

Unit 7 / GENERAL RESPONSIBILITY OF THE NURSE IN THE OPERATING ROOM

- **Catagories Of Surgery**

1. Emergency- required immediate attention.

e.g extensive burns, actual intestinal obstruction

2. Urgent- require prompt attention, within 24 to 48 hrs.

e.g cancer, acute infection of gallbladder

3. Required-require an operation but not immediately, within a few wks or months.

e.g tonsil removal, cataracts of the eye

4. Elective-it should be operated upon, but the failure to have surgery performed will not result in a catastrophe.

e.g cleft palate, repair of
burn scars

- **Receiving The Patient**

- Physical and mental preparation

- Admission

- cheerful welcoming by the nurse is a must.

- proper identification of the patient. Greet the patient by name & introduce yourself & explain the purpose of coming to OR.

- proper recording of patients vital signs (temperature, pulse, BP,& respiration)

➤ Operative permit

-A written consent permitting the administration of anesthesia.

-And

the patient has to sign on it before the procedure.

- **Patient Safety: Positioning**

Why Does Positioning Matter?

- Optimal exposure of surgical site
- Maintenance of patent airway
- Maintenance of physiological stability

- Prevention of:
 - Injury to anatomical structures
 - Nerve damage
 - Pressure ulcers
 - Access to physiologic monitoring devices
and IV lines

- A good position must provide;-

1. The best possible exposure and accessibility of the operative field for the surgeon.

2. Accessible for administration of the anesthetic agent and the observation of its effects on the patient.

- **Timing Of Pt Positioning & Anesthetic Administration**

After transfer from the stretcher to the operating bed-the pt usually placed in supine.

The pt either anesthetized in this position & then positioned for the surgical procedure, or first positioned & then anesthetized.

A minimum of 4 people are required to place the pt safely in the prone position on the operating bed.

• **PREPARATION FOR POSITIONING**

Before the pt is brought to the OR, the circulating nurse should do the following;-

- ✓ review the proposed position by referring to the surgeon's preference in the pt's chart.
- ✓ ask for assistance if unsure how to position the pt.
- ✓ test positioning devices for pt safety.
- ✓ consult the surgeon as soon as she/he arrives if not sure which position is to be used.
- ✓ review the plan of care for unique needs of the pt.

- **Nurse as the Patient Advocate During Positioning**

- Identifies physical alterations that require additional precautions
- Prepares appropriate positioning aides and equipment
- Has knowledge of positioning devices and their uses
- Assists with positioning of the patient
- Advocates for patient safety during the positioning process

- **Modifications For Individual Pt Needs**

pt's individual needs are met during positioning Whether the pt is unconscious or conscious, avoidance of unnecessary exposure is an essential consideration for all patient's.

positioning should be done before skin preparation and draping.

- **The Nurse Documents;-in The Pt's Record**

- any preoperative limitations in the pt's ROM.

- the condition of the skin before & after.

- the position in which the pt was positioned, including the use of special equipment.

- **Safety Measures**

Injuries to the back, arms, or shoulders as a result of lifting patients or moving equipments are common to the staff working in the OR. So several principles of body mechanics should be observed to minimize physical injury.

- the anesthesia provider guards the head of the anesthetized pt at all times & support it during mov't.

- mov't & positioning should not obstruct or dislodge catheters, IV infusion tubing, and drainage materials.

• **Positioning Considerations**

- ✓ Patient Age
- ✓ Height and weight
- ✓ Skin condition
- ✓ Pre-existing medical conditions
- ✓ Range of motion

- **Consider - Patient's Age**

- ✓ Neonates and premature infants

- Ear is delicate and has little cartilage

- Fragile thin skin, little subcutaneous fat

- Limbs are delicate and over-aggressive movement should be avoided

- Check breaks in bed mattress

- Beds are designed for adults

- Check fingers
- Check heels
- Large head compared to body
- Shoulder roll can be used for airway

management

-Consider weight of surgical instruments on the
body

-Avoid leaning on limbs

-Protect the airway and IV access at all times

when positioning and transferring a patient

-Safety belts

- **Consider - Patient's Height and Weight**

- ✓ Thin and malnourished patients - Require extra padding , Careful positioning
- ✓ Overweight and obese patients - May require different positioning devices including larger operating tables , Require careful positioning
- ✓ Tall patients - Ensure that feet are supported and not hanging off bed

