

Cooper, Kathy

2917

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IRRC

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I would like to provide a comment regarding the following:

Thursday, August 22, 2013
#10-190 (IRRC #2917)
Department of Health - Emergency Medical Services System

I am on the faculty of the Department of Emergency Medicine of the University of Pittsburgh, and have been a practicing emergency physician for almost 30 years, but before this, I was an active EMS professional, having taken what I think is the country's 3rd EMT course and one of the first medic courses (we called it a Cardiac Technician course). I have always been a proponent of improving the care provided by prehospital personnel. I have contributed to three editions of the National Standard Curriculum for EMT-Paramedics, served some 13 years on the Pennsylvania Emergency Health Services Council Medical Advisory Committee, as well as a variety of other EMS activities.

But my main interest within EMS is what is termed Austere EMS; in the proposed regulations, this fits within the Special Operations category. (See the attached handout from my lecture at the Pennsylvania EMS Conference yesterday for background on Austere EMS.)

I have been doing mountain and cave rescue for 45 years. Back in 1972, with three others, I founded the Appalachian Search and Rescue Conference (ASRC), now the country's largest ground search and rescue organization. I am currently Medical Director for Pennsylvania for the ASRC, responsible for medical direction of any of the ASRC's nine search and rescue teams' member when they are in Pennsylvania, which is the main reason I wish to comment on the proposed regulations. (I am also Chief Medical Officer for the federal Disaster Medical Assistance Team based in Pittsburgh, but that really isn't impacted by the EMS regulations. But non-Federal disaster teams based in Pennsylvania certainly will be affected by the new EMS Regulations.)

When I moved to Pittsburgh in 1986 and started the ASRC's Allegheny Mountain Rescue Group, I wanted it to become an EMS Agency. I had long conversations with Ken Brody, the Assistant Counsel for the Department of Health. He explained that the existing Pennsylvania EMS law basically defined EMS as care given in or near an ambulance. Stretching that to what my team does just wasn't tenable.

So I spent 13 years on the Pennsylvania Emergency Health Services Council Medical Advisory Committee advocating for AMRG and other search and rescue teams. And participated in endless working group sessions devoted to the new EMS law and later the new Regulations based on the new law.

There are many advantages to allowing search and rescue and disaster teams to become EMS Agencies. Being part of the EMS system may access to funding, quality improvement support from the EMS system, and - quite important from my viewpoint, as a medical director who has been providing medical direction under the delegated practice provisions of the Medical Practice Act - liability protection for both field providers and physicians who provide medical direction.

I have reviewed the final version of the proposed regulations and all of the comments with at least a medium-tooth comb. I am certainly pleased with the Special Operations regulations, which will allow AMRG and many other SAR, disaster and tactical teams to become recognized as EMS agencies (and their medical directors as EMS Agency Medical Directors).

The other provisions of these regulations, all of which I reviewed with many other physicians and other EMS professionals during my tenure on the as EMS Committee Chair and on the Board of Directors of the Pennsylvania Chapter of the American College of Emergency Physicians, also represent major improvements for the Pennsylvania EMS System.

I fully support the proposed regulations in all respects, and urge in the strongest term that you approve them as is. The new regulations, and the improved EMS system they engender, will save many lives. Rejecting them would be a disaster, in many meanings of the term.

Thank you.

-- Keith Conover, M.D., FACEP

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Austere EMS

Wilderness + Tactical + Disaster = Austere

AUSTERE EMS IS A TERM that has become popular over the past decade or two. People sought a term encompassing wilderness EMS, tactical EMS, and disaster EMS: all contexts where standard “street” EMS practice sometimes needs to be tweaked.

For example, “street” care for dislocated shoulders is to immobilize and transport; “austere” care, when transport will be delayed, is to attempt reduction in the field. With short transport times from the street, the delay is minimal to get an X-ray to confirm the dislocation. However, in the austere setting, the delay to get an X-ray is much longer. And, we know that the longer a dislocation is “out,” the harder it is to get back in, and the more likely there will be worse damage to nerves, blood vessels, and soft tissue. The principle is the same: reduce quickly, to minimize pain and damage; it’s just that the austere setting means that it has to be applied differently.

It’s difficult to precisely define what constitutes an “austere context.” Is it a half-mile from the road? Two hours from the hospital?

Any attempt to precisely define the “austere context” is doomed to failure, and will likely result in bad patient care. Every situation is different. There are many variables that determine the context: weather, terrain, number of trained rescuers – and injuries and illness also differ widely.

For some situations, it may be best (best for the patient, that is) to use austere EMS protocols, but for an only slightly different combination of context/injury/illness, it may be better to use street EMS protocols. Example: what if you have a patient who had a mountain-biking accident and has a single injury, a dislocation, and a half-mile from the road? Should you attempt to reduce it in the field? The answer, as with many things in medicine and EMS, is “it depends.” What if it’s a nice day, but getting dark soon, it’s just the two of you on the ambulance today, and it’s just a patella (kneecap) dislocation? Well, if you have had Wilderness EMT or similar training (or even if not), you may know that all it takes to reduce a patella dislocation is to straighten the leg. So if you simply straighten the leg, and let the kneecap pop back in, you can simply splint the leg and walk the patient out.

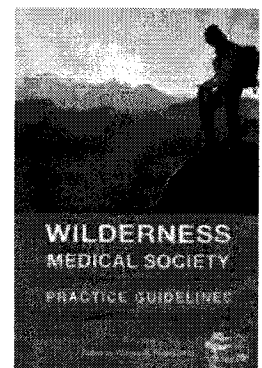
But what if it’s a hip dislocation? Hip dislocations are *very* hard to get back in, especially if you haven’t had a chance to do it before, and especially without moderate sedation. Not something to try in the field unless things are really desperate. Simply evacuating to have it reduced under sedation in the ED would likely be a lot better for



the patient, rather than causing lots of pain and maybe more soft-tissue damage from multiple failed reduction attempts in the field.

How should we decide which protocols to apply? We should do so in the way that benefits the patient the most. In an ideal situation, someone trained in Austere EMS would be in the field at the patient’s side, and thus would have an excellent understanding of the situation: the patient’s illness or injury, *and* the context in which it occurs. While consultation with a physician may make it easier to make the right decision, I personally think that the medical personnel at the patient’s “bedside” are best able to make this decision. And taking orders from a physician who has no clue about austere EMS might actually harm the patient (I’ve seen this happen). But a consultation with a physician who understands austere EMS can really help, as physicians know a lot more than even an experienced EMT or medic. But note I said “consultation”: the physician should advise the person who is at the “bedside” and engage in a collaborative discussion, with the person at the bedside making the ultimate decision. Of course, if the person at the “bedside” has no austere EMS training, and the physician *does*, then perhaps the person at the bedside should defer to the physician.

