

Wilderness Emergency Medical Services Institute

A Project of the
Appalachian Search and Rescue Conference
and the Center for Emergency Medicine of
Western Pennsylvania



Personal Wilderness Medical Kit List

Version 1.01 (footnoted version)[†] July, 1994

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1. Principles

1.1. Durable: Must be able to last a long time despite abuse

1.1.1. Must be able to withstand mechanical trauma: crushing, drop shocks

1.1.2. Must be able to withstand temperature extremes

1.1.3. Must be usable despite occasional outdated medications

1.1.4. Must be waterproof[‡]

1.2. Flexible:

1.2.1. Must be able to handle most common or serious problems with combinations of equipment and medications

1.2.2. Must be usable for dogs and horses

1.2.3. Medications must have multiple uses

1.2.4. Must be able to separate into smaller modules for short tasks, so as not to have to carry entire kit on every task, especially if it is a "bash" team trying to get into a patient as quickly as possible[§]

[†]This version contains a section on Principles and many explanatory footnotes. A "pocket" version with none of these additions is also available.

[‡]This document will not specify how to pack and store the medical kit. It is up to SAR teams or individual medics to establish packaging suitable for their own environment and uses. A companion document with ideas for packaging will be produced at some point.

[§]Selections for these modules are based on most common task lengths in the WEMSI primary service area.

WEMSI Personal Wilderness Medical Kit List

Page 2 of 13

- 1.2.5. Must be adequate for mutual aid requests to other regions (i.e., must carry medications for high altitude illness, even for cave rescue personnel)
- 1.3. **Simple and Small:** must be light and compact
- 1.4. **Extensive Enough:**
 - 1.4.1. providers should have enough medication to start treatment for common problems in the field, then to get home, get an appointment with their family doctor, and have the condition re-evaluated, a minimum of 3 days
 - 1.4.2. can add medications from the team medical kit for known conditions of patient, e.g., phenytoin, insulin
- 1.5. **Inexpensive:** prehospital personnel must purchase medications with own money (SAR teams can't afford to provide medications) so medications must not be too expensive
- 1.6. **Safe:**
 - 1.6.1. Must contain instructions on safe use of medications[†]
 - 1.6.2. Should not contain medications that are unsafe after exposure to environmental extremes, or if outdated
- 1.7. **Accountability and Security:**
 - 1.7.1. Must meet DEA requirements for controlled drugs:
 - 1.7.1.1. Dispensing to individual Wilderness EMTs
 - 1.7.1.2. Logging distribution
 - 1.7.1.3. Logging use
 - 1.7.2. Must be kept secure, as much as possible during wilderness travel (small, lightweight travel lock on nylon case)[‡]

[†]Will be included in Standing Orders.

[‡]Comment> I doubt a small travel lock will be much of a deterrent to anyone who really wants to get into a nylon case.

Reply> No, it won't, but DEA says you've gotta keep narcotics under lock and key, and there's no point in anything more secure than such a little lock for a medical kit that is in a nylon bag. Even a Pelican case ain't much more secure, and weighs a lot more. I favor putting things into a hard case only when really needed.

WEMSI Personal Wilderness Medical Kit List

Page 3 of 13

- 1.8. **Easy:** Must have easy way to keep medications up to date for Wilderness EMTs[†]

2. *Organization*

- 2.1. **General:** the kit is divided into several modules. The **Minimum Kit** (and the **Advanced Module** for those with ALS accreditation) is always carried, even if on a rapid response for a rescue, or a small, highly mobile scratch ("hasty") search team. The **Search Module** is carried for most search tasks, especially if the team is fairly large or will be in the field for an extended period. For some searches, both cave and above ground, it may be appropriate to "stage" a Search Module at a central location that will be easily accessible to all search teams, should a team member require its use. For a large team that may split up, several WEMTs may each take a minimum kit with only one WEMT carrying the full search module. The design of several commercial medical kit bags allows a large belt pouch which can Velcro into a larger bag. The belt pouch would be ideal for the minimum kit, and the larger bag for the search kit. (See diagram, last page.)
 - 2.1.1. **Minimum Kit:** every WEMT who has "command" shall carry this kit whenever on a search and rescue operation.
 - 2.1.2. **Advanced Kit:** in addition to the Minimum Kit, every WEMT with advanced training (EMT-Intermediate and above) and WEMSI accreditation to perform advanced skills should carry this additional kit whenever on a search and rescue operation.
 - 2.1.3. **Search Kit** This includes drugs for common or serious problems that might affect a team member if involved in a long search task, but are unlikely to be a significant problem on a short task. This should be carried by WEMTs whenever going on a search, as opposed to rescue, task.

[†]The prescription form will have a place to note expiration dates.

WEMSI Personal Wilderness Medical Kit List

Page 4 of 13

Minimum Kit

Prescription-only items are noted by *Rx*

Number/amount Item and size/strength _____

Pain Meds[†] _____

- ☐ #20: ibuprofen 200 mg tablets (e.g., *Advil*®, *Nuprin*®, *Motrin*®)[‡]
- ☐ *Rx* #25: acetaminophen with hydrocodone tablets (e.g., *Vicodin*®,
 Lortabs®, *Anexsia*®: 500 mg acetaminophen, 5 mg
 hydrocodone)[§]

Allergy _____

- ☐ *Rx* #1: injectable epinephrine anaphylaxis kit (*Epi-Pen*®) (may omit if
 have advanced module with injectable epinephrine)
- ☐ *Rx* #1: albuterol Rotocap™ inhaler[¶]

[†]In Minimum Kit because: WEMT-Basics may need to give pain medications to the injured to assist self-rescue.

[‡]Oral pain medications may allow a patient to self rescue and thus are part of the Minimum Kit. The Advanced Kit contains injectable narcotics but a basic provider might have to use the kit and thus should have access to oral medications.

[§]Some suggested sublingual morphine as a noninjectable stronger narcotic; I've not been able to find any morphine products marketed for this use, nor any good information on any pill formulations that could be used this way. Also suggested was Duragesic® slow-release fentanyl patches; however, they take a long time to build up, and thus are not very appropriate for immediate acute pain. They might be acceptable for long-term pain relief during an evacuation, but that's not the purpose of this personal wilderness medical kit. They might make a good addition to a team kit.

[¶]Comment> I would recommend using a metered dose inhaler rather than RotoCaps in a wilderness environment. Though it is controversial, many of my pulmonary colleagues think there are potential problems using RotoCaps in humid (i.e., coastal, rainy, the South in the summer) environments. When humid, the particles may aggregate and not be deposited effectively in the distal airways.

