

Water Treatment

Chemistry

The stages, and what each removes.

Typical municipal treatment.

1

Screening

Large debris removed physically.

2

Coagulation and flocculation

Aluminium sulfate clumps fine particles together.

3

Sedimentation

Flocs settle out.

4

Filtration

Sand beds remove remaining particles.

5

Disinfection

Chlorine or ozone kills pathogens.

6

pH adjustment and fluoridation

Where practised.

HARD WATER

Caused by Ca^{2+} and Mg^{2+}

Temporary hardness removed by boiling

Permanent hardness needs ion exchange

Chlorination has saved more lives than almost any other public health intervention, at some cost in disinfection by-products.