

Positioning for surgery: Considering the three variables

The patient, the procedure, and the tools

The shared responsibility of patient positioning starts when you review your surgical list for the day. The surgical team needs to consider three variables that impact patient positioning.

These variables simply put are the patient, the procedure and the tools that allow you to effectively plan, prepare, risk assess and ultimately position the patient safely and effectively, thus preventing injury¹.

Let us consider the three variables.

The Procedure

The Procedure kicks off your thinking around positioning. Positioning in surgery assists the surgical team in obtaining the best² and most ergonomic access to the surgical site, whilst protecting the patient's airway, circulation, and nerves. The procedure is thus one of the determinants of how a patient will be positioned.

The Patient

The Patient self has significant impact on positioning. Consider how you adjust your positioning plans when you think of a neonate², an 83-year-old, or a patient with a BMI of 40. Or plan for three other patients, all men, 35 years old who will be placed into Lithotomy position. Patient A is healthy, with no co-morbidities. Patient B had a hip replacement 4 weeks ago, due to traumatic injury and Patient C, weighs 145kgs. Hopefully, you adapted your plans for each patient, considering their health needs?

The Tools

Finally, we can concentrate on the tools. Bearing in mind a) the theatre table; b) the surgeon, and by extension the surgical team, and c) the positioning accessories that aid access to the surgical site and ergonomically supports the patient.

The theatre table forms the basis of a good surgical procedure, it supports the patient, it aids access³ to the surgical site, and it adjusts to the procedure when needed. Here considerations such as weight bearing capacity or the functional ability to slide longitudinally, allowing for maximum exposure to the C-Arm, are important considerations. The model of table chosen

should be able to maximally adapt to the procedure type, patient's physical attributes, and then the surgeon's needs.

Did you raise an eyebrow when we categorized the surgeon under tools? But do consider it. The surgeon performs the procedure, right? This "tool" needs to perform perfectly, every time. But surgeons have different needs. A 6.5-foot surgeon needs a table to reach a specific height, to ensure his ergonomics are considered. A bariatric surgeon requires the table to go as low as possible, to allow best access to the abdomen. And more than one surgeon works on the same theatre table at different times.

Lastly, we look at the positioning aids and table accessories. Let us reconsider your three 35-year-old patients who need to be positioned in Lithotomy position. Patient A requires very little positioning effort, except that you need to ensure that you don't cause pressure injuries or put pressure on the peroneal nerve of the knee. Patient B had a hip replacement a few weeks ago. Consider using a hydraulic leg support which can incrementally be adjusted, appreciating his weakened musculature, in an attempt to prevent dislocation. Patient C needs a leg support that can bear his weight. Finally, your 83-year-old patient, with frail skin. Did you consider a theatre table with a thicker mattress, or could you use additional gel support?

In summary, the tools, the patient, and the procedure are dependent on each other for a successful surgical outcome. By assessing your patient's health holistically, you can determine which table and accessories would best support the procedure access requirements. And finally, the correct accessories will protect vulnerable areas.

References

1. <https://www.legalnursepdx.com/understanding-surgical-positioning-injuries-i-injury-types/>
2. <https://www.steris.com/healthcare/knowledge-center/surgical-equipment/complete-guide-to-patient-positioning>
3. <https://www.steris.com/healthcare/knowledge-center/surgical-equipment/ultimate-guide-to-operating-table>

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