Reply> Interesting. I hadn't heard about this. A dispenser and the four rotocaps that fit inside (with a little trimming of the blister packages) is less than half the size of a metered-dose inhaler, and about a fourth the weight. And remember, we're asking people to carry this stuff with them all the time. Is the extra weight worth it? Ask your pulmonary friends, add in your own memories of carrying a pack during a long search, and please get back to me with your thoughts.

Another commentor also queried whether there would be problems with the Rotohaler working well in the field.

WEMSI Personal Wilderness Medical Kit List

Page 5 of 13

Number/amount Item and size/strength

- ☐ Rx #4: Rotocap™ albuterol capsules for above
- ☐ #6: diphenhydramine 25 mg tablets (e.g., *Benadryl*®)†
- ☐ Rx #20: prednisone 10 mg tablets‡§

GI

- ☐ #12: 2 mg. loperamide tablets (e.g., *Imodium*®)
- ☐ Rx #10: prochlorperazine tablets 10 mg. (e.g., *Compazine*®)††

Re-Reply> When I queried the attendings I have heard express skepticism over the use of powder inhalers in the past, none of them could provide a reference to support their claims. On searching the literature, I could find little objective data to substantiate this as a big problem. In fact, the best article (Hiller et al, J. Pharmaceutical Sci 1980; 69(3):334-7.) indicated that ALL aerosols tested had increases in particle size at high humidity and that MDI's [Metered Dose Inhalers] tended to be MORE unstable than powder-generated aerosols! Given these facts, I retract my concerns about use of powder inhalers and vow to distrust all of my attendings for at least 6 mos.

I still think MDI's might offer some advantages in terms of # of doses per oz. and more universal knowledge of technique, but I don't feel strongly enough to recommend one system over the other. The point may become moot over the next few years as CFC's are banned in other products and the price of MDI's goes up (maybe a lot) since the propellant will be less widely available.

†Comment> Does one need two sedating antihistamines (benadryl and chlortrimeton)? Perhaps Seldane® would be preferable to the latter.

Reply> 1. Don't like the Seldane/erythro interaction.

Reply> 2. Seldane is a poor antihistamine for acute (as opposed to chronic) use.

Reply> 3. We wanted both a short, strong-acting antihistamine (diphenhydramine=Benadryl®) for acute short reactions (beestings, dystonic reactions, etc.), and something longer-acting for more long-lived problems (rhinitis, poison ivy, etc.) and Chlor-Trimeton 12 mg extended pills are the least sedating good Q12H antihistamine we could find.

‡In Minimum Kit because: may be needed to treat bronchospasm or allergy, and the epi and albuterol will wear off in relatively short order (hours).

§Comment> I would recommend more prednisone tablets. 60 mg is one dose for an asthma exacerbation.

Reply> Agree. Increased from 6 to 20 to allow multiple large doses for problems such as high altitude cerebral edema, severe allergy, or severe asthma.

††In Minimum Kit because: motion sickness, vomiting and diarrhea may all immobilize a rescuer.

††Comment> I think compazine suppositories might be preferable to pills, but I recognize the storage problems etc.

Reply> People can grind up a pill, mix it with an M&M from their gorp, or some antibiotic

WEMSI Personal Wilderness Medical Kit List

Page 6 of 13

Number/amount Item and size/strength

☐ #4: 25 mg. chewable meclizine tablets (e.g., *Bonine*®)[†]

☐ Rx #4: *Trans-Derm/Scop*® transdermal scopolamine patches

Stings and Bites[‡] -----

☐ 1: Sawyer Extractor™ Kit

☐ #1: 15 cc bottle *Sting-Eeze*® solution[§]

Cardiac -----

☐ #30: aspirin tablets, 325 mg (5 gr.)^{††}

☐ Rx #6: nifedipine 10 mg capsules (e.g., *Procardia*®, *Adalat*®)^{‡‡}

ointment, and make their own suppository.

[†]Comment> GI: Isn't meclizine an Rx in the U.S.?

Reply> If bought as Antivert®, yes; if bought as Bonine®, no.

[‡]In Minimum Kit because: bites and stings occur unpredictably and these treatments must be applied immediately to be of any use. Local sting treatment is included because the pain from multiple stings may be disabling to a rescuer.

[§]Comment> Is Sting-Eeze of proven efficacy?

Reply (KC)> No good scientific evidence I'm aware of, but anecdotally it works like a charm. It's a witches' brew of all available OTC anesthetics and sting relievers. I've used it with good success myself; it really helps.

^{††}In Minimum Kit because: aspirin so important in the early treatment of unstable angina or MI, which is becoming more common in the wilderness.

^{‡‡}Some have suggested to move 2/3 of each of the analgesics, etc. into the search kit, but this makes the kit as a whole more cumbersome; also, it makes it more likely that the minimum kit will be out of a medicine when needed.

^{‡‡}Comment> Advanced stuff: I would add sublingual nitroglycerin and/or paste to the list.

Reply> They don't last long in a pack, especially in the summer and if being kept in a car trunk; keeping things updated in a SAR pack is a big problem, too. We decided to simply rely on nifedipine for vasodilation, coronary disease, etc.

WEMSI Personal Wilderness Medical Kit List

Page 7 of 13

Number/amount Item and size/strength _____

Antibiotics Etc.[†] -----

- ☐ Rx #24: erythromycin tablets 250 mg.[‡]
- ☐ Rx #12: ciprofloxacin (e.g., *Cipro*®) 250 mg. tablets[§]
- ☐ #3: 1 g foil packets bacitracin or povadone-iodine ointment[¶]
- ☐ #1: 30 cc bottle mild liquid soap, e.g., *Hibiclens*®, or, a small piece of solid soap (to save weight)^{††}
- ☐ 1: 15 cc bottle povadone-iodine solution (e.g., *Betadine*®)^{‡‡}

[†]Both erythromycin and ciprofloxacin in Minimum Kit because: might have patient with open fracture and wish to administer oral antibiotic immediately; might have team member with severe diarrhea who needs ciprofloxacin immediately; antibiotics may be lifesaving if the patient is ill with a serious infection rather than injured.

[‡]Comment > Rather than erythro, you might consider one of the newer macrolides. Azithromycin, though costly, offers the advantages of good GI tolerance (and we're in the woods after all) and the ability to carry a 2 week course in 6 pills.

Reply > Yes, but Zithromax® [azithromycin] is _very_ expensive, and these people need to buy their own drugs. If it were the same cost as erythro, would agree. It's also pregnancy category B, unlike Biaxin® [clarithromycin], so azithromycin is a better choice for that reason. However, unlike erythro, azithro is not a pediatric medication.

Many others suggested azithromycin as an alternative, and that samples are available; but doubt we can get enough samples for all who will need it.

