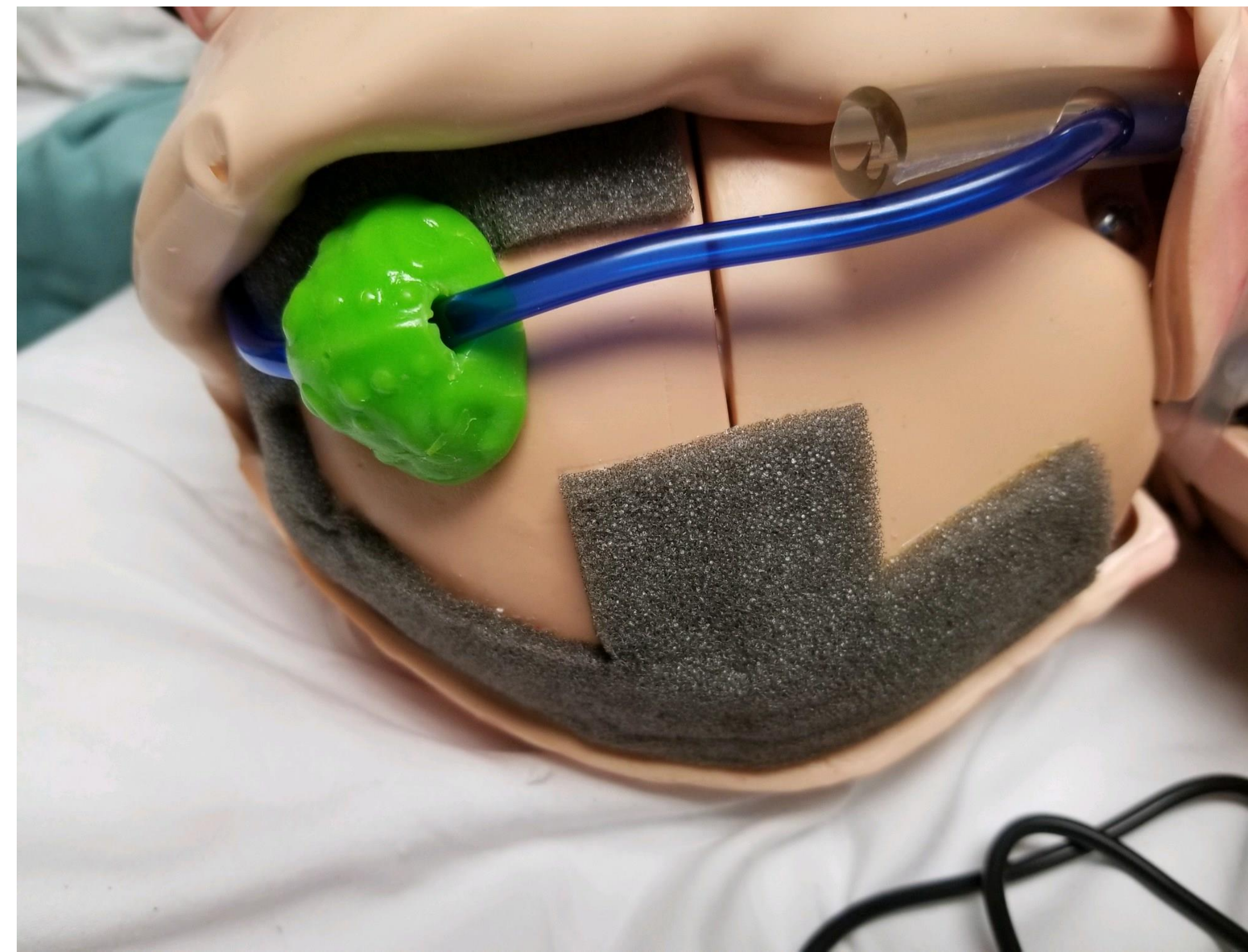


Introduction

- Ventriculoperitoneal (VP) shunt malfunction is rare, occurring ***
- Proper assessment and management is critical and potentially life saving
- ED physicians have limited exposure and training to adequately prepare them
- Above is an example of the direction you could take the introduction to explain VP shunt malfunction and the importance of having an model for training

Materials and Methods

- Created with a rubber bouncy ball and 12 French by 48 inch dual lumen stomach tube.
- The ball was sliced in half with two holes on either end made for the dual lumen stomach tube to pass through.
- The ball acts as the shunt valve.
- The dual lumen tube represents the connectors.
- The connectors drain the excess cerebrospinal fluid from the ventricles to the peritoneum.
- The rigidity of the rubber bouncy ball accurately depicts the firmness of an inappropriately draining ventriculoperitoneal shunt.



Material and Method

- Residents and nurses are run through patient encounter of VP shunt malfunction
- The patient care team should assess the surrounding “skin” and recognize compressible reservoir
- They should then prepare for VP shunt consultation from neurosurgery

Discussion

- VP shunt malfunction represents an acute clinical entity in which proper management can be life saving
- We present a low-cost model for shunt obstruction made up of readily available materials
- This model offers a tangible mechanical training opportunity for provider comfort level when:
 - Recognizing important landmarks
 - Recognizing obstructed VP shunt
 - Prepping a patient for shunt access
 - Successfully permeating a shunt
 - Properly disengaging from a reservoir
- Provides a comprehensive understanding of shunt location with respect to surrounding anatomy
- The simplicity of the two component model provides a more realistic training opportunity for neurosurgeon.
- Limitations of the model include an inability to drain fluid or accurately measure pressure

References