

# Safe & Efficient Patient Positioning

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# Disclosures

- I have no relevant financial disclosures



# Objectives

- Describe a technique for patient positioning for robotic surgery
- Describe controversies associated with patient positioning for robotic surgery

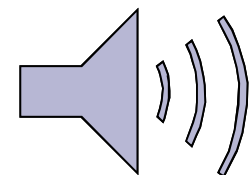


# Why is Patient Positioning So Important?

- Prevent postoperative neuropathies
- Perform robot docking efficiently
- Decrease operating room time
- Complete robotic procedures efficiently

# Patient Positioning Technique

- Egg Crate Foam
- Bed Sheet
- Boot-type stirrups

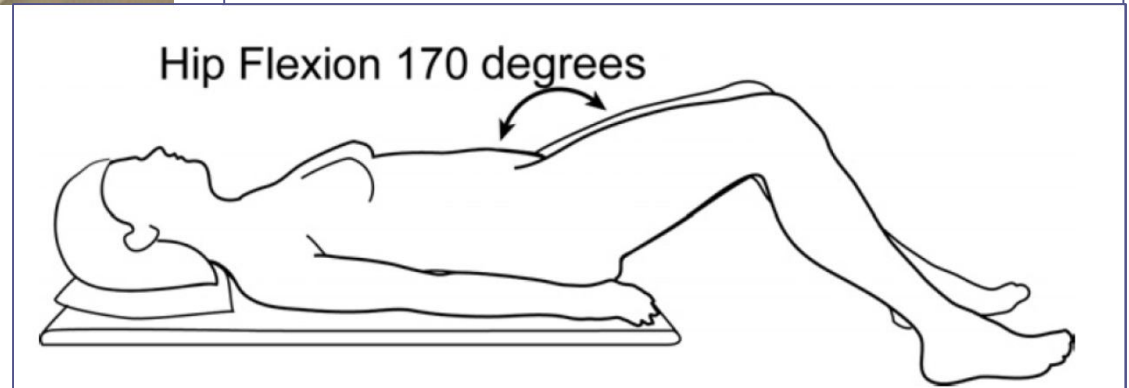
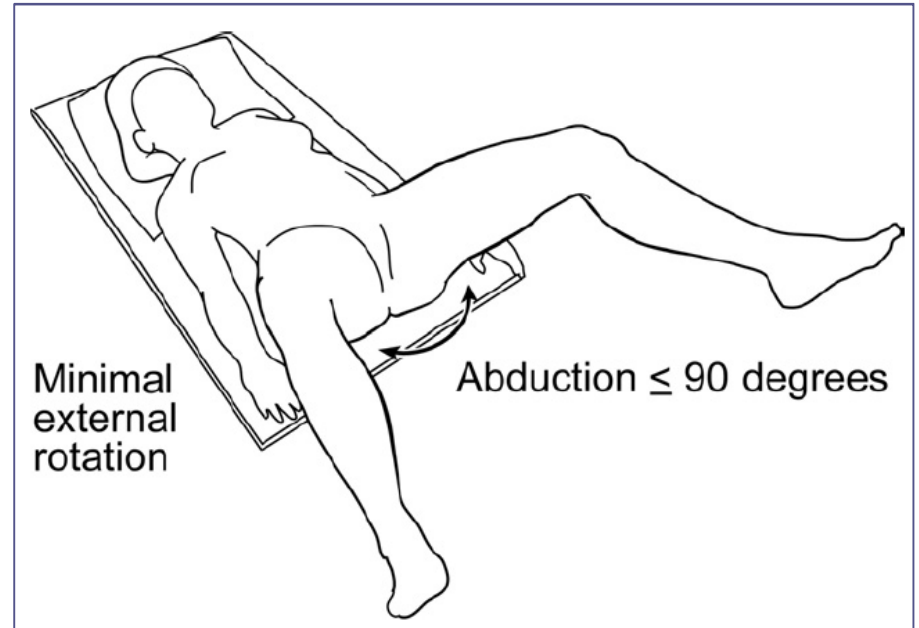


# Challenges of Patient Positioning

- Neuropathies
- Trendelenburg



# Low Lithotomy



# Avoid the Use of Shoulder Braces

- Insurance company data: 12% of medical malpractice closed claims involve peripheral nerve injuries, of which 57% were ulnar nerve or brachial plexus injuries



