

# Shock

“SHOCK” is one of those terms that has a very precise medical definition, but is thrown around imprecisely in casual conversation. Think Renault’s “shock” at discovering gambling in Rick’s Café in *Casablanca*. I am always amused to hear on the evening news about a bystander at some incident needing to be “treated

for shock” after witnessing something terrible.

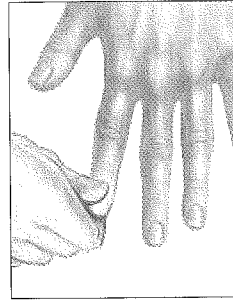
Medically, shock is a condition that exists when there is insufficient blood flow to tissues to provide them with the oxygen and nutrients they need to function properly. A host of events can result in shock. The simplest to understand are conditions that lead to a significant loss of blood (hemorrhaging from wounds) or other body fluids (severe diarrhea). Damage to the pumping function of the heart, such as from a severe heart attack, can also result in shock, as can serious bacterial infections (“sepsis”), which can affect the ability of the blood vessels to maintain flow.

Regardless of cause, the individual experiencing shock is pale, with a thready pulse and low blood pressure. He or she will be very weak, with decreased urine output, and since the brain is one of the tissues affected, progressive delirium or coma is usually present as well. In the absence of definitive treatment, shock virtually always progresses to death, usually rapidly.

Fortunately, shock in the backcountry is rare. It would most likely be encountered in someone who has suffered a catastrophic injury or is experiencing a severe heart attack. The likelihood of surviving this in a remote location is nil, so the immediate priority would be urgent evacuation.

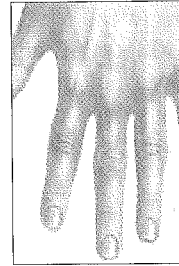
How can we recognize the person who is slipping into shock? It should certainly be suspected in someone with an at-risk condition who is pale and starting to act confused or unresponsive. Although the measurement of “vital signs” (pulse and blood pres-

## How to check Capillary Refill



1. Pressure is applied to nail bed until it turns white

2. Blood should return to tissue in 2 seconds or less



sure) is sometimes included in advanced wilderness first aid courses, there is no evidence that laypersons are able to measure and interpret these data reliably in the backcountry.

Probably the most useful test that can be used by the public is “capillary refill.” When one’s finger is tightly squeezed, the blood goes out of it and it becomes pale. After the squeeze is released, blood returns and the finger “pinks up,” usually in two seconds or less. Although other factors such as a cold environment can cause delay, a capillary refill taking more than two seconds should make one worry about shock. (A nice video of the technique is available at [www.youtube.com/watch?v=U-oSBEx6ZSM](http://www.youtube.com/watch?v=U-oSBEx6ZSM).)

While treatment of shock in the hospital involves a host of medications and technologies, virtually none of these is applicable in the wilderness. Whether one’s training is first aid merit badge or some super-duper wilderness EMT, the approach is as basic as imaginable: Keep the victim warm, dry, hydrated, and nourished as much

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as possible. Anything that can be done to “fix” the underlying problem (e.g., stopping bleeding) should obviously be done. All attention should be focused on getting to definitive care rapidly.

Knowing the signs of shock is important for anyone, not only in the backcountry. Shock from sepsis occurs frequently, and the longer it takes to recognize it, the more likely is a bad outcome. In fact, hospital emergency departments in New York State are required to have processes in place to identify and intervene with sepsis rapidly. Anyone with fever, pallor, confusion, and signs of shock such as delayed capillary refill should be suspected of having more than “just the flu,” and taken to the hospital immediately. ▲

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