

EMS Subspecialty Certification Review Course

- 4.4.4 Special Response Considerations
 - 4.4.4.1 Allocation of scene resources
 - 4.4.4.2 Provider Credentialing Issues
 - 4.4.4.3 Modified Standards of Care
- 4.5.2 Technical Rescue
 - 4.5.2.1 Confined Space Care
 - 4.5.2.2 Extrication

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Learning Objectives

1. Discuss modified standards of care and how it applies to incidents that overwhelm local resources
2. List major considerations of resource management in a disaster
3. Explain the challenges of credentialing
4. Describe the Occupational Health and Safety Administration (OSHA) definition of permit-required confined space
5. Describe the likely injuries in victims of confined space incidents and the hazards of extrication



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Altered Standards of Care

- Resources are overwhelmed
- Legal standards of care may only be altered by an executive governmental official
 - IOM, 2009: Change in level of care is formally declared by a state government in recognition of a crisis to offer legal and regulatory protection for emergency responders FOR A DEFINED TIME PERIOD.
- Ethical standards may also be affected – local, dynamic
 - Example, reuse of multidose vials
 - Changes minute to minute based on available resources
 - Focus on “the greatest amount of good for the greatest number”



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Altered Standards of Care

5 Key elements to 'crisis standards'

1. **Ethics:** fairness, duty to care, steward of resources, transparency, consistency
2. **Community and provider engagement/education:** community trust, values, resilience building
3. **Legal authority/environment:** standards of care, scope of practice, mutual aid, govt emergency declarations, liability
4. **Indicators/triggers:** Situation awareness, illness/injury, social disruption, resource availability, staffing availability
5. **Clinical processes and operations:** committees, resource-sparing strategies, ICS principles, consistencies across regions, coordination, attention to vulnerable populations, communications



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Allocation of Resources

- Macroallocation: Broad policies to distribute resources across a population, e.g., Trauma Center, ICU beds
- Microallocation: Process by which the needs of an individual patient are prioritized above or below those of another.
- Primary principle: "Greatest good for the greatest number"
- Triage algorithms sort based on immediate needs AND greatest likelihood of benefit
- Scarce resource allocation approaches 'rationing'
 - Random, everyone has similar chance
 - Based on quality of life or 'societal value'
- Objective tools developed by consensus before resources become scarce



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Credentialing Issues

- Most providers are credentialed by states or local jurisdictions
- Legal liability is an important EMS clinician concern in decision to participate in disaster response
 - Some states have regulatory language for protection
- Operating outside standard scope may be necessary, depending on the scope of the disaster
 - i.e., paramedics administering vaccinations in a pandemic, paramedics working in emergency departments
- Planning section handles credentialing of providers inside the ICS structure
- Best to plan ahead and address credentialing issues BEFORE the disaster hits



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Prolonged management 'in the rubble'

Confined Space Medicine (CSM)

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OSHA definition



- Permit-required confined space has one or more of the following characteristics:
 - Hazardous atmosphere
 - Material that can engulf the entrant
 - Walls or floors that taper into smaller areas that can trap or asphyxiate the entrant
 - Other safety hazards, such as unguarded machinery, exposed live wires or heat stress

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Rescuer safety in CSM

- Before entering:
 - Train and understand procedures
 - Identify potential hazards and monitor atmosphere O₂ content, flammability, toxicity...
- While in space:
 - Use full PPE, rescue, air monitoring, lighting and ventilation equipment
 - Maintain comms at all times
 - Have an appropriately trained rescue team



*Nitrogen asphyxiation specifically mentioned

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Components of CSM

- Gather patient data early, before contact
- Monitor effects of rescue, environment
- Preposition resources
- Begin assessment as soon as possible
- Initiate stabilization (treatment 'in the rubble')
- Coordinate with rescue
- Reevaluate frequently
- Prepare for handoff



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Specific Clinical Issues in CSM

- Dust airway impaction: Provide victim with appropriate safety equipment - helmet and face mask
 - Debris impacting the chest wall expansion can also cause respiratory problems
- Asphyxiation due to O₂ displacement
 - Oxygen utilization problematic due to weight, logistics, and fire safety considerations
- Crush syndrome management
- Environmental **hypo**/hyperthermia
- Prolonged care, extrication challenges



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Question

All of the following factors are required by OSHA for appropriately trained rescue personnel for workplaces with permit-required confined space EXCEPT:

- A. All team members trained on appropriate PPE
- B. All team members trained in first aid and CPR
- C. At least one team member trained in first aid and CPR
- D. Practice exercises are conducted at least annually



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Take-Home Points

- When resources are scarce, standards may need to change, plan in advance
- Credentialing of providers outside of the system may be needed, legal concerns
- Management in confined space has specific hazards – monitor environment, be prepared for prolonged patient management in place



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