

Introduction to Wilderness First Aid

University of Scouting

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Definition of Wilderness First Aid

Wilderness first aid is defined by The Wilderness Medical Society as when you are **more than 1 hour from definitive medical care**. Many of our high adventure trips can take us days from medical care.

Wilderness First Aid Courses

To learn more about wilderness first aid, you should take a weekend course in wilderness first aid. The course takes 16 hours and is required for leaders going on Philmont Treks. Some institutions giving the course include:

1. Foster Calm, run by Bobbie Foster, an excellent instructor who comes to the bay area to put on the course for scouting groups and the Sierra Club. Contact information: Foster Calm, 15135 Lake Lane, Nevada City, CA 95959. Phone and Fax: 530-265-0997. WEB: www.fostercalm.com. Email: bobbie@fostercalm.com
2. NOLS – Wilderness Medicine Institute. NOLS is the National Outdoor Leadership School and they teach wilderness first aid all over the country, including several places in the Bay Area. Check out their web site for a course schedule. www.nols.edu/wmi/courses/wildfirstaid.shtml
3. BSA National has developed a new Wilderness First Aid Curriculum in collaboration with medical experts. Check out the BSA website for organizations that are teaching the new curriculum
4. Google "wilderness first aid " to find additional organizations that offer the 16 hour course. The Red Cross teaches WFA and once in a while the Council sponsors a WFA course.

