

Peri-operative Nursing

In preparation for November, 2021 Nurse Licensure Exam

by Francis A. Vasquez, MAN, RN

Learning Objectives:

- Recall must-know peri-operative concepts.
- Develop mastery of the peri-operative concepts.
- Apply peri-operative concepts in analysing board exam-like questions.
- Show critical thinking skills by answering correctly at least 35 out of 50 post test questions.

Peri-operative Nursing

- identification of the physiological, psychological, social and spiritual needs of the client and the formulation of an individualised plan of care before, during and after surgery.

Classification of Surgery:

- 1. Purpose**
- 2. Location**
- 3. Mode**
- 4. Degree of Risk**
- 5. Urgency**

1. Purpose:

- a. Curative
- b. Diagnostic
- c. Exploratory

2. Location

- a. External
- b. Internal

3. Mode

- a. Constructive**
- b. Reconstructive**

4. Degree of Risk

- a. Minor**
- b. Major**

5. Urgency

- a. Emergency
- b. Urgent
- c. Elective
 - Required
 - Cosmetic

Objectives and Purposes of surgery:

- To cure
- To relieve pain
- To prolong life
- To maintain dynamic body equilibrium
- To treat and prevent infection
- To correct deformities or defects

Surgical Team

Sterile Team Members

- Operating Surgeon
- Assistants of the Surgeon
- Scrub Nurse

Unsterile Team Members

- Anesthesiologist
- Circulating Nurse

Concept of Asepsis

Medical Asepsis- practices or processes that decrease the number and limit the spread of microorganisms.

Surgical Asepsis- practices or processes that render an object or area totally free from microorganisms.

Disinfection

Physical

- Boiling
- Steaming
- Sunlight

Chemical

- Alcohol
- Chlorine
- Iodine
- Phenol

Sterilization

Physical

- Autoclave
- Radiation
- Gas

Chemical

- Soaking/Immersion

Sample Sterilization & Level of Disinfection for Glutaraldehyde

Solution	Sterilizer	High level Disinfection	Intermediate Level Disinfection	Low level Disinfection	Notes
Cidex Activated alkaline 2.4% dialdehyde	10 hrs	45 mins	15 mins-45 mins	5-15 mins	Usage: 14-30 days
Cidex OPA, 0.55% orthophthalaldehyde		12 mins			Usage: 14 days
Cidex OPA (5.75%) orthophthalaldehyde concentrate	32 hrs	5 mins			Used in automated endoscopic high level disinfecter

Earle Spaulding's Classification of Patient Care Items

Classification	Use	Sterilization or Disinfection?
CRITICAL	Cuts intact skin and mucous membrane. Enters vascular areas of the body.	
SEMI-CRITICAL	Used on non-intact skin & mucous membranes	
NON-CRITICAL	Used on intact skin and mucous membrane	

Principles of Sterile Techniques:

- 1. Only sterile items are used within the sterile field.**
- 2. Sterile personnel are gowned and gloved.**
- 3. Tables are sterile only at table level.**
- 4. Sterile personnel touch only sterile items or areas; Unsterile personnel touch only underlie items or areas.**
- 5. Unsterile personnel avoid reaching over the sterile field and sterile personnel avoid leaning over an unsterile area.**
- 6. The edges of anything that encloses sterile contents are considered unsterile.**

7. The sterile field is created as close as possible to the time of use.
8. Sterile areas are continuously kept in view.
9. Sterile personnel keep well within the sterile area.
10. Sterile personnel keep contact with sterile areas to a minimum.
11. Destruction of the integrity of microbial barriers results in contamination.

Surgical Instruments:

1. Sharps

- Knife
 - 1st Knife
 - 2nd knife
- Scissors
 - Mayo
 - Metz
- Needles
 - Straight
 - Curve
 - Cutting
 - Round