Decreased from 40 to 24; this will provide 6 days of 250 QID, or 3 days of 500 QID. Resisted the temptation to go with just 500 mg tablets; 250 mg tablets allow spacing doses better for those with GI intolerance.

[§]Some have argued for the addition of various favorite antibiotics: cephalexin, among others. We have resisted the temptation to provide an antibiotic for every conceivable condition, instead trying for one with good gram positive coverage that can be given to just about anyone (erythromycin), and one with excellent gram negative coverage, including all common causes of infectious diarrhea and UTIs.

Changed from 20 to 12. This should provide 6 days of 250 BID, or 3 days of 500 BID.

[¶]Can also be used as lubricant if needed.

^{††}Solid soap is not ideal, but is much lighter, and can be combined with some povadone-iodine solution for antibacterial effect.

^{‡‡}Comment > Do we need Hibiclens®?

Reply > Dunno about Hibiclens; might be nice, but again it's heavy. Plain soap (Dr. Bronner's, or whatever one's carrying) is probably OK.

Some suggested using foil packets of povadone-iodine solution; however, we've talked with enough people who've had them explode in their medical kits to stick with the more-rugged 15cc bottles.

WEMSI Personal Wilderness Medical Kit List

Page 8 of 13

Number/amount	Item and size/strength
Thermometer -----	
<input type="checkbox"/> 1:	Becton-Dickinson digital thermometer (may substitute Radio Shack™ or similar continuous-reading digital thermometer)
<input type="checkbox"/> 1:	spare battery for above
<input type="checkbox"/> 10:	thermometer covers for above†
Misc. -----	
<input type="checkbox"/> #4:	thiamine (vitamin B-1) 300 mg. tablets‡
<input type="checkbox"/> Rx #4:	haloperidol 5 mg. tablets (e.g., <i>Haldol</i> ®)§
<input type="checkbox"/> #2:	packets <i>Gatorade</i> ® or <i>ERG</i> ® powder, each to make 1/2 liter
<input type="checkbox"/> 2 pr:	exam gloves¶
<input type="checkbox"/> 1:	CPR shield
<input type="checkbox"/> 1:	1" (by at least 10 yards) waterproof adhesive tape††
<input type="checkbox"/> 3:	small prepackaged units of tincture of benzoin‡‡
<input type="checkbox"/> 1:	3" by 5 yards (stretched) elastic bandage (e.g., <i>Ace</i> ®, <i>Coban</i> ®, <i>Vet-Wrap</i> ®)
<input type="checkbox"/> 1:	3" by 5 yards (stretched) conforming roller gauze (e.g., <i>Kling</i> ®)
<input type="checkbox"/> 8:	medium-size (e.g., 3" x 3") gauze pads§§

†Can use antibiotic ointment as lubricant.

‡Comment> Why do we need thiamine?

Reply> To give to people who have been starving for a long time (i.e., weeks) when first feeding them, to prevent cardiovascular collapse (get a copy of the current Section 4 of WEMT Curriculum from the Center for Emergency Medicine, 412-578-3200, if you want the details).

§Comment> I'm not sure I see the need for PO Haldol®.

Reply> EMT-Basics need to sedate patients, too.

¶No stethoscope is included, as can simply place ear against the chest or abdomen for lung or heart or bowel sounds; and, BP cuff and stethoscope too heavy and of only minor utility compared to the weight.

††Increased from 3 to 10 yards, and added the word "cloth," to allow for taping an ankle securely with the contents of just one personal medical kit.

‡‡This was added due to the great difficulty of getting tape or even Band-aids™ to stick in wet weather.

§§Some have suggested the addition of a triangular bandage; however, this can usually be improvised from something such as the tail of someone's shirt; or, duct tape can be used instead.

WEMSI Personal Wilderness Medical Kit List
Page 9 of 13

<u>Number/amount</u>	<u>Item and size/strength</u>
<input type="checkbox"/> 1:	OB-type compressed vaginal tampon [†]
<input type="checkbox"/> 3:	#11 scalpel blades, sterile
<input type="checkbox"/> 1:	string for ring removal
<input type="checkbox"/> 1:	paper clip, medium size [‡]
<input type="checkbox"/> 1:	nylon zipper bag or equivalent for MEDKIT
<input type="checkbox"/> 1:	waterproof contents/protocols/standing orders [§]
<input type="checkbox"/> 5:	one-pint freezer-style zip lock plastic bags (if not available elsewhere in SAR pack)

[†]This makes a compact but very absorbent dressing; some suggested adding various types of trauma dressing, but we opted to pick something that was very small, not wanting to increase the size of the kit. Of course, it can also be used as a tampon for a female patient with menstrual flow.

[‡]For trephining subungual hematomas.

[§]Will be provided by WEMSI.

WEMSI Personal Wilderness Medical Kit List

Page 10 of 13

Advanced Kit[†]

- ☐ Rx 2: ketorolac tromethamine 60 mg. injection (e.g., *Toradol*®)
- ☐ Rx 2: morphine sulfate 10 mg. injection
- ☐ Rx 2: naloxone 2 mg. injection (e.g., *Narcan*®)
- ☐ Rx 1: ceftriaxone 2 g injection and sterile water for reconstitution (e.g., *Rocephin*®)[‡]
- ☐ Rx 2: epinephrine 1 cc 1:1000 injection: substitutes for Epi-Pen in basic kit
- ☐ Rx 2: diphenhydramine 50 mg/1cc injection (e.g. *Benadryl*®)
- ☐ Rx 2: prochlorperazine injection 10 mg/2cc (e.g., *Compazine*®)
- ☐ Rx 2: haloperidol 5mg/1cc injection (e.g., *Haldol*®)
- ☐ Rx 2: dexamethasone 100mg/10cc injection (e.g., *Decadron*®)[§]
- ☐ 6: alcohol prep pads, in foil
- ☐ 1: Tubex™ injector
- ☐ Rx 2: 1 cc syringes
- ☐ Rx 2: 3 cc syringes
- ☐ Rx 2: IM needles
- ☐ Rx 2: SQ needles
- ☐ Rx 2: 18 ga over-the-needle IV catheters[¶]
- ☐ Rx 1: 6.5 mm endotracheal tube^{††}

[†]Physicians may want to add: penicillin, caffeine pills for caffeine withdrawal headaches, trimethoprim/sulfamethoxazole, Pyridium®, Duragesic® patches, IV midazolam, IV ketamine, IV thrombolytic (Eminase® is at present the best choice, as can be used in a single dose), a cobalt blue penlight, a pocket otoscope and ophthalmoscope, a prescription pad, Merocel® epistaxis tampons, a Foley catheter, a small skin stapler, some local anaesthetic, wire saw for amputations, and a Kelly clamp, needle holder, and suture material, at least for tying off bleeders.

