

**SUBJECT:** VEHICLE RESCUE & EXTRICATION  
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## PURPOSE

To establish guidelines for operations at vehicle accidents.

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## POLICY

- A. It will be the policy of the department to safely and efficiently remove and care for all patients involved in vehicle accidents.
- B. The incident commander shall set up the incident command system, determine the need for additional resources and work closely with police supervisor to ensure traffic and crowd control. Additional resources can include but are not limited to:
  1. A fire department Recall, based on need for additional personnel;
  2. Additional EMS units, based on number of injuries;
  3. Air Care, based on severity of injuries;
  4. If significant entrapment/entanglement is present, an additional hydraulic rescue tool should be requested. Departments with multiple tools based on geographic areas are Blue Ash, Evendale, Sycamore Township and Springfield Township.
- C. All victims of a vehicle accident should be evaluated/treated in accordance with department SOP, Academy of Medicine guidelines and acceptable pre-hospital care practices.
- D. Incident commander should insure that vehicle scene is safe prior to leaving scene. Although this may not be the direct responsibility of fire department the OIC should coordinate with the police to protect the public safety.

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## REFERENCES

1. *Principles of Extrication IFSTA First Edition (1990)*
2. *Advanced Vehicle Entrapment Rescue by L.M. Watson (1994)*
3. *Vehicle Rescue, First Edition, by Harvey Grant and James Gargan (1997)*

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## SAFETY

- A. Full turnout gear, complete with eye protection and gloves should be utilized at scenes of motor vehicle accidents, unless the incident commander determines that lesser level of personal protective equipment is indicated.
- B. A charged hose line should be placed in service.

- C. Battery cable should be cut on all vehicles involved in extrication operations. Both the negative and the positive cables should be cut with negative cable cut first. The positive cable should be cut twice with an approximate 2 inch section removed to ensure that power is not restored by accidental touching of wires.
- D. Air bags:
  - 1. Identify vehicle(s) for deployed and loaded airbags-front, sides, rear and roofline. Notify all personnel of airbags involvement and the deployed or loaded status of each.
  - 2. Remove power from vehicle ASAP. Even after power is removed airbags may deploy due to capacitors. Capacitors store energy for one second up to 20 or more minutes with the average stored energy time about 90 seconds.
  - 3. Personnel should be aware and stay away from the inflation zones of loaded airbags
  - 4. Doors with side airbags require the following variations from normal:
    - a. Forcible entry should be done from the hinge side.
    - b. Do not place a small backboard between door and patient as protection. If side bag deploys the protection could be pushed into the patient.
- E. A clear working area should be maintained around vehicle. Any material removed by FD personnel should be placed in area so as not to present a trip hazard.

## PROCEDURE

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- A. Assess the scene
  - 1. Proper placement of responding vehicles is 100-150 feet uphill and upwind of accident when possible. Fire department vehicles may be used a barricade to close the road for additional safety.
  - 2. In order to properly assess the scene the first arriving personnel should walk a 360 degree circle around the incident and set up work zones: hot, warm and cold zones. Although not always practical a 50 foot hot zone should be established around the vehicle(s) with only essential and properly equipped personnel in zone. An evaluation of possible hazards such as electrical wires, airbags, bystanders, fuel leaks, fires, smoke, hazardous cargo, environmental conditions, unstable vehicles should be noted and steps taken to alleviate hazards. Stay focused on the big picture of the entire incident. Scene should be made safe prior to personnel entering area. Remember that assessment is an ongoing process.
- B. Tactical priorities of vehicle rescue
  - 1. Stabilize vehicles- techniques include but are not limited to cribbing, chocking, rigging or jacks. Assume vehicle is unstable and take necessary steps to assure vehicle stability. Rescuers should not enter vehicle or remove victims until stability is insured.

2. Access vehicle/patient- Primary access is used to quickly gain access to patient and begin emergency care. Normal ingress methods are through open doors and windows. Try all doors and windows before breaking glass. Once entry into vehicle is secured, vehicle should be turned off, placed in park and brake set. Rescuer inside vehicle should provide protection to victim during extrication.
3. Secondary access- access that provides more complete access and removal of patient from vehicle. Secondary access can be gained with hand tools, power tools or hydraulic tools. This includes door and roof removal. Various methods can be employed to gain secondary access with multiple tools being used simultaneously. The OIC should decide which method is the optimum for given conditions.
  - a. Doors - displacement or removal can be opened from latch or hinge side, complete removal of both doors or make a third door. Suggested approach is to start from the latch side of the door.
  - b. Roof removal- complete roof removal, forward displacement or rear displacement. Suggested approach for roof removal is complete removal of roof.
4. Disentanglement- actual entrapping of patient from vehicle. All unattached materials should be removed first. Disentanglement could include moving or removal of seats, displacement of dash, move or removal of steering column, removal or move pedals, removal or move steering wheel. If mechanically moving steering column care should be taken to protect patient due to moveable joints in the column.
5. Removal of patient- Proper patient packaging with c-spine considerations and minimal manipulation of patient s injuries. Remember the golden hour with trauma patients. Securing of scene- Fire department will normally remain on scene during removal of vehicle by towing company if any possibility of a hazard exist. Roadway should be cleared of debris and liquid spills absorbed or flushed as needed. All equipment used should be checked and placed in response ready condition.