There are many situations in which “street” EMS should be modified for the austere setting. The major ones are to be found in the clinical guidelines of the Wilderness Medical Society.¹⁻⁵ In addition to dislocations, here are a few more examples:



WMS Practice Guidelines Contents

- 1 Wilderness Evacuation
- 2 Myocardial Infarction, Acute Coronary Syndromes, and CPR
- 3 Submersion Injuries
- 4 Traumatic Brain Injury
- 5 Spinal Injury
- 6 Wound Management
- 7 Burn Management
- 8 Orthopedic Injuries
- 9 Eye Pathology
- 10 High-Altitude Illness
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Webster's Unabridged Dictionary

- austere** - (/ɑːˈsti(ə)r/, adj.)
1. severe in manner or appearance; uncompromising; strict; forbidding; an austere teacher.
 2. rigorously self-disciplined and severely moral; ascetic; abstinent: the austere quality of life in the convent.
 3. grave; sober; solemn; serious: an austere manner.
 4. without excess, luxury, or ease; simple; limited; severe: an austere life.
 5. severely simple; without ornament: austere writing.
 6. lacking softness; hard: an austere bed of straw.
 7. rough to the taste; sour or harsh in flavor.

CPR

It's a pleasant, sunny summer day in Virginia's Shenandoah National Park. Near the summit of Old Rag Mountain is a popular climbing area. However, it's 2.5 miles from the parking lot, up a steep, twisting and rocky trail, one that goes through tight clefts and across narrow ledges. The parking lot is the nearest road approach and helicopter landing zone (the one fire road that might get you closer has a bridge out from some recent floods). A somewhat foolhardy hiker slips and falls approximately 100 feet off one of the cliffs. She impacts on her chest, and when friends and bystanders arrive, she is unresponsive, but has a pulse. When EMS personnel arrive, her companions are performing CPR, saying that she stopped breathing about 30 minutes before EMS arrival. Some mountain rescue team members, who responded from a nearby training exercise, estimate that it will take eight hours to get her to the ambulance/LZ, and that it's impossible to perform CPR during such an evacuation without great risk to the safety of the evacuation team, and are unwilling to assume that risk for a patient they consider irretrievably dead. The paramedic intubates and tries without success to start an IV. An EKG monitor that shows asystole.

We know that, for medical cardiac arrests, that neurological survival depends on (1) a short time between the arrest and external cardiac compression, and (2) a relatively short time between the arrest and defibrillation.

Survival from cardiac arrest in an urban area with bystander CPR and rapid EMS response is 3-10%. Prehospital traumatic arrest in an urban setting has <5% survival, although the survival increases to 17% if we include traumatic arrests that occur after delivery to the Emergency Department.

Most survivors had a tension pneumothorax that was quickly treated. However, the neurological survival from a traumatic arrest in an Austere EMS setting, provided there was no recovery after treatment of a pneumothorax, approaches zero extremely closely.^{6,9}

There are a few settings where CPR might be effective at resuscitating someone, even without ALS being available: cold-water submersion, severe hypothermia, avalanche burial, or lightning strikes. In all these cases, the Wilderness Medical Society (WMS) recommends up to 30 minutes of CPR, but no more. An exception is for lightning strike victims, who may require artificial respiration, but not external cardiac compression, for a prolonged period; but for lightning strike victims, external cardiac compression should not be continued for more than 30 minutes. See the *WMS Practice Guidelines* for details.⁵

One reason for limiting CPR in such situations is rescuer exhaustion. In an austere setting, rescuers themselves may be at risk for injury or death simply from the exhaustion of performing prolonged CPR.

But for a cardiac arrest after trauma in an austere setting, as in the scenario given, there is miniscule hope of survival, unless thoracentesis (a needle in the chest) cures a tension pneumothorax and results in sudden recovery.

Cervical Spine Injury

THE STANDARD ON THE STREET is that anyone with suspected cervical spine fracture should be immobilized with a collar and backboard and transported to an appropriate ED. Yes, there are selective c-spine immobilization criteria, and Pennsylvania has a particular good c-spine EMS protocol.

But, as even the Advanced Trauma Life Support program finally recognized a few years ago, "a backboard is a transportation device and not an immobilization device." ATLS now emphasizes the need to get people, especially those with actual cervical spine injuries, off the backboard ASAP. This is to prevent sacral decubiti (bedsores) that may require multiple surgeries, and may cause serious illness or even death.

We know from good scientific evidence that, after ~45 minutes on a backboard, pain is severe. Severe enough that experimental subjects are no longer willing to stay on a backboard, and tend to threaten the experimenters with bodily harm. And, after ~90 minutes on a backboard, irreversible tissue damage starts occurring. Backboards are hard, and lying on them causes skin ischemia of the sacrum and other pressure points.

One alternative during a prolonged evacuation on a backboard would be to, every half hour, take off the straps, rotate the patient onto one side or the other, and then re-strap. This doesn't sound very practical, so alternatives such as a full-body vacuum mattress are a more common way for austere EMS teams to immobilize a patient. Even in a vacuum mattress, it's still a good idea to turn the patient and stretcher onto one side or the other off and on (while still in the stretcher and on the vacuum mattress) to allow a little blood flow to the skin over the sacrum.¹⁰⁻¹⁹

Wounds, Open Fractures, Impaled Objects

THE STANDARD OF CARE FOR LACERATIONS ON THE STREET is to control bleeding, then apply a sterile dressing and bandage and transport to the Emergency Department. The same applies for open fractures.

However, we know that the time from injury to wound repair affects the wound infection rate. We speak of the "Golden 8 Hours." After this, enough skin bacteria have crawled into the wound that suturing it shut will likely result in a bad wound infection. If a wound is sewed shut and then an infection develops, pressure will build up. This pressure can prevent white blood cells from reaching the wound and killing the bacteria. If the wound is left open, though, the pressure is less, and more white blood cells can arrive to fight the infection.

The Golden 8 Hours is just approximate. It's shorter if the wound is in an area with poor blood supply like a shin or a fingertip, or if the area is badly crushed. It's shorter if the wound badly contaminated, particularly with wood or clay. We think that bacteria can hide in the hollow cells of wood where white blood cells can't get in and clear them out. Bacteria can also cling to the surface of clay particles; the white blood cells can't open their mouths wide enough to ingest the clay, and it's hard for the white blood cells to lick the bacteria off the surface of the clay particles (pardon the anthropomorphism). At any rate, contamination with wood or clay seems to promote infection, much more than ordinary dirt, even though ordinary dirt is bad enough in wounds.

It's also true that some people resist infection better than others. Smoking, diabetes mellitus and taking steroids (e.g., prednisone) damage or constrict small blood vessels and make infection more likely; simply being old also makes infection more likely. Being young and healthy, and having a wound in an area with good blood supply such as the face or scalp, makes infection less likely, and extends that "Golden 8 hours."

If a wound hasn't been closed within the Golden \pm 8 Hours, it's still possible to do a *delayed primary closure*: Cleanse the wound and redress it a couple of times a day, and if it's not visibly infected four days after the initial wound, then it can be closed exactly as if it was fresh, and with the same good results.

Whether a wound is to be closed in the field or simply dressed for a delayed primary closure, it's important to cleanse the wound to help prevent infection. Contaminated wounds (significant dirt, especially sawdust or clay, or bite wounds) are less likely to get infected if, as soon after possible, high-pressure irrigation is used to wash out the wound. The original standard is to use a 35 mL syringe and an 18 gauge needle (or, a safer 18 gauge over-the-needle plastic catheter), though a variety of devices are now available to make wound irrigation easier, and to prevent splashback of blood. It's also possible to improvise using a plastic bag full of water with a small hole in it. Face or at least eye protection is a must unless you're using one of the commercial splash-shield devices. A rule of thumb is to use 50-100 mL of water for each cm of wound.

