

A DIY Thoracotomy Trainer

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SIMULATION:
BRINGING LEARNING TO LIFE

#IMSH2021

WELCOME

Steven Warrington

- No perceived conflicts of interest were identified.

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Virtual Delivery

We recognize this isn't as optimal as involving you.

In the presence of the pandemic, this was what we opted for.

For questions, feel free to email Swarring@neomed.edu

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Iteration on prior thoracotomy trainers.

Multiple possible methods.

Torso: Mannequin shell able to be purchased.

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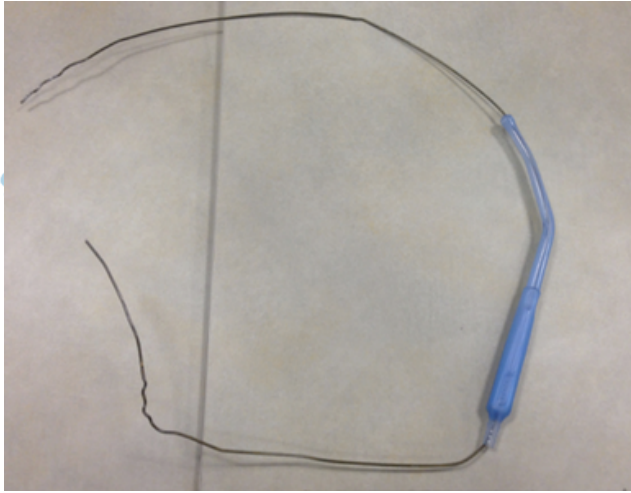
Determine degree of fidelity desired.

-If high fidelity consider using silicone product to create an overlying skin.

Plastisol was felt to be similar substance to a fat for the layer to incise.



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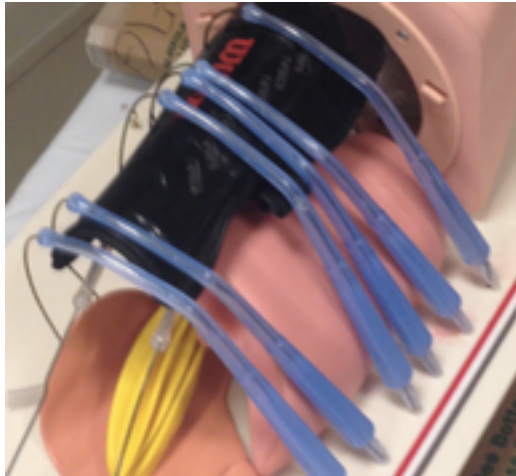


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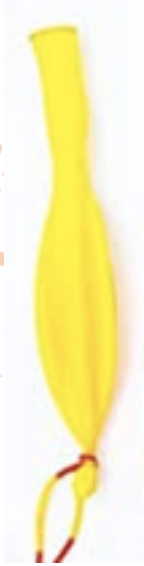
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Ribs can be made with coat hangers to give structure and yankauer suction tips threaded over them to give thickness and stiffness of a rib. Special thanks to the SimHacks team, as this was built from their technique <https://simhacks.atavist.com/simhacks-thoracotomy>



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Lungs can be made from large punch balloons with or without a sponge cut into the shape of a lung inside them.

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**BIOQUEST REPLACEMENT
INFLATABLE HEALTHY SWINE LUNGS
ONLY, PRESERVED**

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Lungs can be made from large punch balloons with or without a sponge cut into the shape of a lung inside them.

Alternatively, if your institution allows, swine lungs may be purchased.

<https://www.enasco.com/c/Education-Supplies/Dissection-Preserved-Specimens/Inflatable-Lungs-Comparison-Kits>

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Suturable vessels can be made using silicone rubber, such as Smooth-On's product
<https://www.smooth-on.com/tutorials/making-suturable-vessels-1/>

Heart can be made of similar material and doesn't need to have chambers to allow for suturing the myocardium.



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Alternatively, if your institution allows animal parts and a protocol is in place for safe use and disposal, a local butcher may be able to provide an animal heart.

https://www.farmfoodsmarket.com/products/pastured-heritage-pork-heart?utm_source=google&utm_medium=cpc&utm_campaign=7421279190&utm_term=&utm_content=392346183098&adgroupid=81125147736&device=c&gclid=Cj0KCKQiAh4j-BRCsARIsAGeV12AzxRr0Cbuc0l7zqxYg_pq3-AilEjWupwrdNj8E8u8bwD7l6XlLnHlaAp35EALw_wcB



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Children's punch balloons serve as pericardium.

If the exercise isn't to repair the aorta, simple PVC tubing can be run into the *heart* and allow blood to backfill into the heart and through a cardiac wound into the pericardium.

QUESTIONS?



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THANK YOU!

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