SimOps 2020



University of North Dakota School of Medicine
Simulation Center & SIM-ND

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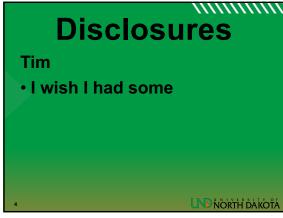
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Who is Tim?

- NRP CC 34 years Hospital Based ALS Service (Ground & Air)
- Medical Operations Director SIM-ND
- Simulation Coordinator ND STAR Sim Center
- CHSOS

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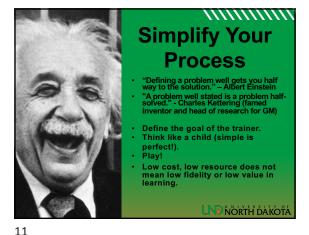


Task Trainers

- Task Trainer. Nothing more.
- · Objective is The Task.
- No one has the unlimited budgets.
- Local Maker/Hacker Spaces.

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Making Task Trainers

Part

- Inventing
- Brainstorming
- Uncommon sense
- Innovating
- Objectives & Conception combining

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COSTS

These Task Training
Manikins can be
made for \$5 - \$15 in
part costs.

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Minds

2 are always better than 1

If you find a better method of producing these task trainers please let me know

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Parts obtain from

- 1. eBay/Amazon
- 2. Lowes/Home Depot/Ace Hardware
- 3. Hospitals/Clinics discarded items (Get into a relationship with surgery, purchasing, ED, etc.).

 Massive amounts of supplies are available. Saves them on disposing costs

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Supplies Needed

- Trach Tube
- Tubing large enough to fit over Trach Tube lower end
- 50 cc IV bag
- Heat Gun
- Super Glue*

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Step 1

• Cut 6-8" of the tubing
• Insert it over the end of the Trach Tube

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STEP 2

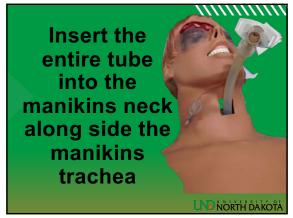
- Cut a part of the top off the IV bag
- Just enough to insert the tube into the bag
- Insert Tube into bag and use heat gun to "shrink" the bag to fit the tube
- Super glue around the tube to hold in place (brush on super glue works best)

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Notes · Fluid can be put into the system (Saline **Squirters**) Add Color

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Parts List:

1) Old manikin head

2) ½" PVC ¼ turn valve

3) ½" PVC pipe, 1 piece about 2" long & 1 piece 4-6" long

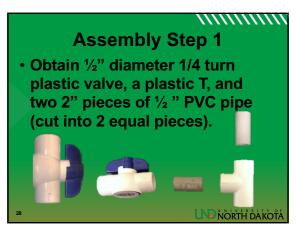
4) ½" T connector PVC

5) Bag Valve Mask (BVM)

6) Bulb Irrigation Syringe

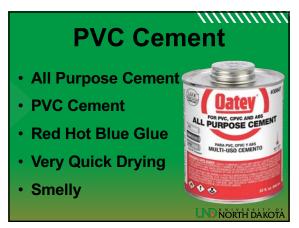
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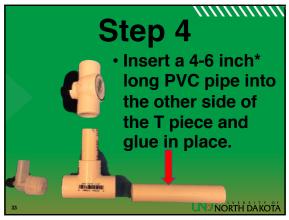


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Note · Some T pieces fit the **BVM** elbow well Others I have had to bore out with a 7/8 drill bit to get it to fit White vs Tan NORTH DAKOTA

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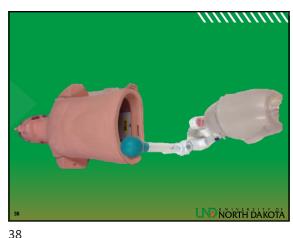
Step 5 Connect this to the tube that would go to the stomach from your manikin. NORTH DAKOT



Step 6 **Connect a Bag Valve Mask** Cut off oxygen reservoir from BVM Clear ones are easier to Clean NORTH DAKOTA

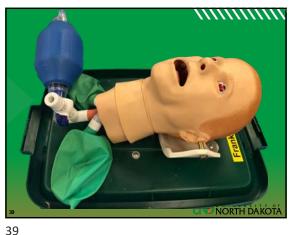
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Step 7 Connect a Bulb Irrigation Syringe filled with some fake emesis "varg," open the 1/4 turn valve, inject emesis, and close valve. When you squeeze the BVM, you now get a patient experiencing respirations that require suctioning to clear the airway.