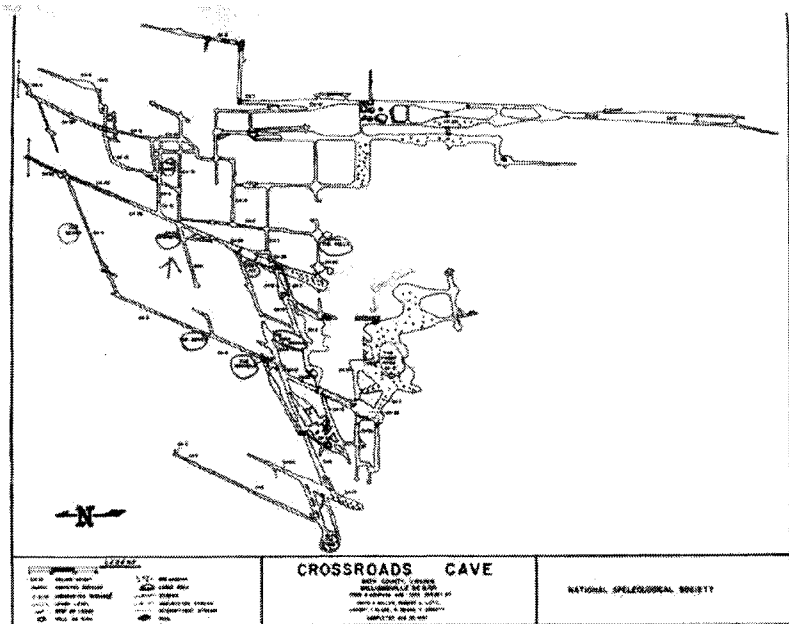
Open fractures, or wounds with structures that have a hard time resisting infection, such as tendons or ligaments, should probably always have high-pressure irrigation performed. Sometimes it is necessary to realign an open fracture, for bleeding control, or for neurovascular compromise, or sometimes simply to adequately splint a limb for an austere-setting evacuation. In such cases, when protruding bones may withdraw into the wound, it is particularly important to thoroughly irrigate the wound, including the protruding bone, before realigning.

For non-contaminated simple wounds – for example, a chin laceration caused by an accidental impact by a friend's elbow – high-pressure irrigation is not needed, and indeed, the trauma and swelling caused high-pressure irrigation may actually make the wound more likely to become infected. Just slosh some clean water through the wound.

Water for irrigation does not need to be sterile; tap water, or in the austere setting, water prepared by a filter-pump or other water purification device is quite suitable. There is no evidence that using povidone-iodine or peroxide to clean wounds, or adding it to irrigation fluid, provides any benefits, and indeed may be toxic to healing tissues.

Similarly, gloves for wound repair don't need to be sterile. Exam gloves straight out of the box, or that have been kept cleanly packaged, are clean enough for wound repair.

Closing wounds in the field is reasonable in certain cases. But doing takes a fair bit of training. Even closing a simple, linear wound on an arm or a leg is hard if you've only sutured in a practice setting. Staples are a lot easier, and faster to learn, but can't be used for multi-layer closure (deep wounds that require deep absorbable sutures as well as skin sutures) or for complex wounds



such as on the face or hands. Stapling and less commonly suturing is taught in some Austere EMS training, mostly from a force protection standpoint. Complex wounds, unless the austere EMS personnel are experienced at closing them, are best left open, covered with either a moist dressing (for large wounds) or a dry dressing (for small wounds), and then repaired with a delayed primary closure.

Giving oral antibiotics doesn't seem to help prevent wound infections, except maybe for dog or cat bites on the hand, or human bites. Using antibiotic ointment on a wound as it's healing, though, decreases wound infection rates by \sim 13%, so it is definitely worth doing. Many people are allergic to the antibiotic neomycin that is in Neosporin and generic triple-antibiotic ointment, and a wound complicated by a local allergic reaction is a total mess and very hard to care for. Simply using ointment with neomycin makes it more likely that people will become allergic even if they weren't in the first place. However, bacitracin – one of the three Neosporin antibiotics – is quite sufficient by itself, and has never been known to cause allergy. Bacitracin ointment is widely available without a prescription. It's best to, 2-3 times a day, clean healing wounds with plain soap and water, to remove any debris that might serve as food for bacteria and to decrease the bacterial count on the skin near the wound, and then to apply a thin film of bacitracin ointment.

While antibiotics may do little for simple lacerations, IV antibiotics clearly decrease wound infections for open fractures. And, we know that the best time to give the antibiotic is an hour prior to the open fracture. (Orthopedic surgeons deliberately make open fractures all the time – that's what orthopedic surgery is all about after all – so this is extremely well known.) Oral or IM antibiotics are likely just as good as IV antibiotics, as they are both well-absorbed. When transport time is short, the delay in getting antibiotics for an open fracture doesn't matter. But for austere EMS, with delayed transport times, antibiotics as soon as possible are ap-



Educational Objectives

Discuss how the following austere context aspects affect the standard of care: time, distance, equipment, terrain, and weather.

Discuss how to make the decision whether to follow a "street" or an "austere" standard of care, including consideration of: the specific medical or surgical condition, natural history of the

condition. Discuss the regulatory, legal, ethical and moral aspects of deviating from "street" standards of care.

Address the "doctrine of necessity" and the potential conflict between context-dependent standards of care and "street" EMS protocols.

appropriate. Austere EMS teams tend to carry an antibiotic such as ceftriaxone, which can be given IV or IM, and perhaps an oral antibiotic such as azithromycin for when BLS-level personnel need to provide an antibiotic.²⁰⁻³²

Standard EMS training for impaled objects is to “stabilize in place and transport.” Even for street EMS, this can

be difficult. The risks of evacuating someone with an impaled object across difficult terrain, or through bad weather, or scurrying to avoid sniper fire, or for many hours, or some combination thereof, is much greater than on the street. There is no scientific evidence, but informed opinion favors removing impaled objects in the field as a general austere-context principle.

Force Protection

SOMETIMES, TEAMMATES BECOME PATIENTS. This may be a major injury or illness, but it’s much more common for teammates to develop less-serious problems. Nonetheless, such relatively minor problems may significantly decrease the effectiveness of the team, and at times may incapacitate team members. In an austere setting, team performance is important to completing the mission, and may even be critical to team survival. When EMS first started, it was touted as “bringing



the hospital to the patient.” Force protection might be thought of as “bringing the Urgent Care Center to the teammate.”

While such non-emergent but urgent medical care is usually provided by physicians and mid-level practitioners (Nurse Practitioners, Physician’s Assistants), austere EMS providers are sometimes seen as an effective way to provide at least some of this care. However, standard EMS training rightly avoids this type of care, and thus it is left to wilderness first aid, Wilderness Emergency Medical Technician, and other specialized tactical and disaster courses.

wound closure, as described above, is one example. Once a wound is closed, a teammate may be able to continue the task at hand with minimal restrictions.

