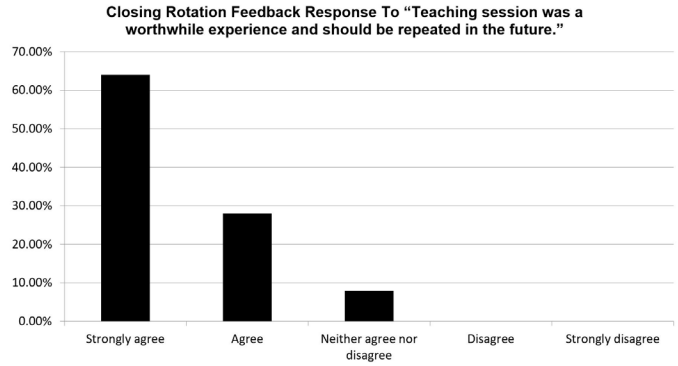

Figure. Participants filled out a feedback survey at the conclusion of the rotation. Shown are aggregate responses to a multiple-choice questions assessing the reception of the teaching session. 26 participants were sent the survey. 25 participants responded. 64% of respondents answered "strongly agree" and 28% answered "agree" for a total of 92% positive response. 2% of respondents responded "neither agree nor disagree".

13 Chest Cavity Model for Thoracotomy Simulation

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Learning Objectives: To create a reusable chest cavity model for thoracotomy simulation that is realistic to the procedure's inherent challenges; To limit out of pocket cost by implementing recycled materials from within the emergency department; To enhance resident medical education and improve thoracotomy proficiency.

Abstract:

Introduction: The ED thoracotomy is rarely performed, but a critical procedure well within our scope of practice, and one for which every resident must be prepared.

Objectives: To create a chest cavity model that can be used in the simulation of an ED thoracotomy. Importance was placed on creating a budget-friendly, near life-size model, with limited resources, which could be used with and withstand the repetitive use of actual thoracotomy tools.

Design: This model is designed to repurpose commonly found emergency departmental supplies. Limited additional supplies required were easily found at a local grocery store for a very low cost. Examples of supplies include endotracheal tubes as "ribs", individually packaged and sealed chicken breasts as "myocardium", jello as "blood" and chuck pads as "skin". Obstacles while using the model simulate real-life challenges such as working within a confined space, exsanguination, and delivering the myocardium from the pericardial sac while avoiding phrenic nerve injury. Each material "incised" during performance of the procedure can easily be refreshed or replaced, creating a new, reliable experience for each participant, every time. Strengths include cost, simplicity, and versatility. Materials can easily be substituted or exchanged for those more readily available or accessible. Like most first time creations, this prototype would benefit from many modifications, including ways to increase durability.

Impact: Overall, this educational tool successfully provided residents with the ability to practice the ED thoracotomy. It withstood 10+ uses throughout the day, and could likely withstand more depending on the number of additional exchangeable "skin" layers and "myocardiums" prepared in advance. It enhances the educational experience for residency programs with limited training resources, builds confidence and skill proficiency, and prepares residents for success prior to a real-life clinical encounter.

Figure 1.

Figure 2.