



Provide your patients with protection, support and comfort in the OR

Introduction

Pressure

Surgical patients may have compromised mobility and sensory deficits attributed to the use of specific types of anesthesia care that include general, regional, monitored anesthesia care, and moderate sedation/analgesia. The administration of sedative medications results in levels of sedation that range from consciousness to unconsciousness.¹

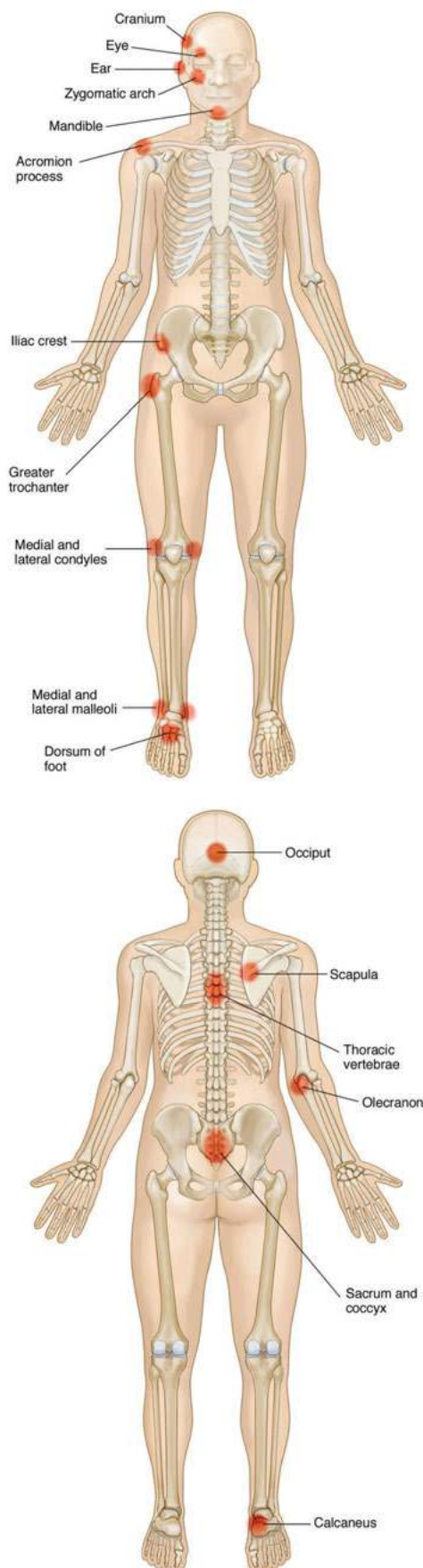
As a surgical patient advances on the sedation continuum toward the level of general anesthesia, there are a loss of protective mechanisms that include decreased pain sensation, loss of mobility and consciousness. Positioning injuries may occur if there is a failure to implement risk reduction strategies to avoid direct pressure, friction, and/or shear forces to a dependent body part.

The understanding of pressure is essential for the prevention of a patient positioning injury during surgery. Pressure occurs when the skin is compressed between a bony prominence and an external surface such as the procedure bed. When external pressure exceeds normal capillary pressure of 32 mm Hg, the patient is placed at an increase risk for poor tissue perfusion at that area of pressure, causing the patient to be at risk for pressure ulcer development.²

Pressure combined with friction and shear that occurs on body areas with bony prominences create an opportunity for tissue damage. It is this type of tissue damage that may progress to a pressure ulcer attributed to improper patient positioning during surgical procedures. An understanding and knowledge of common pressure sites allow perioperative team members to select appropriate positioning devices and apply positioning techniques that will limit exposure to capillary pressure greater than 32 mm Hg on tissue where possible.

For ordering information go to page 11

Common sites for pressure points



The Devon™ positioning products offer a reliable, efficient and economical solution for general use by healthcare professionals, intended to provide comfortable and safe positioning and support in the healthcare and surgical setting. They help to provide stability and elevation during surgeries, imaging and rehabilitation, and correct anatomical patient presentation during scans, surgical procedures, and recovery.

