



# FIRE CREW FIREFIGHTER TRAINING

Procedures Handbook 4200

FIREFIGHTER SAFETY

**TOPIC:** LIMITED FIRELINE FIRST AID

**TIME FRAME:** 1:30

**LEVEL of INSTRUCTION:** Level I

**BEHAVIORAL OBJECTIVE:**

*Condition:* Given a written quiz

*Behavior:* The student will be able to confirm a knowledge of the signs and symptoms and basic treatment of various fireline injuries/illnesses.

*Standard:* With a minimum 70% accuracy

**MATERIALS NEEDED:**

- Writing board with markers/erasers
- Appropriate audio visual equipment and screen
- CDF Burn Pack
- CDF Public Safety First Aid Student Manual
- Topic Quiz

**REFERENCES:**

- CDF Health and Safety Handbook 1700
- CDF Lyme Disease Pamphlet
- CDF Public Safety First Aid
- CDF Training Procedures Handbook 4000

**PREPARATION:**

This lesson is not intended to fulfill all of the requirements for a Public Safety First Aid Certification, but to give a few basics that may help you save a life. Immediate and proper first aid care can make the difference between life and death on the fireline and can be as simple as maintaining an airway or bleeding control.



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<p><b>NOTE:</b> Stress that any injury <u>must</u> be reported to a supervisor immediately, regardless of perceived severity.</p> <p><b>I. PRIMARY SURVEY</b></p> <p>A. Secure area</p> <ol style="list-style-type: none"><li>1. Scene must be safe or patient must be moved</li><li>2. Use appropriate barrier PPE</li></ol> <p>B. Establish ABC's</p> <ol style="list-style-type: none"><li>1. Airway<ol style="list-style-type: none"><li>a) Visually observe, listen and feel (wheezes, noises, and feel for air movement, etc.)</li></ol></li><li>2. Breathing<ol style="list-style-type: none"><li>a) Look for rise and fall of chest and movement of air (slow, fast, shallow, etc)</li></ol></li><li>3. Circulation<ol style="list-style-type: none"><li>a) Look at capillary color and for obvious bleeding. Check radial pulse (inside wrist near thumb)</li></ol></li></ol> <p><b>II. TREATMENT OF OPEN WOUNDS WITH LITTLE BLEEDING</b></p> <p><b>NOTE:</b> Emphasize: Report all crew injuries to your Fire Captain</p> <p>A. Wash your hands</p> <p>B. Cleanse wound site with clean water and soap, if available</p>	



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<p>C. Apply a sterile dressing; i.e., Band-Aid, gauze bandage, etc.</p> <p><b>III. TREATMENT OF WOUNDS WITH SEVERE BLEEDING</b></p> <p>A. Apply direct pressure to site with a clean dressing (sterile compress if available)</p> <ol style="list-style-type: none"> <li>1. As compress absorbs blood, add additional compresses on top of original dressings</li> <li>2. Do not remove original compress as it may disturb any clot which has formed</li> <li>3. Apply a pressure bandage around compresses to hold them in place</li> </ol> <p>B. Elevate injured area so it is above the level of the victim's heart</p> <ol style="list-style-type: none"> <li>1. Gravity will reduce blood pressure to injured area</li> </ol> <p>C. If severe bleeding from an open wound of an arm or leg does not stop after the application of direct pressure and elevation, use pressure points (BRACHIAL, FEMORAL)</p> <ol style="list-style-type: none"> <li>1. Not a substitute for direct pressure and elevation</li> <li>2. Use only until bleeding stops; may have to reapply if bleeding resumes</li> </ol> <p><b>NOTE:</b> Warn students about mingling blood (aids, hepatitis, etc.) and the need for exposure reporting</p>	<p>Demonstrate pressure point techniques and have students practice</p>



