



Hillrom™

SAFE PATIENT POSITIONING

SITTING/BEACH CHAIR



Continuing Education Course

Hillrom is a part of Baxter

Baxter



INTERACTIVE
e-book

Speaker



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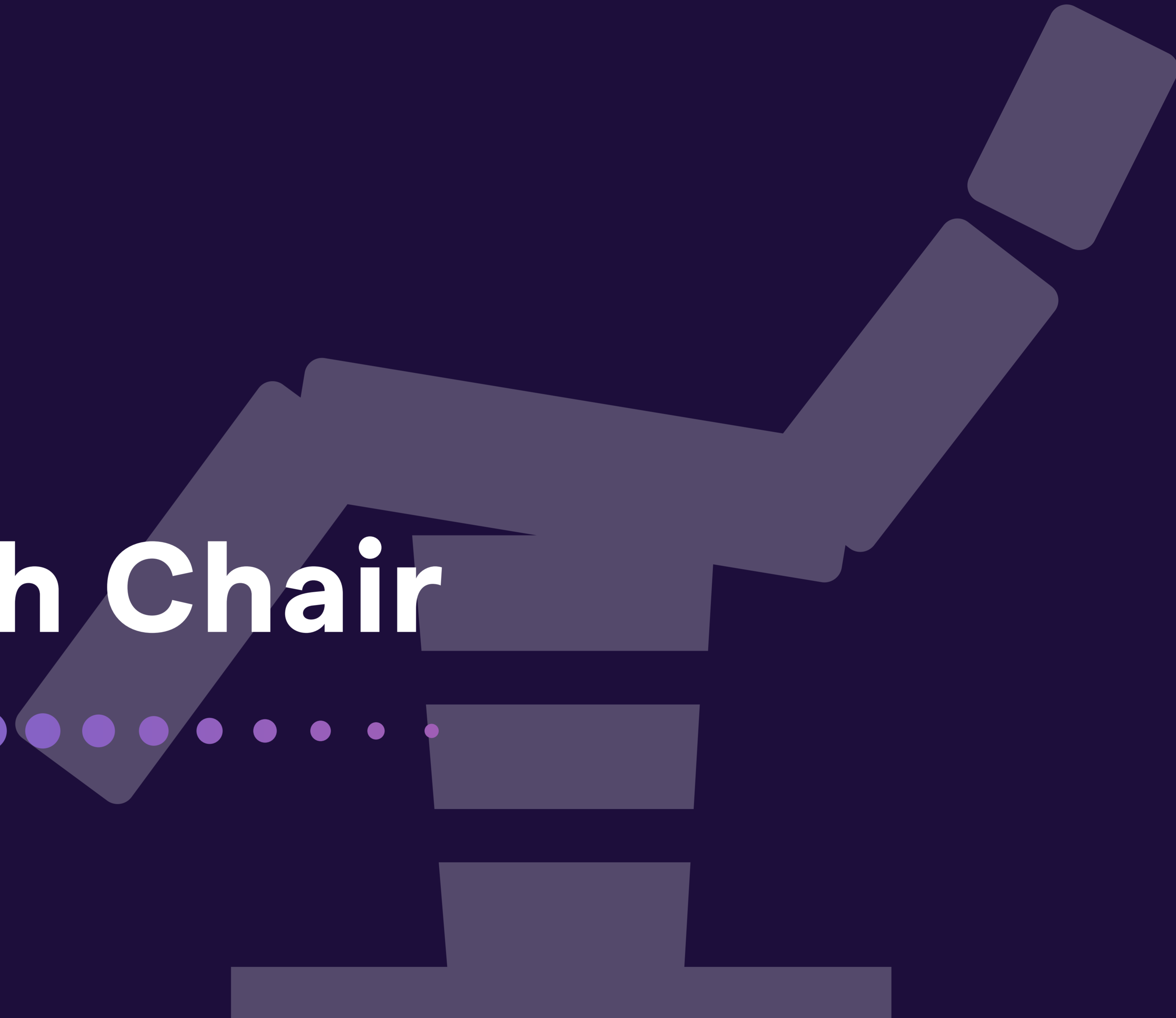


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Safe Patient Positioning Sitting/Beach Chair



Objectives



1. Describe the high-risk sitting or Beach Chair position and common associated positioning injuries.
2. Describe team collaboration, communication, and workflow strategies that can be implemented into practice when using sitting or Beach Chair positioning surgical patients.
3. Outline safe patient Sitting or Beach Chair positioning strategies and techniques based on evidence-based guidelines.
4. Discuss correct device usage for Sitting or Beach Chair positioning patients during surgery to prevent injury.