* USE NITRILE GLOVES vs latex

Some Good Books to Learn More About WFA

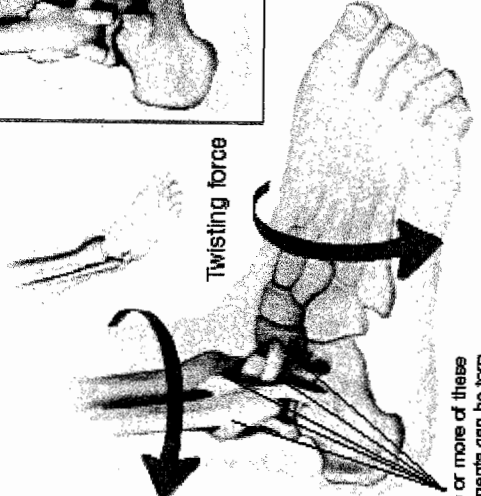
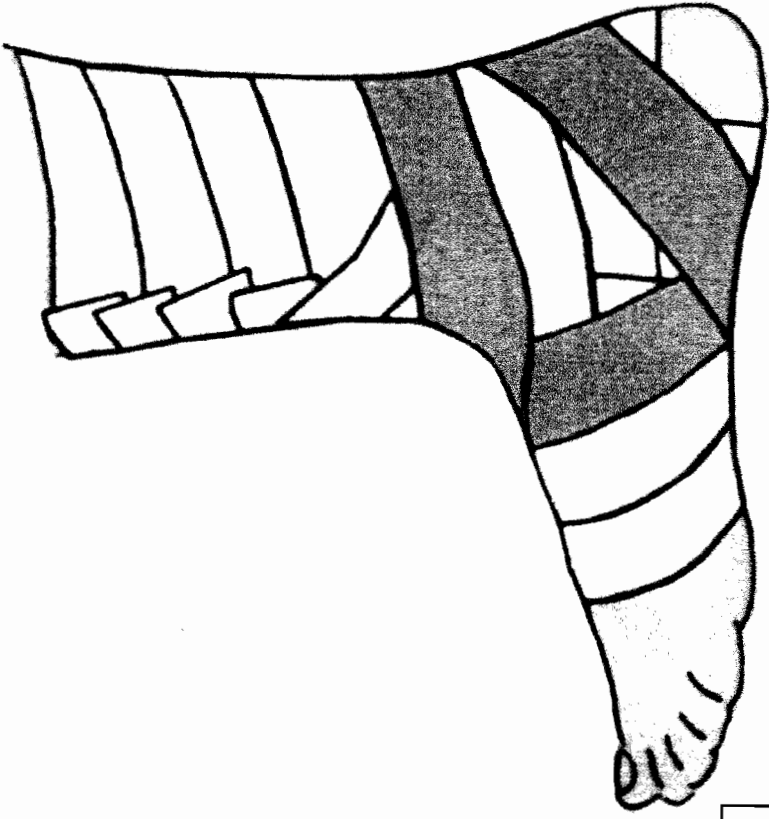
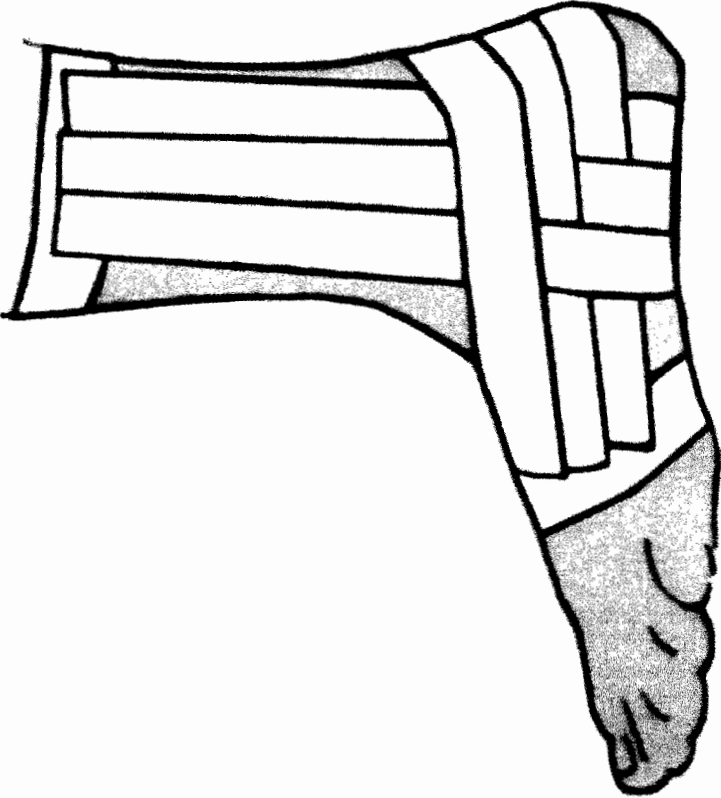
1. A Comprehensive Guide to Wilderness & Travel Medicine 3rd Edition, Eric A. Weiss, Published by Adventure Medical Kits, Berkeley, 2005. An amazingly complete pocket book, small enough to put in a first aid kit. \$14.95
2. Backcountry First Aid and Extended Care, 5th Edition, Buck Tilton, Falcon Guide. Even smaller than the Eric Weiss book. \$ 5.95

Common Wilderness First Aid Problems

- Injuries and Illness are equally common on scout trips
- Some common injuries
 - Abrasions, scrapes
 - Minor lacerations
 - Minor burns
 - Minor orthopedic injuries (ankle sprain, knee or elbow trauma)
 - Minor bumps on the head
 - Bee or yellow jacket stings, mosquito bites
 - Inbedded ticks
 - Sunburn
 - Poison oak exposure
 - Stinging nettle
 - Dirt in eye
 - Blisters
 - Bloody nose
 - Splinters
- Some common illnesses
 - Headache
 - Allergy (nasal, ocular, skin)
 - Asthma
 - Anxiety
 - Fainting
 - Cold, upper respiratory infection
 - Fever
 - Stomach ache, vomiting
 - Diarrhea
 - Heat, cold, altitude intolerance
 - Seizure, epilepsy
 - Car sickness ⇒ Nausea, vomiting
 - ADHD, other psychological conditions.

The 16 hour wilderness first aid courses focus on serious injuries and illnesses, but these disasters are thankfully rare on well planned and well led scout trips.