Graspers

- Thumb force
- Babcock
- Allis
- Tissue forces

Clamps

- Mosquito
- Crile
- Kelly
- Ochsner

Retractors

Self-retaining retractor

-Balfour

-Weitlaner

Non-self retaining

- Army-Navy

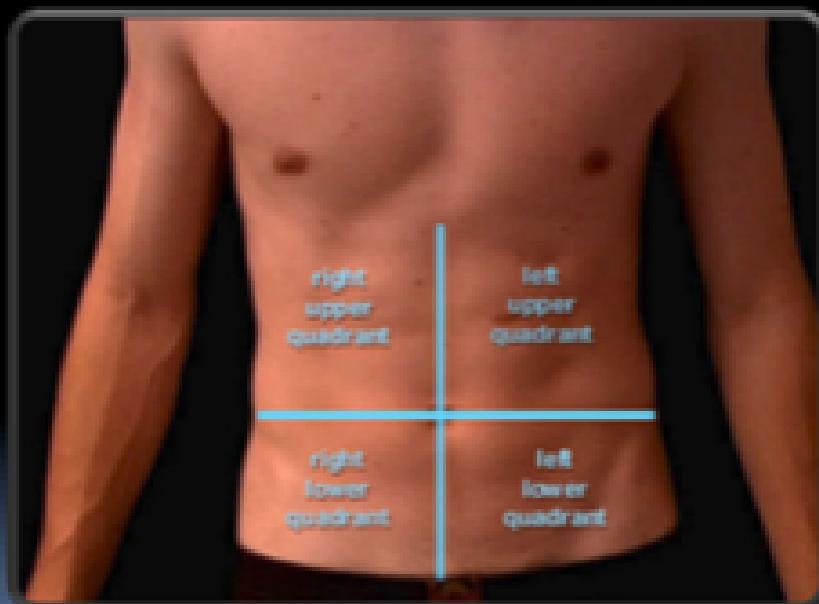
-Richardson