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<p><b>IV. CLOSED WOUNDS</b></p> <ul style="list-style-type: none"><li>A. Causes<ul style="list-style-type: none"><li>1. Falls</li><li>2. Blunt trauma</li></ul></li><li>B. Treatment<ul style="list-style-type: none"><li>1. Do not move injured person unless absolutely necessary</li><li>2. Get help quickly</li><li>3. Treat for shock</li></ul></li></ul> <p><b>V. SHOCK</b></p> <ul style="list-style-type: none"><li>A. Inadequate tissue perfusion of blood and oxygen<ul style="list-style-type: none"><li>1. Bodily functions are depressed</li><li>2. Life threatening</li></ul></li><li>B. Signs and symptoms<ul style="list-style-type: none"><li>1. Skin<ul style="list-style-type: none"><li>a) Pale, moist, clammy (sweaty) skin</li></ul></li><li>2. Eyes<ul style="list-style-type: none"><li>a) Vacant, lackluster, pupils dilated</li></ul></li><li>3. Breathing<ul style="list-style-type: none"><li>a) Shallow, irregular, faint</li></ul></li><li>4. Pulse</li></ul></li></ul>	<p>What is shock?</p>



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<ul style="list-style-type: none"><li>a) Rapid (over 100), faint</li></ul> <p>5. Miscellaneous symptoms</p> <ul style="list-style-type: none"><li>a) Weakness</li><li>b) Nausea</li><li>c) Thirst</li><li>d) Dizziness</li><li>e) Feeling of impending doom</li></ul> <p>C. Treatment</p> <ul style="list-style-type: none"><li>1. Lay victim down</li><li>2. Elevate legs 10 to 12 inches</li><li>3. Control external bleeding</li><li>4. Keep warm; place blanket under and over victim</li><li>5. Seek medical help. SHOCK KILLS</li></ul>	
<p><b>VI. BURNS</b></p> <p>A. Categories</p> <ul style="list-style-type: none"><li>1. Minor burns<ul style="list-style-type: none"><li>a) Small areas of the skin and/or do not appear deep</li><li>b) Usually classified as “first degree” with some “second degree” burns<ul style="list-style-type: none"><li>1) First degree - reddening of skin, such as sunburn (surface burn)</li></ul></li></ul></li><li>2. Serious burns</li></ul>	



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<p>a) Moderate</p> <ol style="list-style-type: none"><li>1) Partial and full thickness burns which appear to be deep or involve larger areas of skin</li><li>2) Usually classified as “second” or “third degree” burns<ul style="list-style-type: none"><li>• Second degree - blistering or deeper redness (partial thickness)</li><li>• Third degree - charring, whiteness or hanging skin due to contact with flame or intense heat (full thickness)</li></ul></li></ol> <p>b) Major</p> <ol style="list-style-type: none"><li>1) Burns with complications<ul style="list-style-type: none"><li>• Inhalation injury</li><li>• Chest pain</li><li>• Trauma</li><li>• Shock</li><li>• Respiratory distress</li><li>• Excessive bleeding</li><li>• Unconsciousness</li></ul></li><li>2) Patients must be treated appropriately for trauma or complications as well as for their burns</li><li>3) Any chemical or electrical burns</li></ol>	



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<p>4) All burns occurring to persons with underlying medical disorders</p> <ul style="list-style-type: none"><li>• Hypertension (high blood pressure)</li><li>• Diabetes</li><li>• Seizures</li></ul> <p>B. Burns may cause</p> <ol style="list-style-type: none"><li>1. Shock</li><li>2. Respiratory distress</li></ol> <p>C. Burns to face, respiratory tract, hands, feet, and groin are very critical</p> <p><b>NOTE:</b> Refer to current policy section 1812 "Burn Treating Guidelines" Health and Safety Procedures Handbook</p> <p>D. Treatment for burns - First and Second degree</p> <ol style="list-style-type: none"><li>1. Stop the burning process</li><li>2. Cool burned area with water</li><li>3. Apply sterile dry dressing, if needed</li><li>4. Do not break blisters</li><li>5. Do not apply butter, grease, or oil</li><li>6. Do not apply ice to any burn</li><li>7. Monitor ABC's</li></ol> <p>E. Treatment for burns - Third degree</p> <ol style="list-style-type: none"><li>1. Stop the burning process</li></ol>	



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<ol style="list-style-type: none"><li>2. Do not pull off clothing - cut away clothing around the burn site</li><li>3. A layer of thin cloth should be placed over the burned area and a second layer of cloth, which can be removed as necessary for wetting, placed over it<ol style="list-style-type: none"><li>a) This protects the burned tissue from being pulled loose if the cloth sticks to the burned area</li><li>b) Do not remove the victim's clothes - they help to retain water</li></ol></li><li>4. Apply limited water (not ice water) to burn site to prevent further tissue damage</li><li>5. Use Burn Pack, if available<ol style="list-style-type: none"><li>a) Know where they are carried</li><li>b) Know where first aid kits are carried</li></ol></li><li>6. Treat for shock, monitor ABC's, and other injuries</li><li>7. Arrange transportation (get help)</li></ol>	
<p><b>VII. HEAT EXHAUSTION</b></p> <p>A. Symptoms</p> <ol style="list-style-type: none"><li>1. Unusually tired</li><li>2. Headache and nausea</li><li>3. Severe cases<ol style="list-style-type: none"><li>a) Profuse perspiration</li><li>b) Extreme weakness</li></ol></li></ol>	