Introduction



1. Team approach for positioning needed for safe surgery
2. Permanent injury can occur from incorrect sitting or beach chair positioning
3. Evidence-based guidelines outline safe sitting or beach chair positioning recommendations
4. Correct use of positioning devices is essential for safe positioning
5. Advanced planning for positioning:
 - I. Ensures patient safety
 - II. Optimizes workflow, device selection and staff resources

HISTORICAL PATIENT POSITIONING INJURIES



Patient positioning injuries were common before it was understood how the body can be injured while under anesthesia



Research and evidence-based guidelines help perioperative staff and device manufacturers safely position patients during surgery to prevent injury

1. Gawande A. [Two hundred years of surgery](#). *N Engl J Med*. 2012;366(18):1716-23.

MECHANISM OF POSITIONING INJURIES



Compression and stretching reduce blood flow

Results in tissue ischemia leading to edema and necrosis



COMMON SITTING OR BEACH CHAIR POSITIONING INJURIES



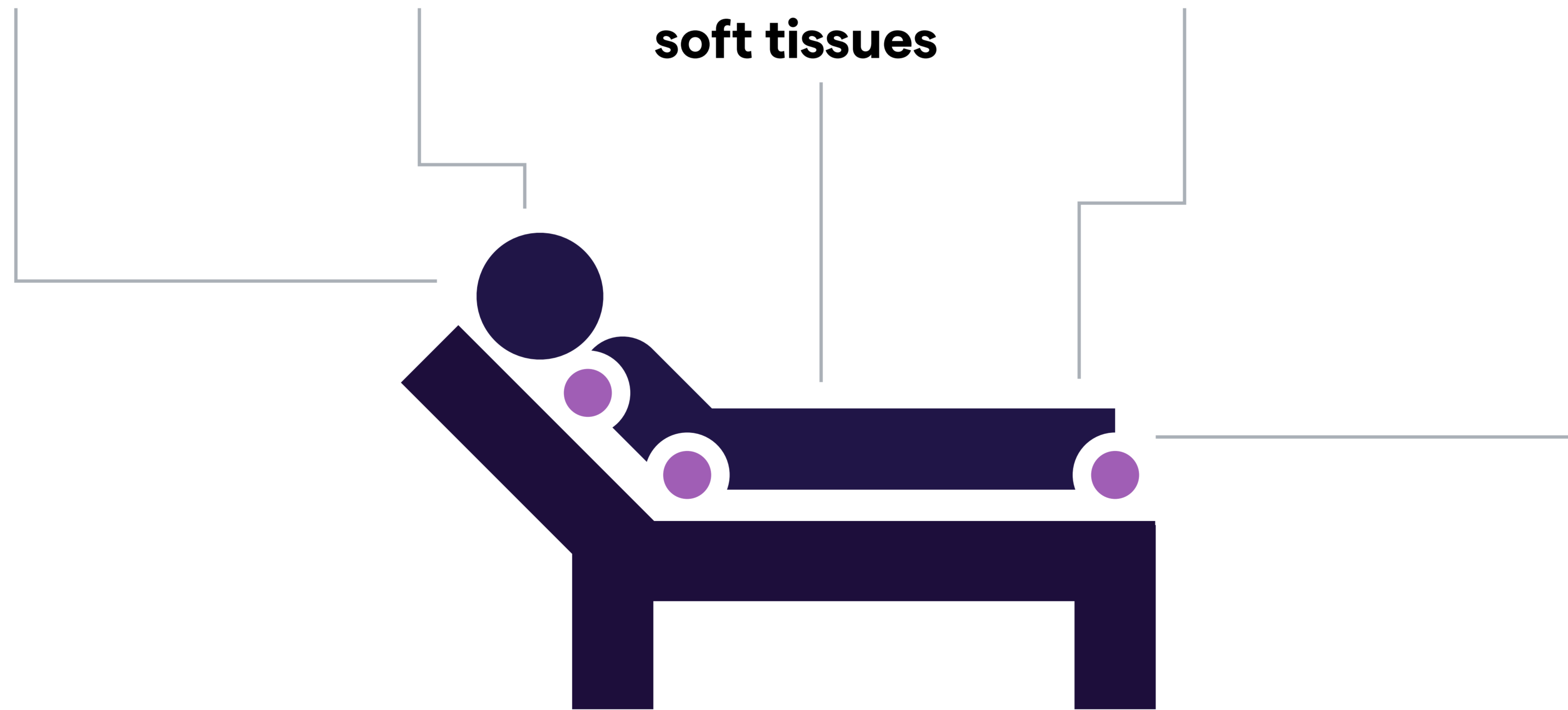