Taping a Sprained Ankle



Twisting force

One or more of these ligaments can be torn or stretched (see box)

First Aid Kits

Wilderness First Aid - University of Scouting

Boy Scouts of America - Pacific Skyline Council

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Three Kinds of First Aid Kits

1. Personal Kit.

A small kit that should always be with you. Ziploc container is ideal. A small supply of wound care materials and any medications that you personally may need. Should weigh 1-2 ounces. Make two or three kits: one for your day pack, one for your scout briefcase, and one for traveling on business.

2. Trail Kit.

A larger kit for day hikes, bike trips, or backpacking trips. Nylon containers are ideal, and the kit should weigh 1-2 pounds, and contain enough materials for a patrol or a backpacking crew. The longer the trip and the larger the group, the more materials needed.

3. Base Camp Kit .

A troop-sized kit with enough materials to take care of the troop for a week at camp. Large plastic tackle or tool boxes make ideal containers. May contain specialized equipment that is too bulky or heavy for trail kits.

Some Factors to Consider:

Remoteness of trip - The further away from help, the more complete the kit.

Medical expertise - Basic first aider vs physician on trip?

Duration of trip - The longer the trip, the more supplies needed.

People on trip - Special medical problems?

Size of group - The bigger the group, the more supplies needed.

Time of year - Heat & sun problems in summer, cold problems in winter

Location - Snakes? High Altitude? Rocks? Snow? Rivers?

Activity - High Risk? Special injuries or problems?

Types of Containers

1. Ziploc Bags

Ziploc® bags make ideal containers for small personal or trail first aid kits. The contents can be grouped into “modules” such as wound care, medicines, small instruments, and blister care and each module placed in a small Ziploc bag. The individual module bags are then placed in a larger bag so that items can be easily found. Ziploc bags have the advantage of being cheap, light, waterproof, and the contents can be easily seen. Small 1x2” Ziploc bags make ideal pill containers for small supplies of your personal medications.

2. Zippered Nylon Containers

Commercial nylon first aid containers are ideal for larger trail and backpacking kits. They keep the materials nicely organized in separate pockets so that you can easily find things. REI makes several kits and Adventure Medical Kits® makes nylon kits in a wide variety of sizes. An adequate kit for a week long backpacking trip weighs 1-2 pounds.

3. Plastic Tackle or Tool Boxes

A big tackle box or tool box with trays that fold out is a good container for a troop base camp kit. The large nylon EMT or paramedic duffel bag sized kits are also good, but are quite expensive. The kit should contain enough materials to take care of common camp injuries and minor illnesses. If the kit is going to be taken on water trips, a completely water-tight box such as the Pelican® boxes is ideal.

Homemade Versus Store-Bought Kits

There are some very well made commercial first aid kits. The kits made by Adventure Medical Kits are among the best. They are designed by physicians, are well organized, and contain professional supplies. They come in a variety of sizes and some kits are designed for specific sports. I would stay away from the kits in plastic boxes sold at drug stores. A good approach is to buy a good commercial kit designed for outdoor use, and then customize it by adding additional items that you think are necessary.

Contents

First aid materials continue to improve, and many new dressings and first aid materials have become available in the last few years. Modern materials can be found at larger drug stores, REI, surgical supply companies, and mail order companies that specialize in first aid materials (Chinook, etc). The general type of first aid items to put into your kits fall into the following general categories. Detailed lists for each kind of kit are provided in the appendices.

1. Personal protection items:

Nitrile gloves (tougher than latex gloves, less deterioration over time).
CPR Microshield® for mouth to mouth resuscitation

2. Wound and skin cleaning supplies:

Antiseptic towelettes, Betadine pads
Lidocaine Cleaning Pads (From Chinook. Anesthetic pads for road rash, etc)
Alcohol pads, (for intact skin only, not on open wounds)
Adhesive tape remover pads (for intact skin only, not on open wounds)
4x4 gauze pads for scrubbing abrasions
Cotton-tipped applicator sticks
Irrigation syringe (for washing out wounds)
No Cotton Balls...(they bunch up when wet and don't clean well. They are useful for making wicks for topical antibiotic application in external ear infections)

3. Wound dressings: (for direct contact against open wound)

2nd Skin®
Telfa® Non-stick pads
Xeroform®, Adaptic®
Spyroflex® Blister and Abrasion Dressing
Advanced Healing® Band-Aid dressings
Avoid dry dressings such as gauze pads or non-sterile dressings such as Moleskin.

