

WATER TREATMENT

1) What's the bad stuff in the water:

A) Protozoan Cysts (1 to 300 Microns)

- 1) Cryptosporidium
- 2) Giardia Lamblia

B) Bacteria (0.1 to 10 Microns)

- 1) E. Coli
- 2) Salmonella
- 3) Campylobacter
- 4) And others

C) Viruses (0.005 to 0.1 Microns) - Rarely found in North America - Filters are not effective only purification is effective.

- 1) Hepatitis A
- 2) Rotavirus
- 3) Norwalk Virus
- 4) And others

2) What causes the bad stuff in the water:

A) Protozoa - Animal and human waste (mostly feces)

B) Bacteria - Animal and human waste (mostly feces) / Naturally occurring

C) Viruses - Animal and human fecal waste.

3) Methods of treating the water:

Method	Protozoa	Bacteria	Viruses	Process
Boiling	√	√	√	Boil for 1 minute / 3 minutes above 6,562ft
Filtering	√	√	-----	Water is passed through a filter component. Backpacking filters are commercially available.
Ultraviolet (UV) Light	√	√	√	Water is exposed to UV light for about 90 seconds - may require pre filtering if water is cloudy or dirty.
Chlorine-Dioxide	√	√	√	Tablets are dissolved in water - Requires a 4-Hour wait time.
Iodine	√•	√	√	Tablets or tincture dissolved in water - Requires a 15-Minute wait time. *Not effective against Cryptosporidium. Not to be used by pregnant women or people with Thyroid conditions.

4) If boiling is not an option then a combination of filtration and disinfection (Chlorine Dioxide or Iodine) is the most effective method.

5) Recommended systems:

A) Sawyer Squeeze filter / Chlorine Dioxide tablets / Boiling