

Impact of Live Tissue Training on Self-Perceived Procedural Competence Among Physicians and Paramedics

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introduction

- Medical personnel operating in prehospital and military environments are required to perform time-critical, life-saving interventions under conditions of significant physiological and cognitive stress.
- ALS providers often have little real-world experience of advanced procedures during training.
- While simulation-based training is widely utilized, it may not adequately replicate the anatomical fidelity and procedural complexity encountered in real-life scenarios.
- Live tissue training (LTT) has been proposed as an advanced educational modality; however, evidence regarding its effect on perceived procedural competence and confidence remains limited.
- In the current study we examined the structure and implementation of a live tissue training program in a military medical setting.

Methods

- Study Design: A post-intervention, cross-sectional study conducted in 2025.
- Setting: Structured live tissue training (LTT) program at the Military School of Medicine (Bahad 10).
- Model & Procedures: Hands-on training on porcine models with experienced instructors.
- Participants attempted:
 - Intraosseous access (IO)
 - Wound packing
 - Tube thoracostomy
- Assessment: Anonymous post-training questionnaires evaluated self-perceived competence and LTT justification.
- Metrics: Confidence evaluated using a 5-point Likert scale (ratings of 4-5 defined as high).

Results

- A total of 44 participants completed the post-training questionnaire.
- High confidence (scores of 4-5 on the Likert scale) and training justification were reported as follows:
 - Intraosseous (IO) Access: 40/44 participants (91%) reported high confidence.
 - Wound Packing: 38/44 participants (86%) reported high confidence.
 - Tube Thoracostomy: 28/44 participants (64%) reported high confidence.
 - LTT Model Justification: 36/44 participants (82%) considered the use of the live tissue model to be justified.

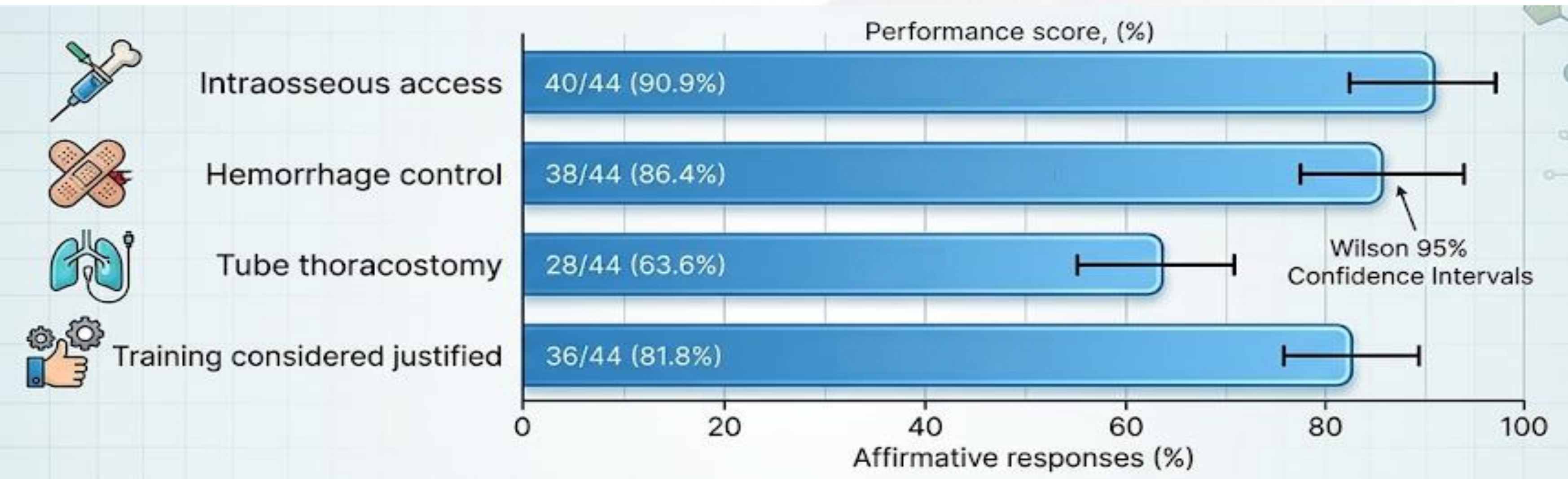


Figure 1: Proportions of affirmative responses among 44 trainees; error bars show Wilson 95% confidence intervals.

Conclusion

- Following live tissue training, participants reported high levels of self-perceived confidence in performing basic and commonly required life-saving procedures.
- In contrast, lower confidence levels were observed in more complex surgical interventions, such as tube thoracostomy.
- These findings suggest that live tissue training may serve as a valuable educational modality for reinforcing procedural confidence, particularly in fundamental skills required in prehospital and military settings.



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