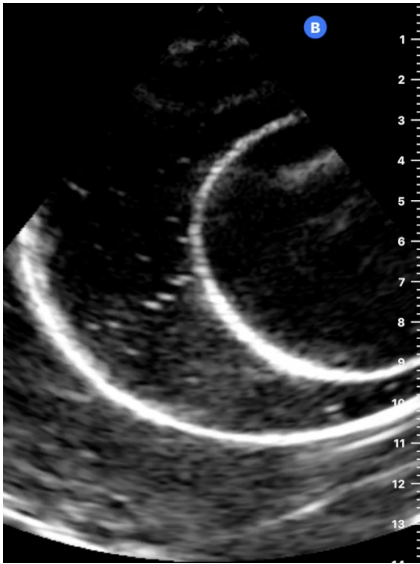


RECIPE

Double Balloon Pericardiocentesis Model

Trent She, MD

Difficulty: ☆☆☆



Related EM Procedure: Pericardiocentesis

Key Ingredients: Golf ball, punching balloon, gelatin

Time: 120 minutes

Cost: ~\$20

Ingredients

- 20 oz plain gelatin
- [1 16-inch diameter “punching bag” balloon](#)
- One small regular balloon
- 3 vials of food coloring (red, blue and green suggested)
- Non-stick cooking spray
- One wooden cooking skewer
- 4 oz Betadine
- Approximately 1L of water
- 3-quart cubical tupperware container
- 6-quart tall stock pot or saucepan
- Suggested: Candy thermometer
- Stove
- Refrigerator

Makes one (1) model

Preparation

1. Mix 250-500cc cold water and gelatin in tupperware container
2. Cool gelatin mixture in refrigerator for two hours
3. Place first (smaller) balloon inside of 16-inch punching bag balloon, leaving the stem of the smaller balloon outside the stem of the bigger balloon
4. Add 100-150mL of water dyed with red food coloring to the stem of the smaller balloon. Tie this stem off to seal
5. Add another 100-150 mL of water dyed with blue food coloring to the stem of the punching balloon. Tie off balloon to seal. You should now have one balloon sealed in another balloon
6. Coat 3 quart tupperware container with non-stick cooking spray.
7. Remove gelatin mixture from refrigerator and heat over stovetop
8. In 6 quart pot, heat until gelatin is liquefied. Use candy thermometer to ensure mixture does not exceed 130° F. Add several drops of green food coloring and 4 oz Betadine™ as the gelatin liquefies.
9. Pour liquefied gelatin mixture to depth of 2cm in tupperware container and cool in the refrigerator until firm.
10. Place balloon on top of set gelatin mixture in center of tupperware container with tied end facing upward.
11. Secure balloon in this position by feeding wooden skewer through the tied balloon knot and wedging skewer inside tupperware container.



12. Fill tupperware container with the liquefied gelatin mixture until a level just below wooden skewer and again cool in the refrigerator until firm.
13. Remove wooden skewer and fill tupperware container to brim with remaining liquefied gelatin.
14. Cool in refrigerator until entire mold is firmly set.
15. Remove model from tupperware container and begin use.

Tips

You may add more gelatin if the model is not of desired consistency.

References

<https://emdaily1.cooperhealth.org/content/critical-procedures-how-create-pericardiocentesis-model>

[Zerth, Herb, et al. "An inexpensive, easily constructed, reusable task trainer for simulating ultrasound-guided pericardiocentesis." J Emerg Med. 2012;43\(6\):1066-69.](#)