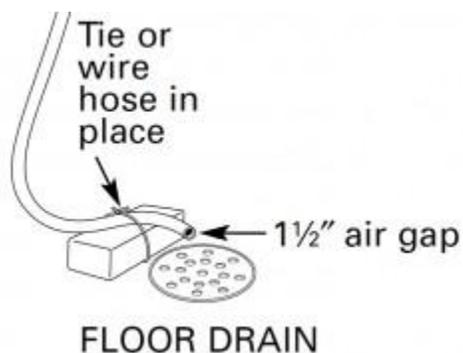


We are not sure if it's handy homeowners or negligent contractors who are responsible, but we find the same installation defects on water softeners over and over again. The installation instructions for water softeners are pretty much the same for all the different manufacturers, so the information I'm giving here should apply to just about any water softener.

## Improper drain hose

The drain hose that comes from the water softener needs to terminate in a manner that won't create a potential cross-connection between the potable water and anything else... such as sewer water. This is usually achieved with an air gap; this is just a literal gap between the end of the discharge pipe and the drain receptor, whether it's a floor drain, standpipe, or laundry sink. The only problem with the diagram below, which is what one of the water softener manufacturers includes in their installation manual, is that water will shoot all over the place. When water softeners discharge water, the water flows fast. It doesn't dribble out.



The photo below is an example of an air gap at the floor drain. Even if the floor drain were to back up with sewer water, the water wouldn't come in contact with the end of the discharge hose. Also, note that the cover for the floor drain has been cut out a little bit; if this wasn't done, the discharge from the water softener would probably splash water all over the place.



Water softener discharge at floor drain.

The picture below shows another way to plumb an air gap into the water softener discharge line. Either this method or the above method are acceptable ways to provide an air gap to prevent cross connections for the water softener line.