[‡]Comment> I would consider increasing ceftriaxone to 2 g for a full 24 hrs supply.

Reply> Agree.

[§]For treating high altitude cerebral edema, asthma or other bronchospastic problems, or severe allergy.

[¶]For relieving tension pneumothorax.

^{††}Can be placed by digital technique even without a laryngoscope.

WEMSI Personal Wilderness Medical Kit List

Page 11 of 13

Search Kit

Number/amount Item and size/strength

Pain Meds Etc. -----

- ☐ #30: acetaminophen tablets, 325 mg (e.g., *Tylenol*®)[†]
- ☐ Rx #4: cyclobenzaprine 10 mg. tablets (e.g., *Flexeril*®)[‡]
- ☐ Rx #4: phenazopyridine hydrochloride 200 mg. tablets (e.g., *Pyridium*®)[§]

Cough, Cold, Allergy Etc. -----

- ☐ #1: 3 cc squeeze bottle oxymetazoline nasal spray (e.g., *Afrin*®)
- ☐ #8: 12-hour sustained-release pseudoephedrine tablets 120 mg. (e.g., *Sudafed*®)
- ☐ #8: 12-hour sustained-release chlorpheniramine tablets 8 mg. (e.g., *Chlor-Trimeton*®)[¶]
- ☐ #8: dextromethorphan-containing cough drops (e.g., *Hold*®)

[†]Comment> Does one really need aspirin and ibuprofen? Both decent analgesics and NSAIDs.

Reply> Yes, but aspirin can be used by itself for the anti-platelet effect, for example for a student at our last WEMT class; he had coronary-ish chest pain first relieved by SL NTG but later returned and it was unrelieved by NTG. Aspirin is important for this. And, some people really do better with aspirin than acetaminophen or ibuprofen for minor aches, or at least think they do.

[‡]Comment> Rather than cyclobenzaprine, valium (though more of a hassle to get and keep secure) would be more versatile and is an effective muscle relaxant.

Reply> Recent research show that benzodiazepines don't really do much to relax muscles, and that Robaxin and Flexeril (cyclobenzaprine) are more effective.

Comment> I would also favor the addition of an injectable benzodiazepine.

Reply> For sedation? Can use haloperidol for this. For muscle relaxation? See comments on Flexeril, above.

[§]UTIs are more common among women than men. Men: if you'd like to leave this out, please see the comments under antifungal cream.

[¶]We chose both long-acting and short-acting antihistamines because they have different uses. For example, stings or other acute allergic reactions usually need only short term treatment, and diphenhydramine can also be used as a short-acting sedative. whereas the sustained drying effect of sustained-release chlorpheniramine is ideal for viral URIs.

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WEMSI Personal Wilderness Medical Kit List

Page 12 of 13

Eye -----

- ☐ Rx #1: 1 cc dropper tube tetracaine ophthalmic solution
- ☐ #3: fluorescein strips[†]
- ☐ Rx #1: 3.5 g tube polymyxin/bacitracin (e.g., *Polysporin*®) or bacitracin ophthalmic ointment
- ☐ Rx 1: 2 cc dropper bottle cyclopentolate ophthalmic solution 0.5% or 1% (e.g., *Cyclogyl*®)

GI -----

- ☐ #12: antacid tablets
- ☐ #4: bisacodyl tablets 5 mg. (e.g., *Dulcolax*®)[‡]
- ☐ #12: bismuth subsalicylate tablets (e.g., *Pepto-Bismol*®)

Allergy -----

- ☐ Rx #1: 15 g tube fluocinolone acetonide cream 0.2% or similar high-strength steroid cream or lotion (e.g., *Valisone*®, *Benisone*®, *Lidex*®, *Kenalog*®, *Aristocort*®, *Uticort*®, *Synalar*®)
- ☐ Rx 1: 1 oz. tube *Pramosone*® 1% Cream

Altitude Etc.[§] -----

- ☐ Rx #6: acetazolamide 250 mg tablets (e.g., *Diamox*®)

[†]Comment > Eye: Fluorescein strips. Should a blue light be on the list?

Reply > Nice, but the fluorescein even works pretty well by daylight or mini-MagLite, and a blue penlight adds a lot of weight for only a little benefit, compared to the fluorescein strips, which weigh basically nothing.

[‡]It was suggested that we cut down on the number of these tablets; though constipation can be disabling, it's not usually as disabling as diarrhea. Changed from 6 to 4.

[§]Oral dexamethasone [e.g., *Decadron*®] not carried for high altitude cerebral edema, as 30 mg of prednisone is equivalent to the 4 mg dexamethasone dose usually used for HACE.

WEMSI Personal Wilderness Medical Kit List

Page 13 of 13

Misc. -----

- ☐ #1: 15 g tube miconazole nitrate cream 2% (e.g., *Micatin*®, *Monistat*®)[†]
- ☐ 1: pr. small sharp scissors (not necessary if available on WEMT's pocket knife)
- ☐ 1: pr. fine-point splinter forceps (not necessary if available on WEMT's pocket knife)
- ☐ 1: SamSplint™ or equivalent flexible splint‡
- ☐ 4: 3" x 4" pieces of moleskin
- ☐ 10: small adhesive bandages (e.g., 1" x 3" *Band-aids*™, *Coverlet*™)
- ☐ 3: small pieces of clear adherent dressing (e.g., *Tegaderm*™, *OpSite*™)[§]
- ☐ 5: medium-size "suture strips"[¶]
- ☐ 6: sterile cotton applicators ("*Q-tips*®")

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[†]Lotrisone® was suggested as an alternative for "shotgun" therapy of itchy rashes or vaginitis. At present, we are still staying with separate antifungal and steroid creams, as more effective and more flexible.

One suggestion was to use the new, highly effective antifungal terbinafine (*Lamasil*®) instead of miconazole. However, it is prescription-only, costs 2 to 10 times as much as miconazole, and there is no information on whether or not it can be used to treat yeast vaginitis.

Women reviewing this medical kit have almost universally demanded something for yeast vaginitis. Therefore, we discount suggestions that we drop this medication if the suggestion comes from a man.

[‡]Some suggested the addition of a traction device; however, a traction device can usually (though not always) be improvised with materials at hand.

[§]Several people suggested adding these, as they are ideal field dressings: waterproof but vapor-permeable.

[¶]Removed butterfly strips as suture strips much superior.