Contents

Devon™ head positioners	4
Devon™ body positioners	5
Devon™ positioning straps	6
Devon™ upper extremity body positioners	6
Devon™ lower extremity body positioners	7
Surgical Positioning Consideration and Techniques	8
Ordering Information	11

Devon™ head positioners

- Resilient, firm density foam designed to reduce pressure while maximizing support
- Whole-in-One positioners can also be used for legs, heels, knees or other extremities
- Slotted head positioner and head rest are designed to accommodate an endotracheal tube



1. Slotted adult head positioner

Code FP-HDSLCE

Designed to accommodate
Endotracheal tubing
Case quantity 24



2. Head rest with right slot

Code FP-HDFRCE

Prone position
Case quantity 28



3. Soft touch head positioner

Code FP-HDSFCE

Additional soft layer of foam for
maximum patient comfort
Prone position
Case quantity 28



4. Adult head positioner

Code FP-HDCRCE

Case quantity 24



5. Child head positioner

Code FP-HDCCE

Case quantity 24



6. Whole-in-one positioner, 8, 10, 15, 23 cm ring

Code FP-HDMCE

Case quantity 36



7. Bagel positioner, 18 cm ring

Code FP-HEAD7CE

Case quantity 72



8. Bagel positioner, 23 cm ring

Code FP-HEAD9CE

Case quantity 36



Devon™ body positioners

- Cushioning and protection for arms, shoulders, elbows, ulnar nerves, bony prominences and other pressure points
- Support of legs, knees, heels, ankles and feet
- Helps to reduce pressure while maintaining proper circulation
- Designed to provide adequate exposure to operative site
- Provides protection, correct alignment and comfort for a variety of procedures



9. Operating room table wedge

Code FP-BAW2CE

Size - 46 x 20 x 20 cm

Case quantity 8



10. Body alignment wedge

Code FP-BAW1CE

Size - 55 x 30 x 22 cm

Case quantity 8



11. Convoluted OR table pad

Code FP-ORTB2CE

Convoluted design provides superior pressure distribution

Size - 183 x 51 x 5 cm

Case quantity 12



12. Convoluted utility pad

Code FP-OVER1CE

Exceptionally light weight and versatile, designed to provide support and protection in a number of surgical procedures

Size - 51 x 30 x 30 cm

Case quantity 12 pair



13. Chest roll

Code FP-CHESTCE

Size - 43 x 13 cm

Case quantity 12



For ordering information go to page 11

Devon™ positioning straps

Soft yet remarkably strong straps help to facilitate proper positioning with security.

Reusable:

- Completely washable materials
- Metal rings attach to OR table or gurney, quickly and easily
- Adjustable to fit most patients



14. Knee and body strap – reusable

Code 31142964

Size - 92 x 10 cm

Case quantity 6

15. Arm board strap – reusable

Code 31142998

Size - 66 x 4 cm

Case quantity 25

Devon™ upper extremity body positioners

Variety of positioners provide support, stability and protection for shoulders, elbows, ulnar nerve, and bony prominences.

- Designed to help maintain proper alignment
- Aids in pressure distribution of critical pressure points during the surgical procedure



Convoluted foam, designed for maintaining proper circulation.



16. Convoluted ulnar nerve protector

Code FP-UN1CE

Size - 41 x 15 x 5 cm

Case quantity 36 pair



17. Convoluted arm board pad

Code FP-ARMB1CE

Size - 51 x 20 x 5 cm

Case quantity 12 pair



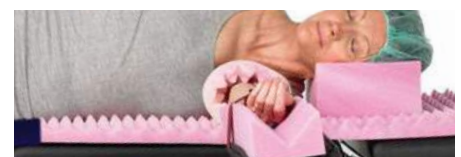
18. Arm cradle

Code FP-LARMCCE

Size - 61 x 13 x 8 cm

Designed for use with extended arm boards to provide maximum stability and protection

Case quantity 12 pair



Devon™ lower body extremity positioners

Variety of positioners to provide support stability and protection for legs, ankles heels and feet during surgical procedures.