- **Consider - Patient's Skin Condition**

- ✓ Physical forces that can affect skin condition:

- Pressure

- Shear

- Friction

- ✓ OR conditions that also affect skin condition:

- Moisture

- Temperature

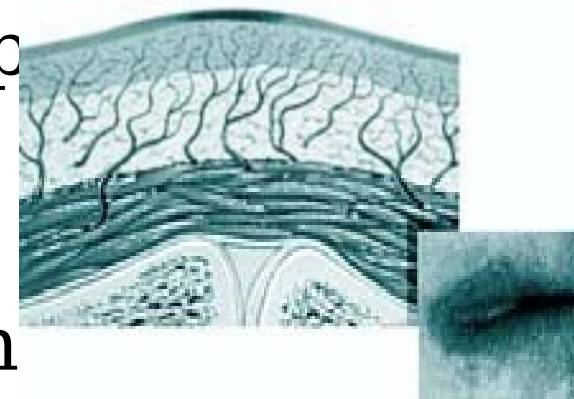
• ***Pressure Ulcers***

- ✓ Tissue injury to a localized site, usually over a bony prominence
- ✓ Caused by pressure alone or in combination with friction and shear
- ✓ 4 stages of pressure ulcers (5th category that is used when an ulcer is unstagable)



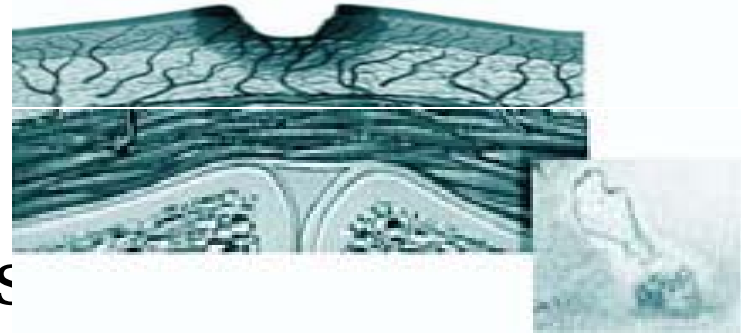
- **Stage I**

- ✓ Intact skin
- ✓ Non-blanchable redness of a localized area
- ✓ Patients with dark skin may present with purplish or bluish coloration
- ✓ Usually over a bony prominence



- **Stage II**

- ✓ Partial thickness skin loss
- ✓ Can involve epidermal layer only or both epidermal and dermal layers
- ✓ Red-pink wound that does not slough
- ✓ May appear as a blister initially



- **Stage III**

- ✓ Full thickness skin loss
- ✓ Subcutaneous fat may be visible
- ✓ slough may be present



- **Stage IV**

- ✓ Full thickness skin loss with exposed muscle, tendon or bone
- ✓ Slough or eschar may be present
- ✓ Often tunneling or undermining



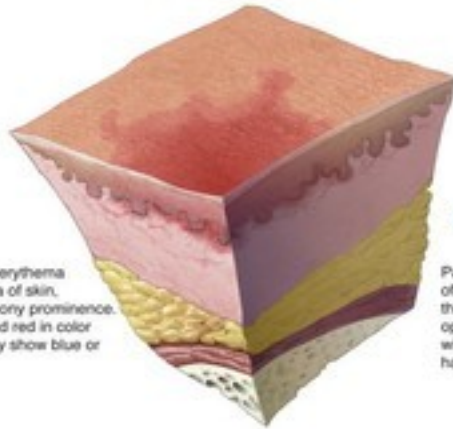
- **Unstageable**

- ✓ Full thickness skin loss which is covered with slough or eschar
- ✓ Cannot stage wound because of slough or eschar covering the wound