4. Adhesive Dressings:

3/4x3" Adhesive strips, 1x3" Adhesive strips,
2x3" Adhesive dressing, 2x4" Adhesive dressing,
Knuckle dressing, Finger tip dressing], 4-Wing dressing
Tincture of Benzoin (to paint on skin to make adhesive stick better)

5. Adhesive tape and Roll bandages:

1" elastic adhesive tape, 1 1/2" Coach tape,
2" gauze bandage,
4" Coban® or Action Wrap® roll bandage or 4" ACE® bandage
Flex-net® or Surginet® (tubular net, handy for arm and leg dressings)

6. Wound repair:

Steri-Strips® or Proxi-Strips® (a big improvement over butterfly strips)
Tincture of Benzoin (mandatory for good skin adhesion)
Band-Aid Liquid Bandage® is a new cyanoacrylate tissue adhesive that can close minor cuts under no tension. This is the same cyanoacrylate adhesive used in emergency rooms for minor wound repair.

7. Blister prevention and treatment:

Moleskin, Molefoam (for prevention)
2nd Skin®, Spyroflex® blister and abrasion dressings (for treatment)
Band-Aid Advanced Healing Blister dressings or Dr. Scholl's blister dressings

8. Instruments and Utility items:

Good quality surgical scissors
Splinter forceps
Sterile needle
Safety pins

Wound Irrigation syringe
Fever thermometer (Mercury or digital. Avoid forehead tape-on thermometers)

NB: I have not included the Sawyers Extractor® in my recommendations, as there is now experimental evidence that the device may not improve outcome of rattlesnake bite and may damage the skin (Reference 12).

9. Orthopedic items:

Triangular bandage
SAM Splint®
4" Ace bandage or 4" Action Wrap bandage

10. Medications:

Tylenol, Ibuprofen, Aspirin (don't give aspirin to Scouts with fever)
Immodium, Pepto Bismol, Antacids (Tums, Maalox, Pepcid AC, etc)
Antihistamine (Benadryl®), Decongestant (Sudafed®)
Nasal decongestant spray (Afrin), Eye drops (Refresh®, etc)
Polysporin ointment
Burn Gel® (contains lidocaine, a good anesthetic for wounds and burns)
EpiPen® if there are people with dangerous food or bee allergies

11. References, Accident Report Forms:

Small first aid book (Weiss book best)
Accident report form from Seattle Mountaineers

WHERE TO BUY MEDICAL SUPPLIES

Drug Stores (Los Altos Pharmacy has an unusually good selection of first aid materials. 295 Main Street, Los Altos, CA 94022. Phone: 415-948-1212)

REI (Recreational Equipment, Inc., Carries pre-made first aid kits, as well as empty bags and supplies. Many stores throughout the west (San Carlos, Mountain View, Saratoga are closest)

San Jose Surgical Supply (Carries a complete line of medical supplies. You don't need to be a physician to buy dressings, scissors, etc. 902 S. Bascom Ave., San Jose, CA 95128. Phone: 408-293-9033)

Adventure Medical Kits, P.O.Box 2586, Berkeley, CA 94702.

www.adventuremedkits.com. This company sells a complete kit as well as the individual components. A very well thought out kit.

Chinook Medical Gear, INC. 120 Rock Point Drive, Unit C
Durango, CO 81301. 970-375-1241. Web Site: www.chinookmed.com
A mail order company that sells a broad variety of medical equipment and first aid supplies for outdoor use:

Travel Medicine, INC., 351 Pleasant St., Suite 312, Northampton, MA 01060.
www.travmed.com

Internet Orders: There are many companies that have web sites that have extensive catalogs of first aid and medical items. Do a web search for first aid or medical supplies or wilderness first aid.