- Reduce risk of pressure sores and nerve damage while maintaining proper circulation
- Designed to provide maximum exposure to operative site
- Reduce friction and shear



19. Small abduction pillow

Code FP-ABDSCE

Size - 46 x 30 x 15 cm
Case quantity 6

20. Medium abduction pillow

Code FP-ABDMCE

Size - 56 x 38 x 15 cm
Case quantity 6

21. Large abduction pillow

Code FP-ABDLCE

Size - 63 x 46 x 15 cm
Case quantity 6



Abduction pillow designed to support and align the legs to prevent hip dislocation after hip surgery or injury.



22. Convoluted foot and heel protector

Code FP-HEEL1CE

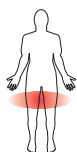
Case quantity 36 pair



23. Well leg holder

Code FP-ARTLECE

Case quantity 18



24. Arthroscopic knee holder

Code FP-ARTKNCE

Case quantity 10

For ordering information go to page 11

Surgical Positioning Considerations and Techniques

Supine or Dorsal Recumbent Position

The supine position is one of the most frequently used positions during surgery. The supine position allows for the body to rest face up in a natural position. Modification of the supine position may include patient placement into positions such as Trendelenburg; reverse Trendelenburg, and a variety of sitting positions. Pressure point areas in the supine position include the occiput, scapula, olecranon, sacrum, ischial tuberosities and calcaneus (Figure 1).

In supine position, the patient's arms should be placed and secured on a padded arm board or tucked to the side. The circulator nurse should assess the patient to determine that the spine is in correct alignment with the chest, and lower extremities. All pressure points should be assessed and application of appropriate padding to high risk areas to redistribute pressure during surgery to minimize risk for potential patient injury.