A full accounting of what might be considered force protection (many topics) is beyond the scope of this essay. But here are a few more examples:

Diarrhea

DIARRHEA MAY JUST BE A PAIN IN THE ASS, but in a difficult austere context, it may be life-threatening.

Dehydration from diarrhea may combine with diarrhea

from heat exposure, or even from cold exposure (“cold diuresis”) to incapacitate a teammate. If nothing else, it can slow the team down significantly.

You can find a detailed discussion of acute diarrhea online in my handout on the topic. Enter conovers.org/ftp in your browser, then scroll down the file listing and click on Diarrhea.pdf. But simply carrying some Imodium-AD, a safe and effective over-the-counter diarrhea remedy, may be all that is needed to take care of most cases of teammate diarrhea.

Urinary Tract Infections

UTI’s are much more common in women than men, but even men get them, especially when dehydrated; and dehydration seems a commonplace problem in austere-context team deployments of any sort.

Having to stop every fifteen minutes to pee is an inconvenience. But untreated, and especially in the context of dehydration, a simple bladder infection (cystitis) may progress to pyelonephritis (kidney infection, “pyelo”). Those with pyelo may have fever, vomiting, and prostration; pyelo may turn a teammate with a bladder infection that is simply irritating into someone who is critically ill and must be evacuated in haste.

But treating a UTI while it’s still just a bladder infection can prevent pyelo. So Austere EMS medical kits usually include an oral antibiotic or two suitable for treating bladder infections.

Ankle Sprains

ATURNED ANKLE is one of the most common austere-context teammate injuries.

Some of these are fractures that require evacuation. But most are simple sprains that, while temporarily debilitating, can be easily diagnosed in the field, and treated in the field, turning a patient back into a functional teammate. Very much most common is a sprain (partial tear) of the anterior talofibular ligament, near the anterior-inferior edge of the lateral malleolus.

Once upon a time, a Canadian academic emergency physician sought a way to cut down on ankle X-rays. He and his colleagues correlated findings on examination of the ankle with X-rays. They then derived a rule that, theoretically, allows you to tell who needs X-rays (foot, ankle, or both) and who doesn’t. Then they did a big, big study to validate this rule.³³ And now, this “Ottawa rule” (Ian and his colleagues are from Ottawa) is used worldwide to decide who needs X-rays.

Think about it. If the injured teammates don’t need X-rays, then they probably don’t need to be evacuated to be seen at a hospital. You might be able to fix them up (more about that in a bit) and get them back on their feet and

at least have them hobble out with an improvised crutch or cane; that's considerably better than having to carry someone out.

The official criteria for the Ottawa rules come in two parts.

The first says that ankle X-rays are only needed if there are: "(1) bone tenderness at the posterior edge or tip of the lateral malleolus, (2) bone tenderness at the posterior edge or tip of the medial malleolus, and (3) inability to bear weight both immediately and in the emergency department."

There is also a second rule that says foot X-rays are only needed if: "(1) bone tenderness at the base of the fifth metatarsal, (2) bone tenderness at the navicular, and (3) inability to bear weight immediately and in the emergency department."

I will restate this in more useful form below, but I think it's important that you see the original wording from the article.

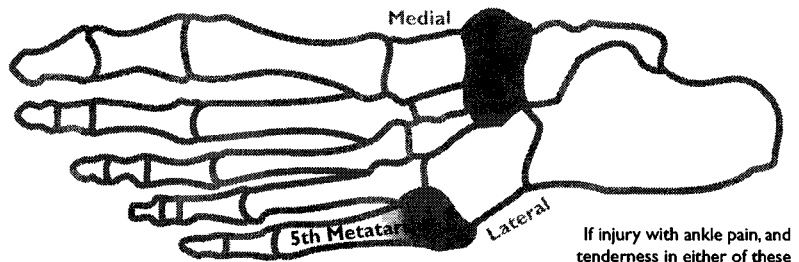
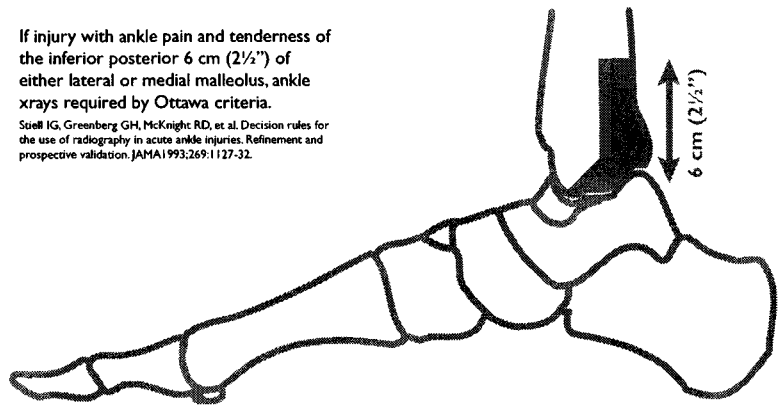
First step in evaluating a teammate with a turned ankle: "Can you walk?" If the teammate can bear weight for six steps, even if limping badly, then he or she might not need X-rays. If he or she can't hobble six steps, then you'd better either (1) evacuate nonweightbearing to the nearest Emergency Department, or (2) wait for a while, give some over-the-counter pain medication, and reassess. I generally prefer, as long as there are no contraindications, to give people a dose of two over-the-counter naproxen tablets (e.g., Aleve) and a gram of acetaminophen (e.g., Tylenol).

If your teammate can hobble six steps, then examine the ankle and foot. If you find tenderness of the posterior edge or inferior tip of either the lateral or medial malleoli, then they need to be evacuated for X-rays. If you find tenderness of the navicular bone, or the base of the fifth metatarsal, then they need to be evacuated for X-rays. (If your anatomy is rusty, refer to the two diagrams on this page.) These findings are often (but not always) an indication of a significant fracture that may need splinting, casting, or even perhaps an open reduction and internal fixation.

If there is no need for evacuation for X-rays, then you can do your best to splint that sprained anterior talofibular ligament, and let the teammate bear weight as much as tolerated. The best splint is an Aircast Airstirrup, or one of its competitors. They are a bit bulky, so they aren't usually carried in personal austere medical kits, but might

If injury with ankle pain and tenderness of the inferior posterior 6 cm (2½") of either lateral or medial malleolus, ankle x-rays required by Ottawa criteria.

Stell IG, Greenberg GH, McKnight RD, et al. Decision rules for the use of radiography in acute ankle injuries. Refinement and prospective validation. JAMA 1993;269:1127-32.

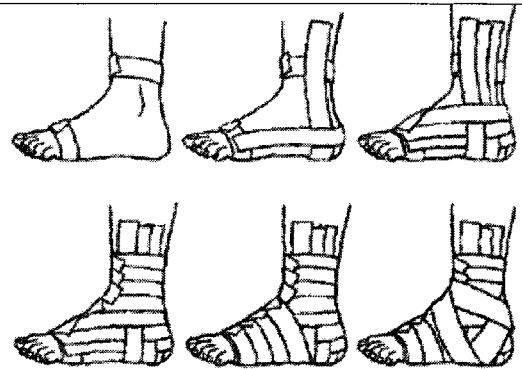


Stell IG, Greenberg GH, McKnight RD, et al. Decision rules for the use of radiography in acute ankle injuries. Refinement and prospective validation. JAMA 1993;269:1127-32.