SOME ADVICE

1. No kit is perfect, everyone makes different choices. With experience you will learn which items are most useful.
2. Choose items for versatility - several uses for each item.
3. Avoid redundancy - you don't need four different kinds of adhesive tape!
4. Take things that you are personally familiar with. Don't take things that you aren't competent to use (e.g.. suture kits for non-physicians)
5. Fine-tune your kit before each trip depending on the factors discussed above.
6. Refurbish kit every year (before the big trip), and replace items used as soon as you return from the trip. Keep a record of items used and things that should be added or eliminated.
7. **The most important first aid supplies are carried in your brain.**

REFERENCES

1. Medicine For The Outdoors, The Essential Guide to Emergency Medical Rrocedures and First Aid. Paul S. Auerbach, M.D., The Lyons Press, New York, 1999. \$22.50. An excellent book by the author of the much larger definitive textbook.
2. Wilderness 911. A Step-by Step guide for Medical Emergencies and Improvised Care in the Backcountry. Eric A. Weiss, M.D., The Mountaineers, Seattle, 1998. \$16.95 Another excellent book with much good information and advice.
3. Medicine for the Backcountry, 2nd Edition. Buck Tilton, M.S. and Frank Hubbell, D.O. ICS Books, Globe Pequot Press, Old Saybrook, Connecticut, 1994. \$14.95. Written by an experienced wilderness EMT.
4. A Comprehensive Guide to Wilderness and Travel Medicine. Eric A. Weiss, M.D., Adventure Medical Kits, Oakland, CA, 1997. \$6.95. Concise but thourough, and small enough to put into a first aid kit.
5. Outdoor Emergency Care. Warren D. Bowman, Jr., M.D., National Ski Patrol, 1988. About \$25. An outstanding book, with an emphasis on skiing injuries.
6. Dardick KR, General Advice and Medical Kit in Medical Clinics of North America, 1992;76:1261-76.

7. Drugs for Pain, in Medical Letter, 1993; 35:1-6. A good discussion on the management of pain, something that every first aider should be able to manage.
8. Wilderness Medical Society Practice Guidelines for Wilderness Emergency Care, Forgey WF, Editor, ICS Books, Inc., Merrillville, Indiana, 1995. \$12.95
9. Wilderness Medicine, Beyond First Aid, Fifth Edition. William W. Forgey, M.D., The Globe Pequot Press, Guilford, Connecticut, 2000. \$14.95. Sound medical advice from a venerable wilderness physician. Good discussion on non-prescription medications.
10. Wilderness Medicine, Fifth Edition, Paul S. Auerbach, M.D., Mosby, St. Louis, 2007. \$199. The definitive reference book for wilderness medicine.
11. Mountaineering. The Freedom of the Hills, 7th Edition, Editors: Don Graydon and Kurt Hanson, The Mountaineers, Seattle, 2003. \$24.95. Contains a good accident report form, and excellent information on the management of wilderness emergencies.
12. Effects of a negative pressure venom extraction device (Extractor) on local tissue injury after artificial rattlesnake evenomation in a porcine model. SP Bush, KG Hegewald, SM Green, MD Cardwell, WK Hayes, Wilderness and Environmental Medicine, 11(3):180-188 (2000).

