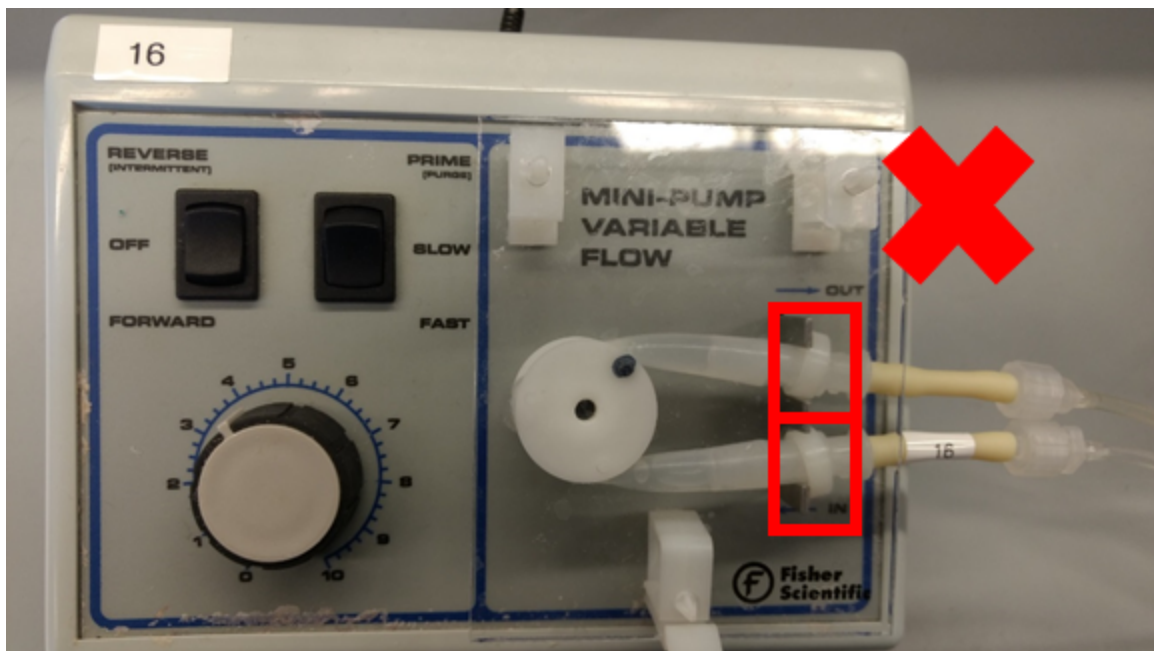
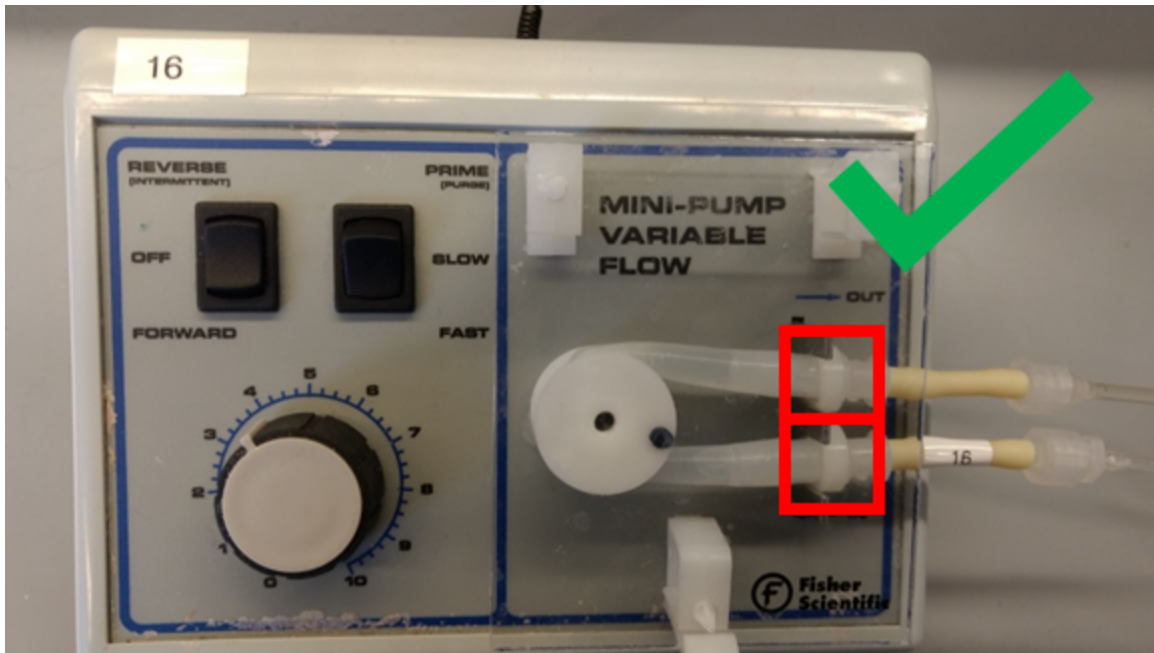
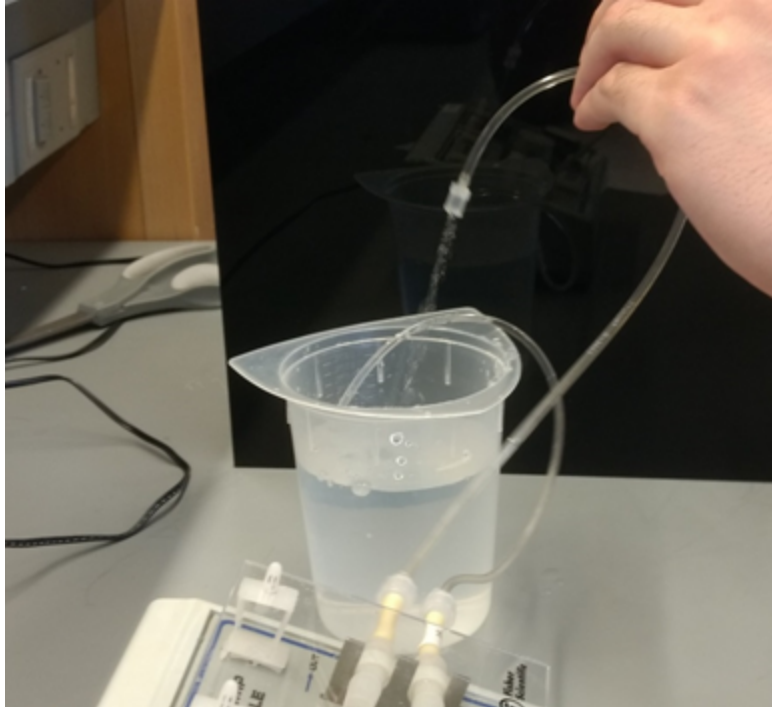


