

Preparation for Mass Casualty Incidents



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KEYWORDS

- Mass casualty incidents • Acts of terrorism • Disaster response • Explosions
- Blast injury

KEY POINTS

- In mass casualty incidents, the number of injured patients exceeds the resources of the health care institution; the goal of disaster medical care is to provide the greatest good for the greatest number of victims.
- The most experienced medical provider should be in charge of triaging victims and should reassess and retriage frequently, because the patient's conditions may deteriorate and hospital resources fluctuate.
- Unique blast injury patterns may include any combination of crush, burn, blunt, penetrating, and traumatic amputation.
- Damage control resuscitation involves balanced blood component transfusion and damage control surgery.

INTRODUCTION

It is a beautiful Saturday morning in October and by all appearances another busy day in the emergency department (ED) of your hospital. Fifty-five of the 70 beds in the ED are filled when an unusual call comes across your medical control telephone. An explosion at the farmer's market has just occurred and first responders are estimating 150 injured. As the ED charge nurse what is your first priority? What is your strategy for incoming victims and current patients already in your ED? Are you familiar with mass casualty triage? Are you knowledgeable about bomb and blast injury patterns, tourniquet use, and damage control resuscitation? Is there a plan for additional staff and how they can contribute to the response? How will your institution make available

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essential critical care beds or create alternative sites? Can you accommodate the swarm of family and media about to invade your institution? Are you familiar with post-event debriefing and analysis? These are some of the challenges that a mass casualty incident (MCI) presents, and as a nurse you will be indispensable in the response. Managing MCIs has not traditionally been part of the nursing curriculum; however, the changing world we live in requires us to become educated and prepared to respond to these scenarios.¹ This article focuses on the nurse's role in MCIs as a result of explosive acts of terrorism.

DISASTER DEFINITION

MCIs are events where the number of injured patients exceeds the resources of the health care institution to the degree that care may not be available or may be limited for a portion of the casualties.^{2,3} Multiple casualty incidents are different in that the hospital is able to respond to a surge in their capacity, which strains but does not overwhelm a facility's resources.^{2,4} MCIs may be the result of a natural disaster, such as those caused by weather and the environment, or they may be man-made including unintentional and intentional events (**Table 1**). Intentional disasters are considered terrorism and may involve weapons or bombs that have the ability to produce large numbers of casualties that can easily challenge a health care system. The mass shootings at Columbine High School in Littleton, Colorado, at Sandy Hook Elementary School in Connecticut, and at the movie theater in Aurora, Colorado along with the bombings in Oklahoma City and at the 2013 Boston Marathon serve to remind us that these types of terrorist attacks are increasing in frequency in the United States.

PRINCIPALS OF DISASTER MANAGEMENT

Although types of disasters vary, the health care response includes basic elements that are applicable in all disasters (**Box 1**). The incident command system (ICS) is the initial standard element in disaster response. The roles assigned within the ICS should be based on functional requirements, not titles or politics. The ICS should be flexible and scalable for use in any type or size MCI.³ The ability to manage a surge of injured patients relies on well trained and drilled responders rather than readily available volunteers. Nursing and medical care rendered in an MCI is much different than conventional care, with the emphasis on doing the greatest good for the greatest number of victims.^{1,3,5-7} Caution must be exercised to optimize the use of critical resources.⁸

Natural	Man-Made Unintentional	Man-Made Intentional
Hurricanes	Plane crash	Arson
Floods	Train crash	Biologic agents
Tornadoes	Multicar crash	Chemical agents
Landslides	Gas leak/explosion	Radioactive agents
Volcanoes		Explosions/bombs
Earthquakes		Active shooter
Tsunamis		
Severe weather		

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