# Training security officers to recognize the perils of weapons of mass destruction and pandemic flu contaminates

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*In order to effectively manage disasters, hospital security opemtives need to learn the ABC's of diagnosing exposure models, spotting exposed persons, and donning appropriate contaminate-controlling attire to limit potential exposure.* This *article spells out how the establishment of a WMD training program gives the Security Department the capability of helping to contain WMD exposures before they adversely impact the institutional setting. The department's "awesome" role in keeping hospitals free from contamination requires, according to the authors, dedicated, well tmined, appropriately equipped, and highly motivated security officers who keep a watchful eye over the institutions they protect.*

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Over the years, hospital security officer training included an *ever-evolving* menu of tasks and procedures covering a galaxy of topics from patient care to asset protection management. As a direct result of that tragic day in September 2001, a universe of new terrorist-related training initiatives *have* been added to the security administrator's radar screen.

## THE ART & SCIENCE OF TRAINING FOR DISASTER

Hospital security operatives need to be prepared in the event of a mass exposure incident; it is the operative's job to protect the hospital, staff, and patients. When an exposure occurs there is a general assumption that hospitals' will be notified before victims begin knocking on the door seeking medical services. It's impor-

tan! to recognize that this is only an assumption and that not all emergencies are reported beforehand. One important key to successfully dealing with a disaster is to first recognize that a disaster has in fact occurred. Considering that not all disasters are common knowledge, one acceptable method of disaster management is to inaugurate policies to identify exposed persons before they are admitted for treatment. Once a disaster victim is identified, it is important to send them to the emergency department entrance from outside of the hospital so that they do not contaminate interior environs of the healthcare facility. Beyond containment considerations, once a mass exposure incident has been identified it is important to have a clear course of action that controls access into the inner bowels of the hospital, whilst not interrupting the delivery of lifesaving medical services central to all medical centers. In order to effectively manage disasters, security operatives need to learn the ABC's of diagnosing exposure models, spotting exposed persons, and donning appropriate contaminate-controlling attire to limit potential exposure.

## IDENTIFYING EXPOSURE CHARACTEIDSTICS

Security operatives need to be taught to recognize the basic symptoms associated with "weapons of mass destruction" so that they are better equipped to gauge .catastrophic episodes before they are allowed to wreak havoc on the medical facilities they are paid to protect. Moreover, operatives need to learn to identify the symptoms of exposure - from the most common biological, chemical and radiological agents, to recognizing the warning signs associated with flu symptoms emanating from these contaminates.

### Biological agents

**Anthrax "Bascillus Anthracis"** – Anthrax is an acute infection of 'the skin, lungs or gastrointestinal system. Its related spores can sutvive for a few days in temperatures as high as 318 degrees Fahrenheit and can remain viable in soil and water for years or even decades. About 8,000 to 10,000 spores are required to cause pulmonary infection and 1,000 spores for intestinal infection. If diagnosed quickly, Anthrax is treatable with several different types of antibiotics. Skin

contact — creates sores or blisters that can develop into an infection (generally not fatal). Inhalation/ Ingestion — bacterial spores are inhaled into the lungs or ingested into the stomach. Victims develop flu-like symptoms within one to seven days of exposure. After two to four days victims have difficulty breathing, they often experience severe exhaustion, and may develop a fever. There is a 90% fatality rate for untreated inhalation, and symptoms begin appearing between the first twenty-four to thirty-six hours of exposure.

**Recognizing virus symptoms:**

**Ebola** is a virus that requires direct contact with the blood or secretions of bodily fluids. It is the most dangerous virus known to science. It causes death in 50% to 90% of all exposure cases. The virus is in incubation for two to twenty-one days. Symptoms include fever, weakness, muscle pain, headache, and sore throat often associated with vomiting, rash, diarrhea, internal and external bleeding.

**Smallpox** — The Variola Virus — Smallpox is an infection which occurs from contact with blood, secretions of bodily fluids or via inhalation from infected persons. The incubation period is about twelve days. Symptoms include malaise, fever, vomiting, and headaches. Victims develop a rash, which blisters within two to three days. Smallpox is generally not fatal, but a victim must be in isolation for sixteen to seventeen days from the onset of the virus.

**Ricin** is a toxin made from the left over mash of the Caster bean, which is processed for the production of castor oil. It is easily accessible and is easy to produce. It can be inhaled or ingested. It kills body cells on contact. Death occurs within thirty-six to forty-eight hours after exposure. There is no cure for this toxin. A large aerosol dose is required to be effective, at least 320 mg.