If injury with ankle pain, and tenderness in either of these areas, foot x-rays required by Ottawa criteria.

be found in a larger team kit.

If there is no Aircast available, then you can improvise by taping the ankle as shown on this page. It's best to pull the foot up and out as you are taping, to maximize the splinting effect of the tape on that torn anterior talofibular ligament. If you don't have much tape, you can omit the tape circle near the toes and up the leg a bit. If you don't have the standard stretchy athletic tape, duct tape will do. (You *do* carry duct tape with you all the time, right?)



Standard of Care

STANDARD OF CARE is a slippery concept. It means very different things to different people.

From a philosophical standpoint (see [Plato's Cave](#), in [Wikipedia](#)), there is a standard of care that exists independently of all published materials, and it is the consensus of informed opinion of how to care for a given medical condition in the context at the time and place of the condition. This Ideal Form of the standard of care may occasionally be expressed clearly in the appellate (appeals court) decision of a medical or EMS malpractice case (appellate decisions create case law = common law). The sum of these judgments provides a broad view of

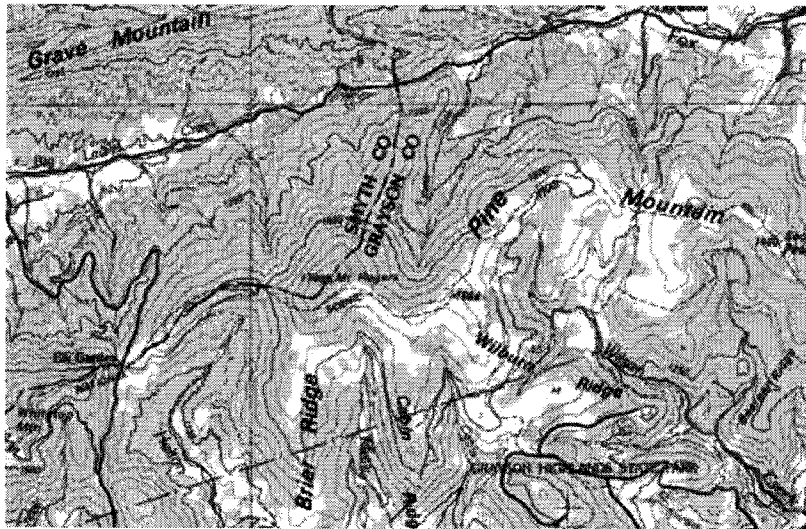
what is considered medical or EMS malpractice and the standard of care. But this is limited to the particular time and context of the case in question, and medicine changes over time, and contexts vary. For austere EMS there is little if any case law, certainly not enough to establish a standard of care. Current

Black's Law Dictionary

Standard of care. In law of negligence, that degree of care which a reasonably prudent person should exercise in same or similar circumstances. If a person's conduct falls below such standard, he may be liable in damages for injuries or damages resulting from his conduct. *See* Negligence; Reasonable man doctrine or standard.

In medical, legal, etc., malpractice cases a standard of care is applied to measure the competence of the professional. The traditional standard for doctors is that he exercise the "average degree of skill, care, and diligence exercised by mem-

bers of the same profession, practicing in the same or a similar locality in light of the present state of medical and surgical science." *Gillette v. Tucker*, 67 Ohio St. 106, 65 N.E. 865. With increased specialization, however, certain courts have disregarded geographical considerations holding that in the practice of a board-certified medical or surgical specialty, the standard should be that of a reasonable specialist practicing medicine or surgery in the same special field. *Bruni v. Tatsumi*, 46 Ohio St.2d 127, 129, 346 N.E.2d 673, 676, 75 O.O.2d 184. *See also* Malpractice.



editions of relevant textbooks are seen, to a degree, as expressing this ideal standard of care. Articles in journals may be somewhat persuasive but not so much as a more widely-read textbook.

If we consult *Black's Law Dictionary*, we find the definition at the right – a definition that is used after the fact to judge if negligence occurred. The idea that the standard of care varies in different areas is gradually being worn down, a victim of globalization and the Internet. It is still widely-accepted that the standard of care varies depending on training and experience, and as we will see below, the idea that standard of care changes when the *context* changes is gaining traction.

Types of Standard of Care

IN 1990, the Institute of Medicine published a report that serves as the foundation of modern theories of the medical standard of care.³⁴

Here we find the following categories:

- Standards of quality: statements of the minimum acceptable level of performance or results, what constitutes excellent performance or results, and the range in between.
- Medical (or clinical) practice guidelines: systematically developed statements to assist practitioners in their decision making in specific clinical settings.
- Medical review criteria: statements used to assess the appropriateness of specific decisions, services, and outcomes in the delivery of health care.
- Performance measures: specific measures of a quantitative nature that estimate or monitor compliance with medical quality standards, medical practice guidelines, and medical review criteria by health care professionals.

This leaves out standards of training and testing, which apparently the IOM defers to medical schools and residencies, nursing and EMS schools and the like.

When we speak of “altered standards of care” we usually think of a truly catastrophic disaster, where there is:

- a lack of equipment and supplies,
- a lack of adequate trained personnel,

- an austere environment, and
- a lack of access to specialized medical capabilities.

This implies that the usual standards of quality cannot be met, and standard medical review criteria and standard performance criteria aren't appropriate. Some or all of these factors may apply during:

- wilderness search and rescue and EMS,
- wilderness expeditions,
- tactical operations,
- military operations, and
- missions to medically-underserved areas.

For the first two, we are fortunate that there is little financial incentive for lawyers to be involved (most of those providing care are unpaid volunteers), and a high level of interest among the wilderness medical community. The *WMS Practice Guidelines*,⁵ first appearing as position statements in the 1980s, have been refined to provide a definitive set of medical practice guidelines for wilderness search and rescue and expeditions. These guidelines deal with appropriate care for specific conditions, but do not address scope-of-practice issues. Since the most recent edition of the *Practice Guidelines*, the WMS also has started publishing specific wilderness medical clinical guidelines in the journal *Wilderness & Environmental Medicine*.¹⁻⁴

Unlike the Wilderness Medical Society guidelines for wilderness care, there is no widely-recognized set of practice guidelines for disasters. A number of textbooks³⁵⁻⁴⁴ and journals⁴⁵⁻⁴⁸ address the issue.

There are persuasive arguments that a disaster is, in essence, a temporary wilderness, and that the WMS guidelines should suffice.

There are currently efforts by the Department of Homeland Security to standardize disaster, tactical and wilderness prehospital care by all its medical assets: Coast Guard, Border Patrol, Secret Service, Federal Emergency Management Agency. While this focuses more on wilderness than disaster settings, the standards will apply to both. This may presage a more general Federal effort to standardize.

Standards of care for wilderness and truly catastrophic disasters, at least in the ideal Platonic sense, are fairly well established. But for later phases of catastrophic disasters, or in disasters that are not quite as catastrophic (i.e., some hospitals are still functioning), what should be the standard of care?