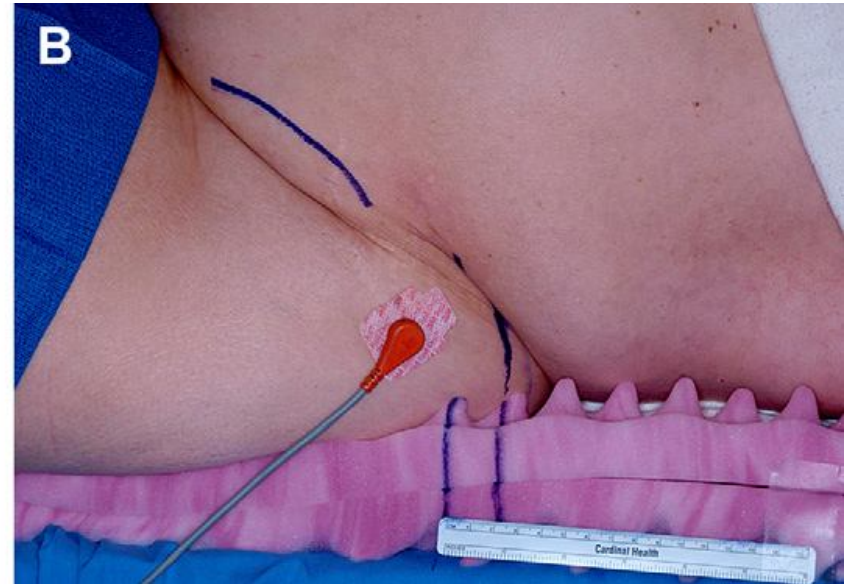
Shveiky D, et al. Brachial Plexus Injury after Laparoscopic and Robotic Surgery, *J Minim Invasive Gynecology*, 2010.



# Use of anti-skid material and patient-positioning to prevent patient shifting during robotic-assisted gynecologic procedures.

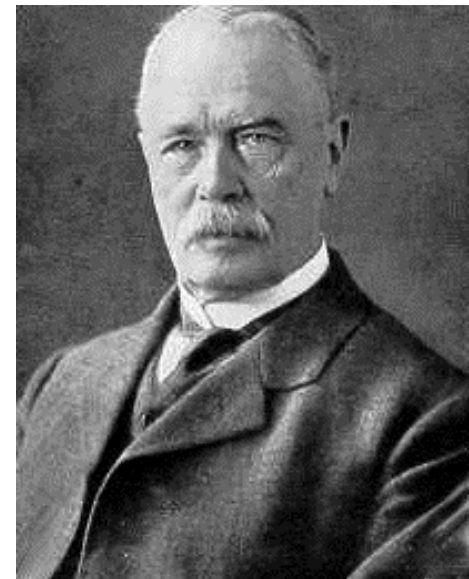
Klauschie J, et al. *J Minim Invasive Gynecology*, 2010

- Median shift **1.3** centimeters (0-7.5)



# How Much Trendelenburg Do We Need?

- Commonly manufactured OR tables provide maximum trendelenburg of **25-45** degrees
- Surgeons often ask for the maximum trendelenburg allowed by the OR table



Friedrich Trendelenburg  
1844-1924

# Blinded Measure of Trendelenburg Angle in Pelvic Robotic Surgery

Gould et al. *J Minim Invasive Gynecology*, 2012

- 86 robotic gyn surgeries, patients placed in trendelenburg to allow adequate visualization
- A mean trendelenburg angle of **28.0** degrees was adequate to complete most gyn robotic procedures

# Trendelenburg Position in Gynecologic Robotic-Assisted Surgery

Ghomi et al. *J Minim Invasive Gynecology* 2012

- 20 benign robotic gyn procedures, surgeons blinded to the degree of trendelenburg, which was measured at the end of the cases
- A mean **16.4** degrees of trendelenburg was used

# Intraocular Pressure and Steep Trendelenburg During Minimally Invasive Gynecologic Surgery: Is There a Risk?

Borahay, et al. *J Minim Invasive Gynecology*, 2013

- 10 laparoscopic and robotic gyn surgeries, intraocular pressure (IOP) measured supine, after 1 hr & 2hr trendelenburg
- Significant increase in IOP after 1hr & 2 hr trendelenburg



# Conclusions

- Patient positioning for robotic surgery does not have to be complicated
- Develop a routine positioning technique with a team approach
- Utilize only the amount of trendelenburg position needed for the surgery
- Effective patient positioning sets the stage for a safer and more efficient robotic surgery

# References

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