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<p>c) Skin pale and clammy (sweaty)</p> <p>B. Treatment</p> <ol style="list-style-type: none"><li>1. Provide rest</li><li>2. Put victim in shade</li><li>3. Treat for shock</li><li>4. Provide air circulation by fanning</li><li>5. Give water (moderately)</li><li>6. Monitor ABC's</li><li>7. Medical care for severe cases</li></ol> <p><b>VIII. HEAT STROKE - EXTREMELY DANGEROUS</b></p> <p>A. Symptoms</p> <ol style="list-style-type: none"><li>1. Headache</li><li>2. Dry, hot skin</li><li>3. Rapid pulse</li><li>4. Dizziness and nausea</li><li>5. Unconsciousness, in severe cases</li><li>6. Extremely high body temperatures (106-109 degrees)</li></ol> <p>B. Treatment</p> <ol style="list-style-type: none"><li>1. Cool victim immediately<ol style="list-style-type: none"><li>a) Open clothing, remove helmet and other gear</li></ol></li></ol>	



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<ul style="list-style-type: none"> <li>b) Apply water or cold packs to body (neck, arm pits, and groin)</li> <li>c) Re-wet as necessary</li> <li>d) Provide air circulation by fanning</li> </ul> <ol style="list-style-type: none"> <li>2. Move indoors or create shade</li> <li>3. Get help quickly</li> </ol> <p><b>IX. SUSPECTED FRACTURES (BROKEN BONES), STRAINS AND SPRAINS</b></p> <p>A. Types of fractures</p> <ol style="list-style-type: none"> <li>1. Open - bone has broken through skin</li> <li>2. Closed - skin has not been broken</li> </ol> <p>B. Signs and Symptoms (for both open and closed fractures)</p> <ol style="list-style-type: none"> <li>1. Patient may have heard bone break</li> <li>2. Pain/tenderness at site</li> <li>3. Discoloration</li> <li>4. Swelling</li> <li>5. Deformity</li> </ol> <p>C. Treatment</p> <ol style="list-style-type: none"> <li>1. Do not move unless absolutely necessary</li> <li>2. Control bleeding (do not use direct pressure over fracture; use pressure points, elevation, and cold packs)</li> <li>3. Immobilize the person</li> </ol>	



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<ul style="list-style-type: none"><li>a) Do not push protruding bone ends back</li><li>4. Treat other injuries</li><li>5. Get help</li></ul> <p><b>X. EYE INJURIES</b></p> <p>A. Simple injury</p> <ul style="list-style-type: none"><li>1. Do not rub</li><li>2. Flush eye with clean water</li><li>3. If unable to flush out, bandage both eyes and seek medical attention</li></ul> <p>B. Serious Injury - impaled object</p> <ul style="list-style-type: none"><li>1. Do not attempt to remove impaled object</li><li>2. Stabilize object with cup placed over object and taped down</li><li>3. Cover other eye<ul style="list-style-type: none"><li>a) Will minimize movement of injured eye</li></ul></li><li>4. Get help</li></ul> <p><b>XI. POISON OAK, SUMAC, IVY</b></p> <p>A. Signs and Symptoms</p> <ul style="list-style-type: none"><li>1. Itching/burning</li><li>2. Redness</li><li>3. Rash</li><li>4. Swelling</li><li>5. Patient may develop a high fever</li></ul>	