Nerves

Eyes

**Skin and
soft tissues**

Joints

Ligaments





THE SITTING OR BEACH CHAIR SURGICAL PATIENT POSITIONING





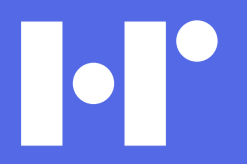
BENEFITS TO THE SITTING OR BEACH CHAIR POSITION



Neurosurgery



Orthopedic Surgery

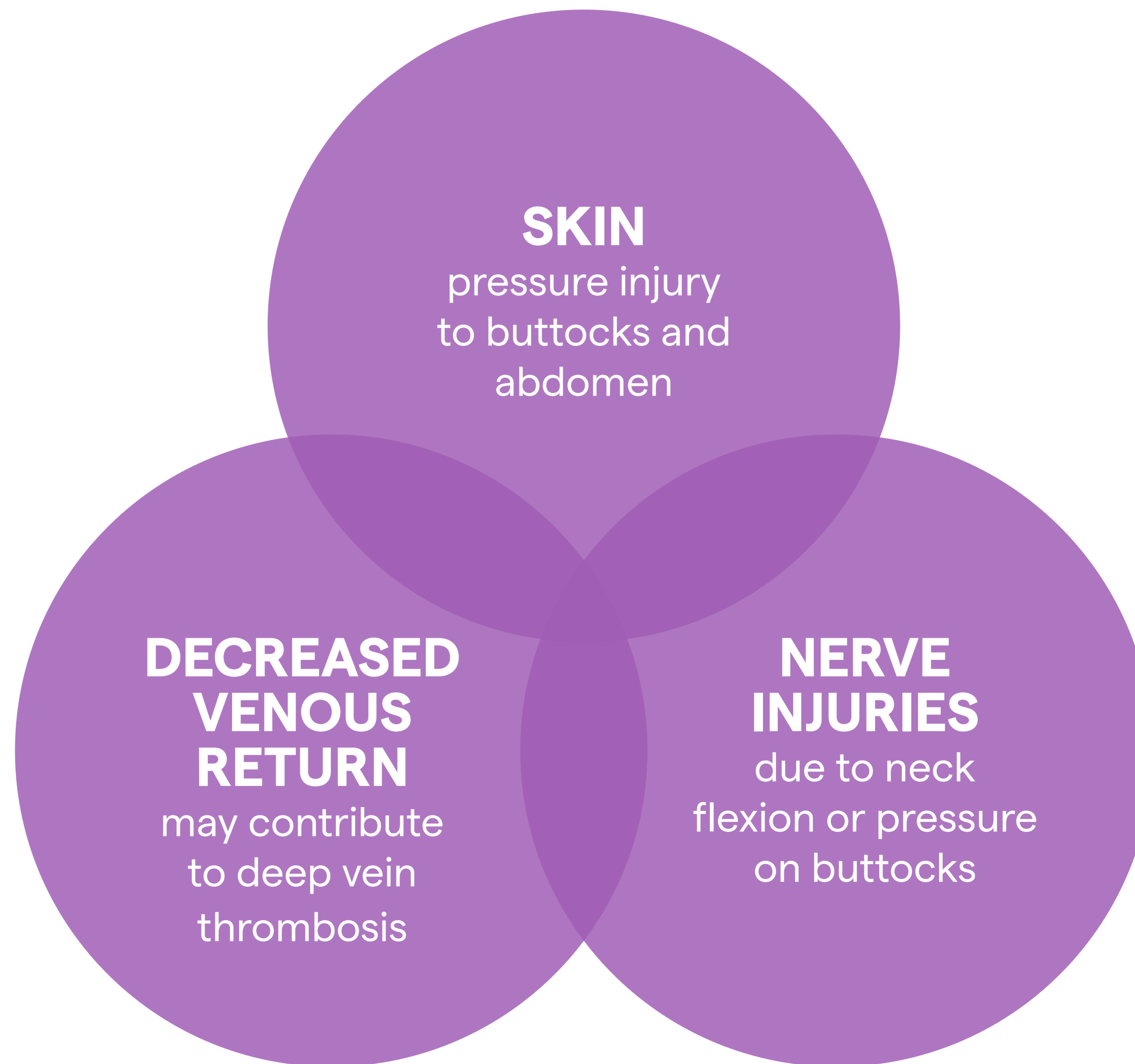


Evidence Based Guidance for Safe Sitting or Beach Chair Positioning



SITTING/ BEACH CHAIR

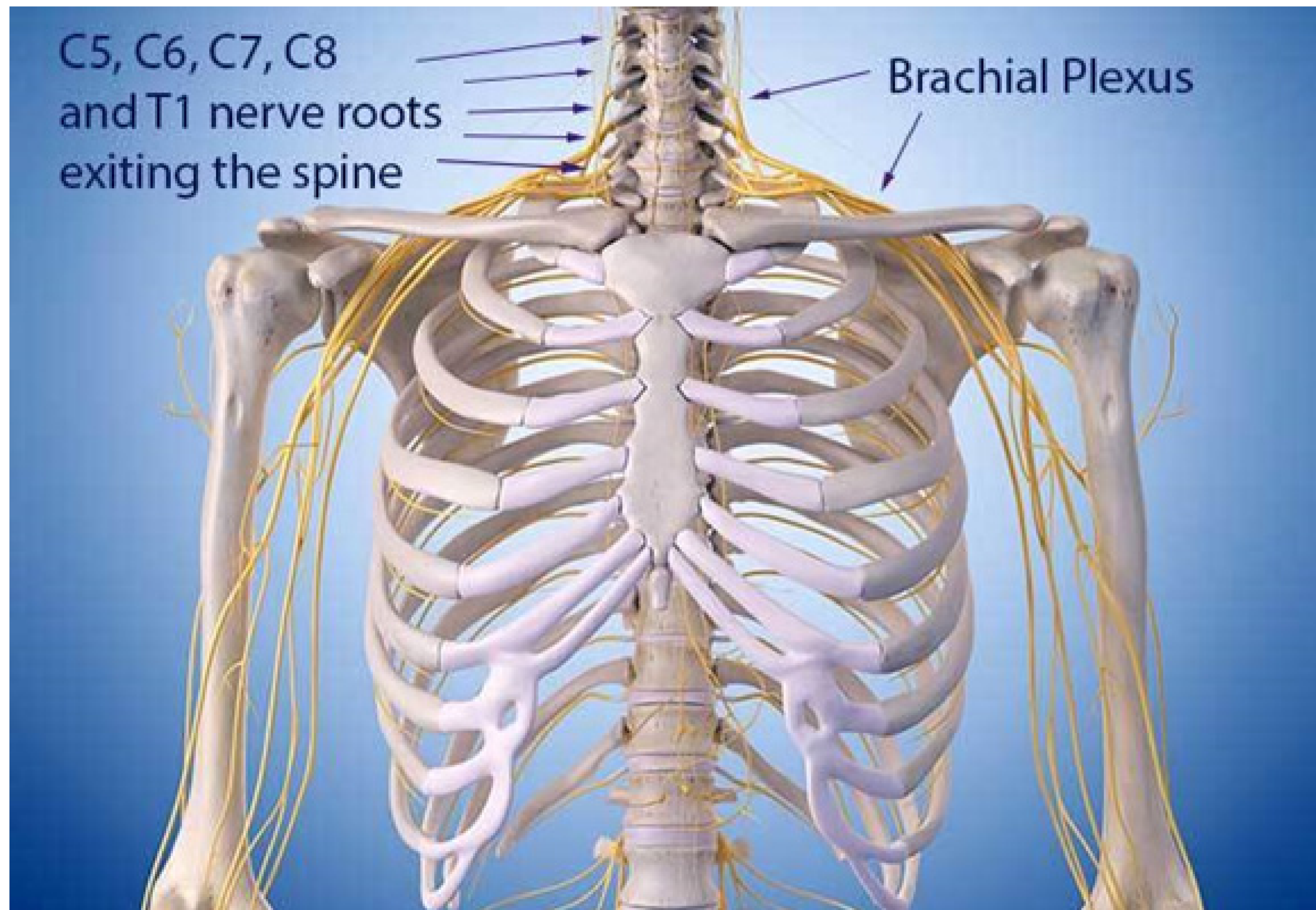
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8. AORN. Guidelines for Perioperative Practice. 2021:645-718.

