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Terrorism Case Studies: Baltimore City

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Three case studies will be presented:

1. Baltimore City Drill #1
2. Baltimore City Drill #2
3. (University of Maryland Medical System) UMMS Drill #1

- These case studies will illustrate:
 - Plausible scenarios
 - Typical first response activities
 - Critical issues on-the-fly
 - Considerations for planning



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Baltimore City Drill #1

Section 1 of 2

- June 6, 12 noon
- Explosion at Inner Harbor
- First responders
 - Bomb squad (Police department)
 - Hazmat (Fire department)
- Detection of radiation (5 rem/hr)
- **What do you do?**

- Does any first responder “go in?”
- If so, who?
- Who gets notified?
- What’s done in the meantime?

- Bomb squad goes in to look for “secondary devices”
- Bomb squad notifies (the rest of the) Police Department; Hazmat notifies (the rest of the) Fire Department
- Baltimore City Health Department and Maryland Department of the Environment are also notified
- Where is the answer to last question?

- Wind from E @ 10 mph
- 12-block radius evacuation begun
- Emergency Departments (EDs) alerted (victims + radioactivity)
- **What do you do?**

- How do you organize the evacuation?
- To where do you direct the people?
- What do you tell the EDs (and why)?
- What should the EDs do?

- The evacuation is performed from the inside out so that it may be halted in progress
- People are directed upwind to a designated site

- The evacuation is performed from the inside out so that it may be halted in progress
- People are directed upwind to a designated site
- The EDs must be alerted that radioactive victims will appear, and triage and decon should commence **outside the ED**

- Wind changes, from SW 3-5 mph
- **What do you do?**

- How do you know the wind changed direction?
- How does the change in wind direction influence your thinking/planning?
- Who do you notify?

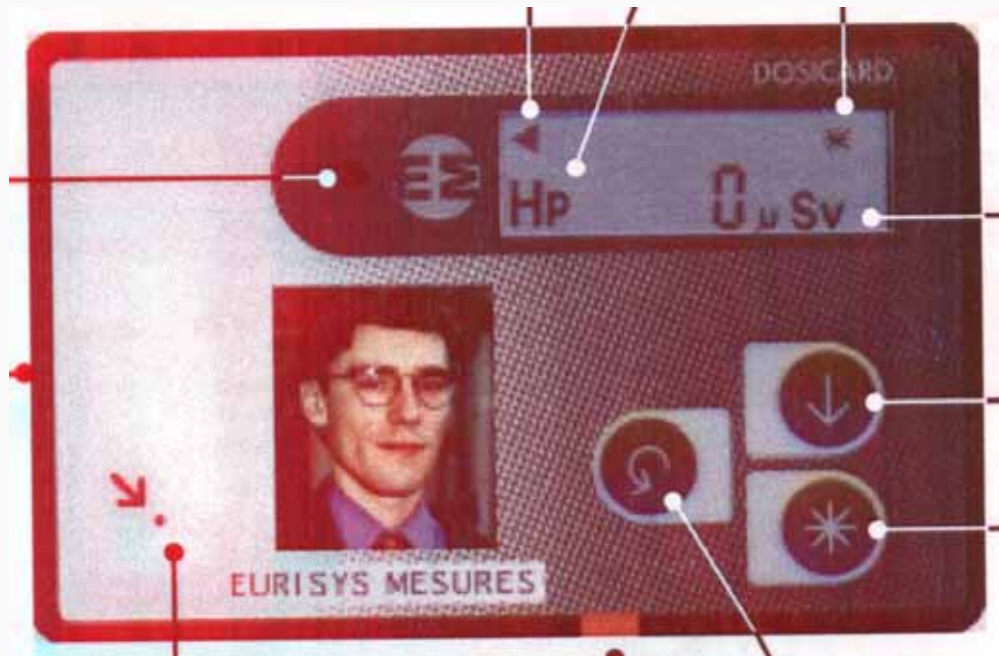
- Wind direction will influence the location of off-site triage and decon (upwind!)
- So, ongoing monitoring of wind direction is critical
- Health, Fire, and Police Departments all need notification

- Off-site radiation readings at background levels
- Off-site decon and triage set up

- How do you know the radiation readings?
- Where (and when) do you monitor?
- How do they influence your decisions?
- Where do you set up triage and decon?
- Are they in the same place?
- What do you need there?

- On- and off-site radiation monitoring is critical
- This monitoring is with a combination of detectors
- Triage and decon can be done at the same (off-site) location; monitoring must be done here, too

Representative First Responder Detectors



- 15 minutes later: shots are fired on first responders; bomb squad leader killed
- **What do you do?**

- Does anything change?
- If so, what?

- First responders are pulled from the immediate scene
- SWAT (QRT, Quick Response Team in Baltimore City) goes in to clear buildings of snipers

- QRT (SWAT) goes into buildings to clear of snipers (at least two in two different buildings)
- Two other suspicious packages identified; checked for radiation (negative)
- One sniper killed; one taken into custody

- Is the QRT activity “in parallel” with the PH activity?
- What do you think about?

- The QRT activity supercedes public health activities, which resume only after the “all clear”
- The QRT must be monitored for radiation dose and pulled if/when it gets too high

- Victims evacuated to area hospitals
- Mayor has series of press conferences

- What are the next steps?
- What are the long term plans?

- The site is secured
- Evidence is gathered (don't forget it's a crime scene!)
- Environmental monitoring is enhanced
- Long-term remediation planning begins

- Communication
 - Who knew what?
 - When did they know it?
 - Who told them?
- What was done correctly?
- What could be improved?



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Baltimore City Drill #2

- Operation Down Under
- Explosion in subway
- Victims are vomiting and seizing
- Smoke, fire, and explosive damage
- **What do you do?**

- Who arrives first, and what should they do?
- To which questions do you need an immediate answer?
- What do (can) you assume?

- Police and Fire Department personnel are on the scene first
 - Ideally, only those with appropriate personal protective equipment (PPE) will enter the subway ... but this often is not the case
- You can assume some sort of “agent” is involved
- It is critical to identify both the agent and its environmental distribution

- Rescue, fire-fighting, and decontamination begin
- **What do you do?**

- How do you protect the first responders?
- Who do you “allow” to do what?
- How do you treat the victims?
- How do you decon the victims?

- Only first responders with Personal Protective Equipment (PPE) should go in and interact/rescue victims
- The victims should be triaged and decontaminated away from the immediate site
- Clothing should be removed, and the body (especially head and hands) should be washed

- Identification of agent (methylparathion)
- **What do you do?**

- How is the agent identified?
- How do you get a sample?
- How does the info help you?

- The agent is identified from a sample:
 - Environmental “wipe” sample
 - Scrap of victim clothing
- Chemical analyses are performed
- The identity of the agent helps with triage, diagnosis, prognosis, and treatment planning

- Victims are evacuated to area hospitals
- Mayor has series of press conferences

- What are the next steps?
- What are the long-term plans?

- The site is secured
- Evidence is gathered (don't forget it's a crime scene!)
- Environmental monitoring is enhanced
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Environmental Distribution: Baltimore City Drill #1

- Dirty Bomb dispersed radioactivity in environment
 - The magnitude, height, and wind will tell you how far the agent will travel—as well as the risk to the public
 - Assume radioactivity stays airborne for a period of time and will be dispersed by wind

Environmental Distribution: Baltimore City Drill #2

- Explosion in subway
 - Aerosolized a liquid that contained a chemical agent
 - Fog, or liquid droplets in air containing chemical agent
 - Must consider the aerodynamic properties of the liquid droplets produced by the explosion, not the agent itself