-Deaver

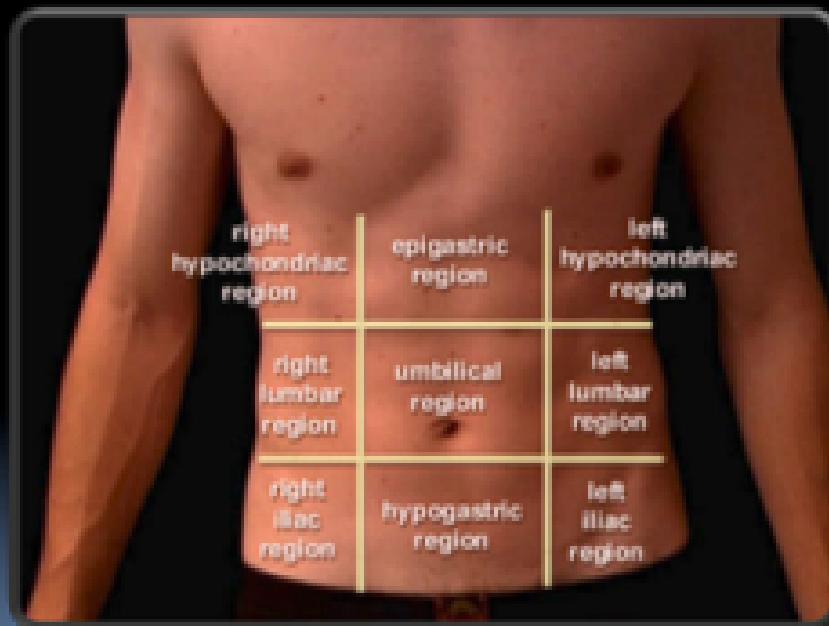
-Bladder Retractor

SURGICAL POSITIONS AND INCISIONS

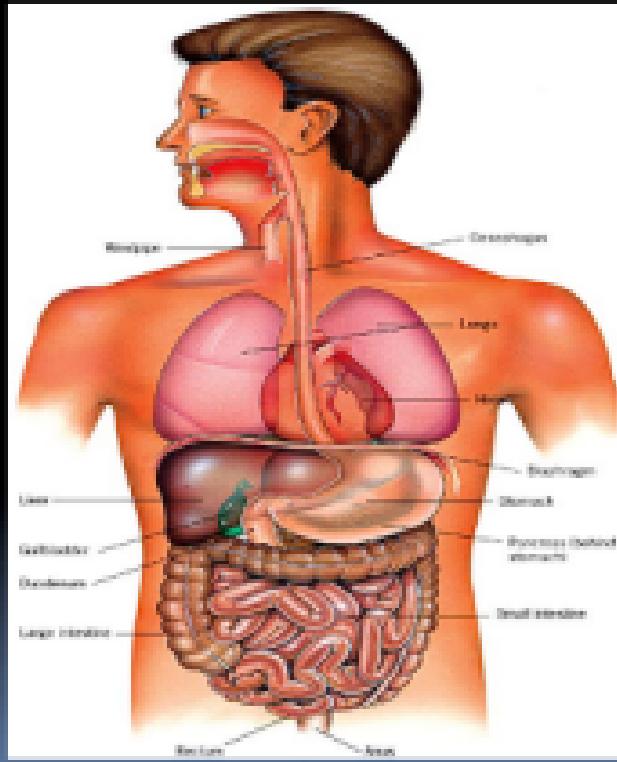
4 QUADRANTS OF THE BODY



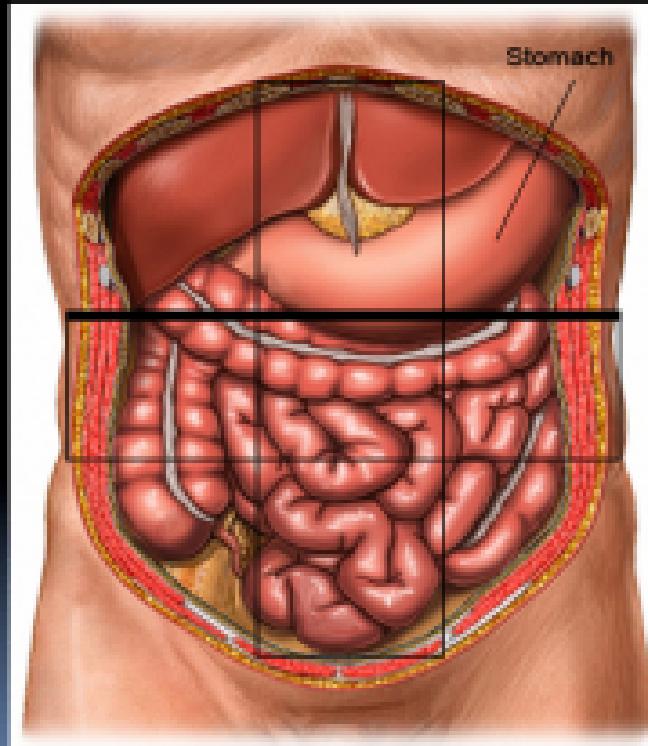
9 REGIONS OF THE BODY