Pump Setup and Debugging Guide for the Lab

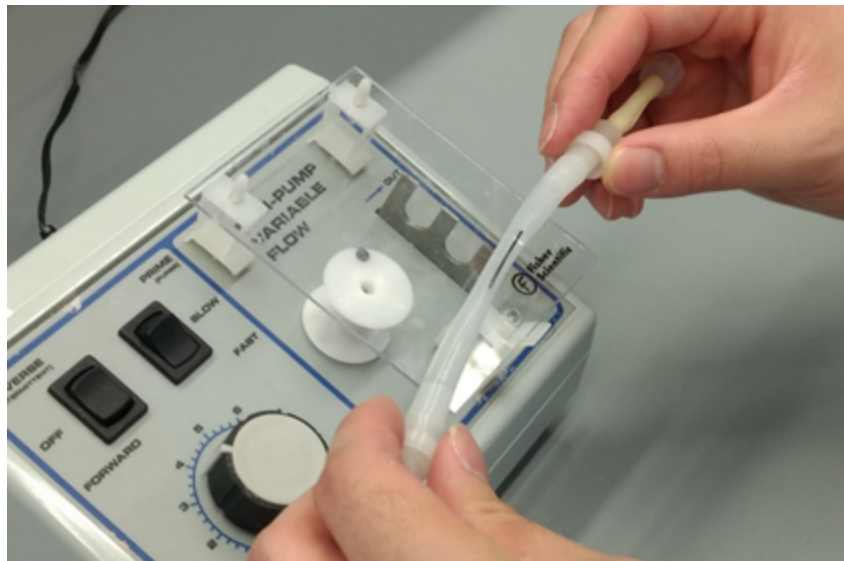
- Make sure plastic holder rings on the tubing are perpendicular to the metal frame on the pump and in the correct position on the tube itself (behind the second ridge).



