



## Water Hammer

Water Hammer – a loud banging noise created when a hot or cold water valve is turned off quickly.

### You can try this at home

Turn on your hot or cold-water faucet - then turn it off very quickly. You may hear a loud bang. It sounds like "bang, bang, bang" in rapid succession and sometimes it repeats but with less force like an echo. If the tap is turned off slowly, it should stay quiet. The water in the pipes gradually slows down.

Water hammer is the term used to describe the destructive forces, pounding noises and vibrations, which develop in a water system when a closing valve stops the flowing liquid abruptly. When water hammer occurs, a high-pressure shock wave reverberates within the piping system until the energy has been spent in frictional losses.

Shock waves are created in a pipe full of liquid when either a valve is closed too quickly, forcing the liquid column to stop moving more quickly than it wants to, or when a pump is started up too quickly, forcing the liquid column to start moving more quickly than it wants to. In either situation, the shock wave travels up and down the pipe through the liquid, banging against each end of the pipe.

### How to fix a water hammer condition

Adding a capped air chamber or surge arresting device to the system may prevent the noise of such excessive pressure surges. This device is commonly called a *water hammer arrestor*. Arresting devices are available commercially to provide permanent protection against shock from water hammer. They are designed so the water in the system will not contact the air cushion in the arrester.

This phenomenon is not a water heater issue – rather it is a plumbing issue. There may be local codes on how this device is installed. Please contact your local licensed plumber for additional information.