**Hazardous chemical agents**

**Cyanide** is a common chemical agent used in ore extraction, tanning, and electroplating. Cyanide in a liquid form emits a heavy gas that smells like bitter almonds. It poisons its victims through inhalation of gas. Inhalation of Cyanide blocks the body's cell's ability to consume oxygen, which causes the cells to die. Exposure causes irritation to the eyes, nausea, dizziness, weakness and anx-

iety. This is followed by convulsion s, u nco nscious n ess t hen death. The longer the exposure or the higher the concentration of cyariide the quicker a victim will be contaminated and die.

**Mustard Gas** is a blistering agent; it is an oily liquid that is heavier tha n water. The vapors and/or liquid are the danger. The liquid a nd gas has t he odor of mustard, onions or garlic. Two to. twenty-four hours af ter exposure a victim will notice eye irritation, burning ()f the skin , and upper airway irritation. High concentrations of exposure will cause blister i ng of t he sk i n , eyes a n d throat. Then it is absorbed into the body where it damages cells and causes death.

**Sarin Gas** is a nerve gas. It disrupts the mechanism by which nerves com m unicate w it h t he organs causing over stimulat ion of the organs. Sarin is a clear, colorless liquid that emits a heavy gas that sinks to the ground. The gas is odorless. Exposure causes a .d i mi nishment of t he pu pils, r un ny nose, a nd shor tness of brea t h . La rg e ex pos u res ca n cause loss of consciousness, convulsions and death:

**Radiological exposure**

**Radi ation poi soni ng** is caused by exposure to irradiated ura nium that gives off "Alpha" and "Gamma" rays. Exposure can be·caused by exploding a nuclear device, which gives off massive amounts of these rays, or via the exploding of an irradiated source that distributes thousands of finite pieces throughout the explosion a rea . Ex pos ure to ra d iat i on causes body cell disr u pt ion or death. .The cell disruption generally affects the blood stream and gastrointestinal areas. Symptoms of ten include nausea, vomit ing and malaise followed by a symptom free period. Major organ malfunction occurs from cell death causi ng body funct ions to shut dow n a nd causi ng subsequent death. For mild cases of exposure a victim can take iodine, which will absorb the radiation and help the body to pass the radiation out of the body.

**PANDEMIC FLU**

All forms of flu present an identification challenge to the healthcare security officer. The differen ce bet ween a pa ndemic flu victim and a person with a bad cold may be minute. To protect a

hospital from the contamination of pandemic flu, early intervention is important. Notification of the potential of a pandemic event is all that is necessary for a hospital to go on alert and commence screening all persons entering the facility. With respect to this form of flu, security operat ives must protect themselves from airborne contamination. To prevent contamination, operatives should slip into water resistant attire, don a M-95 respirator device, and wear protective goggles while screening persons.

In the event of a pandemic flu outbrea k , the hospital may be required to dose their doors to all persons except the sick and internal staff . In the event of such an incident, security officers should be assigned to each access portal to screen all incoming individuals. Similar to other exposures, once a victim is classified at "risk" it's i m pera t i ve t hat t he y be d ispatched to the Emergency Room via walking outside of the hospital and entering in a designated area. The most difficult part of disaster response in a pandemic flu event is identif ying flu victims. Although there is no quick sure-fire method of diagnosing the Pandemic Flu from the common cold or other illness, one efficient method of assessment is through body temperature. The most effective way to determi ne that an i ndivid ual has a fever, on a mass scale, is through the use of a n infrared thermal imaging device.

These instruments are similar to the devices used by electricians to locate "hot spots" i n wiri ng schmet ics; the device is pointed at a person and accurately determines a n individual's body temperature. A high body tempera- t u re poten t ia lly mea ns t he individual has the flu.

## PERSONAL PROTECTION EQUIPMENT

Security Officers must learn to use Personal Protective Equipment {PPEs} when a d isaster strikes. PPEs are necessa ry to wear in order to protect officers' from exposure to any dangerous substances. Diff erent PPEs are utilized depending on the type of potential exposure. Practicing the donning of the different PPE costumes is important in the prepara t ion drills normally associated with mass causality incidents. It is recommended that security staff utilize either Level D or Level C decontamination equipment.

**Level D protection —** consists of work clothes or in the case of security, the security uniform. The Level D uniform is covered with a light fluid resistant gown, latex gloves, goggles for eye protection; and an M-95 respirator facemask. Level D protection is utilized for biological and flu situations and is worn by security officers at access portals, in treatment areas or when guarding patients.

**Level C protection —** consists of a "Tyvek". plastic full body suit with a hood embodying a **full** face M-40 respirator, rubber boots or work boots, and heavy rubber gloves. A security officer should wear this level of protection when confronted with a possible exposure to chemical and radiological exposures. *In general when donning* PPEs, *the body garment* is always *put* on first. *Boc;;ts are put* on *next , followed by the protective* mask. *Gloves are put* on *last.*

**Removing personal prc;itective equipment:**

**Level D Equipment —** the gown is removed first, followed by the goggles, then the gloves. One glove is removed by pulling it off at the end of the glove at the wrist. The glove is pulled off so that it is inside out when removed. That glove is used to grab the other glove at the end by the wrist and that glove is pulled off . Both gloves are discarded. Lastly, the respirator is removed and discarded.