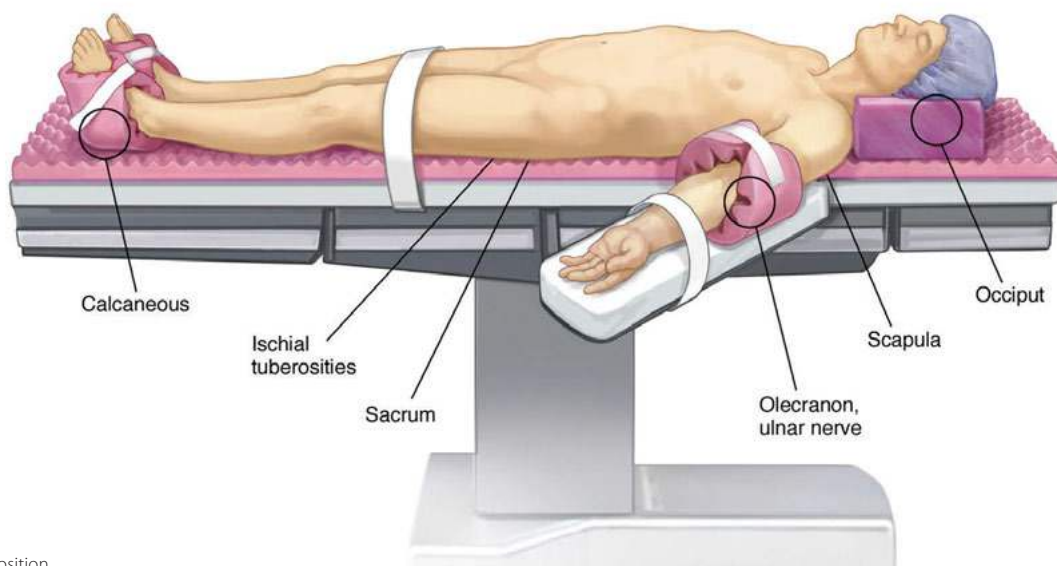


Figure 1: Supine Position

Trendelenburg and Reverse Trendelenburg Position

A modification of the supine position is the Trendelenburg and reverse Trendelenburg positions. The Trendelenburg position involves a head-down tilt, feet up position. When positioned in Trendelenburg position, the abdominal viscera is tilted in a direction away from the pelvic area to provide the surgeon with optimal visualization. The reverse Trendelenburg position involves a head-up, feet down position. Pressure point areas in the Trendelenburg and reverse Trendelenburg position include the occiput, scapula, olecranon, sacrum, ischial tuberosities and calcaneus (Figure 2 and Figure 3).

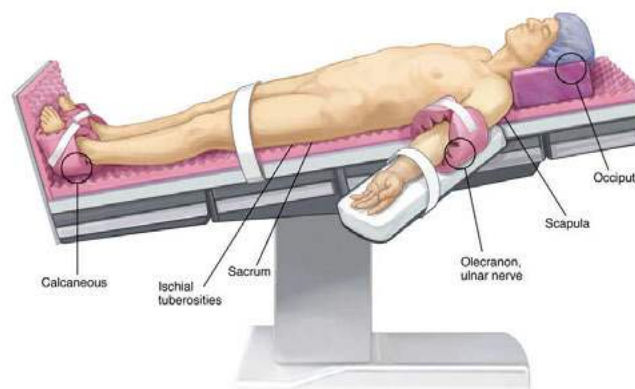


Figure 3: Reverse Trendelenburg Position

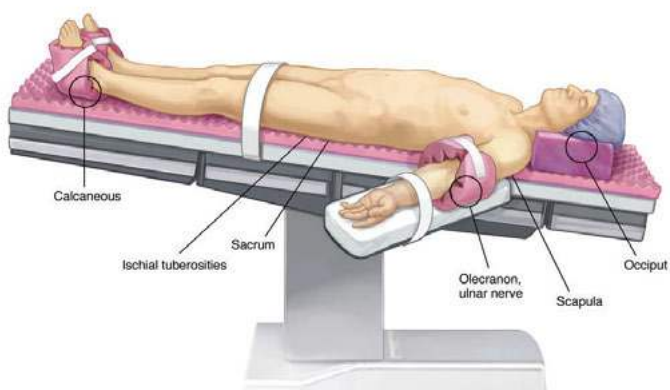


Figure 2: Trendelenburg Position

The Trendelenburg position allows for improved visualization during a surgical procedure and decreased blood flow to the operative site secondary to the gravitational blood flow.³ The position may also decrease lower extremity venous stasis due to the redistribution of blood. The patient is at an increased risk for a brachial plexus injury due to the increased pressure placed on the clavicle.³ The patient should be positioned slowly to avoid sudden changes in circulatory response such as hypotension. When positioned into the Trendelenburg or reverse Trendelenburg position there are increased risks for shear injuries.

