

Tracing a Plumbing Leak

For this exercise, we're going to classify leaks in three categories. Try to determine which category your leak falls into, then follow the steps outlined below.

1. Supply side, a geyser

This leak will very quickly pump many gallons of water into your house, basement or down your drain. Turn off the water at a shutoff valve, or at your house main. You have a geyser and this is typically the sort of work for a professional.

2. Supply side, slow leak

A constant leak of water, whether a slow drip or continuous stream.

3. Drain side leak

This leak can be a lot of water at once, or only dripping. Either way, the flow will be affected by turning on a faucet or flushing a stool. The water may continue to leak for a bit after turning off the water, but will slow and stop after a period of not running the water

4. Hidden slow leak

A spot on the ceiling or buckled flooring reveals a leak that has been occurring over a long period of time.

Supply Side Geyser

Take about 10 seconds to note the general location of the leak, then immediately, turn off the water at a local shutoff valve or your house's main water shutoff. If you turned off the main water shutoff, look for the lowest faucet in your house and open it up fully to remove as much water from the lines as quickly as possible. If you turned off a local shutoff, look for a nearby faucet and open it to remove the water. This will relieve the pressure and the water leak should start to subside quickly.

Possible Causes

- Look for hoses and fittings that connect the water supply to your plumbing fixtures. Toilets and sinks have small connector hoses that carry pressurized water to the toilet valve or faucet. These can fail and are easily replaceable.
- If you cannot find the source of the leak, you may have a leak within your walls or between your floor joists. This probably will require a plumber who may have to cut into your walls and repair a failed joint in your water lines.

Supply Side Slow Leak

This is not the urgent condition of the supply side geyser, but it should not be ignored. A leak that is left to drip can eventually do a lot of damage to your property.

Possible Causes

- Shutoff valves are seldom used, but when they are after a long period of staying open, they may develop a leak. Try tightening the packing nut to contain the leak. If this doesn't work, you can easily replace the valve.
- A leak where a connector hose attaches the water supply (or shutoff valve) to a faucet or toilet is a common source for leaking. If the leak is slow enough, leave the water on and tighten the connection. When the drip stops, you know you're tight enough, without over tightening. Note, always use pipe thread tape when attaching a metal connection to a metal valve. This step is not necessary when the nut is made from plastic.

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- Faucets that drip or allow a stream of water to run indicate a valve that won't close properly. Changing the rubber washers in a faucet is fairly easy and inexpensive to do.
- Toilets that run often indicate a bad flapper. Flappers that have become brittle eventually fail to seat properly. When this happens, you hear water running from the toilet stool continually. Flappers can be replaced easily and inexpensively.

Drain Side Leaks

There are many places to find drain side leaks, so we'll touch on the most common plumbing fixtures and likely sources of drain leaks for each.

1. Sink

- Joints in the drain are often suspect. If the joint is not aligned properly or is not tight, dirty water will leak through the drain pipe under the sink. It is easy for the drain pipes to become misaligned when storing materials below the sink. Simple bumps can turn into leaking drain pipes.
- The connection of the drain to the sink can leak if it's not installed properly, allowing water to leak, before it even makes it to the drain pipe. Make sure you use plumbers putty or silicone between the drain and the sink, before tightening the drain connection.

2. Toilet

- The wax gasket beneath a toilet stool will sometimes leak, if the bowl is not installed properly. Look for water on the flooring at the base of the stool. This leak can be difficult to detect and sometimes rots the subflooring and floor joists before the problem becomes apparent.

3. Shower

- Search around the tub or shower base for water that has splashed past the curtain or around the shower door. This is an obvious and very common leak that should not be ignored. Over time, continued water around the base will rot the subflooring and joists. This can be dangerous and certainly a costly repair when you consider the weight of a tub full of water and the stress it puts on rotted floor joists.
- Leaks can occur around the shower drain, before the water enters the drain pipe. Use silicone between the drain and the shower base or tub so when there you step near the drain, some flex will not break the seal.
- Water that seeps into the walls where there is no grout or loose tiles can do a lot of damage over time. Replace or repair any gaps in tile by replacing, re-grouting or caulking with a good, silicone based caulk.

Hidden Slow Leak

You're seeing a spot or spots on the ceiling and aren't sure where the water is coming from. Assuming that the roof and flashing are okay, chances are that you have a drain side leak from a bathroom or kitchen above. Look for plumbing fixtures that are above or nearly above where the ceiling spots are found. Search for leaks that can seep through the flooring to the ceiling below, based on the drain side leaks listed above. If you cannot find the source of the leak, you may have to cut into the ceiling to reveal the source of the leak.