**For Level C Equipment** ....: The boots are removed first; the gown second ,' followed by type goggles, and gloves. Lastly, the respirator is removed.

**LOCKDOWN PROCEDURES**

It is important that all hospitals have an appropriate "lockdown procedure" in the event of a mass casualty incident. In tile event of an incident involving weapons of mass destruction, hospital security personnel must know what procedures to follow in a quick and efficient manner. Operatives must be an integral part of the exposure notification process, they must know whether to institute a partial or full facility lockdown , they need to know when it is necessary to institute an emergency department lqckdown, and they must be capable of directing vehicles, visitors, patients and staff to *"run toward safety and not just away from-danger".*

## Notification of incident

Incident notification is the most important sequence of events in the management of a disaster. In order to effectively manage a mass casualty incident, security must be notified immediately of a pending disaster. If an incident is suspected or published, security should be ready to immediately put its respective disaster plan in motion. Irrespective of the plan, all effective plans must embody a process that effectively locks down the facility in a timely and expeditions manner. Whether a full or partial lockdown is called for depends on the severity of the incident at hand.

## Directing vehicles, visitors, patients and staff

Once a disaster is announced or identified, security needs to ensure that emergency vehicles *have* free and unobstructed access into the emergency department. It is important to continually maintain a clear roadway throughout hospital property, and especially into and out of the emergency environs. Moreover, pedestrian traffic flow needs to be controlled as well. Entrances should be closed and persons wishing to enter the hospital should be questioned prior to entering the inner bowels of the hospital to determine their business-related needs. During disaster scenarios, security operatives posted at access portals should step to the outside of the hospital in order to physically stop persons whilst searching for potential victims. The hospital disaster plan should include procedures for identification of access portals for hospital staff, disaster victims, disaster victim family members, the media, delivery personnel, and regular in-patient visitors. Experience has shown that each of the *above* categories should be segregated and a procedure established to provide entry and cueing guidelines.

## Partial facility lockdown

When a disaster is announced, the security department should prepare to implement its disaster plan. Depending on the type and extent of the disaster, a partial facility lockdown may be in order. As an aside, if details are sketchy re the magnitude of the exposure, the hospital my wish to only implement a partial lockdown until better info is brought for-

ward. Oftentimes, this entails the closing of certain entrances or areas of the hospital. This is done in order to re-deploy staff and/or supplies, and to control access into and out of the hospital. As an example, a hospital may not want to curtail access to all clinic areas or business offices so that they are better. able to re-deploy staff to the emergency .treatment areas.

### Full facility lockdown

In the event of a major incident of mass destruction, a hospital may need to lock down the entire hospital; except for emergency operations so as to protect the hospital from contamination while identifying and treating disaster victims. Because victims can arrive via cab, bus or ambulance, it may be necessary to confine access points to one or two specific entrances designated to receive disaster victims.

### Emergency Department lockdown

At some point during a.disaster it may be necessary to lock down the ,Emergency Room (ER). The locking down of the ER may occur because of contamination or the need to restrict access into the area by unauthorized staff. If the ER becomes contaminated Security may be required to keep all patients and staff inside of the area and restrict outsiders from entering until the area can be decontaminated.

## DECONTAMINATION/ TREATMENT PROCESS

All security officers need to become familiar with the decontamination and treatment processes associated with mass casualty or pandemic flu victim incidences. In both cases, victims must be isolated from hospital staff to avoid facility-wide contamination. With respect to mass casualty incidents, victims may· be required to disrobe and undergo scrubdown to remove contaminates prior to being treated. Pandemic Flu victims may not require decontamination however, since they will require isolation and segregation in order not to infect hospital staff. During the decontamination or treatme.nt phase of the disaster episode, security officers should be dressed in their personal protective equipment. Again, the correct equipment depends on the type of disaster. Security officers

should be made aware of the terms: "Hot and Cold Zones". A Cold Zone is an area in which no contaminates are present. A Hot Zone is an area of active contamination in which patients are brought into the hospital. Many times these patients are brought into the hospital in an unconscious state.

## CONCLUSION

The establishment of a WMD training program gives the security department the capability of helping to contain WMD exposures before they adversely impact the institutional setting. The security department's role in keeping hospitals free from contamination is an awesome job, often requiring a dedicated, well trained, appropriately equipped, and highly motivated security contingent that is always keeping a watchful eye over the institution's they protect.

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