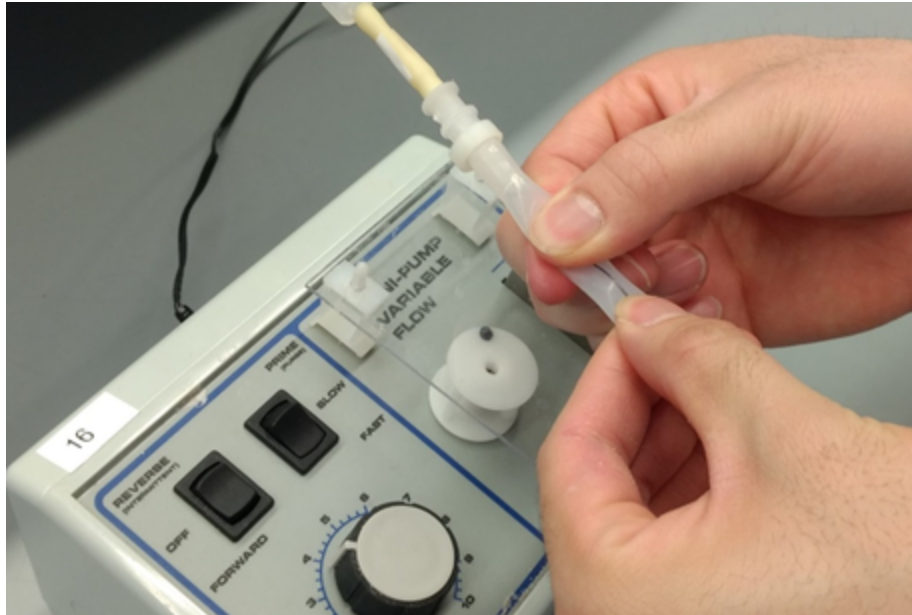
- Test the pump separately before connecting to the rest of the system by setting the speed to **Fast** and a dial setting of approximately **4** for the analog models, or **Forward** and dial setting of **40** for the models with the seven-segment display. Turn the pump on by pressing **Forward** on the analog models, or **START** on the seven-segment display models.



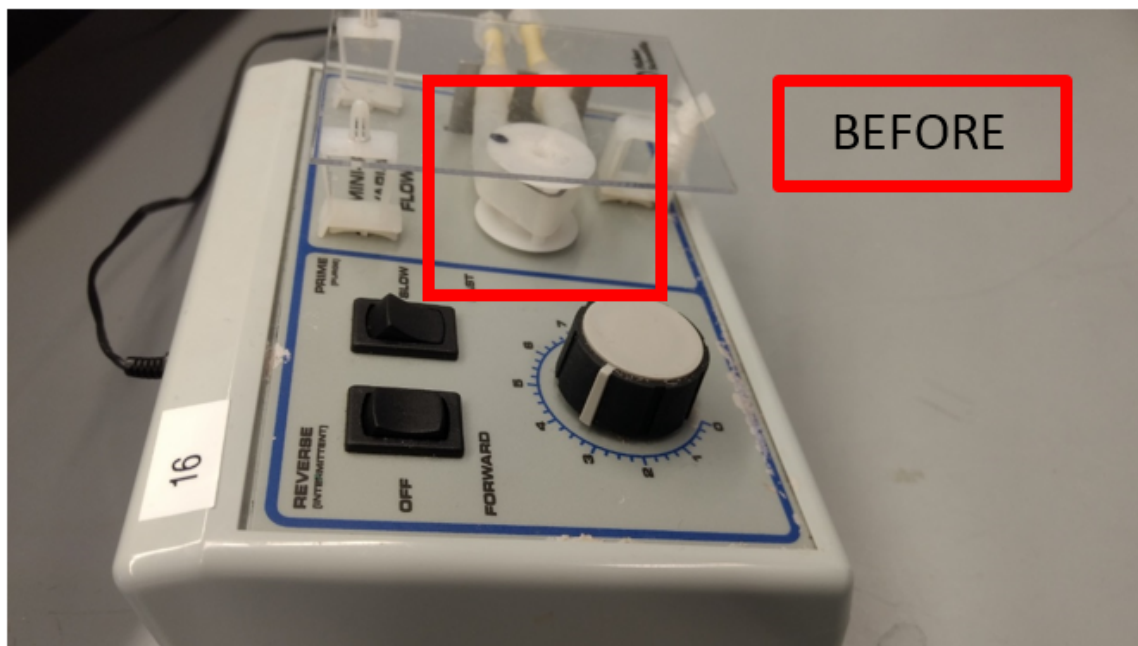
- If water is not pumping, first thing to try is:
 - a. Take out pump tubing

