



Managing Surge Needs for Injuries: Radiology Response



Emergency Medical
Service Response

Emergency Department
Response

Surgical and Intensive
Care Unit Response

Radiology Response

Blood Bank Response

Hospitalists' Response

Administration Response

Drugs and Pharmaceutical
Supplies

Nursing Care

PURPOSE

Within four hours of an explosion, operationalize radiology support for the initial treatment of 300 injured patients and for ongoing care up to 72 hours.

BACKGROUND

The Madrid terrorist bombings were used as a model to help develop solutions for managing rapid surge problems during a mass casualty event.

On March 11, 2004, 10 terrorist explosions occurred almost simultaneously on commuter trains in Madrid killing 177 people instantly and injuring more than 2,000. That day, 966 patients were taken to 15 public community hospitals. More than 270 patients arrived at the closest facility between 0800 and 1030 hours.

Federal resources should not be expected to arrive sooner than 72 hours from the time of explosion. Resources can be delayed by the time taken to deploy them and by responding to multiple communities.

GOAL

To establish policies, procedures, and drills to improve radiological preparedness for treating 300 patients injured from an explosion for up to 72 hours.

RESOURCES REQUIRED

There must be enough radiology personnel (radiologists, technicians, and support staff), equipment, and supplies to care for 300 injured patients.

This document is a resource guide. Local needs, preferences, and capabilities of the affected communities may vary.

ASSUMPTIONS

1. Radiology services will be a critical component of the hospital response to a bombing.
2. Many patients over a relatively short time period requiring radiology may lead to slow-downs and bottle-necks.

ACTION STEPS

The near-term solutions listed below include estimated number of hours needed to perform each task.

1. Develop a management plan and call list for the radiology department to use during a mass casualty event. Drill the plan, involving radiologists for immediate (“wet”) readings of plain films and special studies. This will assist in rapid evaluation and treatment of patients. The plan should also optimize and streamline radiology study protocols for use during a mass casualty event.

Enhanced radiology patient throughput will be essential in the initial evaluation and treatment of blast-injuries. Each radiology department must develop a plan to ensure rapid turnaround patient studies and their results.

2. When disaster patients arrive, a radiology ultrasound technician should be available in the emergency department to support the performance of an immediate FAST (Focused Abdominal Sonography for Trauma) exam. If this is not possible, the emergency physicians and trauma surgeons should be trained to conduct one.
3. Conduct an imaging equipment survey; evaluate the status of the equipment for multiple traumas, making sure there are adequate amounts of portable equipment available and update if needed.

Radiology equipment is expensive and usually requires planning in advance for acquisition and installation. However, by evaluating how available equipment could be put to maximum use during a mass casualty event can improve patient throughput.

4. Establish a protocol for augmenting patient movement and monitoring in the radiology department. Afterwards, review the availability of patient monitoring personnel and equipment to enhance departmental throughput, especially of studies such as CT scans.

EVALUATION

Where appropriate, evaluation drills have been incorporated into the “Action Steps” listed above. The institutional disaster preparedness plan should be updated based on each drill experience.