Pressure Ulcer Staging

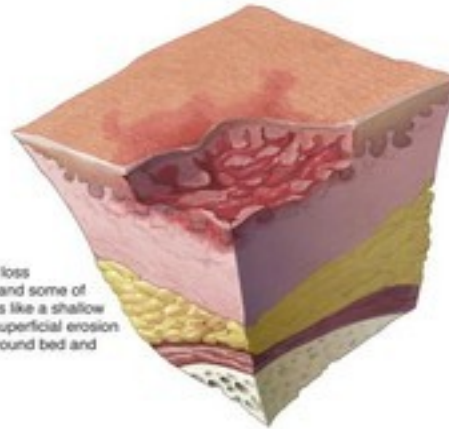
Stage I

Nonblanchable erythema of localized area of skin, usually over a bony prominence. Skin is intact and red in color (darker skin may show blue or purple tones).



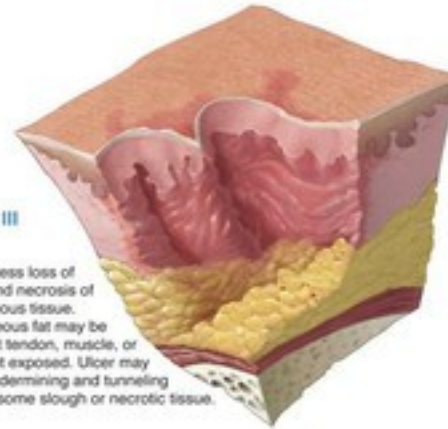
Stage II

Partial-thickness loss of the epidermis and some of the dermis. Looks like a shallow open ulcer or a superficial erosion with a pink-red wound bed and has no slough.



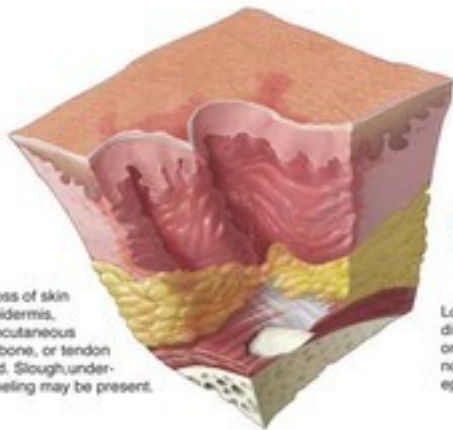
Stage III

Full-thickness loss of the skin and necrosis of subcutaneous tissue. Subcutaneous fat may be visible, but tendon, muscle, or bone is not exposed. Ulcer may include undermining and tunneling and have some slough or necrotic tissue.



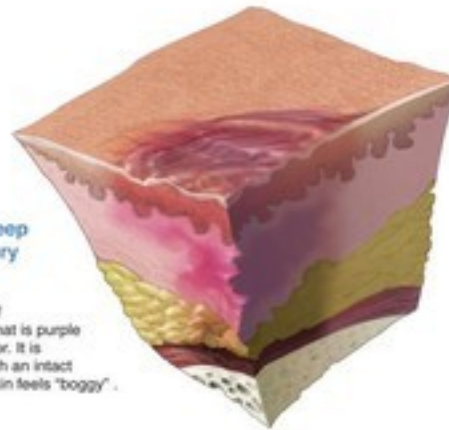
Stage IV

Full-thickness loss of skin including the epidermis, dermis, and subcutaneous tissue. Muscle, bone, or tendon may be exposed. Slough, undermining, and tunneling may be present.



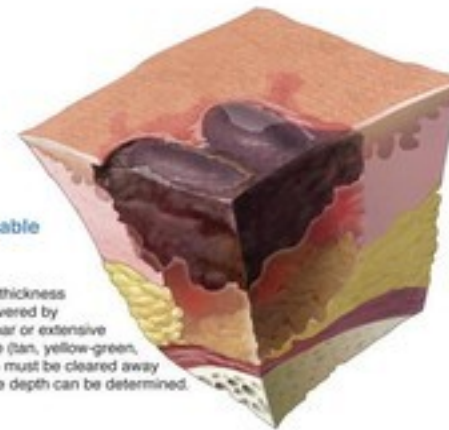
Suspect Deep Tissue Injury

Localized area of discolored skin that is purple or maroon in color. It is nonblanching with an intact epidermis, and skin feels "boggy".