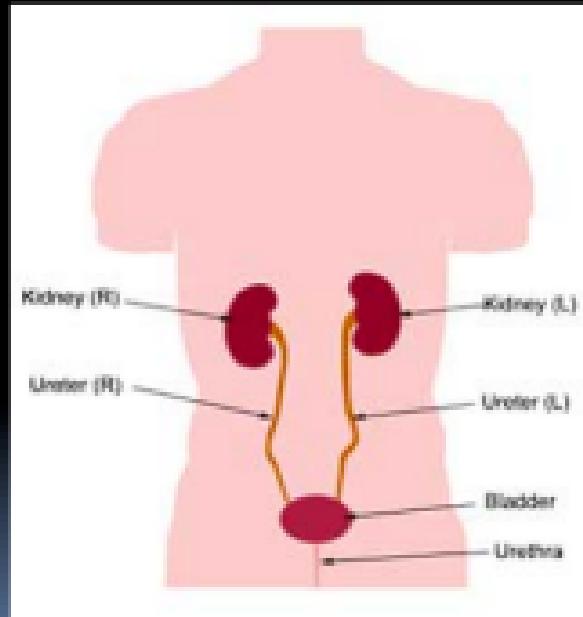
ABDOMINAL ORGANS

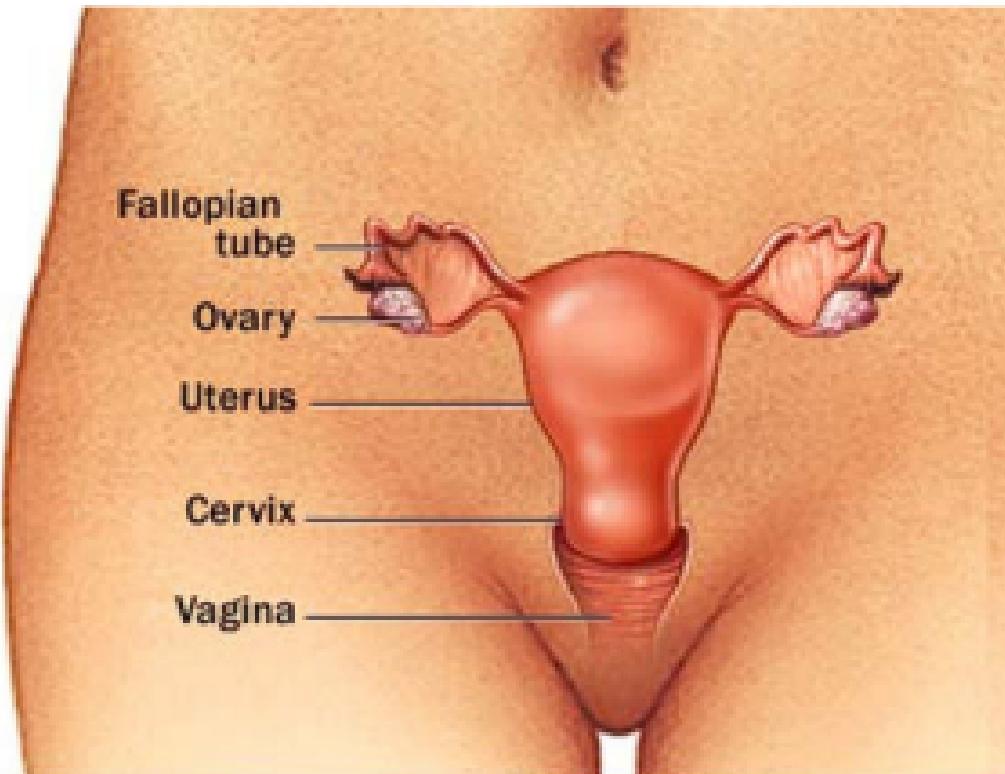


ABDOMINAL ORGANS



RENAL SYSTEM



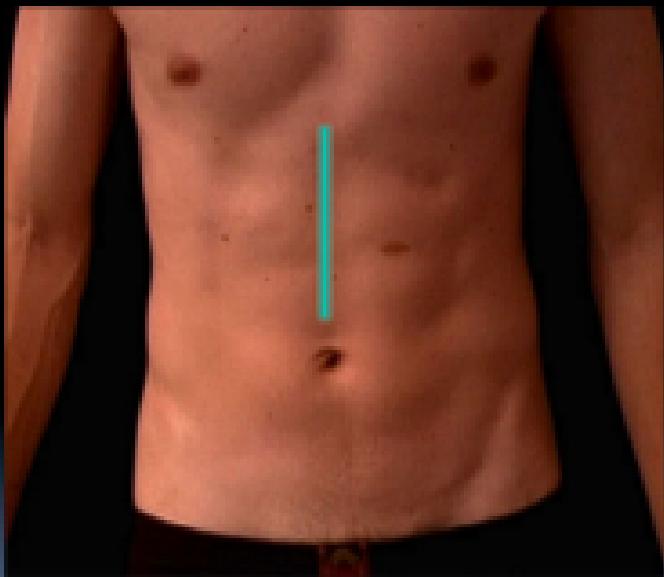


© Mayo Foundation for Medical Education and Research. All rights reserved.