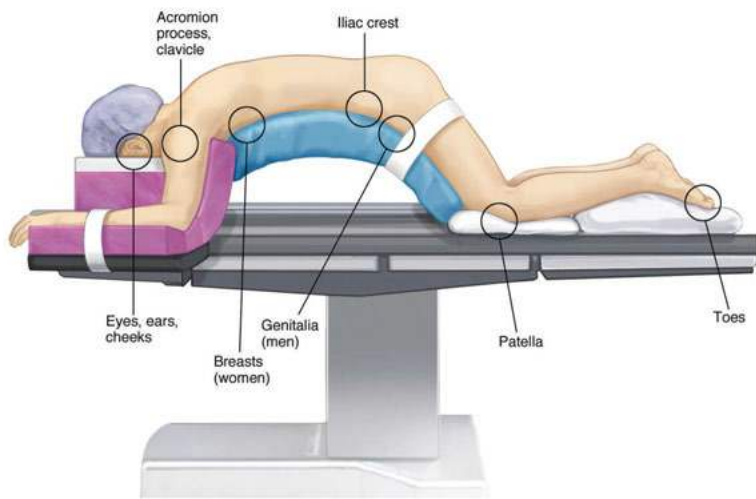


Figure 4: Prone Position

Prone Position

The prone position may include a variety of modifications such as the knee-chest, kneeling, jackknife, or Kraske. In the prone position, the patient is positioned face down. Pressure point areas include the eyes, ears, cheeks, acromion process, iliac crest, breast, genitalia, patella, and toes (Figure 4).

There are a variety of positioning devices used to position the patient prone in a flexed position at the hip. If possible the arms should be positioned and tucked to the patient's side.³ If placed over head, the arms are positioned on padded arm boards along the side of the patient's head, extended in an outward position with a less than 90-degree angle. The palms should be placed in a pronated position on the padded arm board with the elbows flexed.³ If positioned incorrectly in the prone position, the diaphragm movement may be severely restricted resulting in a limitation of expansion and air exchange. Unnecessary pressure of the anterior chest wall and the abdomen will result in increased respiratory effort with decreased respiratory effort and function.³

Sitting Position

A Fowler's (sitting), modified Fowler's, and beach chair position involves placing the patient in a sitting position on the operating room table. Pressure point areas in the sitting position include the occiput, scapula, olecranon, sacrum, ischial tuberosities and calcaneus with special emphasis to the arms and shoulders (Figure 5).

In the sitting position, stabilization of the head, neck, shoulders and trunk must be safely maintained throughout the procedure to avoid extension or hyperflexion of the spinal column. Depending on the procedure the patient may be placed in special head holding device (e.g., neurosurgical three-point headrest device). Assess for pressure points with the use of any head holding device.