Unstageable

Ulcer has full-thickness tissue loss covered by either an eschar or extensive necrotic tissue (tan, yellow-green, brown), which must be cleared away before the true depth can be determined.



- **Common Pressure Ulcer Sites Based on Position**

- ✓ **Supine**

Back of head, scapulae, elbows, sacrum, heels

- ✓ **Lateral**

Ear, dependant shoulder, ribs, dependent hip,
knees, heels, feet

- ✓ **Prone**

Ears, cheeks, shoulders, breasts, genitalia, knees,
toes

- **Consider - Patient's Pre-Existing Medical Conditions**

- ✓ Depending on the patient's pre-existing medical condition
- ✓ positioning may need to be adjusted

Consider:

- Presence of lines
- Prosthetics
- Other corrective devices

Consider - Range of Motion

- Unconscious patients are not able to maintain their normal range of motion
- Risk of joint damage or muscle strain
- Ensure that the patient is as naturally aligned as possible when positioning
- Be aware of resistance when moving limbs
- Be aware of peripheral nerves when positioning arms and legs

Consider - Peripheral Nerves

- Can result in impaired sensory and or motor function
- Due to compression, stretching
- ✓ Upper extremity neuropathies begin in the brachial plexus and includes:
 - Median, radial, and ulnar nerves
- ✓ Lower extremity neuropathies Include:
 - Common peroneal, sciatic, and femoral nerves

Selecting positioning devices

Factors to consider:

- The surgical procedure
- Surgical site exposure
- Duration of procedure
- Patient considerations
- Type of anesthesia

Support devices

- Rolls
- U-Bolsters
- Beanbags
- Headrests
- Head rings
- Pressure relief devices
- Special procedure beds
- Stirrups, footboards, arm boards



Pressure Relief Head Rings

• **Common Operating Room Positions**

1. Supine

2. Trendelenburg's

3. Reverse Trendelenburg's

4. Semi-Fowlers

5. Lithotomy

6. Lateral

7. Prone

Supine

- Most common position
- Back is flat on operating
- Head should be supported
- Arms may be: at sides, palm of hand faces body, fingers straight on arm boards, palm of hand to ceiling, arm padded and secured
- Torso, should be in anatomical alignment



Trandelenburg's

- Variation of Supine position
- Head is lowered and feet are raised
- Allows visualization of **pelvis and lower abdomen**
- Can be used to improve
- Decreased lung capacity
- Head should be supported



- Arms may be: At sides, On arm boards
- Torso Should be in anatomical alignment
 - Upper torso is lowered and feet are raised
 - Shoulder braces may be used in larger patients
- Legs, Same considerations as supine
 - Knee section of bed may be flexed

Reverse Trendelenburg's

- Variation of Supine position
- Head is raised and feet are lowered
- Provides head and neck access
- Pulls the viscera and diaphragm away from the lungs
- Can be used to improve ventilation
- Head should be supported



- Arms may be: At sides, On arm boards

Torso, Should be in anatomical alignment

- Upper torso raised and feet are lowered

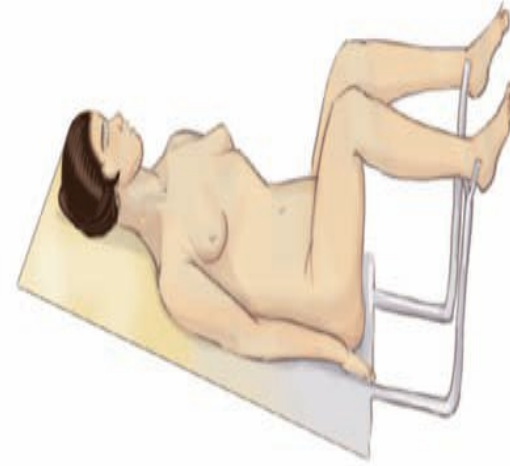
- Legs, Larger patients use footboard to prevent sheering

- Knees may be slightly flexed

- Consider compression stockings

Lithotomy

- Legs are raised and abducted
- Provides access to perineal area
- Strain on respiratory and circulatory system
- Head should be supported
- Arms may be: At sides secured across chest on arm boards