In August 2004, the Agency for Healthcare Research and Quality (AHRQ) convened a conference to discuss the need for altered standards of care for public health emergencies. Their report, *Altered Standards of Care in Mass Casualty Events, Bioterrorism and Other Public Health Emergencies*,⁴⁹ came up with ten suggestions, six of which start with “develop,” two of which start with “identify,” one of which starts with “create” and one of which starts with “continue.” These boil down to a research agenda; little has been done to advance these.

Unlike more-unified nations such as Israel or Britain, the US is a federation of more than 50 states, territories and Indian nations, each of which establishes its own laws regarding the practice of medicine and EMS. There is a mechanism for getting uniform state laws – known as

the National Conference of Commissioners on Uniform State Laws (NCCUSL), which has representatives from every state, and whose recommendations are taken very seriously by state legislatures. The NCCUSL has had a number of successes over the years – the Uniform Commercial Code is a good example. After Hurricane Katrina, the Gulf Coast states desperately needed physicians, and there were many physician volunteers from other states – but they were not licensed in the Gulf Coast states. The NCCUSL started working on the Uniform Emergency Volunteer Health Practitioners Act. Originally the Act provided for malpractice protection for unpaid volunteer physicians, but the Association of Trial Lawyers of America – recently renamed the “American Association for Justice” – got it removed, and it only later got put back, in watered-down form.

So what does this mean for Austere EMS? It means that the standard of care for Austere EMS is fairly well set, in the *WMS Practice Guidelines*, though not in case law (common law). And some Austere EMS organizations have practice guidelines, for instance, the Appalachian Search and Rescue Conference has its austere EMS (wilderness EMS) protocols posted on its website (asrc.net).

Since there is no accepted “bible” for Austere EMS, we may reasonably conclude that the standard is what is in the WMS guidelines; fleshing this out is what is taught



in widely-available courses such as Wilderness First Responder, Wilderness Emergency Medical Technician, and Austere EMS protocols provided by some organizations and states. With SAR as well as austere EMS, there is basically no case law. It's ultimately up to the courts to decide the standard of care, but for now, what's listed above is what we've got.

Q&A: Austere EMS

What is a Medical Practice Act and why should I care?

In the US, each state has a Medical Practice Act that restricts the practice of medicine to those who are licensed by the state. There are two primary reasons for licensing physicians from the state's view: 1) it provides money for the state in the form of licensing fees (a form of tax), and 2) it provides the state's citizens some protection from quacks by establishing criteria for licensing. From the physicians' viewpoint, it both elevates the profession to a higher level and restricts entry to those who meet the criteria, allowing more prestige, higher fees, and some protection against incompetents in their midst. Again, controlling the practice of medicine is entirely a state prerogative, and the federal government basically isn't involved at all. This means that the privilege to practice medicine ends at the state line.

What is Delegated Practice and how does it apply to Austere/Wilderness EMTs?

From the earliest time, physicians didn't want to do everything themselves. They wanted to delegate certain tasks (drawing blood, administering medications, applying leeches) to others. States have universally allowed this “delegated practice” in their Medical Practice Acts. So, a physician could tell an office medical technician to give a vaccination, or tell an office orthopedic technician to apply a cast, and it was OK (not a violation of the Medical Practice Act). However, the physician has to directly order the “technician” (the generic term used in most Medical Practice Acts), and accept responsibility for the technician's work quality. Delegated practice provisions vary widely from state to state.

My notes from discussions with Pennsylvania Department of Health and Board of Medicine lawyers:
“Pennsylvania's legal provisions for delegated practice

by physicians are broad, and can include the kind of delegated practice that SAR/Disaster/Tactical teams use.” “Delegated practice isn't limited to just the office, or just the hospital.” “The Medical Practice Act places no restrictions on when or where a physician may delegate practice.” “However, there may be liability concerns for both physician and delegatee – this kind of delegated practice doesn't have the same liability protection as afforded under the EMS Act, limited as it is.”

How do nurses fit into Delegated Practice, then?

After a while, nursing became a profession, with standardized training. Nurses, too demanded licensure, for the same reasons as physicians. Physicians agreed, too, because it gave them a big benefit. Just like the industrial revolution allowed us to build things with uniformly manufactured interchangeable parts, registered nurses became (somewhat) interchangeable. This meant the physician didn't have to take total responsibility for the nurse's training; a R.N. could be assumed to meet certain minimum standards. As part of this process, state laws laid out what RNs could and couldn't do. Similar state laws for Physician's Assistants, Nurse Practitioners, and other “technicians” also evolved.

As EMS developed, paramedics and later EMTs were placed in a similar “interchangeable parts” category by state laws. However, as with nursing and to a lesser extent medicine, the state laws vary.

I have just taken a [wilderness first aid][Wilderness First Responder][Wilderness Emergency Medical Technician] [Tactical EMT] course, and they taught me to [use an Epi-Pen][reduce shoulder dislocations]

**[give IM antibiotics][perform field appendectomies].
Is it legal for me to now do these things?**

It depends. If you are a physician licensed in your state, and you're operating in your state, the answer is yes.

If you are a first aider, and believe you are just performing first aid, the answer is yes. You may have to persuade a judge and/or jury of this later on. If it's just splinting a broken leg, no problem. If it's using an Epi-Pen on someone who just got stung by a bee and who swelled up and turned blue and almost died, or even did die, you're



probably in good shape. If you are a first aider and botch a field appendectomy, I wouldn't bet on you – most judges and juries would see that as practicing medicine without a license (a criminal offense), or perhaps a reason to award civil damages against you for grossly exceeding your ability. Other medical procedures fall in between. Sorry for the fuzzy answer, but that's the way the law works.

If you are a Wilderness First Responder, and have not been trained to the level of a non-wilderness First Responder, nor received state Emergency Care—First Responder certification, you're just another first-aider and the above applies.

If you are indeed certified as an Emergency Care—First Responder, you may or may not be regulated by the state EMS act – it depends on the state. If you are regulated by the state, then you're supposed to do only what the state says you can do. (Same for EMT-Basics, EMT-Paramedics and in between, and for nurses, PAs, CRNPs, etc.) If, as part of your regular job as a [First Responder][EMT] [paramedic], do something well outside of your "scope of practice" your supervisor will not like it. The state will not like it. Bad things may or may not happen to you. You're unlikely to face criminal charges of "practicing medicine without a license" but you may receive a reprimand, get fired, have your license as a [First Responder] [EMT][paramedic] suspended, or be assigned to care only for demented nursing home patients with diarrhea for the next month. However, if you did a good job of what you did, and it really helped the patient, and you didn't act like an a**hole about it, you may even get a commendation. Many EMS systems have provisions for personnel occasionally exceeding the scope of practice.

Ideally this occurs with online consultation with a medical direction physician who will back you up.

If you expect to do things "outside your scope of practice" on an occasional basis, see below for more.

If you expect to perform advanced medical procedures above your "scope of practice" on a regular basis with your SAR/disaster team or EMS agency, and there's no state law permitting it, you should coordinate with your state EMS people and see about changing the laws or regulations. Or, be in a state like Pennsylvania with a broad delegated-practice provision in the Medical Practice Act and have a supportive physician in charge of your care.