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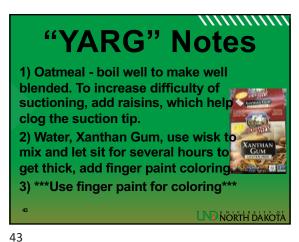


Notes Remove the lungs and plug them with syringes before using to greatly reduce clean up time. Add a small extension to the ¼ Turn Valve and add an end cap drilled out to fit the bulb syringe to reduce spillage during filling

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 Consider using nylon cable ties to hold the set up onto the manikin W NORTH DAKOTA

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Parts/Supplies List: 1) Old manikin head 2) 1/2" PVC 1/4 turn valve 3) 1/2" Gate valve 4) 1/2" PVC pipe, 2 pieces about 2+ inches apiece 4) 3 way PVC connector 5) Bag Valve Mask (BVM) 6) Large BP Cuff

7) All purpose plastic plumbing glue

Equipment needed: BVM PVC ¼ turn Valve PVC gate valve And some 1/2" PVC pipe NORTH DAKOTA

,,,,,,,,,,,,,,,, **Selecting BVM**

- Clear or translucent to allow visualization during filling, use, and cleaning
- Screw end caps

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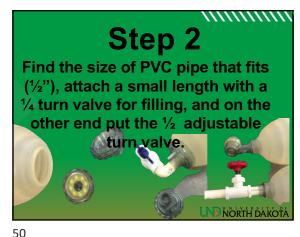
- Round connectors to fit PVC
- Pressure check before using

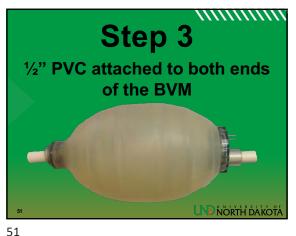
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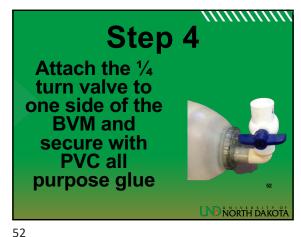


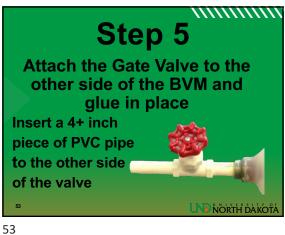
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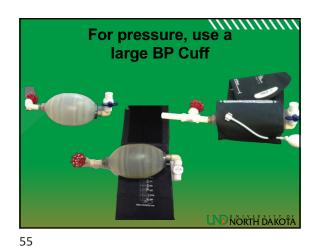


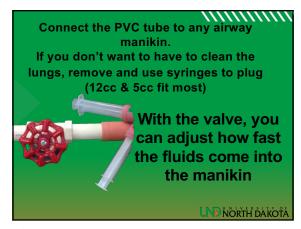






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MVT Notes! Consider snuggest connection to the manikin Plug the Oxygen port with silicone Fill from the ¼ turn valve end, initially have the gate vale open. As the BVM fills, close the gate valve Off set valves by 90 degrees Use a transfer pump (\$6 Harbor Freight) to fill

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,,,,,,,,,,,,,,,, **Notes Continued** • I usually have 2-3 BVMs prefilled per manikin and have a couple helpers filling the extra BVMs. The best BVM I have found are the ones that are clear so you can see through them to check levels. The end caps unscrew, so you can take them apart to glue/clean. But any type will work. These are great for basic suctioning and for SALAD maneuver training. The BP Cuff works well for about 50% of the BVM capacity and then I have to apply manual **W**NORTH DAKOTA

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