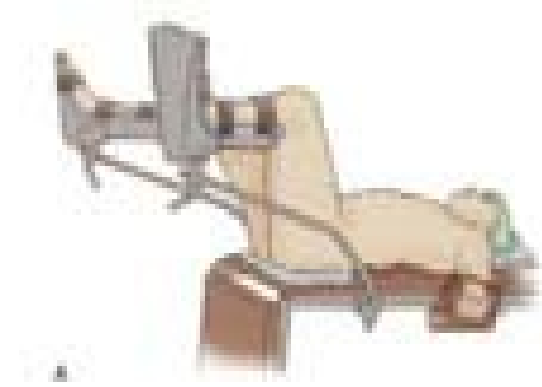
- Legs, 2 people should position the legs together
- should be raised simultaneously
- Legs are raised and knees are flexed slowly
- Placed into stirrups and secured



A- Low lithotomy, B- standard lithotomy C- high lithotomy

Lithotomy – Stirrup types

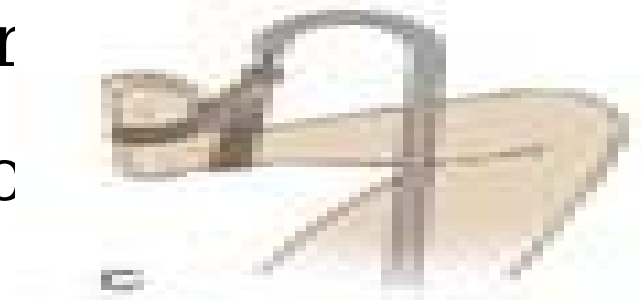
- Boot- Supports foot and lower



- knee-crutch stirrup – weight from leg rests only on knee support

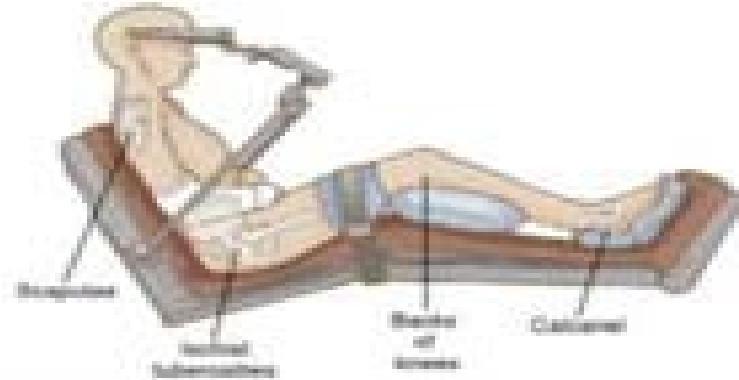


- Candy Cane- Candy Cane shaped bar straps around the ankle and sole of foot



Semi-Fowler

- Head is raised
- Provides head, neck, and chest acc
- Pulls the viscera and diaphragm away from the lungs
- Can be used to improve respiratory function
- Head should be supported
- Arms may be: At sides Supported with pillow and secured on lap.
- Legs, Larger patients use footboard to prevent foot drop
 - Knees should be slightly flexed, Consider compression stockings



Lateral

- Non-operative side is on bed
- Provides surgical access to one side of the body
- Patient begins in supine position for induction
- Head turned to remain in alignment with body
- Ensure ear is not compressed



Arms:

- Upper arm can rest in front of the patient on pillow
or can be supported on armboard

-Lower arm is flexed and on armboard or in
small patients

can be bent slightly and supported on bed.

Legs

- Pillow should be placed between legs
- Bottom leg is flexed at kneed and hip
- knee and foot should be padded well
- Top leg can be straight or slightly flexed

Prone

- Abdomen is resting on operating room bed
- Head can be positioned:
 - face down which maintains natural alignment
 - Turned to the side
- Arms:
 - On armboards bent with elbows less than 90 degrees

- Palms facing down
- Secured at sides with elbows facing upward
hands facing body
- Legs
 - Knees should be well padded
 - toes should be lifted off of bed surface if
possible
 - Use blanket or pillow under shins to raise feet