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<ul style="list-style-type: none"><li>6. Signs and symptoms may not appear until many hours after exposure</li><li>B. Treatment<ul style="list-style-type: none"><li>1. Report condition to your supervisor</li><li>2. Remove contaminated clothing, if possible</li><li>3. Wash all exposed areas with soap and cold water, if available, as soon as possible after exposure</li><li>4. Lotions and other treatment may be available<ul style="list-style-type: none"><li>a) Medical treatment may be necessary</li></ul></li><li>5. Do not break blisters</li></ul></li></ul>	
<p><b>XII. REPTILES</b></p> <ul style="list-style-type: none"><li>A. Snake Bites<ul style="list-style-type: none"><li>1. Description of poisonous vs. non-poisonous<ul style="list-style-type: none"><li>a) A poisonous bite is usually evidenced by the presence of a pair of puncture wounds, indicating the presence of fangs. Poisonous snakes inject venom via fangs</li><li>b) Non-poisonous bites are usually evidenced by the presence of either a "pinch type" wound or numerous small puncture wounds caused by either the bony ridge or small teeth</li><li>c) Non-poisonous snakes do not inject venom</li></ul></li><li>2. Signs and Symptoms - Poisonous<ul style="list-style-type: none"><li>a) Noticeable bite on skin</li></ul></li></ul></li></ul>	



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<ul style="list-style-type: none"><li>b) Immediate pain reaction to venom<ul style="list-style-type: none"><li>1) In approximately 40% of poisonous bites, the snake does not inject venom</li></ul></li><li>c) Swelling</li><li>d) Discoloration</li><li>e) General weakness</li><li>f) Blurred/dim vision</li><li>g) Nausea and vomiting</li><li>h) Convulsions</li></ul> <p>3. Treatment - Poisonous</p> <ul style="list-style-type: none"><li>a) Keep victim calm</li><li>b) Treat for shock</li><li>c) Remove any constricting objects from bitten extremity<ul style="list-style-type: none"><li>1) Boots, clothing</li></ul></li><li>d) Immobilize bitten extremity - keep at level of heart or below</li><li>e) Apply a light constricting band above and below the wound to restrict venom flow</li></ul> <p><b>NOTE:</b> Explain constricting band</p> <ul style="list-style-type: none"><li>f) Do not apply cold pack to site</li><li>g) Get help</li><li>h) DO NOT CUT on site of venom</li></ul>	



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<p><b>XIII. INSECTS</b></p> <p>A. Ticks</p> <ol style="list-style-type: none"><li>1. Inspect body after working in brush<ol style="list-style-type: none"><li>a) Blousing pants may prevent insects from crawling up legs</li></ol></li></ol> <p>B. Lyme disease literature suggests immediate mechanical removal of tick without squeezing tick's body</p> <ol style="list-style-type: none"><li>1. To mechanically remove tick<ol style="list-style-type: none"><li>a) Wash area with soap and water, if available</li><li>b) Grasp as close as possible to point where it is attached to skin<ol style="list-style-type: none"><li>1) Use small pointed tweezers (if available)</li></ol></li><li>c) Pull firmly and steadily until tick releases its hold<ol style="list-style-type: none"><li>1) Do not twist or jerk the tick</li></ol></li><li>d) Do not squeeze the body of the tick<ol style="list-style-type: none"><li>1) It could act like a hypodermic needle and inject its body contents into the tissue.</li></ol></li></ol></li><li>2. Follow local recommendations about medical treatment for tick related illnesses</li><li>3. Report bite to your supervisor</li></ol>	



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<p>4. If you feel fever, chills, headache, pains, or have skin eruptions on third day, or up to 8 weeks, get medical aid immediately</p> <p>C. Bees</p> <p>1. If person is having trouble breathing, get help immediately</p> <p>a) Allergic reactions are one of the true emergencies</p> <p>2. Treatment</p> <p>a) Do not squeeze stinger</p> <p>b) Remove stinger by lifting it out with the point of a sharp object or scraping it out with the edge of a knife</p> <p>1) Stinger will have a barb on the end</p> <p>c) Cold packs will help relieve pain</p> <p>d) Calamine lotion for itching</p>	<p>Administer Topic Quiz</p>



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## ***SUMMARY:***

Possibly on the fireline, you may be expected to provide limited first aid consisting of a primary survey, bleeding control, treatment of wounds, shock, burns, heat injuries, fractures, strains or sprains, eye injuries, poisonous plants, and snake and insect bites. Remember, always call for assistance anytime first aid is administered, no matter how minor the injury appears. Immediately notify your supervisor of all injuries.

## ***EVALUATION:***

The student will complete a written quiz at a time determined by the instructor.

## ***ASSIGNMENT:***

Review your notes in preparation for the upcoming quiz. Study for the next session.