Wilderness EMS Institute

Team Wilderness Medical Kit List

Version 1.0[†], December, 1994

Comments to Keith Conover, M.D., Medical Director

36 Robinhood Road Pittsburgh, PA 15220-3014

412-561-3413 Internet: kconover+@pitt.edu

1. Contents

1.1. "Street" ALS Drug Module

- 1.1.1 #3 Adenosine 6 mg injection
- 1.1.2 #1 Albuterol inhaler
- 1.1.3 #3 Atropine 1 mg injection
- 1.1.4 #2 Bretylium 500 mg injection
- 1.1.5 #2 Calcium Chloride 10%, 1000 mg
- 1.1.6 #3 Diazepam 10 mg injection
- 1.1.7 #2 Diphenhydramine 50 mg injection
- 1.1.8 #2 Dopamine 400 mg (in 5 ml) injection
- 1.1.9 #2 Epinephrine 1:1000 1 mg injection
- 1.1.10 #6 Epinephrine 1:10,000 1 mg injection
- 1.1.11 #3 Furosemide 100 mg injection
- 1.1.12 #2 Glucagon 1 mg injection
- 1.1.13 #2 Isoproterenol 0.2 mg injection
- 1.1.14 #2 Dextrose 50%, 50 mg injection
- 1.1.15 #3 Lidocaine 100 mg injection
- 1.1.16 #2 Lidocaine 1000 mg injection
- 1.1.17 #2 Magnesium Sulfate 1 g injection
- 1.1.18 #4 Morphine Sulfate 10 mg
- 1.1.19 #2 Naloxone 1 mg
- 1.1.20 #100 Nitroglycerin 1/150 sublingual
- 1.1.21 #2 Propanolol 10 mg injection
- 1.1.22 #4 Propanolol 40 mg oral
- 1.1.23 #3 Sodium Bicarbonate 50 mg injection
- 1.1.24 #3 Verapamil 5 mg

1.2. Diagnostic/Documentation Module

1.3. IV/IM Medication Module

- 1.3.1. adrenergics/antihistamines/steroids
 - 1.3.1.1. epinephrine 1:1000 1cc

[†]An annotated version is available; it contains a section on Principles and many explanatory footnotes.

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 2 of 4

- 1.3.1.2. epinephrine 1:10000 10cc
- 1.3.1.3. diphenhydramine 50mg/1cc
- 1.3.1.4. Decadron® 100mg/10cc
- 1.3.1.5. Depo-Medrol® 40mg/1cc
- 1.3.2. antibiotics
 - 1.3.2.1. ceftriaxone 1 g and diluent for IM/IV use
 - 1.3.2.2. metronidazole (e.g., Flagyl®)
- 1.3.3. anticonvulsants
 - 1.3.3.1. phenobarbital
 - 1.3.3.2. phenytoin (e.g., Dilantin®) 250mg/5cc
- 1.3.4. benzodiazepines, sedatives
 - 1.3.4.1. chlordiazepoxide (e.g., Librium® powder/diluent)
 - 1.3.4.2. diazepam (e.g., Valium®) 10mg/2cc
 - 1.3.4.3. haloperidol 5mg/1cc
 - 1.3.4.4. Versed®
- 1.3.5. cardiac
 - 1.3.5.1. adenosine 6 mg
 - 1.3.5.2. atropine 1 mg
 - 1.3.5.3. bretylium 500 mg/10cc
 - 1.3.5.4. calcium gluconate
 - 1.3.5.5. dobutamine
 - 1.3.5.6. dopamine
 - 1.3.5.7. isoproterenol
 - 1.3.5.8. lidocaine 100 mg prefill
 - 1.3.5.9. magnesium sulfate 1g/2cc
 - 1.3.5.10. propranolol (e.g., Inderal®) 40mg injection
 - 1.3.5.11. sodium bicarbonate
 - 1.3.5.12. verapamil 5mg/2cc
- 1.3.6. diuretics
 - 1.3.6.1. furosemide (e.g., Lasix®) 20 mg/2cc
 - 1.3.6.2. furosemide (e.g., Lasix®) 100 mg/2cc
 - 1.3.6.3. mannitol (IV)
- 1.3.7. GI/anti-nausea
 - 1.3.7.1. metaclopramide (e.g., Reglan®) 10mg

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 3 of 4

- 1.3.7.2. prochlorperazine (e.g., Compazine®) 10 mg/2cc
- 1.3.7.3. ranitidine (e.g., Zantac®) injection
- 1.3.8. narcotics/analgesics
 - 1.3.8.1. fentanyl
 - 1.3.8.2. ketorolac (e.g., Toradol®) 60 mg prefill
 - 1.3.8.3. MSO₄ 10 mg Tubex
 - 1.3.8.4. naloxone 1mg/1cc
- 1.3.9. misc
 - 1.3.9.1. dextrose 50% (D50) (25g/50cc)
 - 1.3.9.2. glucagon (IV)
 - 1.3.9.3. heparin lock flush
 - 1.3.9.4. misc syringes and needles and alcohol preps and Band-aids
 - 1.3.9.5. oxytocin (IV)
 - 1.3.9.6. potassium chloride (KCl) 20 mEq
 - 1.3.9.7. thiamine (vitamin B1) (IV/IM and PO)
 - 1.3.9.8. vecuronium 10mg/10cc
- 1.3.10. anticoagulants
 - 1.3.10.1. anistreplase (Eminase®): unit-dose kit
 - 1.3.10.2. heparin 5000u/1cc
- 1.4. Non-injection Medication Module
 - 1.4.1.1. diazepam (e.g., Valium®) 5 mg tabs
 - 1.4.1.2. alprazolam (e.g., Xanax®) 0.5 mg tabs
 - 1.4.1.3. phenobarbital (IV and PO)
 - 1.4.1.4. phenytoin (e.g., Dilantin®) 250mg/5cc
 - 1.4.1.5. metronidazole
 - 1.4.1.6. albuterol inhaler
 - 1.4.1.7. nitroglycerine sublingual spray
 - 1.4.1.8. fentanyl patches
 - 1.4.1.9. propranolol (e.g., Inderal®) 40mg tablets
 - 1.4.1.10. activated charcoal
 - 1.4.1.11. ERG or Gatorade™ powder
 - 1.4.1.12. WHO rehydration salts
 - 1.4.1.13. ipecac syrup 15cc
 - 1.4.1.14. nitroglycerine paste

