed several downtown streets."

Washington Post Page B8

Friday, February 5, 1999

Hospital Preparedness for Catastrophic Events

In the meantime…

- “Reasonable” vs. “Adequate” preparedness
- “Reasonable” ≠ “Adequate”

“Contaminated Casualties”

History…

EMERGENCY RESPONSE

“In Atlanta, police evacuated a three-block area of the city's Midtown neighborhood as law enforcement officers dealt with a letter delivered to a local office of NBC News ... a letter "containing an anthrax" threat was received and the building was evacuated. About a dozen people underwent a decontamination procedure and were taken to a hospital.”

Washington Post Page B8
Friday, February 5, 1999

"Contaminated Casualties"

Worst Case Scenarios:

- Sudden recognized chemical or biological mass exposure.
- Insidious appearance of chemical or radiation symptom complex.
- Sudden chemical/radiation event (explosives or others) with significantly injured casualties.

"Contaminated Casualties" The ~~GWU~~ Hospital Model

Planning Assumptions

Event characteristics

- Many casualties
- No warning
- Release site external to HCF
- No definitive field decon
- Time counts!
- Agents will likely be unknown

“Contaminated Casualties” Hospital Model

Planning Assumptions

Victim characteristics

- Self-referral
- Unprotected
- Untrained / undisciplined
- All ages
- Other medical problems
- Victims recognize that time is critical

"Contaminated Casualties" Hospital Model

Planning Assumptions

Incident response requirements

- Protect staff/current patients/facility
- Rapid decon
- Expert information
- Surge capacity
- Some specialized expertise

“Contaminated Casualties”

Planning History:

- Hazmat Traditions…
- Military Traditions

Chemical Casualty Preparedness Hospital Model

Preparedness Mission

"Best possible care for victims while not compromising the safety of hospital staff and current patients."

Chemical Casualty Preparedness
Hospital Model

HCF Planning Priorities:

#1 Staff / Current Patients / Health Care Facility

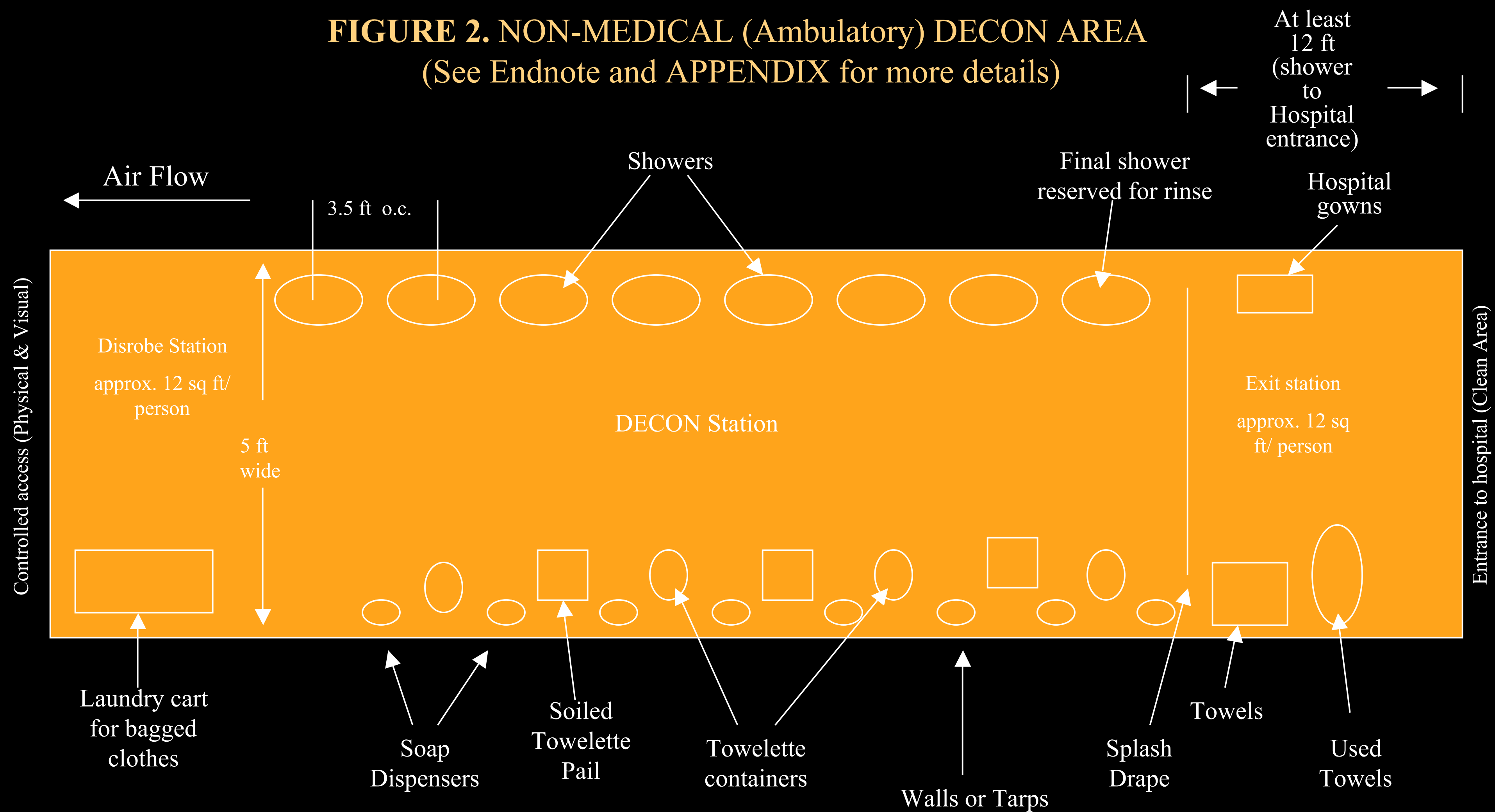
#2 Patients Presenting for Care

#3 Environmental Concerns, etc.

Chemical Casualty Preparedness Hospital Model

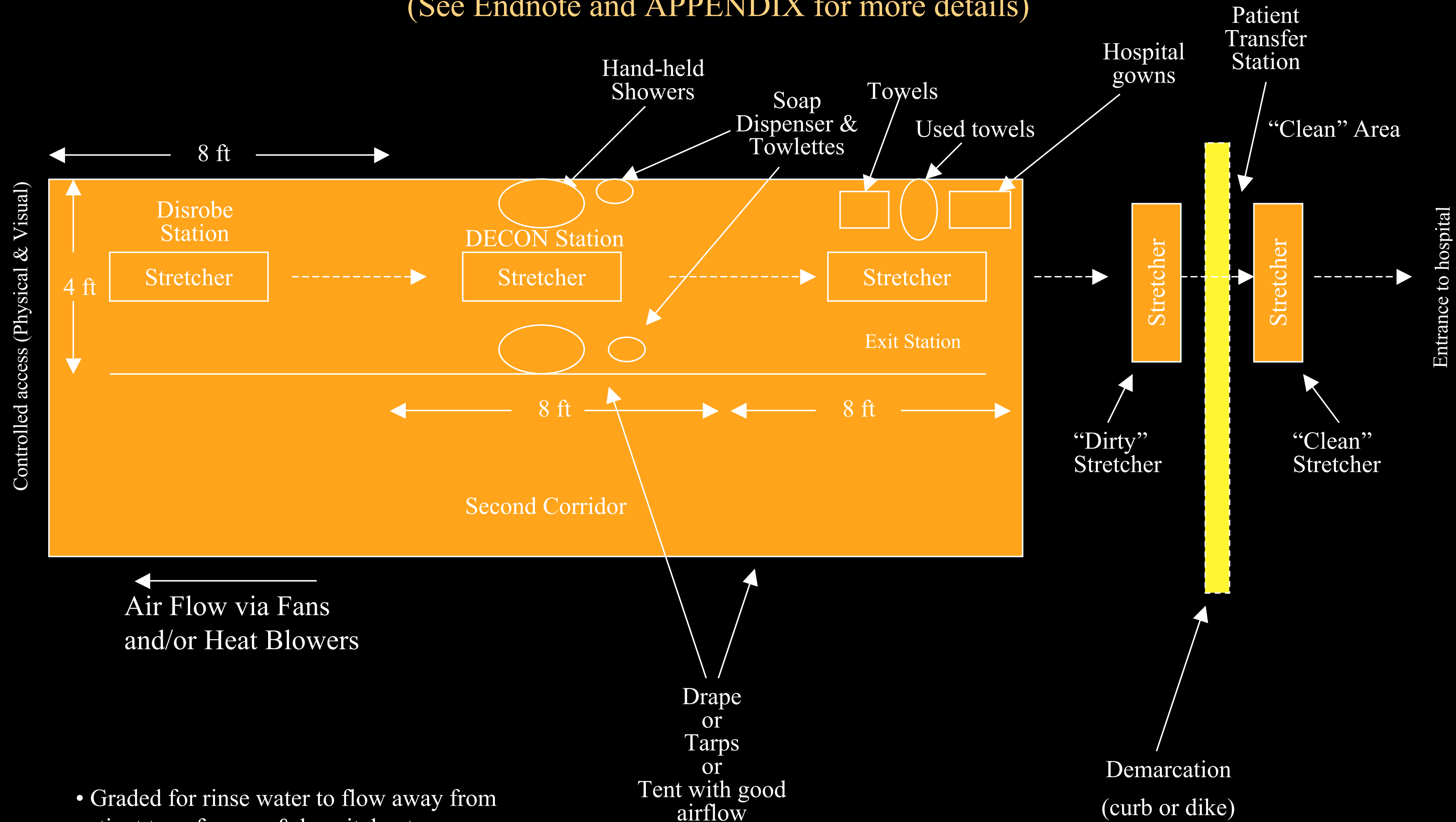
HCF Plan Requirements:

- Cost - effective
- Simple as possible
- Minimizes manpower
- Immediate availability
- Meets HCF's priorities
- Privacy / climate protection
- Rapid patient processing



- SCHEMATIC ONLY - NOT DRAWN TO SCALE
- Corridor may be a covered walkway, parking garage, loading dock or other roofed area with tarp sides for privacy, or the side of a building with awning & tarp sides
- Graded for rinse water to flow away from hospital entrance
- Ceiling made of light material and promotes good ventilation
- Disrobe station may be the “bottleneck” if not appropriately sized and organized.

Figure 3. NON-AMBULATORY (Medical) DECON AREA
(See Endnote and APPENDIX for more details)



- Graded for rinse water to flow away from patient transfer area & hospital entrance
- DECON & Exit Stations may be combined for space & personnel considerations.
- Adequately lighted for night operations.

Chemical Casualty Preparedness Hospital Model

Other Patient Management Issues

- Initial Triage /Secondary Triage
- Mass chemical conjunctivitis: “the blind versus the topically anesthetized”
- Mass eye irrigation
- Mass application of antidotes
  - ? Valium ??
  - ? Mark I Kits ??
- Victim Monitoring & Long Term Surveillance
- Victim mental health…

TOXIC EXPOSURE PATIENT BRIEFING GUIDE

The George Washington University Medical Center

Exposure or possible exposure to a dangerous substance is a frightening experience. Even if you have received appropriate treatment or if you have been told that your own risks are very low, you may experience symptoms or discomfort. This sheet explains some of the common effects of feared or actual toxic exposure, and suggests ways to handle them if they occur.

TOXIC EXPOSURE AND ANXIETY

Human beings have basic survival mechanisms that help them escape or overcome danger. These reactions include the fight-flight response, which may lead to…

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Chemical Casualty Preparedness Hospital Model

HCF Plan

- Effective Hospital Emergency Plan (victims as responders, surge capacity, etc.)
- Mutual Aid (DC Hospital Association model)
- Access to Expert Knowledge (Poison Control, National Response Center, USAMRICD, CDC, others)
- Access to Agent Identification (through expert information sources and scene investigators)
- Medication Stockpile (mutual aid, NPS, VA, etc)
- Adequate PPE
- Information Management
- Communications (internal, external - HMARS)

WMD EVENTS
Hospital Model

HCF Post-Incident Plan:

- Adequate Staff Decon
- Staff Debriefing and Info-sharing
- Staff Health Surveillance Registry
- Facility Decon and “Clearance”
- Plan Re-evaluation

WMD EVENTS
Hospital Model

HCF Plan / Training:

- Emergency Department Staff
- ICU & medical/nursing staff
- Administration
- Security
- Plant / Engineering
- **Others** to help man Decon & Treatment Facilities

DCHA Hospital Mutual Aid System

Current State:

- All D.C. hospitals (including the four federal hospitals in the region) + DC EMS
- Effective communication system (HMARS)
- Self-reliance
- Arrangement for sharing personnel & resources in a major event
- Provides forum for ongoing contingency planning & exercise participation

DCHA Hospital Mutual Aid System

Key elements:

- Ongoing planning *PROCESS*
- Communications (HMARS & land-line)
- Open sharing of information
- Equal "playing field"
- CEO support
- Integration with emergency response community

DCHA Hospital Mutual Aid System

Key elements:

- Hospitals get something back (meets JCAHO requirements, maximizes individual preparedness efforts, provides access to general preparedness information)
- Costs: minimal

DCHA Hospital Mutual Aid System

Experience:

- Contingency planning (NATO 50th Summit, Y2K, IMF Meetings Protest, etc.)
- Exercise planning and execution
- Incidents: Foggy Bottom Metro Fire
- 9-11
- Anthrax Dissemination Oct.- Nov. ’01

HOSPITAL WMD PREPAREDNESS

Summary...

- EMS / Emergency Response Interface & Community-wide Planning (possibly through LEPC)
- Mutual Aid with other HCFs
- Leverage what you have (DHHS & local civilian prep/ VA Area Emergency Managers/ Military assets - others)
- Develop a "resident expert" in your facility
- Contingency Contracts

Medical Preparedness for CBRNE Events

Other issues:

- Operational: integrating medicine & public health into emergency management
- Security: hospitals as targets
- Regulatory: valium vs ativan
- Psychological: minimizing “terror”
- Science: avoid bleaching victims...

WMD EVENTS
Hospital Model

Preparedness Mission

"Best possible care for victims while not compromising the safety of hospital staff and current patients."

"Reasonable Preparedness…"