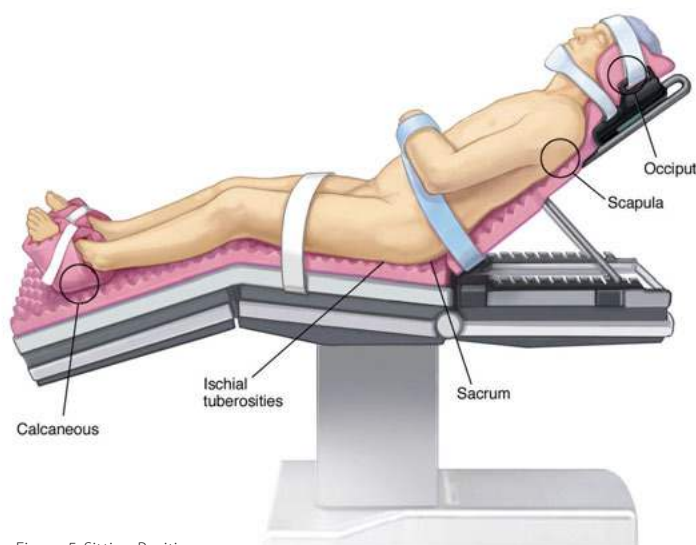


Figure 5: Sitting Position

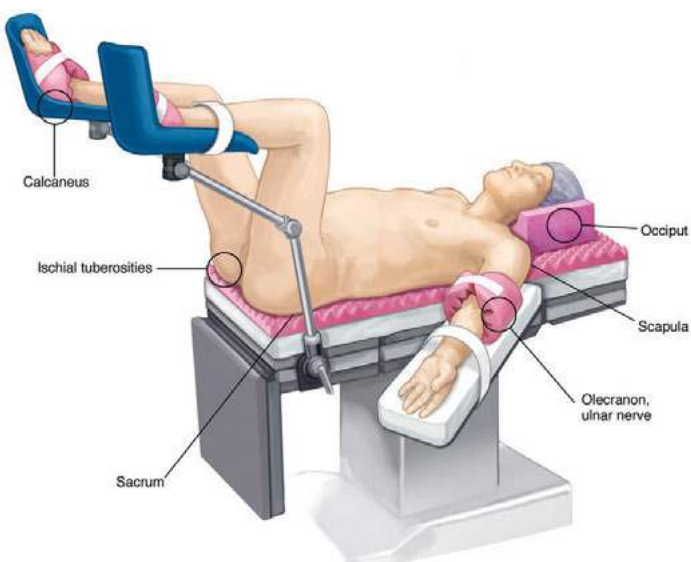


Figure 6: Lithotomy Position

Lithotomy Position

The lithotomy position involves a modification of the supine position. The patient's lower extremities are elevated, abducted, and placed into leg holders or stirrups. The position devices may be modified depending on the procedure to accommodate a low, standard, high or exaggerated position. Pressure point areas in the lithotomy position include the occiput, scapula, olecranon, sacrum, ischial tuberosities and calcaneus (Figure 6).

Lateral or Lateral Decubitus Position

The lateral position involves positioning the patient on the unaffected surgery side to provide access to the chest, kidney, or hip area. Pressure points in the lateral position include the ear, acromion process, iliac crest, greater trochanter, lateral knee and malleolus (Figure 7).

There are a variety of positioning devices used to stabilize the patient in the lateral position (e.g., beanbag). Following induction while in the supine position, the patient is moved and safety positioned. Arms are placed on padded armboards positioned on one side of the patient. Padding is applied to the elbows to minimize ulnar nerve injury.

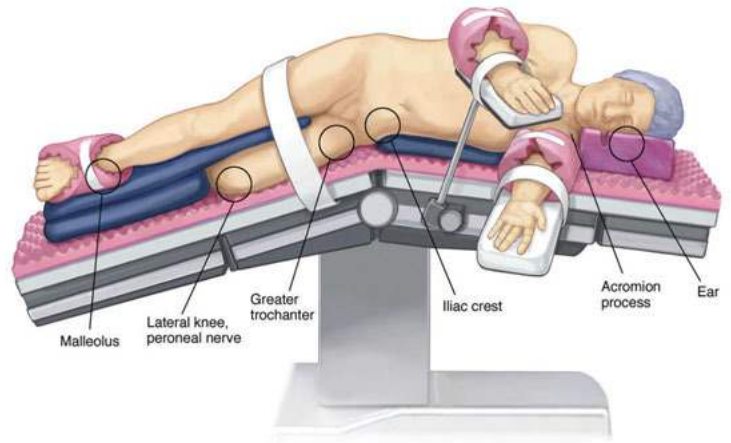


Figure 7: Lateral Position

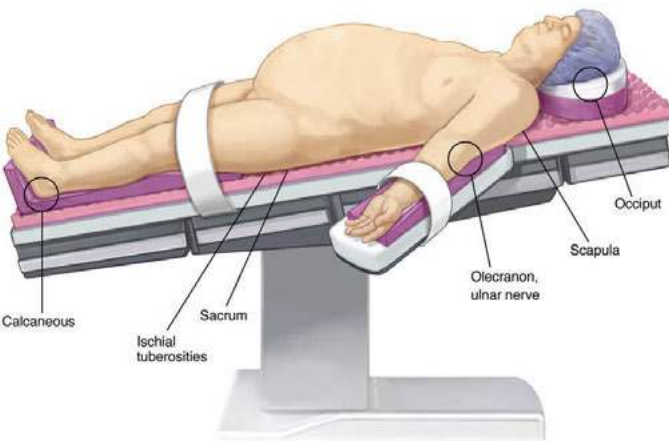


Figure 8: Obese Patient

Positioning Challenges

Obese Patient

It is important the perioperative team recognize that an obese patient is different from being just a large patient and special precautions will need to be taken (Association of Anaesthetists of Great Britain and Ireland, 2007). It is estimated that nearly two-thirds of adult Americans are overweight with a body mass index [BMI = weight (kg)/height (m²)] > 25 kg/m²⁽⁴⁾. Obesity is defined as a BMI > 30 kg/m² and morbid obesity is defined as a BMI > 40 kg/m²⁽⁴⁾. The patient with morbid obesity usually has several comorbidities that may include hypertension, diabetes mellitus, osteoarthritis and obstructive sleep apnea.⁴ Transfer and positioning present unique challenges for the obese patient due to the patient size, extra weight and the increased risk for the untoward patient complications of pressure ulcers and neural injuries.⁵

