

Project: ECMO (Extra Corporeal Membrane Oxygenation)

Materials: Old IV pump, O2 cylinder, bread machine, stand, bunch of spare parts

Cost: Depends on what you have lying around. Bread machine \$5.00

Time: Two hours

Details: During the recent pandemic ECMO units were gaining significant press in the battle to fight COVID. I wanted to expose students to this heart/lung bypass device. This was my most ambitious project to date. I found a few photos on the web to guide me and started building the hodge-podge monster. I found a bread maker as the base of the device. I had a blood circulator from an IV arm that could move blood through a closed tubing system (I hid the blood reservoirs in the bread maker). I had some extra ‘stuff’ lying around that I added.



I obtained some blue and red tubing and a couple of other items from a mid-fidelity manikin warranty rebuild – including two fake wounds to be used as insertion points. As I have mentioned in other projects, students do not need to know *how* a device works, just how it affects their care. Hook up some tubes to your ICU patient and let the students work around the various equipment. Go the to the “PowerPoint is your friend” Project Blueprint on how to create an ECMO monitor.