If I'm in an Austere EMS setting, and someone is having chest pain, is it legal give him one of my aspirin tablets?

If you are a state-licensed physician, it is legal for you to give him an aspirin. If you are a state-licensed paramedic (or other advanced EMT) acting under your standing orders, it is legal for you to give the aspirin.

If you are neither of these things, then it's probably illegal for you to give him an aspirin. It would be practicing medicine without a license, and you could face criminal charges. (OK, it's really, really, *really* unlikely. But you still *could*.) Every lawyer I've asked agrees with this. They also all agree that you *should* give him the aspirin as it might be lifesaving. So here is how you do it.

You take your aspirin and put it on a tree stump. You then educate the person with chest pain about how taking an aspirin soon after a myocardial infarction helps prevent death and disability. If the person picks up the aspirin and takes it, then there is absolutely no way you can be accused of practicing medicine without a license.

All the lawyers I've run this past agree that this is entirely legal and without risk of criminal prosecution.

If this seems a bit silly, just remember that lawyers and judges think about the world in a very different manner than the rest of us.

What is the role of the physician in Emergency Medical Services and Austere EMS?

Some prehospital personnel (e.g., many SAR/disaster/tactical team members) just provide first aid. Most states don't see first aid as the practice of medicine and don't regulate it. The Wilderness First Responder sometimes falls into this "first aid" category, sometimes not – depends on who you ask, even state health department lawyers.

Some (let's use the new term "out of hospital" from now on) out-of-hospital personnel clearly practice medicine: paramedics. In the US, paramedics can generally only practice medicine at the direction of a physician. This can be "on-line command"/"direct medical control" where the paramedic and physician are talking over the radio, or "off-line command"/"indirect medical control" where a physician medical director provides protocols and standing orders, and reviews the performance of paramedics. To provide the "interchangeable" (see 3, above) paramedic and physician "parts," state laws provide specific authorization for paramedic's delegated practice.

In England, though, paramedics have a distinct independent right to practice a subset of medicine independent

of physician medical direction. And there is a growing tendency in a few US states to recognize, in legislation, some independent right to practice by paramedics. Most states, however, emphasize the dependence of the paramedic's right to practice on a physician's license.

Do EMTs practice medicine? The EMT-Basic Curriculum includes medication administration (epinephrine, nitroglycerin, and albuterol), so the answer is clearly yes. Under the old EMT Curriculum, some states, deliberately or by ignoring the issue, classed EMT-Basics with first aiders and let them practice without medical direction. However, the trend is clearly away from EMTs as "first aiders." And there is a new emphasis on the need for medical direction for EMT-Basics.

What happens when a paramedic or an EMT goes across state lines?

Well, basically, the EMT or paramedic has no right to practice medicine in the other state unless specifically granted by that state. And, indeed, many states have established "reciprocity" arrangements for both EMTs and Paramedics. The Atlantic EMS Council consists of PA, NJ, RI, DE, DC, MD, VA, and WV. It has arrangements for "granting reciprocity" between EMT and paramedic levels between all member states. Specifically, this agreement allows providers of equivalent levels to apply for certification and licensure in another state. Providers have to apply for this, it's not automatic. But among these states, it's generally easy to get EMT or paramedic licensure in another state.

Your state EMT certificate is good in another state only if your state and the other state has a special agreement, and you have previously applied for EMT certification in that state. In general, granting EMT certificates is a state responsibility, and they can't automatically offer "reciprocity" for other states' EMTs. But, states can and often do make arrangements to make it easier for EMTs to get a license in another state (e.g., maybe all you have to do is submit paperwork rather than take the state test).

Unfortunately, however, this doesn't apply to the physicians who are providing medical control. This means you, as an EMT or paramedic, can practice your limited kind of medicine in a "foreign" state only under the medical direction of a medical control physician who is licensed in the "foreign" state.

But what about aeromedical transports across state lines? We all know that the sending facility's physician provides medical direction until the craft lands, and that the paramedics and nurses continue to follow the standing orders from their original medical director until they land.

"Legally," medical direction for helicopter crews must stop at state lines. Though it has no grounding in law, only in common sense, there is an informal agreement pretty much nationwide to allow the helicopter's (or plane's) medical direction to continue until it arrives at the receiving facility. A few helicopter services' medical direction facilities are registered in more than one state, but overall most long-distance medical air transports have little legal backing for physicians or others providing medical care en route.

For those with questions about the "legality" of certain austere EMS issues, this should be reassuring - states have many bigger "legal" EMS problems than austere

EMS.

More on the situation in Pennsylvania: Assume a "street" EMT or paramedic is in exceptional circumstances that are not a part of his or her "regular" or "street" EMS job, (e.g., in a wilderness rescue with life or limb potentially at risk). Assume the patient needs something that's not acceptable for "street" EMS in Pennsylvania. E.g., the patient needs a patellar (kneecap) or shoulder dislocation reduction to facilitate evacuation, or needs a medicine such as phenytoin (e.g., Dilantin). Assume there is contact with a Medical Command Physician. Assume the Medical Command Physician has some understanding of austere EMS. In such a case, "Medical Command Physicians are expected to exercise broad discretion in what they direct the EMT or paramedic to do, consistent with their ability to practice medicine." If the physician ordered the EMT to reduce a patellar or shoulder dislocation (and the EMT had previous training in this), or ordered the paramedic to give PO phenytoin, there might be the potential for disciplinary action. However, when considering a potential disciplinary action, the Board of Medicine and state EMS are expected to exercise broad discretion, particularly when the situation is one not foreseen by the EMS law. This is not ideal, but should suffice for most austere EMS situations.

However, note that the above applies to those who find themselves in exceptional circumstances outside their normal EMS practice. For medically-trained members of search and rescue teams, whose main EMS practice is taking care of Austere EMS patients, an Austere EMS patient would not be an exceptional case but the norm, and the non-EMS delegated medical practice option discussed below would be a better legal route to providing austere medical care.

Once upon a time, Jack Grandey and I attended one of the Atlantic EMS Council meetings and spoke about the need for making out-of-state providers able to provide advanced care, even beyond the paramedic level. We gave as example a rescue at Crossroads Cave in Bath Co., Virginia several years ago. By the time the entire National Cave Rescue Commission Eastern Region cave rescue class (about 100 students and instructors) learned of the incident and drove to the site (and just after the final exercise, we might add), the local cave-rescue trained people were exhausted and had to come out of the cave.

As we continued the rescue over the next twelve hours, we used a North Carolina orthopedic surgeon, a Pennsylvania emergency physician, and out of state paramedics. We used all sorts of "EMS-unapproved" medications (e.g., ketorolac IM) and procedures (e.g., shoulder dislocation reduction, clearing the cervical spine in the field, medical direction by an orthopedic surgeon for orthopedic problems).

At that Atlantic EMS Council meeting, we explained to the assembled lawyers and state EMS directors that we wanted to figure out a way to make this all have some semblance of lawfulness, they said "OK, we'll add that to the list of other unlawful things we have to do all the time. Let's see, that's #11 on the list."