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 4 of 4

- 1.4.1.15. oral contraceptive pills (Ovral® or equivalent)
- 1.5. Main IV Module
 - 1.5.1.1. hypertonic saline (IV)
- 1.6. Orthopedic Module (separate document)
- 1.7. Wound Module
 - 1.7.1.1. Neosporin ointment packets
 - 1.7.1.2. silver sulfadiazine (e.g., Silvadene®) cream
 - 1.7.1.3. benzoin tincture
 - 1.7.1.4. povadone-iodine (e.g., Betadine®) scrub
 - 1.7.1.5. povadone-iodine (e.g., Betadine®) solution
 - 1.7.1.6. thrombin
 - 1.7.1.7. OpSite™
- 1.8. Airway Module (separate document)
- 1.9. Monitoring Module (separate document)
- 1.10. Hypothermia Module (separate document)
- 1.11. Eye/ENT/Dental Module
 - 1.11.1.1. Oil of cloves (eugenol)
 - 1.11.1.2. Dent-Temp® dental filling kit
 - 1.11.1.3. eye irrigant
 - 1.11.1.4. eye pads
- 1.12. Spine Immobilization Module (separate document)
- 1.13. OB Module (separate document)
- 1.14. Supplementary IV Module (separate document)
- 1.15. Disaster Module (separate document)
- 1.16. Supplemental Dressing/Splint Module (separate document)

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Wilderness EMS Institute

Team Wilderness Medical Kit List

Version 1.0, December, 1994

Comments to Keith Conover, M.D., Medical Director[†]

36 Robinhood Road Pittsburgh, PA 15220-3014

412-561-3413 CIS: 70441,1506 Internet: kconover+@pitt.edu

1. Principles

1.1. Durable: Must be able to last a long time despite abuse

1.1.1. Must be able to withstand mechanical trauma: crushing, drop shocks

1.1.2. Must be able to withstand temperature extremes[‡]

1.1.3. Must be usable despite occasional outdated medications

1.1.4. Must be waterproof[§]

1.2. Flexible:

1.2.1. Must be able to handle most common or serious problems with combinations of equipment and medications

1.2.2. Should include a standard Personal Wilderness Medical Kit including Advanced Module[¶]

1.2.3. Should be capable of dealing with critical "street" emergencies at Base, at ALS or physician level if WEMSI (or non-WEMSI) ALS or physician personnel available, until local EMS arrives.^{††}

[†] The following Mercy Hospital/WEMSI WEMS residents contributed to this document: Robert Desiderio, M.D.; Kathy Prybys, D.O.; Matt Harless, M.D.; and Charles Cole, M.D.

[‡] What do we do about medications that require refrigeration, like insulin? Just get insulin if we know we're going after an insulin-dependent diabetic? Let us know your thoughts.

[§] This document will not specify how to pack and store the medical kit. It is up to SAR teams or individual medics to establish packaging suitable for their own environment and uses. A companion document with ideas for packaging will be produced at some point.

[¶] As I work on this document and think about trying to find things in this kit, I have come to believe that there should be a separate Personal Wilderness Medical Kit as a module, but that the various components of the Personal Kit should also be found in the other modules. In other words, someone shouldn't have to depend on the separately-packaged Personal MedKit, for, example, tetracaine to examine an eye; it should be right there in the Eye/ENT/Dental Module.

On the other hand, perhaps we can assume that _someone_ will have a Personal MedKit at the scene, and leave all this stuff out; it'll save weight. However, I have a sneaking suspicion that, regardless, people will decide that since the team kit is there, they don't need a personal kit and they'll be missing something important. What do you think?

^{††} One major question is whether we should have a separate "street" drug box so that a non-wilderness paramedic at Base could easily use his or her training to care for "street" emergencies there, or just assume that the "street" paramedic could pick and choose the proper drugs out of the large wilderness selection. What do you think?

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 2 of 9

- 1.2.4. Should allow WEMSI physicians who are on-scene to deal with common problems and return SAR personnel to duty.[†]
- 1.2.5. Must be usable for dogs and horses
- 1.2.6. Must be able to separate into modules so as to:
 - 1.2.6.1. allow division into components to be carried by different members of team, and to
 - 1.2.6.2. allow carrying only selected modules based on medical and rescue situation.
- 1.2.7. Must be adequate for mutual aid requests to other regions (i.e., must carry medications for high altitude illness)
- 1.3. **Extensive Enough:**
 - 1.3.1. Should include medications for common pre-existing conditions of patient, e.g., seizures, diabetes, hypertension
 - 1.3.2. Should include equipment and medications for street problems at base (trauma, medical, OB/GYN)
 - 1.3.3. Must be adequate for mutual aid requests to other regions (i.e., must carry medications for high altitude illness, even for cave rescue personnel)
- 1.4. **Safe:**
 - 1.4.1. Must contain instructions on safe use of medications[‡]
 - 1.4.2. Should not contain medications that are unsafe after exposure to environmental extremes, or if outdated.
- 1.5. **Accountability and Security:**
 - 1.5.1. Must meet DEA requirements for controlled drugs:
 - 1.5.1.1. Dispensing to individual Wilderness EMTs
 - 1.5.1.2. Logging distribution
 - 1.5.1.3. Logging use
 - 1.5.1.4. must have provision for logging drugs carried into field but returned to kit rather than being used

[†] This means a very complete medical kit, doesn't it? Maybe this is too much, and we should depend on physicians to bring their own kits. On the other hand, knowing how good even the most obsessive-compulsive physicians (e.g., me) are about keeping their kits up to date, maybe not.

[‡] Will be included in Standing Orders, and in the Pharmacology Reference that Charles Kollar has created.

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 3 of 9

- 1.5.2. Must be kept secure, as much as possible during wilderness travel (small, lightweight travel lock on modules with narcotics)[†]

2. Organization

- 2.1. **General:** the kit is divided into several modules. Due to the exigencies of wilderness rescue, each kit will contain **two** of each of the commonly-used critical modules (Marked by a box ■).
- 2.2. "Street ALS" Drug Module
- 2.2.1. The WEMSI Team Kit is to be staged at a base at or near a road; only selected modules of the kit will be carried to any one particular wilderness patient. Since WEMSI medics are all capable of "street" EMS, the WEMSI Team Kit should allow EMT-paramedics at base to perform "street" EMS at or near Base until local EMS providers can arrive.
- 2.2.2. WEMSI provides services in states, and each state has a different "standard" drug box for paramedics. The list below was created after reviewing a survey of the standard drug lists in all 50 states and the District of Columbia. It is a kit that should provide the essential drugs for a paramedic from any jurisdiction.
- 2.2.3. Drugs[‡]
- | | | |
|---------|----|--|
| 2.2.3.1 | #3 | Adenosine 6 mg injection |
| 2.2.3.2 | #1 | Albuterol inhaler |
| 2.2.3.3 | #3 | Atropine 1 mg injection |
| 2.2.3.4 | #2 | Bretylium 500 mg injection [§] |
| 2.2.3.5 | #2 | Calcium Chloride 10%, 1000 mg [¶] |

[†] Comment> I doubt a small travel lock will be much of a deterrent to anyone who really wants to get into a nylon case.

