

PATIENT POSITIONING IN THE CATH & EP LAB



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WHY NOW



- ❧ Complex ablations are sometimes 4-8 hours in duration.
- ❧ Interventional coronary and peripheral cases are becoming longer as we do multi-vessel stenting.

Patients today are sicker with a higher acuity and have more risk factors, consequently their skin is more susceptible to becoming damaged.

RISKS OF IMMOBILITY



- ❧ Circulatory compromise.
- ❧ Respiratory compromise.
- ❧ Skin integument compromise.
- ❧ Neurological structure compromise.

PREDICTORS OF PERIOPERATIVE PRESSURE ULCERS



- ∞ Increasing age.
- ∞ Diabetes.
- ∞ Presence of vascular disease.
- ∞ Long procedures.
- ∞ Existing paralysis.

POSITIONING EQUIPMENT

- ❧ Should redistribute pressure and allow circulation at bony prominences.
- ❧ Should redistribute tissue loads and manage the microclimate if the patient becomes diaphoretic.
- ❧ Should maintain correct anatomical position to avoid stretching or pressure upon nerves.

MATTRESSES



- ❧ Physiologic blood flow and lymphatic flow rates can vary per patient, but capillary pressure may increase to 150 mm hg if you are not able to change positions.
- ❧ This increase in pressure reduces the flow of blood and lymph, which decreased the supply of oxygen and removal of wastes.
- ❧ A minimum 2 inch thick pad is recommended.

PLANNING CARE



- ❧ Review upcoming cases for table weight limit.
- ❧ Make sure proper patient transfer equipment is available to ensure smooth patient move over to the table avoiding skin tears and undue friction.
- ❧ Clean transfer equipment so that bacterial growth is inhibited.
- ❧ If maxi slides or other fabric slides are left under patient, make sure there are no wrinkles. This promotes skin pressure and breakdown.

IDENTIFY AT RISK PATIENTS

- ❧ Obesity affects skin due to excessive compression resulting from increased weight.
- ❧ Patients with vascular disease already have existing tissue ischemia.
- ❧ Smokers often experience vasoconstriction.

PREDICTORS



- ❧ The duration of a procedure is a significant predictor of pressure ulcer formation.
- ❧ The incidence increases after three hours.

WHICH PROCEDURES?



❧ Pressure sores occur most frequently in the following types of procedures:

❧ CARDIAC

❧ THORACIC

❧ ORTHOPEDIC

❧ VASCULAR

PATIENT SUPPORTS



- ❧ The number of pads , blankets, and warming blankets BENEATH the patient has been implicated as a risk factor for pressure ulcer development.
- ❧ Foam pads may not be effective for obese patients because they compress under heavy body areas.
- ❧ In some situations and on certain body parts, foam can be an effective pressure reducing tool. Ex: heels and other lightweight body parts.

POSITIONING TOOLS



- ❧ Towels and sheet rolls do not reduce pressure and may contribute to friction injuries.
- ❧ Never place the foam or gel pads under the mattress in an attempt to make the mattress conform to patient's body.
- ❧ Patient jewelry and body piercing accessories should be removed before starting the positioning. Ex: large metal earrings can become compressed against ear lobes and cause pressure sore.

PATIENT DRAINS



- ☞ Position Foley catheters and other tubing to maintain patency and to prevent dislodgement. Compressed tubing may cause pressure sites if skin is edematous.

ARMS



- ❧ Protect bony prominences.
- ❧ Position arms to protect from nerve injury.
- ❧ The location of the patient's fingers should be confirmed in a position that protects them from getting pinched by moving equipment.
- ❧ Padded safety restraints should be applied to avoid nerve compression.

ARMS



- ⌘ Unless necessary for surgical reasons, the patient's arms should not be tucked under the body.
- ⌘ This position can affect IV infusions and cause automatic B/P readings to be inaccurate.

ARMS



- ⌘ Neutral position with elbows slightly bent.
- ⌘ Keep shoulder abduction and lateral rotation to a minimum.

HEAD



- ☞ Head should be in a neutral position and placed on a headrest or soft pillow.
- ☞ Head and upper body should be in alignment with the hips.

LEG POSITIONING



- ❧ Placing a slight pillow (up to 3" high) at the bend of the knee will take pressure off of the hip and small of the back. *This may be the single most important thing you can do to make your patients comfortable on the procedure table.
- ❧ Do not let the bend from the pillow create noticeable flexion at the hip, which should remain in straight alignment for access purposes.

NERVE DAMAGE



- ❧ Padded arm board extensions should not exceed 90 degrees out for the supine patient.
- ❧ Palms are best placed upward when arm boards are extended out.
- ❧ When the arms are at the side the palms may face the body but should NOT face downward.
- ❧ The arm should never be extended at the elbow beyond a point that is uncomfortable for the patient or 180 degrees. This should be determined prior to the procedure.

NERVE DAMAGE



- ❧ Trauma may result from compression or stretching of nerves.
- ❧ The most frequent nerves damaged are the ulnar and brachial plexus.

Test YOUR Table



- ☞ Take your shoes off and lay on your table for 5 minutes. Feel what your patients feel.
- ☞ Many moderate sedation drugs are administered just to help the patient tolerate the pain that develops from laying on the table.
- ☞ Problem solve what you would do to make yourself more comfortable... and make it happen for your patients.

Product Sources



Here are just a few sources of helpful products.

MarketLab Medical Surgical 1-800-237-3604

http://www.marketlabinc.com/prodtype.asp?strParents=1689,1690&CAT_ID=1817&numRecordPosition=1

AADCO Medical Inc. 802-728-3400

http://store.aadcomed.com/index.php/cPath,5_4

Creative Foam Medical Systems 800-446-4644

http://www.creativefoammedicalsystems.com/table_pads.html

David Scott Company 1-800-804-0333

<http://www.davidscottco.com/c-2-medical.aspx>

REFERENCES



Proper Positioning Helps Avoid Nerve Damage During Surgery. Thomas Renter, CRNA, MSN, Med, BSN and Don Beissel, RN, MSNA, CRNA.

<http://ce.nurse.com/RetailCourseView.aspx?CourseNum=ce416&page=5&IsA=1>

Essentials of Perioperative Nursing, Vol 1. Pg. 135-136. Cynthia Spry.
Integumentary System Injury.

http://books.google.com/books?id=R8F5n_B7d9QC&pg=PA135&lpg=PA135&dq=surgery+pressure+injury+immobility&source=bl&ots=nprEG1-HrB&sig=EqDG-pICo62XOvvhykQI3UrRQWI&hl=en&ei=j96qTaenFuuz0QHvwKj5CA&sa=X&oi=book_result&ct=result&resnum=6&ved=0CDYQ6AEwBQ#v=onepage&q=surgery%20pressure%20injury%20immobility&f=false

Perioperative Standards and Recommended Practices, AORN manual, 2010.

www.aorn.org