9. Cogan A et al. Orthop Traumatol Surg Res. 2011;97(3):345-348.

BRACHIAL PLEXUS INJURY



<https://www.hopkinsmedicine.org/health/conditions-and-diseases/brachial-plexus-injuries>

DEVELOPING GUIDANCE FOR SAFE POSITIONING



Positioning injuries may not develop until hours or days after the procedure



Pressure injuries are common injuries related to positioning



CMS classified pressure injury as a “*Never Event*” in 2008, resulting in increased research for prevention measures

10. CMS. <https://www.cms.gov/newsroom/fact-sheets/cms-improves-patient-safety-medicare-and-medicaid-addressing-never-events>. Accessed August 3, 2021.

FACTORS RELATED TO PRESSURE INJURY



2009 ARTICLE BY WALTON-GEER STRESSED THE IMPORTANCE OF:

- Extrinsic and intrinsic factors that increase risk of injury
- Preoperative assessment to plan positioning during surgery
- Use of pressure redistribution support surfaces

CMUNRO SCALE DEVELOPED AS A PERIOPERATIVE PRESSURE INJURY RISK ASSESSMENT SCALE

11. Walton-Geer PS. *AORN J.* 2009;89(3):538-548.

12. Munro CA. *AORN J.* 2010;92(3):272-287.

PLANNING TO POSITION THE PATIENT – INTRINSIC FACTORS



- Age
- Nutritional status
- Laboratory test values
- Comorbidities
- Skin condition
- Body mass index (BMI)
- ASA physical status classification
- Presence of critical devices
- Jewelry or body piercings
- Braided hair, accessories or hair extensions
- Superficial implants or implanted critical devices
- Prosthetics or corrective devices

PLANNING TO POSITION THE PATIENT – EXTRINSIC FACTORS



- Type of procedure
- Projected length and anticipated position
- Surgical exposure and anesthesia access required
- Need for positioning changes during surgery
- Positioning devices required

8. AORN. Guidelines for Perioperative Practice. 2021:645-718.

13. Sørensen EE et al. *J Clin Nurs*. 2016 Mar;25(5-6):690-698.

PRESSURE INJURY RISK ASSESSMENT TOOLS



TOOL	BRADEN SCALE	MUNRO SCALE	SCOTT TRIGGERS TOOL
Indicators	<ul style="list-style-type: none"> • Sensory perception • Moisture • Activity • Nutrition • Friction and shear 	Preoperative, intraoperative and postoperative indicators	<ul style="list-style-type: none"> • Age older than 62 years • Serum albumin level <3.5 g/L or BMI <19 kg/m² or >40 kg/m² • ASA class of III or higher • Estimated procedure time longer than 180 minutes
Scoring	Each indicator is assessed and scored from 1 to 4 for total score of 6 to 23. Lower scores indicate greater risk of pressure injury.	Each indicator is scored as low, medium, or high for each phase of care. Cumulative score reflects patient's risk for pressure injury.	Each indicator is considered a trigger. Patients with 2 or more triggers are considered high risk for pressure injury.
Patient Population	Not perioperative specific; validated tool for assessing pressure injury risk for inpatient population	Developed specifically for perioperative patients.	Developed specifically for perioperative patients.