Reply> No, it won't, but DEA says you've gotta keep narcotics under lock and key, and there's no point in anything more secure than such a little lock for a medical kit that is in a nylon bag. Even a Pelican case ain't much more secure, and weighs a _lot_ more. I favor putting things into a hard case only when really needed.

[‡] Meds considered but left off list: Aspirin - In other kits if needed. Very few states have it in prehospital meds. Digoxin - Not first line treatment for CHF. In other kits if needed. Dobutamine - Isoproterenol easier to use (don't need drip). Nifedipine - Used as hypertensive med, but not for ACLS type care in most states. In other kits. Nitroglycerin injection - May keep giving sublingual instead. Phenytoin - Rarely used as an antiarrhythmic. In other kits for use for seizures in the backcountry setting. Procainamide - Worsens outcome in hypothermic hearts. Rarely useful in ALS.

[§] Useful for the hypothermic heart.

[¶] Useful for suspected hyperkalemia.

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 4 of 9

2.2.3.6	#3	Diazepam 10 mg injection [†]
2.2.3.7	#2	Diphenhydramine 50 mg injection
2.2.3.8	#2	Dopamine 400 mg (in 5 ml) injection [‡]
2.2.3.9	#2	Epinephrine 1:1000 1 mg injection
2.2.3.10	#6	Epinephrine 1:10,000 1 mg injection
2.2.3.11	#3	Furosemide 100 mg injection
2.2.3.12	#2	Glucagon 1 mg injection [§]
2.2.3.13	#2	Isoproteranol 0.2 mg injection [¶]
2.2.3.14	#2	Dextrose 50%, 50 mg injection
2.2.3.15	#3	Lidocaine 100 mg injection
2.2.3.16	#2	Lidocaine 1000 mg injection ^{††}
2.2.3.17	#2	Magnesium Sulfate 1 g injection ^{‡‡}
2.2.3.18	#4	Morphine Sulfate 10 mg ^{§§}
2.2.3.19	#2	Naloxone 1 mg
2.2.3.20	#100	Nitoglycerin 1/150 sublingual ^{¶¶}
2.2.3.21	#2	Propanalol 10 mg injection ^{†††}
2.2.3.22	#4	Propanalol 40 mg oral
2.2.3.23	#3	Sodium Bicarbonate 50 mg injection ^{‡‡‡}
2.2.3.24	#3	Verapamil 5 mg

[†] We might consider carrying flumazenil (e.g., Romazicon®) in case of overdose. In the hospital, one can simply ventilate a patient until a benzodiazepine overdose wears off. In the wilderness, most evacuations make continued ventilation difficult.

[‡] For use in a drip.

[§] If no IV available for dextrose in hypoglycemia.

[¶] May use in drip if needed.

^{††} For post resuscitation antiarrhythmic drip.

^{‡‡} For refractory V-fib or Torsades de Pointes.

^{§§} More morphine will be found in other wilderness medical kit modules, but a small amount should be readily available in the "street" drug module.

^{¶¶} Large number carried, as may need many to use continued SL administration as a substitute for a nitroglycerin drip.

^{†††} For thyroid storm as well as usual ACLS applications.

^{‡‡‡} Useful for alkalinizing urine in myoglobinuria and hemoglobinuria and in crush hyperkalemia.

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 5 of 9

2.3. ■ Diagnostic/Documentation Module

2.4. ■ IV/IM Medication Module^{†‡}

2.4.1. adrenergics/antihistamines/steroids

2.4.1.1. epinephrine 1:1000 1cc

2.4.1.2. epinephrine 1:10000 10cc

2.4.1.3. diphenhydramine 50mg/1cc

2.4.1.4. Decadron® 100mg/10cc

2.4.1.5. Depo-Medrol® 40mg/1cc

2.4.2. antibiotics

2.4.2.1. ceftriaxone 1 g and diluent for IM/IV use

2.4.2.2. metronidazole (e.g., Flagyl®)

2.4.3. anticonvulsants

2.4.3.1. phenobarbital

2.4.3.2. phenytoin (e.g., Dilantin®) 250mg/5cc

2.4.4. benzodiazepines, sedatives

[†] Question: do we want to include all "standard" ACLS drugs as part of this kit?

Answer: Yes. If some "standard" ACLS event occurs at Base, and a paramedic is available, we want the paramedic to be able to do standard ACLS things at Base. Even though WEMSI protocols and standing orders don't deal with "standard street ACLS" we'd expect our paramedics, as Good Samaritans, to use their "street" training in the care of any "street" patients at or near Base.

Question: do we want to have a single large drug box, or do we want a separate "street ACLS" drug box and then a separate additional box for other drugs?

Answer: don't know. What do you think?

Question: do we want to have a separate pediatric drug box?

Answer: Should absolutely have a Broselow™ tape for calculating pediatric dosages, and a pediatric dose chart in the kit. As far as a separate peds drug box, what do you think? At least a small box with lower concentrations of drugs for those situations where adult concentrations are too much?

[‡] There has been some suggestion that we reorganize the medication module as follows:

Trauma Drug Module: This module provides a standard selection of commonly used drugs, and occasionally used but important drugs, for major trauma patients.

Medical Drug Module: This module provides a standard selection of commonly used drugs, and occasionally used but important drugs, for medical patients.

Primary Care Medication Kit: This kit provides drugs that can be used by physicians for common medical and surgical conditions when at Base Camp, or sent to Wilderness Medics in the field for specific indications.

What do you think?

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 6 of 9

- 2.4.4.1. chlordiazepoxide (e.g., Librium® powder/diluent)[†]
- 2.4.4.2. diazepam (e.g., Valium®) 10mg/2cc[‡]
- 2.4.4.3. haloperidol 5mg/1cc[§]
- 2.4.4.4. Versed®
- 2.4.5. cardiac
 - 2.4.5.1. adenosine 6 mg
 - 2.4.5.2. atropine 1 mg
 - 2.4.5.3. bretylium 500 mg/10cc
 - 2.4.5.4. calcium gluconate
 - 2.4.5.5. dobutamine
 - 2.4.5.6. dopamine
 - 2.4.5.7. isoproterenol
 - 2.4.5.8. lidocaine 100 mg prefill
 - 2.4.5.9. magnesium sulfate 1g/2cc
 - 2.4.5.10. propranolol (e.g., Inderal®) 40mg injection
 - 2.4.5.11. sodium bicarbonate
 - 2.4.5.12. verapamil 5mg/2cc
- 2.4.6. diuretics
 - 2.4.6.1. furosemide (e.g., Lasix®) 20 mg/2cc
 - 2.4.6.2. furosemide (e.g., Lasix®) 100 mg/2cc
 - 2.4.6.3. mannitol (IV)[¶]
- 2.4.7. GI/anti-nausea

[†] We would have preferred to include lorazepam (e.g., Ativan®) as a single benzodiazepine that can be used for anxiety or sedation and is available in PO, IV, and IM forms. However, the manufacturer says lorazepam (Ativan® IV/IM) has to be kept in a refrigerator. The Librium® powder is stable at room temperature and can be given IM if the WEMTs can't start an IV.

