26 A Homemade, Cost-Effective, Realistic Pelvic Exam Model

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Learning Objectives: The learning objectives of this innovation is to provide a pelvic examination model to effectively and safely provide training to residents, medical students and mid-level providers in a controlled and safe environment prior to attempting the invasive examination on patients.

Introduction: Pelvic examinations are essential components to clinical practice but are challenging to teach, learn and practice on live patients secondary to patient comfort as this can be an invasive procedure. Resident physicians traditionally learn these methods through observation while actively working in the department. Simulation models can improve a provider's competency and confidence performing pelvic examinations which improve patient comfort and exam accuracy. A barrier to simulation training is the cost of the pelvic simulator models. The average cost is around $1000. The cost is high which limits the availability of a simulation model accessible to residency programs across the country. This barrier to pelvic models was overcome by developing a homemade alternative for cervical examination. The model can be easily manufactured for less than $20 and two hours of manufacturing time.

Educational Objectives: Effectively train residents, medical students and mid-level providers the proper technique to perform a pelvic examination in the comfort of a simulation center prior to attempting the procedure on a patient.

Curricular Design: Learning the proper technique and skill to perform a complete and comfortable exam can be challenging for incoming residents. Therefore, appropriate training in a simulated environment is important. This is a guide to utilizing supplies from a local dollar store combined with home recycling products and a few common crafting tools. This model was created in an effort to allow for creation of an inexpensive, effective pelvic examination model for learners to become comfortable with the procedure prior to patient exposure and to ensure the comfort and accuracy of the examination.

Impact: Our model was compared side by side to a manufactured Clinical Female Pelvic Trainer by our residents during a simulation lab. The consensus found our homemade model to be comparable to the feel of a pelvic/cervical exam.

Table 1.

The following materials were utilized from a local dollar store:
- Pool noodle
- Facial exfoliation pads
- 32 flat-pack cosmetic foam wedges
- Four rubber bands
- Two felt sheets
- Two wash cloths, ideally skin color but any will suffice

The following materials were used from home recycling:
- Eleven 24 oz beverage cans. In this model empty Rockstar energy drink cans, were utilized
- Empty cardboard box, the one utilized for this model measured 7"x12"x10"
- Large, wide drink straw

The following tools were utilized:
- Scissors
- Razor blade or utility knife
- Hot glue gun
- Staple gun
- Brown and red marker

Table 2: Instructions:

1. The first step is to prepare the card board box by using either scissors or the utility knife to remove the longest closure flaps on one side of the box, leaving the shorter flaps. Once this is done, lay the box vertically with the opening facing the creator resting on the shorter end.

2. Cut the pool noodle. This was used for filling in between the cans for stability, for the vaginal canal and to hold the cervix, the noodle measured 10.5"
   a. The pool noodle was cut into pieces measuring 7" pieces to fill between cans for added stability.

Image 1.

27 Developing Procedure Guides to Improve Procedural Competence and Confidence

Aman Pandey, Samuel Parnell

Learning Objectives: Help resident physicians become experts on procedural competency by developing a peer-reviewed procedure guide.

Introduction: Emergency medicine physicians (EPs) need to perform a broad range of procedures quickly and effectively. While some procedures are common, others are rarely encountered. However, an EP must be ready to perform all these procedures, often with minimal time to prepare. While there are numerous procedural references, not all are reliable or easily accessible on shift. Developing a procedure guide repository would result in a useful clinical and teaching tool. Creating the guide itself will aid in mastery of the procedure.

Objective: Help resident physicians become experts

on procedural competency by developing a peer-reviewed procedure guide.

Curricular Design: 73 procedures were chosen for this project. Residents and attendings worked together to create a guide for each procedure. Each pair was given a standardized template to follow which included indications, contraindications, supplies, preparation, technique, aftercare, complications, follow-up, return precautions, video examples, and references. These guides will be published on an application with Apple and Android which will allow for greater accessibility while on shift. Residents and attendings were also asked to complete a survey about the project.

