

Frequently Asked Questions about Reverse Osmosis and Distillation

Which of these three water filtration methods – Reverse Osmosis (RO), Distillation, or Berkey® purification – is the healthiest solution for drinking water?

When it comes to the healthy properties of water, most health experts familiar with recent research no longer recommend drinking RO or distilled water on a long-term basis. These methods remove all beneficial minerals from the water, making it acidic and a “hypotonic” solution. Any chemist will confirm that every time a hypotonic (demineralized) solution comes into contact with a “hypertonic” (mineralized) solution, minerals from the hypertonic solution move into the hypotonic solution until balance is achieved. In simple terms, this means that when you drink hypotonic water, minerals from your blood and lymphatic system (which are hypertonic solutions) pass into the hypotonic RO or distilled water you have consumed, and those minerals are then “washed out” of the body through urination.

In an attempt to remineralize, the blood and lymph systems will then draw minerals from other parts of the body, such as bones and other organs. This process repeats every time demineralized hypotonic water is consumed. Several studies have shown that people who drink demineralized (hypotonic) water over a longer period have a higher tendency to develop degenerative diseases such as osteoporosis.

Berkey® purification systems do not remove beneficial minerals from the water, yet they still remove harmful heavy metals such as lead and mercury, as well as mineral deposits like iron oxide. Therefore, the TDS (Total Dissolved Solids) value will not change significantly unless the water contains high levels of heavy metals or mineral sediment.

Is there a way to check the effect of drinking demineralized hypotonic water myself?

Yes, this can be tested during a short fast. First, measure the TDS value of the RO or distilled water — it should be around 1-3 ppm. After drinking this water for a few days, measure the TDS value of your urine. Keep in mind that TDS only measures minerals, not chemicals, so the entire reading on the TDS meter will represent minerals being pulled from your body.

What are the capabilities of reverse osmosis systems regarding pathogen removal?

Reverse osmosis itself does not remove pathogenic bacteria, which is why a UV lamp is often added to the system. However, even a UV lamp does not always eliminate all bacteria because turbidity in the water can create shadow spots that prevent all bacteria from being exposed to the UV light. The UV lamp is usually installed before the storage tank, yet bacteria often colonize that tank. Therefore, if the tank is not regularly sterilized, it becomes a source of bacterial contamination that is not exposed to UV radiation. In addition, remnants of dead bacteria remain in the drinking water that comes out of the reverse osmosis system, while **Black Berkey®** purification elements remove them.

Which water will have the best taste?

Distilled water will have a flat/empty taste unless it is vigorously shaken, because the distillation process removes oxygen from the water. The taste of water from an RO system is usually very good. The taste of Berkey® purified water is usually very good, unless the source water contains an excessive amount of ionized minerals. Even then, the taste will be noticeably improved.

Can these three systems be compared in terms of maintenance?

All Berkey® systems are easy to disassemble and clean. As a rule, the lower container should be washed once a month like regular dishes. The elements should be cleaned after approximately 2 months of use.

Distillation systems need to be soaked and cleaned with a vinegar solution to remove scale, usually after every 4-8 liters.

Reverse osmosis systems can have up to four filter elements. Each needs to be replaced at different intervals, from 4 months to two years. This requires shutting off the water and partially disassembling the system for maintenance. In addition, the pressure tank should be washed with a chlorine solution every six months to kill colonizing bacteria.

How do these three systems compare in terms of cost?

Looking at the initial cost, RO systems are usually the most expensive due to the cost of the system itself and the additional costs of its installation. A distillation unit comes next in terms of cost. The Berkey® system is generally the cheapest of the three.