Chapter 37 Vehicle Extrication and Special Rescue

Introduction

- You will usually not be responsible for rescue and extrication.
- Rescue involves many different processes and environments.
- Requires _______________________ beyond the EMT level
- This chapter teaches _______________________ extrication concepts.

Safety

- Extrication requires _______________________ and physical preparation.
  - Consider the safety of yourself and team.
  - _______________________ begins with the proper mind-set and personal protective gear.
- Equipment and gear should be appropriate to anticipated hazards.

Protective Gear

- Turnout gear
- _______________________ 
- Hearing protection
- Fire extinguisher
- Blood- and fluid-impermeable gloves
- _______________________ gloves over disposable gloves

Vehicle Safety Systems (1 of 2)

- Can become _______________________ after a collision
- Shock-absorbing bumpers may be “loaded” and can release and injure you.
- Manufacturers are required to install air _______________________ in all new cars.

Vehicle Safety Systems (2 of 2)

- Air bags fill with a nonharmful gas on impact and quickly deflate.
- Located in the steering wheel and passenger _______________________ 
- Should be deployed and deflated by the time you arrive
- Use eye protection to protect your eyes from the _______________________ or talc in air bags.

Fundamentals of Extrication

- _______________________ 
  - Removal from entrapment or a dangerous situation or position
  - _______________________ 
  - To be caught within a closed area with no way out

Team Members

- _______________________ 
  - Law enforcement
  - Rescue team
  - _______________________ personnel

The 10 Phases of Extrication

- _______________________
- En route to the scene
- Arrival and scene size-up
- Hazard control
- ________________ operations

10  Preparation
- ________________
  - Initial
  - Continuing Education
- ________________
- Equipment maintenance
  - All medical and extrication equipment must be in proper
    ________________ order

11  En Route to the Scene
- ________________ driving practices
- Good steering techniques
- Road positioning and cornering
- Controlled ________________
- Controlled ________________
- Laws and regulations

12  Arrival and Scene Size-up (1 of 2)
- Proper protective Equipment
- Walk around scene looking for hazards
- ________________ hazards
- Additional resources
- Locate all patients
  - Ask witnesses or other victims
  - Look for ________________
    ________________ the area, use law enforcement and/or fire
department personnel

13  Arrival and Scene Size-up (2 of 2)
- Set up a ________________ zone that is off-limits to bystanders.
- Notify hospital of number of patients and severity if many patients
- Coordination within ICS
- ________________ team responsibilities
- EMS responsibilities

14  Hazard Control
- Law enforcement
  - Traffic control
  - Investigation
  - ________________ control
• Fire fighters
  • Extinguishment
    • ________________ control
• Rescue team
  • ________________

15 □ Potential Hazards
• Downed ________________ lines
• Sharp metal
• Broken glass
• ________________ substances
• Hazardous substance ignition
• Unstable vehicles
• ________________ patient, family, bystanders

16 □ Support Operations
• ________________
  • Tool and equipment staging areas
  • Helicopter landing ________________
  • Must work with law enforcement and fire personnel

17 □ Stabilizing Vehicles
• Chocks (blocks)
  • ________________
• Jaws of Life
  • ________________
• Anchoring vehicle
  • Usually performed by FD personnel

18 □ Gaining Access (1 of 6)
• Is the patient in a vehicle or other structure?
• Is the vehicle or structure severely ________________ ?
• What hazards exist that pose risk to the patient and rescuers?
• What is the position of the vehicle?
• What type of ________________ is it on?
• Is it ________________ ?