Impact/Effectiveness: By creating their respective guides, the residents and attendings should gain mastery at performing and teaching their assigned procedure. So far, we have received 6 completed procedure guides. The remainder are still in development with goal of completion by June 2022. An example guide is shown in Figure 1.

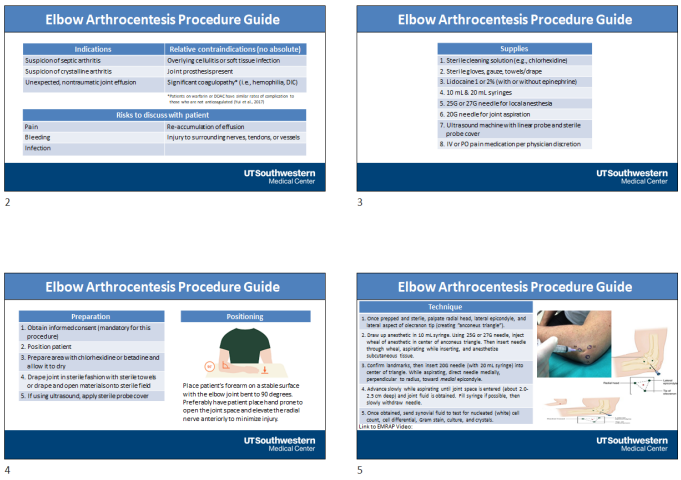

Figure 1. Elbow arthrocentesis procedure guide.

So far, 21 participants have completed the survey, and results are shown in Table 1. Comparing columns 4 and 5, preliminary results suggest that developing these guides help physicians become more confident with their procedure. We plan to implement the procedure guide application in 2022 and look forward to collecting more data to determine the effect on clinical confidence, competency, and bedside instruction.

Table 1. Procedure guide survey results.

	A procedure guide app would be useful for procedural guidance when performing procedures on shift.	A procedure guide app would be useful for procedural teaching on shift.	I am comfortable and confident performing my assigned procedure WITHOUT using a reference on shift.	Developing a procedure guide will enhance my confidence and competency performing the assigned procedure.	I would use a procedure guide app for reference when performing my assigned procedure on shift.	I would use a procedure guide app for reference when teaching my assigned procedure on shift.
Strongly Agree	17 (81%)	15 (71%)	2 (10%)	14 (67%)	12 (57%)	13 (62%)
Agree	4 (19%)	6 (29%)	5 (23%)	7 (33%)	7 (33%)	8 (38%)
Neutral	0 (0%)	0 (0%)	4 (19%)	0 (0%)	2 (10%)	0 (0%)
Disagree	0 (0%)	0 (0%)	8 (38%)	0 (0%)	0 (0%)	0 (0%)
Strongly Disagree	0 (0%)	0 (0%)	2 (10%)	0 (0%)	0 (0%)	0 (0%)

28 Low-Cost, Mid-Fidelity Fracture Simulation & C-Arm Education using Goat Legs

Nick Levin, Wesley Williams, Megan Fix

Learning Objectives: To orient emergency medicine residents and medical students to c-arm operation and dynamic utilization. Additionally to use the modality to teach fracture identification, reduction and splinting techniques.

Introduction: Adult and pediatric extremity fractures are a common presentation to Emergency Departments (EDs). Utilizing a c-arm dynamically helps facilitate more efficient and successful fracture reduction and splinting. The familiarization of utilizing a c-arm for fracture reduction is a critical skill for emergency medicine education and clinical practice.

Objective: To orient emergency medicine residents and medical students to c-arm operation and dynamic utilization. Additionally to use the modality to teach fracture identification, reduction and splinting techniques. We then assessed how effective this modality was at meeting those objectives for our learners.

Curricular Design: Fractures were simulated in cadaveric goat legs cast into an opaque gelatin mold. The fractures could not be identified visually and were interrogated by palpation and fluoroscopically using a c-arm. Participants were given tutorials on proper fluoroscopic technique and allotted time to practice reductions in a non-clinical setting. We sent a six-question follow-up survey inquiring how effective this simulation was on a seven-point Likert scale ranging from "Not Effective" (1) to