TOPIC: CREATING A LOW-COST, REALISTIC AND SUSTAINABLE CHEST TUBE MODEL

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**Introduction**

Chest tube insertion is vital in emergency thoracic care. Numbers of research conducted have explored the effectiveness of regular training programs focusing on chest tube insertion technique. Due to demand for emergency medicine curriculum, incorporation of simulation based training and hands on workshop are required for safe procedure and patients’ outcome.

**Objectives**

Creating a chest tube model that can works on skill development, sustainable, real like living model and cost effective

**Equipment:**

1. Half body manikin
2. Rib cage 3d printed
3. Sponge
4. Thin sponge with thin filament
5. EVA foam
6. Gaffer tape
7. Masking tape

**Technique:**

1. Line the rib cage with gaffer tape.

2. Shape the sponge like a lung and stick it inside the chest wall.

3. Tape the outer rib cage where you will puncture.

4. Put a plastic bag in one side for pneumothorax.

5. Wrap thin sponge around the rib cage as chest wall muscle.

6. Place the rib cage in the manikin, removing one area at side.

7. Make a chest pad with sponge and foam, attach to mimic skin and subcutaneous.

8. Your model is set for training

**Results**

Each training session can accommodate up to 40 participants using one model. Feedback highlights its reusability, human-like design, and versatility for comprehensive skill development.

**Cost:**

- Half body manikin RM 0

- rib cage 3D model RM 100

- Thin sponge with filament RM20

- Gaffer tape RM 25

- Masking tape RM10

- EVA foam RM15

- Sponge RM30

Estimated for one model is around RM 200

**Conclusion**

This model helps trainee improve their skills and regular practice is accessible. Its real feel like and durability make training sessions successful and can accommodate many participants at one time. This cost effective and easy to recreate model helps other institution to create their own model for emergency thoracic training.

**Keywords:** chest tube, 3D model, innovation