19 □ Gaining Access (2 of 6)
• Simple access
  • Access ________________ the use of tools or force
• Complex access
  • Requires the use of ________________ and force

20 □ Gaining Access (3 of 6)
• Always “try before you ________________ ”
• Check all doors
• Protect patient any time use of force or tools are involved
  • Eye protection
  • Cover with ________________
  • Spinal immobilization
• EMS is ________________ in charge of the patient
• Do NOT allow FD or anyone to hurt the patient

21 □ Gaining Access (4 of 6)
• Windows:
• Be careful of glass
• Cover patient first
• Use ________________ on glass
• Remove ________________ before entering

22 □ Gaining Access (5 of 6)
• Using Mechanical Devices:
  • ________________
  • Prybars
  • Air chisels
  • Saws
  • Cutting ________________
• Pt must be protected at all times
• Watch out for flammable ________________

23 □ Gaining Access (6 of 6)
• Child Safety Seats:
• Child should be immobilized in seat if seat is undamaged
• Use ________________ for CID
• Use of ________________ not practical on small children

24 □ Emergency Care
• Provide manual immobilization to protect the cervical spine.
• Open the airway.
• Provide high-flow ________________.
• Assist or provide for adequate ventilation.
• Control any significant external ________________.
• Treat all critical injuries.
• ________________ person in charge

25 □ Removal of the Patient (1 of 3)
• May require removal of the motor vehicle from around the patient
• Disentanglement techniques
  • Brake and gas pedal displacement
  • ________________ roll-up
  • ________________ removal
• Roof opening and removal
• ______________ displacement
• Steering column displacement
• Steering wheel cutting

26  ❑ Removal of the Patient (2 of 3)
• Technical extrication requires ______________ will all response personnel

27  ❑ Removal of the Patient (3 of 3)
• Determine ______________ of move.
• Plan moves and communicate with the team.
• Make certain ______________ is immobilized.

28  ❑ Transfer of the Patient (1 of 2)
• Perform a complete ______________ assessment once the patient is free.
  • Make certain that the spine is manually stabilized.
  • Apply a cervical collar if not already done.
• Move the patient in a series of ______________ , slow, controlled steps with designated stops.

29  ❑ Transfer of the Patient (2 of 2)
• One person should be in ______________.
• Choose a path that requires the least manipulation.
• Make sure there are ______________ personnel.
• Move the patient as a ______________.
• Do not move the immobilization device.

30  ❑ Termination Phase
• ______________ tools and equipment.
• Replace used supplies.
• ______________ unit and conform to bloodborne pathogen standards.
• Complete all necessary ______________.

31  ❑ Rapid Extrication (1 of 3)
• Used for extricating ______________
• Provide ______________ support and apply cervical collar

32  ❑ Rapid Extrication (2 of 3)
• ______________ patient as a unit while stabilizing neck.

33  ❑ Rapid Extrication (3 of 3)
• Lower patient to the ______________.
• Attach ______________ and secure patient with straps

34  ❑ Specialized Rescue Situations (1 of 2)
• Cave rescue
• ______________ space rescue
• Cross-field and trail rescue
• Dive rescue
• _________________ person search and rescue
• Mine rescue
• _________________ , rock, and ice-climbing rescue

35 [ ] Specialized Rescue Situations (2 of 2)
• Ski slope and cross-country or trail snow rescue (ski patrol)
• Structural _________________ rescue
• Tactical emergency medical support (SWAT)
• Technical _________________ rescue (low- and high-angle rescue)
• _________________ rescue
• Water and small craft rescue
• White-water rescue

36 [ ] Lost Person Search and Rescue
• Primary role will be to take care of _________________ when found.
• Prepare equipment and stand by in area designated by incident command.
• Only incident _________________ should deliver information to the family unless someone else is designated to do so.

37 [ ] Trench Rescue
• Poor outcome for victims
• Risk of secondary _________________
• Proper safety reduces potential for injury.
• _________________ response vehicles.

38 [ ] Tactical Situations
• A situation where _________________ conflict is possible requires tactical considerations.
• Shut off _________________ and siren when approaching the scene.
• Requires special training to be a part of a tactical team
• Stay in a safe area.

39 [ ] Structure Fires
• Ask incident command where the ambulance should be parked.
• Do not block arriving equipment or become _________________.
• Only leave the scene if transporting a patient or cleared by incident command.
• Do not run over fire _________________ unless directed to by fire department personnel
• EMS vehicles are often set up for _________________