

Backcountry

The Gear Closet » Cleaning Water

A new lightweight filter from MSR, plus other options for clear water

Why treat your water?

Times certainly have changed since the olden days of hiking—more people, more regulations, seemingly more to worry about. One hazard that hikers should be wary of is the array of little bugs that live in water and can get into our intestinal tracts. In the 1980s we learned of *Giardia lamblia*, a microscopic parasite encased in a hard shell (called a protozoan cyst) that makes its home in the intestines of animals and humans. More recently we have learned of another cyst, *Cryptosporidium parvum*. Both cause extreme distress in the lower gastrointestinal tract and are highly contagious. They can be difficult to diagnose and treat. The cysts are extremely hardy and can survive out of water for weeks. Furthermore, a person can become ill by ingesting just one of these cysts. Backcountry water safety is a matter of reducing the odds.

So, what are my options?

Lucky for us, there are a number of options out there to help make water safe for consumption. Filters provide physical filtration at a micron level, enabling the removal of both giardia and cryptosporidium, as well as removing particulate. The EPA has no standard for testing or approving filters, though proper use of a filter does provide reasonable protection. Chemicals kill the cysts, but do not remove particulate from the water.

Filters

Filters give the best-tasting water. The negatives of using a filter are the weight and bulk, as well as the time required to stop and



filter water. Most filters require some degree of maintenance. The majority of the better filters weigh in at about one pound—at least until last year, when MSR debuted the amazing Hyperflow filter. The Hyperflow weighs less than half

A new lightweight filter from MSR may be your best option for clean water in the backcountry.

Using Gravity

I'd heard of gravity bags before, but before I got a set of Platypus bags, I didn't really know what they were. Having now used them for several months, I don't know how I ever lived without them. Gravity bags are an incredibly simple addition to the water cleaning arsenal. The system consists of a pair of bags, one for dirty water and one clean, with hoses running to and from the filter or purifier. It takes an hour or so to filter a gallon of water this way, so it's not a trailside fix, but in camp, the convenience can't be beat. Not every filter will run on gravity, but it's worth checking out to see if yours will. The MSR Hyperflow will work this way, and Platypus has a gravity system with a filter that it claims can filter 4 liters in 2.5 minutes.



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a pound, and it's not especially bulky. I carry a collapsible 96-ounce Nalgene Canteen on backpacking trips and found I could fill that guy up in less than two minutes with the Hyperflow. As is the case with most lightweight gear, the Hyperflow has a little learning curve in terms of how to care for and maintain it, so if you get one, spend time at home fiddling with it prior to its first trip to the mountains. Another caveat: the cartridge may not tolerate being frozen, so on a cold night you'll want to have it in your sleeping bag.

Chemical water treatments

One chemical option I like is Aqua Mira's two-part liquid solution. Mix part one with part two, wait five minutes, add to your water, and let the water stand. It's a simple, lightweight, and inexpensive option. The active ingredient is chlorine dioxide, the stuff used in municipal water purification. Aqua Mira does change the flavor of the water slightly, but it's not unpleasant. Tablets with the same active ingredient are also available and are great as a backup, but fairly expensive: \$8 gets you enough tablets to do just 12 liters of water.

Iodine does not kill cryptosporidium, and bleach (sodium hypochlorite) is not considered a safe water-purification method.



Conclusions

There are known risks to getting safe water in the backcountry. Nothing will guarantee safety 100 percent, though there are many options available to substantially decrease your odds of getting sick. ♦

If You Get Sick

If you experience severe diarrhea after backcountry travel, you may have picked up giardia or cryptosporidium. When you visit your health care provider, you may want to consider requesting a test for cryptosporidiosis, as it's not standard practice to screen for it. There are a few treatments available for giardiasis, and a treatment for cryptosporidiosis is now available. It is called Nitazoxanide, brand name Alinia. Alinia got FDA labeling in November of 2002 for use in children. It is legal to prescribe the drug off-label for adults, and it's been done with good results. Alinia is also used to treat giardia in some cases.

Far left: Aqua Mira's two-part treatment system is quick, effective and lightweight. It flavors water slightly, but not as strongly as the old iodine treatments.

Left: The Hyperflow from MSR weighs in under half a pound and filled a 96-ounce water bag in two minutes flat. It takes some learning, but for speed and weight, the Hyperflow is unmatched.