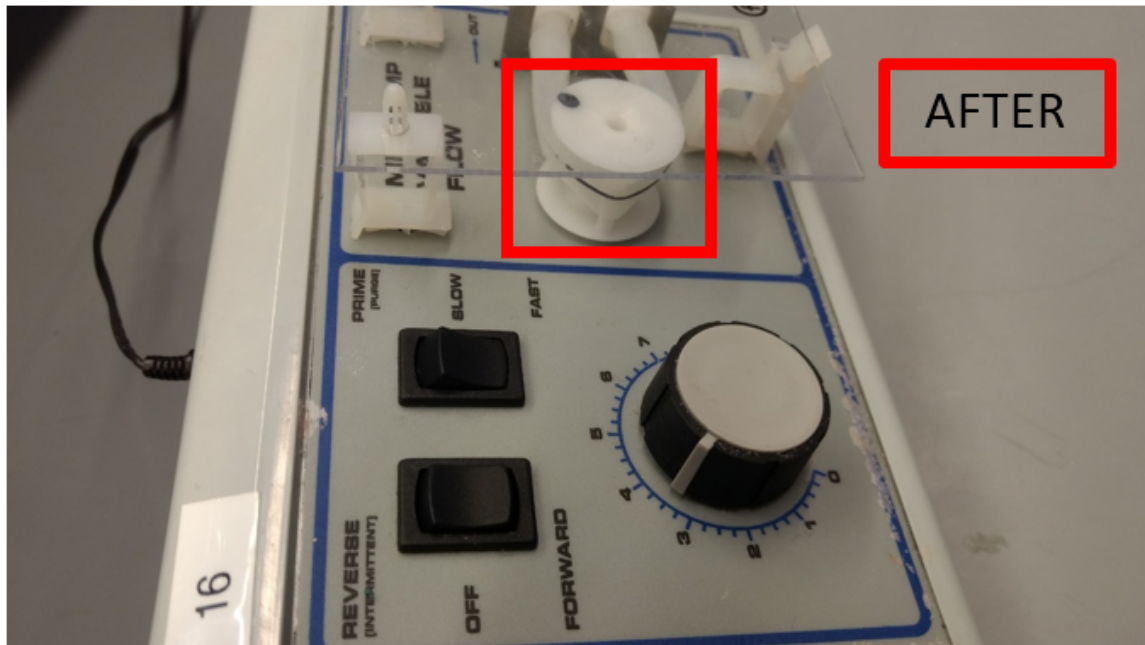


b. Press on the creased part of tubing to make it as circular as possible again (**black line on the tubing is there solely for illustration purposes, to show where the crease is originally and where it is after the process**)

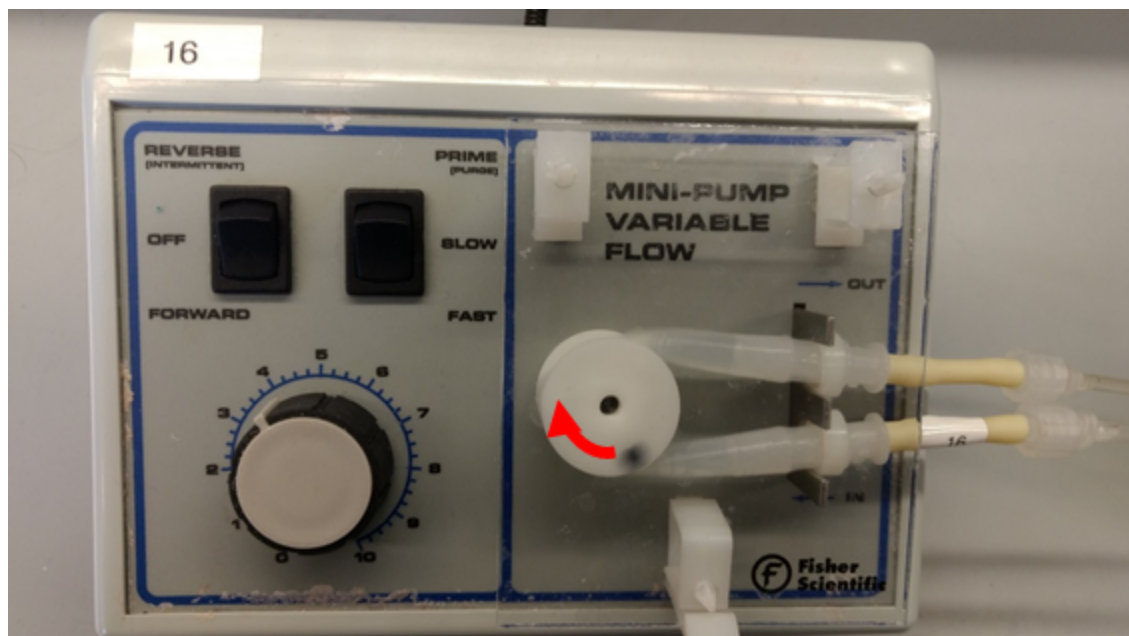


c. Replace tubing such that a different side is being creased





- Set pump speed using rotations per second rather than number setting on the pump. The number for the dial/display is quite an arbitrary measure dependent on tightness of pump tubing, motor strength, etc. The dot on the rotor may be helpful for approximating number of rotations.



- Connect the pump tubing to the rest of your system.