[‡] The reason for Valium® as well as other benzodiazepines is that it is a standard part of every paramedic's drug armamentarium, and should be included for "street" problems that occur at Base Camp.

[§] Haloperidol was chosen as the sedative of choice for the Personal Wilderness Medical Kit due to its safety profile. See the comments in the Personal MedKit document on sedatives.

[¶] For renal failure from myoglobinuria, increasing intracranial pressure, and pseudo-compartment syndrome from snakebite.

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 7 of 9

- 2.4.7.1. metaclopramide (e.g., Reglan®) 10mg
- 2.4.7.2. prochlorperazine (e.g., Compazine®) 10 mg/2cc
- 2.4.7.3. ranitidine (e.g., Zantac®) injection
- 2.4.8. narcotics/analgesics
 - 2.4.8.1. fentanyl
 - 2.4.8.2. ketorolac (e.g., Toradol®) 60 mg prefill
 - 2.4.8.3. MSO₄ 10 mg Tubex
 - 2.4.8.4. naloxone 1mg/1cc
- 2.4.9. misc
 - 2.4.9.1. dextrose 50% (D50) (25g/50cc)
 - 2.4.9.2. glucagon (IV)
 - 2.4.9.3. heparin lock flush
 - 2.4.9.4. misc syringes and needles and alcohol preps and Band-aids
 - 2.4.9.5. oxytocin (IV)
 - 2.4.9.6. potassium chloride (KCl) 20 mEq
 - 2.4.9.7. thiamine (vitamin B1) (IV/IM and PO)[†]
 - 2.4.9.8. vecuronium 10mg/10cc
- 2.4.10. anticoagulants
 - 2.4.10.1. anistreplase (Eminase®): unit-dose kit[‡]
 - 2.4.10.2. heparin 5000u/1cc
- 2.5. ■ Non-injection Medication Module
 - 2.5.1.1. diazepam (e.g., Valium®) 5 mg tabs
 - 2.5.1.2. alprazolam (e.g., Xanax®) 0.5 mg tabs
 - 2.5.1.3. phenobarbital (IV and PO)

[†] For patients who have been starving for a long time, or are very malnourished, prior to or concurrent with feeding them.

[‡] If someone does have an MI and a physician is available, we'd certainly want to be able to do thrombolysis, and this medication is the simplest to give in the field. I realize this is cutting edge (bleeding edge?) emergency medicine, by thrombolytics are here to stay. I'll bet the manufacturer would be willing to donate some in return for saying we're carrying it!

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 8 of 9

- 2.5.1.4. phenytoin (e.g., Dilantin®) 250mg/5cc
- 2.5.1.5. metronidazole
- 2.5.1.6. albuterol inhaler
- 2.5.1.7. nitroglycerine sublingual spray
- 2.5.1.8. fentanyl patches
- 2.5.1.9. propranolol (e.g., Inderal®) 40mg tablets
- 2.5.1.10. activated charcoal
- 2.5.1.11. ERG or Gatorade™ powder
- 2.5.1.12. WHO rehydration salts
- 2.5.1.13. ipecac syrup 15cc
- 2.5.1.14. nitroglycerine paste
- 2.5.1.15. oral contraceptive pills (Ovral® or equivalent)†
- 2.6. ■ Main IV Module
 - 2.6.1.1. hypertonic saline (IV)
- 2.7. ■ Orthopedic Module (separate document)
- 2.8. ■ Wound Module
 - 2.8.1.1. Neosporin ointment packets
 - 2.8.1.2. silver sulfadiazine (e.g., Silvadene®) cream
 - 2.8.1.3. benzoin tincture
 - 2.8.1.4. povadone-iodine (e.g., Betadine®) scrub
 - 2.8.1.5. povadone-iodine (e.g., Betadine®) solution
 - 2.8.1.6. thrombin
 - 2.8.1.7. OpSite™
- 2.9. ■ Airway Module (separate document)
- 2.10. ■ Monitoring Module (separate document)
- 2.11. ■ Hypothermia Module (separate document)

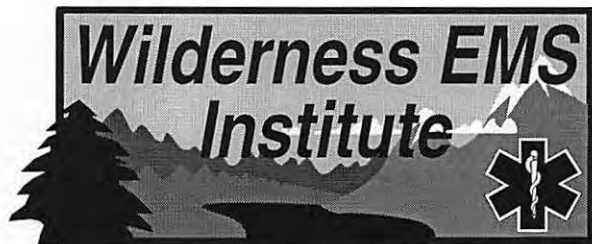
† A physician may treat female team members with contraceptive pills to control menorrhagia (excessive menstrual bleeding, common during the stress of a search and rescue mission) or to delay menses during a difficult rescue.

WEMSI Team Wilderness Medical Kit List
Version 1.0 December, 1994
Page 9 of 9

- 2.12. Eye/ENT/Dental Module[†]
 - 2.12.1.1. Oil of cloves (eugenol)
 - 2.12.1.2. Dent-Temp[®] dental filling kit
 - 2.12.1.3. eye irrigant
 - 2.12.1.4. eye pads
- 2.13. ■ Spine Immobilization Module (separate document)
- 2.14. OB Module (separate document)
- 2.15. Supplementary IV Module (separate document)
- 2.16. Disaster Module (separate document)
- 2.17. Supplemental Dressing/Splint Module (separate document)

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[†] Note that the personal wilderness medical kit contains some ophthalmic ointment, fluorescein, and tetracaine. Should we include them in this module as well?



Medical Kit System Overview

Notes:

1. See medical kit document for full explanation.
2. Minimum Module carried by all WEMSI medics at all times.
3. Advanced Module carried only by WEMSI medics with ALS accreditation, at all times.
4. Search Module carried by WEMSI medics when on a search or other operation (i.e., not a rescue) or as an option on some rescues.
5. A Personal Medical Kit is included in the Team Medical Kit
6. Items such as litters considered part of Team Rescue Equipment rather than Team Medical Kit.
7. Team Medical Kit divided into modules so can be distributed among members of team; or, on some operations, only selected modules may be carried into field.