We hope this makes you feel more sanguine (or at least less fearful) when you decide to do something that's

* All three have happened.



unlawful but in the patient's best interest. Remember that helicopter and fixed-wing crews are doing similar unlawful things all the time and nobody's suing them or taking away their certification.

So if I'm an First Responder, EMT or paramedic, what is my legal status in the backcountry in another state, both for unexpected emergencies and if I respond to the other state regularly as part of a search and rescue team?

At present, the only state that we know of with officially state-certified Wilderness EMTs is with separate wilderness protocols is Maryland, with West Virginia considering doing the same. So at present there is no way for these Wilderness EMTs to get "reciprocal" WEMT certification by another state. Several other states "recognize" WEMT certificates from various providers, but only for continuing education credit, and there are no reciprocity arrangements of which I am aware. Please let me know if you know of states that have started certifying WEMTs.

(A) Unexpected Emergencies: Assume you find yourself in an "exceptional" circumstance. Assume you are an EMT from Virginia. You are hiking along a trail in Pennsylvania's Potter County, a mile from the nearest road. You run across a hunter who was shot in the leg and has an open fracture. In such a case, you have no legal authority to provide medical care. But Pennsylvania has a Good Samaritan law, specifically designed to encourage people like you to render care. This suggests that, despite the letter of the law that requires you to have a Pennsylvania EMT to provide care, that you should go ahead and provide care for the patient.

In the unlikely situation where you end up in court or in a hearing, what standard of care would you be held to? If your training is EMT-Basic, you would be expected to control bleeding and dress and splint. If you are trained as a Wilderness EMT, you would also be expected to, if possible, irrigate the wound before dressing it; and possibly, depending on your WEMT training and what you have with you, giving an antibiotic to the patient.

(B) Routine Backcountry Care: What if you are part of a SAR team, and your team responds regularly into another state? Well, since there isn't yet any Wilderness EMT "reciprocity," you can't do that. Maryland may decide to make it easy for EMTs with various Wilderness EMT certificates to get Maryland WEMTs, but that's still only a possibility at this point. It certainly would be a good idea to get training at the EMT or paramedic level even if, as in Pennsylvania, this doesn't extend to the wilderness setting (yet). If you get into court or into a hearing, it would be evidence of a good-faith intent to abide by the states' laws as much as possible.

If I am faced with a patient in the backcountry, and I don't know what it's legal for me to do, what should I do?

The very bottom line is that when in doubt, do the very best for your patient that you can. Providing bad care

because you're afraid of the legal consequences is an almost sure way to get in both medical and legal trouble. Providing good care even if you're not sure it's "legal" is the best way to care for your patient and keep yourself clear of the court system.

Just about any lawyer will tell you the same; lawyers are always giving doctors this advice in medical-legal seminars. A good example is a child who comes to the Emergency Department with a significant injury. In some legal sense, the doctor can't treat a minor without the parent's permission. However, if the doctor delays care pending the parent's permission, he or she is taking a big medical and legal risk. I don't even ask about parental permission until after I see the child and figure out if the child needs treatment. Unless the medical treatment the doctor is contemplating is clearly elective, or can wait without any detriment to the child at all, lawyers advise doctors to just go ahead and "do it": suturing a wound, giving an antibiotic, whatever. Only later should the doctor worry about parental permission. Since what the lawyers tell doctors to do what they want to do anyway, it's very satisfying.

If in the field and you have a choice between what is right and what you think is legal, choose what's right and you'll probably do better in court, if it ever comes to that, than if you did what's "legal."

Here are some quotes from noted medical ethicist (and Mountain Rescue Association team member), Dr. Ken Iserson:

"Rather than concern about scope of practice, the ethical bottom line is always the patient. When physicians (or probably other licensed health care providers) are involved, there should be no problems, since they are legally covered as Good Samaritans. With others, someone has to bite the legal bullet to guarantee the best patient care. In our case, I simply use off-line control to extend the scope of practice. In many of our calls, on-line medical control is impractical or unavailable.

"Think of it this way: no EMS protocol takes wilderness medical scenarios into consideration; our patients need help; the law should not prevent this help if it can be safely delivered by wilderness personnel whether trained or not; it is our responsibility to make sure our personnel are as well trained as possible in safe practices for themselves and the patients.

"While we can squabble over minutiae involved with first-aiders, EMTs, etc. performing certain tasks in the field, there is no ethical squabble that if they can and do not help the patient, they violate the ethical principles associated with medicine (at all levels), the ethical principles associated with wilderness search and rescue, and the ethical principles associated with being a member of our society."

Legal, Ethical and Moral Advice

IF YOU HAVE READ THIS FAR, your mind may be full. Synthesizing this information into a set of simple rules may not be easy. You may find yourself in a situation that seems fraught with legal peril, yet unable to remember

anything specific from this essay or your other training that seems to apply.

Engage your imagination. Come up with a specific Aus-

tere EMS dilemma. A situation where it's hard to decide what's right to do, where there will be badness no matter what you decide. A no-win situation. If you've never had or heard of such a situation, just chat with senior members of your team.

Now, consider the situation on three levels: legal, ethical and moral.

Legal

THE LEGAL LEVEL has you consider: What does the law say I should do in this situation? Laws are generally a good guide to what society believes is the right thing to do. The law is a good guide for common situations, but Austere EMS situations tend to be atypical.

Consider further: What laws apply? Are they Federal, state or local law? Are the statutory or regulatory law, or common law principles? Were the laws crafted to apply to the situation at hand, or are they a poor fit due to factors not imagined by the creators of the law? Do you need to invoke common law principles such as implied consent, abandonment, or the doctrine of necessity?

Ethical

THE ETHICAL LEVEL has you consider: what ethical codes apply? Ethics are systems of principles, often propounded by members of a craft or profession, as to what this particular group of people believes is the right thing to do in situations common to their members. Codes of ethics may provide guidance when it's not clear how or even whether the law applies. In Austere EMS situations, medical and SAR ethics might be of help. For

* See SAR-Legal.pdf at <http://conovers.org/ftp> for more on these types of laws.

example, consider the medical ethical principle in the ancient maxim *primum non nocere* ("First, do no harm."). Or, for SAR, consider the oft-cited principle "a dead rescuer never did anyone any good."

If there are no published codes of ethics you can apply, consider: What would your peers – other team leaders or members – think is the right thing to do? Do you think there would be a consensus?

Moral

THE MORAL LEVEL has you consider: What do I believe is right? What are my religious or philosophical principles? How do they apply in this situation?

Sometimes, when on the horns of a dilemma, the best reason to make a choice is that it feels right. We may not even be able to articulate all our moral principles, but we still may simply feel, emotionally, that one choice is better than the rest. This is generally a good guide as to what to do. While we may not consciously remember all the considerations that make the emotional parts of our brains select a best choice, they tend to do a good job in difficult situations.

Whatever choice you make, it's a good idea to document why you made the decision, and as soon after the decision as possible, while it's still fresh in your brain. You might also want to document the factors that required choosing from bad options, whether it's nightfall, a winter storm, an inadequate number of exhausted rescuers, rising flood waters, danger of being shot by a sniper, danger of building collapse, or other factors.

It's easy to criticize a difficult decision after the fact. But if you document your decision, it's usually easier to defend it.

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