DEVELOPING GUIDANCE FOR SAFE SITTING OR BEACH CHAIR POSITIONING



- Research has led to greater understanding of physiologic changes a patient experiences while under anesthesia and protection of nerves and soft tissues
- AORN Guideline for Positioning the Patient – evidence-based guidance for safe positioning



8. AORN. Guidelines for Perioperative Practice. 2021:645-718.

14. Johnson RL et al. *Clin Anat*. 2015 Jul;28(5):678-82.



Positing and Team Communication, Collaboration and Workflow



SELECTING SITTING/BEACH CHAIR POSITIONING DEVICES



OR table in sitting or reclined position with accessories to support head and extremities

Use in accordance with manufacturer's instructions for use (IFU)

8. AORN. *Guidelines for Perioperative Practice*. 2021:645-718.



Dedicated beach chair support surfaces can facilitate:

- Ease of repositioning
- Increased surgical site access

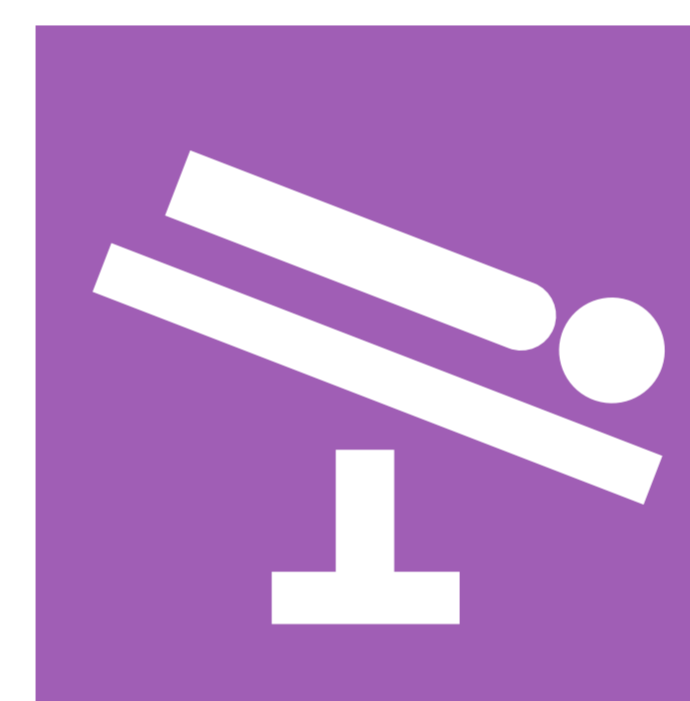
COLLABORATING DURING POSITIONING TO PREVENT POSITIONING HAZARDS



Team communication for coordinating positioning



Correct use of devices



Safe positioning practices



Postoperative debrief and handover communication

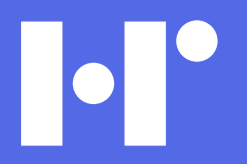
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Safe Patient Positioning Based on Evidence-Based Guidance



SELECTING SITTING/BEACH CHAIR POSITIONING DEVICES



- Minimize degree of head elevation
- Maintain patient's head in neutral position
- Flex and secure patient's arms or nonoperative arm across the body
- Pad patient's buttocks
- Flex the patient's knees 30 degrees
- For obese patients, prevent abdominal pannus from resting on thighs
- Verify placement of safety restraint across patient's thighs
- Sequential compression devices may be used
- Do not use for patients with ventriculoperitoneal shunts
- Be prepared to implement interventions to manage venous air embolism events (VAE)

SUMMARY



Team collaboration and planning are key to injury prevention.



1. Gawande A. [Two hundred years of surgery](#). *N Engl J Med*. 2012;366(18):1716-23.

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THANK YOU.

ABOUT HILLROM

Hillrom is a global medical technology leader whose 10,000 employees have a single purpose: enhancing outcomes for patients and their caregivers by advancing connected care. Around the world, our innovations touch over 7 million patients each day. They help enable earlier diagnosis and treatment, optimize surgical efficiency and accelerate patient recovery while simplifying clinical communication and shifting care closer to home. We make these outcomes possible through connected smart beds, patient lifts, patient assessment and monitoring technologies, caregiver collaboration tools, respiratory care devices, advanced operating room equipment and more, delivering actionable, real-time insights at the point of care.

For more information, please contact your local Hillrom sales representative.

hillrom.com

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