



Fire Protection Training

Procedures Handbook 4300

RESCUE

TOPIC: Debris Removal From A Collapsed Building To Access Trapped Victims

LEVEL OF INSTRUCTION: I

TIME FRAME: 1 Hour

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will be familiar with collapsed building debris removal concepts and awareness.

Standard: With a minimum of 70% accuracy, according to the information contained in this lesson plan

MATERIALS NEEDED:

- Appropriate visual aids and supplies
- Field Operations Guide

REFERENCES:

- Heavy Rescue Manual, OES
- Fire Service Rescue Practices, IFSTA, 5th Edition, Chapter 4
- Rescue Systems 1, CFSTES

PREPARATION: Properly removing debris from a collapse site can mean the difference between rescuing a viable patient or doing body recovery. If, due to improper procedures, you cause further cave in, you may in fact do more harm than the original incident which caused the collapse. Rescue personnel should take precautions not to exceed their level of training. Only specially trained personnel should attempt debris removal in a confined area, i.e., tunneling, accessing voids, etc.



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DEBRIS REMOVAL FROM A
COLLAPSED BUILDING TO
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PRESENTATION	APPLICATION
<p>I. GENERAL CONSIDERATIONS</p> <ul style="list-style-type: none">A. Types Of DebrisB. Amount Of Debris<ul style="list-style-type: none">1. WeightC. Personnel AvailableD. Equipment AvailableE. Potential Number Of VictimsF. Possible Location Of VictimsG. Coordination Of EffortsH. Where To Put Debris <p>II. TYPES OF DEBRIS</p> <ul style="list-style-type: none">A. Soft Or Loose Debris<ul style="list-style-type: none">1. From landslide or avalanche<ul style="list-style-type: none">a. Sandb. Dirtc. Snow	<p>INSTRUCTOR NOTE: Information Sheet #1</p> <p>What are some of the first things you need to consider in debris removal?</p> <p>What types of debris are there?</p>



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<ul style="list-style-type: none">2. From parts of building<ul style="list-style-type: none">a. Bricksb. Glassc. FurnishingsB. Large/Heavy Debris<ul style="list-style-type: none">1. From outside of building<ul style="list-style-type: none">a. Treesb. Carsc. Planes2. From parts of building<ul style="list-style-type: none">a. Cement slabsb. Floor/wall/roof sectionsc. Large beamsd. Heating/air conditioning units	<p>What are some examples of large debris that are not part of the building?</p> <p>What are some examples of building parts debris?</p>
<h3>III. AMOUNT OF DEBRIS</h3>	<p>What are some of the considerations on the amount of debris to remove?</p>



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<p>A. Need To Know Amount Of Debris To Remove In Order To Determine</p> <ol style="list-style-type: none">1. Personnel and equipment requirements2. Time requirements3. Disposal site requirements <p>IV. PERSONNEL</p> <p>A. Types</p> <ol style="list-style-type: none">1. Medical personnel2. Technical personnel<ol style="list-style-type: none">a. Construction specialists, engineersb. Search and security dogs with handlersc. Utility companiesd. Specialized heavy rescue teams of personnel<ol style="list-style-type: none">(1) Confined space operational certified3. Excavation personnel<ol style="list-style-type: none">a. Heavy equipment operationsb. Hand removal of debris	<p>What are some technical types of people you may need?</p>



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<p>A. Hand tools</p> <ol style="list-style-type: none">1. Shovels2. Picks3. Sledge hammers4. Pry bars5. Spreaders6. Jacks7. Bolt cutters8. Chisels9. Wheel barrows <p>B. POWER TOOLS</p> <ol style="list-style-type: none">1. Heavy equipment<ol style="list-style-type: none">a. Backhoeb. Cranesc. Front end loadersd. Conveyor belts2. Smaller equipment<ol style="list-style-type: none">a. Power spreadersb. Fans	<p>What type of hand tools might you use for debris removal?</p>



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<p>VII. LOCATION OF VICTIMS</p> <p>A. Below ground level</p> <ol style="list-style-type: none">1. Flammable vapors<ol style="list-style-type: none">a. Particularly those with high vapor density2. Difficult to lift debris out by hand3. Water filling low areas due to water main breaks <p>B. Above Ground Level</p> <ol style="list-style-type: none">1. Dangerous footing2. No footing for ladders3. Victim must be lowered <p>C. Trapped victims that are easily accessed should be rescued first</p> <ol style="list-style-type: none">1. Victims on top of pile2. Victims lightly trapped3. Priority considerations	<p>INSTRUCTOR NOTE: Emphasize: Request a confined space rescue team. Unless trained to do so engine crews should not attempt below ground or confined space searches.</p> <p>Why rescue these people first?</p>



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<ul style="list-style-type: none"> a. They may become more heavily trapped if left b. Ease of access c. Need to be removed before rescue can proceed 	
<p>VIII. COORDINATION OF EFFORTS</p> <ul style="list-style-type: none"> A. Strict Adherence To Ics Is Necessary <ul style="list-style-type: none"> 1. Control of specialists and non-fire service personnel may be difficult B. When Order For Quiet Is Given, All Must Cooperate C. Keep People On Rubble Pile To A Minimum D. Dig Only By Hand When In Area Of Suspected Victims <ul style="list-style-type: none"> 1. Difficult to see victims when they are covered with cement dust 2. Heavy equipment can kill victims E. Must establish adequate communications with all rescue personnel 	<p>Why rescue these people first?</p> <p>INSTRUCTOR NOTE: Refer to USAR and MCI sections of Field Operations Guide</p>
<p>IX. LOCATION FOR DEBRIS PILE</p> <ul style="list-style-type: none"> A. Refuse pile may be bigger than cave-in pile <ul style="list-style-type: none"> 1. Less compacted 	



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<p>B. Do Not Block Roadways</p> <p>C. Move Far Enough Away</p> <ol style="list-style-type: none">1. Will not fall back on you or victim2. Will not be in your way3. Usually, debris pile will be completely off the rescue site, but still near enough to be reached quickly	<p>What do you do with the debris?</p>



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APPLICATION:

There is much more to consider in debris removal than just throwing chunks of cement around. Careful attention to these procedures is necessary to preclude further injury to victims and or rescuers.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by the instructor(s).