

We introduce ballistics gel as a new material for the creation of simulating phantoms”
Morrow and Broder (2015).

Reference:

Morrow, D.S. and Broder, J. (2015) Cost-effective, Reusable, Leak-resistant Ultrasound-guided Vascular Access Trainer. The Journal of Emergency Medicine June 18th. .

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Abstract:

BACKGROUND: Ultrasound guidance for insertion of a peripheral venous catheter is becoming common practice in many emergency departments in the difficult-to-access patient, and simulation has become an important tool for health care practitioners to learn this technique. Commercial trainers are expensive, and low-cost alternatives described to date provide a sub-optimal training experience. We introduce ballistics gel as a new material for the creation of simulating phantoms.

MATERIALS AND METHODS: Directions describe construction of a simulating phantom composed of 10% ballistic gelatin and commonly available latex tubing. The model’s success as used by one residency training program and medical school is described.

RESULTS: Cost per phantom was \$22.83, with less than an hour preparation time per phantom. We found these phantoms to offer a comparable user experience to commercially available products and better than other homemade products.

DISCUSSION: Ballistics gel is a novel material for production of simulation phantoms that provides a low-cost, realistic simulation experience. The clear gel material works well for novice learners, and opacifying agents can be added to increase difficulty for more advanced learners. The material offers flexibility in design to make models for a broad range of skill instruction.

CONCLUSION: A relatively quick and easy process using ballistics gel allowed us to create a simulation experience similar to commercially available trainers at a fraction of the cost.



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