Item	Quantity	Intended Use / Comments
Small Band Aid Module		
3/4" Band-aids	6 each	Flexible fabric, for small wounds
1" Band-aids	16 each	Flexible fabric, for small wounds
Large Band Aid Module		
2x3" Coverlets	4 each	Flexible fabric, for larger wounds or blisters
2x4" Band-aids	4 each	Flexible fabric, for larger wounds or blisters
Large Adhesive Dressing Module		
4-wing dressing	2 each	For knee and elbow wounds
2 X 3" Advanced Healing Dressing	1 each	For dressing large heel blisters
Adhesive pad, medium, 2 1/4 x 3"	1 each	For dressing large abrasions
Adhesive pad, large, 2 1/4 x 4"	1 each	For dressing large abrasions
Specialized Adhesive Dressing Module		
Knuckle Dressing	3 each	For fingers at the knuckle
Large Digit Dressing	2 each	For finger and toe tips
Advanced Healing Small bandaid	1 each	Waterproof dressings for blisters and small wounds.
Wound Closure Module		
Steri-Strips	10 strips	Steril tape strips for wound closure
Band-Aid Liquid Bandage	2 each	Single use for sealing small abrasions or skin cracks
Tincture of benzoin swabs	2 each	For increasing skin adhesion for steri-strips or blister dressings
Cotton-tipped swabs	8 each	For cleaning wounds, etc.
Blister Module		
Moleskin	3 sheets	For blister prevention on intact skin. NOT FOR BLISTER TREATMENT
2nd Skin	3 Sheets	For blisters or burns or wound dressings
Blister Dressing	4 each	For treatment or prevention of blisters.
Tincture of Benzoin Swabs	2 each	For increasing skin adhesion with blister dressings
Non-Adhesive Dressings Module		
3x3 Gauze Pads	4 pads	For wound cleaning &/or dressing
4x4 Gauze Pads	2 pkg of 2 pads	For wound cleaning &/or dressing
Adaptic Dressing, 3x3"	1 each	For burns, abrasions
Oval eye pad	1 each	For eye injuries
Tube-Net Bandage	1 each	A tubular net for holding dressings to hand, arm, legs.
Xeroform Dressing, 1X8"	1 each	An antibacterial dressing for burns. Good for packing ingrown toenails.
Tape and Roll Bandages Module		
1" Elastoplast tape	1 roll	For taping on dressings
1 1/2" Athletic or Coach Tape	1 roll	For taping a sprained ankle
3" Coban Bandage	1 roll	An elastic, self adhering bandage for ankle wrap or pressure dressing for wounds
Sealed Wound Care Pads Module		
Benzalkonium Antiseptic Pads	6 pads	For wound cleansing
Povidone Iodine Pads	3 pads	For skin disinfection
Isopropyl Alcohol Pads	4 pads	For cleaning intact skin only. Good for removing tincture of benzoin
Adhesive tape remover pads	2 pads	For intact skin only, to remove adhesive tape gum and pine sap
Sting relief pad	2 pads	For relief of insect stings
Medicaine swabs	2 swabs	20% Benzocaine for local anesthesia
Hand Sanitizer	2 each	For sterilizing hands
Orthopedic Module		
SAM Splint	1 each	For splinting arm or neck injuries
Triangular bandage	1 each	Arm Sling, cravat dressing
SAM finger splint	1 each	For splinting injured fingers
Analgesic Medications Module		
Aspirin tablets-325 mg	2 tablets	For mild pain or thrombosis. Do not use for fever in Scouts (Reye's Syndrome). Take 1-2 tablets every 4-6 hours
Ibuprofen tablets, 200 mg	8 tablets	For moderate pain or inflammation. OK for scouts with fever. Take 2 tablets every 4-6 hours
Acetaminophen, 325 mg tablets	4 tablets	For mild pain or fever. OK for Scouts. Take 1-2 tablets every 4-6 hours.