References

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2. Walton-Geer PS. Prevention of pressure ulcers in the surgical patient. *AORN Inc Journal*, 2009.
3. Association of periOperative Registered Nurses. Recommended practices for positioning the patient in the perioperative practice setting. In: Blanchard J, Burlingame B, Chard R, Denholm B, Giarrizzo-Wilson S, Maxwell-Downing D, Mitchell S, Ogg M, Petersen M, eds. *Perioperative Standards and Recommended Practices*. 2010 Edition. Denver, CO: AORN; 2010: 327-350.
4. Brodsky JB, Margaron, M. Weighing in on surgical safety. *AHRQ WebM&M*; <http://webmm.ahrq.gov/case.aspx?caseID=221>. August 2010. Accessed October 19, 2010.
5. Brodsky JB. Positioning the morbidly obese patient for anesthesia. *Obesity Surgery*. 2002; 12(6): 751-758.

Ordering information

Devon™ head positioners

	Code	Description	Case quantity
1	FP-HDSLCE	Slotted adult head positioner	24
2	FP-HDFRCE	Head rest with right slot	28
3	FP-HDSFCE	Soft touch head positioner	28
4	FP-HDCRCE	Adult head positioner	24
5	FP-HDCCE	Child head positioner	24
6	FP-HDMCE	Whole-in-one positioner, 8, 10, 15, 23 cm ring	36
7	FP-HEAD7CE	Bagel positioner, 18 cm ring	72
8	FP-HEAD9CE	Bagel positioner, 23 cm ring	36

Devon™ body positioners

	Code	Description	Size	Case quantity
9	FP-BAW2CE	Operating room table wedge	46 x 20 x 20 cm	8
10	FP-BAW1CE	Body alignment wedge	55 x 30 x 22 cm	8
11	FP-ORTB2CE	Convuluted OR table pad	183 x 51 x 5 cm	12
12	FP-OVER1CE	Convuluted utility pad	51 x 30 x 30 cm	12 pair
13	FP-CHESTCE	Chest roll	43 x 13 cm	12

Devon™ positioning straps

	Code	Description	Size	Case quantity
14	31142964	Knee and body strap – reusable	92 x 10 cm	6
15	31142998	Arm board strap – reusable	66 x 4 cm	25

Devon™ upper extremity body positioners

	Code	Description	Size	Case quantity
16	FP-UN1CE	Convuluted ulnar nerve protector	41 x 15 x 5 cm	36 pair
17	FP-ARMB1CE	Convuluted arm board pad	51 x 20 x 5 cm	12 pair
18	FP-LARMCCE	Arm cradle	61 x 13 x 8 cm	12 pair

Devon™ lower extremity body positioners

	Code	Description	Size	Case quantity
19	FP-ABDSCE	Small abduction pillow	46 x 30 x 15 cm	6
20	FP-ABDMCE	Medium abduction pillow	56 x 38 x 15 cm	6
21	FP-ABDLCE	Large abduction pillow	63 x 46 x 15 cm	6
22	FP-HEEL1CE	Convuluted foot and heel protector		36 pair
23	FP-ARTLECE	Well leg holder		18
24	FP-ARTKNCE	Arthroscopic knee holder		10

Devon™ Positioning Products Product Guide



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Important information: Prior to use, refer to the instructions for use supplied with this device for indications, contraindications, side effects, suggested procedure, warnings and precautions.

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