8-10 Day Trip

Item	Quantity	Intended Use / Comments
Gastrointestinal Medications		
Module		
Pepto-Bismol (Diotame) tablets	4 tablets	For upset stomach, diarrhea. Take 2 tablets as needed
Immodium(Diamode) 2mg tablets	6 tablets	For diarrhea. Take two tablets, then one tablet after each loose BM
Antacid (Almag) tablets	4 tablets	For heartburn, Indigestion. Take 2 tablets once a day
Cold and Allergy Module		
Benadryl, 25 mg tablets	4 tablets	Sedating Antihistamine for allergy,itching, hives, insomnia. Take 1-2 tablets every 4-6 hours.
Claritin, 10 mg tablets	3 tablets	Non-sedating antihistamine, for allergy, hives, itching. Take one tablet/day
Sudafed, 30 mg tablets	6 tablets	Decongestant. Take 1-2 tablets every 4-6 hours.
Sore Throat Lozenges	3 lozenges	For sore throat. Dissolve 1 lozenge in mouth as needed.
Topical Medication Module		
Neosporin® Antibiotic ointment	4 packets	For prevention or treatment of skin or eye infections. Apply 1-3 times/day
Hydrocortisone cream, 1%	3 packets	Cortisone cream for treatment of itching, insect bites, skin rash, Apply twice a day.
Antifungal cream	small tube	Antifungal for athletes feet, jock itch, ringworm. Apply to affected area twice daily
Antihistamine (Calage) gel	2 packets	For itching, mosquito bites, rash, hives. Apply as needed.
Lubricating eye drop ampoules	3 ampoules	For dry, irritated eyes. Apply to both eyes as needed.
Instruments		
Irrigation syringe 10 cc	1 each	To irrigate wounds with clean water. Can add an povidone iodine pad to water to make a mild antiseptic solution
Surgical scissors	1 each	To cut dressings, trim moleskin, etc
Small scissors	1 each	For delicate cutting or trimming edges of open blisters
Splinter forceps	1 each	To remove splinters, thorns, and ticks
Fever thermometer	1 each	To diagnose sick scouts
Scalpel blade-#11	1 each	To lance abscesses and trim wounds, etc
Sterile needle	3 each	To remove imbedded splinters, or to drain blisters
Safety pins	2 each	General use
Self Protection Module		
Medium nitrile gloves	1 pair	To protect against infection
Large nitrile gloves	1 pair	To protect against infection
Microshield CPR Shield	1 each	To protect against infection during CPR
Written Materials		
List of First aid Kit Contents	1 each	A reminder of the kit contents and their intended use
Accident Report Form	1 each	A two-part sheet to record accident details and to record pertinent information for getting outside help.

FIRST AID/ACCIDENT REPORT FORM

START HERE _____ **FINDINGS** _____ **FIRST AID GIVEN** _____

Airway, Breathing, Circulation
Deadly Bleeding

ASK WHAT HAPPENED:

ASK WHERE IT HURTS:

TAKE PULSE AND RESPIRATIONS PULSE RESPIRATIONS

HEAD-TO-TOE EXAMINATION

HEAD: Scalp—Wounds
Ears, Nose—Fluids
Eyes—Pupils
Jaw—Stability
Mouth—Wounds

NECK: Wounds, Deformity

CHEST: Movement, Symmetry

ABDOMEN: Wounds, Rigidity

PELVIS: Stability

EXTREMITIES: Wounds, Deformity
Sensations & Movement
Pulses Below Injury

BACK: Wounds, Deformity

SKIN: Color
Temperature
Moistness

STATE OF CONSCIOUSNESS

PAIN (Location)

LOOK FOR MEDICAL ID TAG

ALLERGIES

VICTIM'S NAME

COMPLETED BY

AGE

DATE

TIME

RESCUE REQUEST

Fill Out One Form Per Victim

TIME OF INCIDENT _____
A.M. _____ P.M. _____ DATE _____

NATURE OF INCIDENT

FALL ON ROCK SNOW FALLING ROCK
 CREVASSE AVALANCHE

ILLNESS EXCESSIVE HEAT COLD

BRIEF DESCRIPTION OF INCIDENT

INJURIES (List Most Severe First)	FIRST AID GIVEN
SKIN TEMP./COLOR:	
STATE OF CONSCIOUSNESS:	
PAIN (Location):	

RECORD:

Time	Initial	When leave scene
Pulse		
Respiration		

VICTIM'S NAME _____ AGE _____

ADDRESS _____

NOTIFY (Name) _____

RELATIONSHIP _____ PHONE _____

OTHER COMMENTS:

DETACH HERE—SEND OUT WITH REQUEST FOR AID

TEAR HERE—KEEP THIS SECTION WITH THE VICTIM