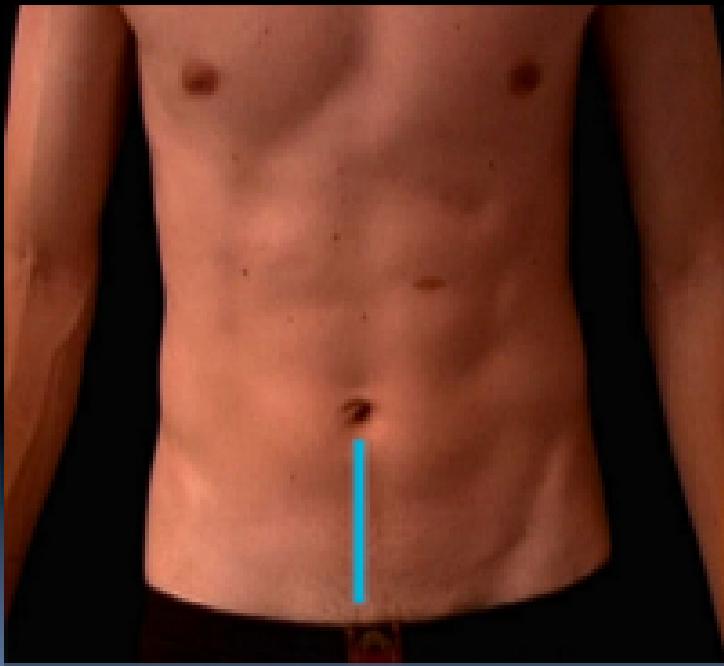
SURGICAL INCISIONS



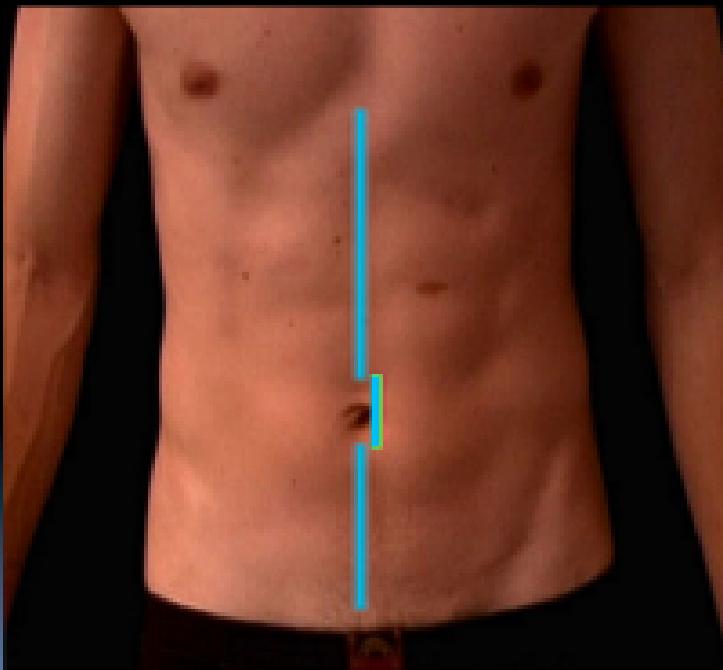
UPPER MIDLINE INCISION



LOWER MIDLINE INCISION



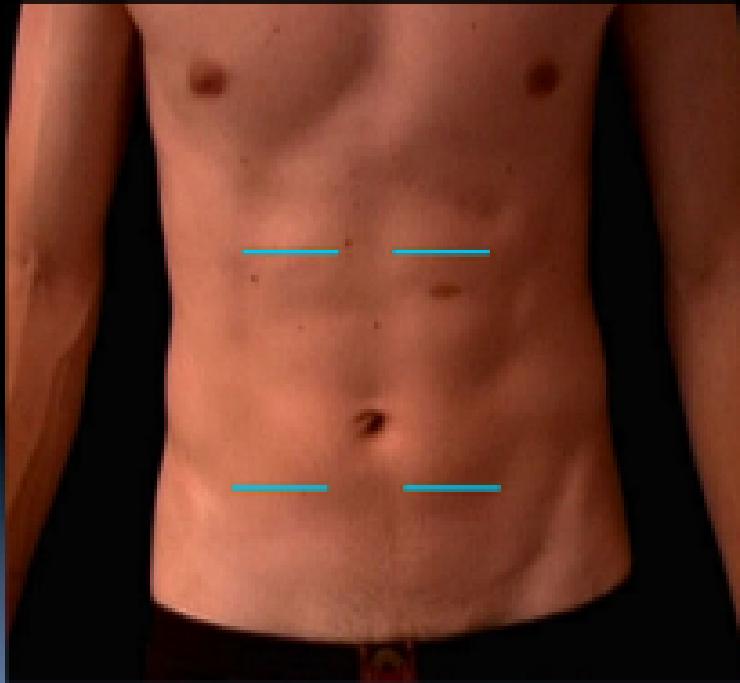
LONGITUDINAL MIDLINE INCISION



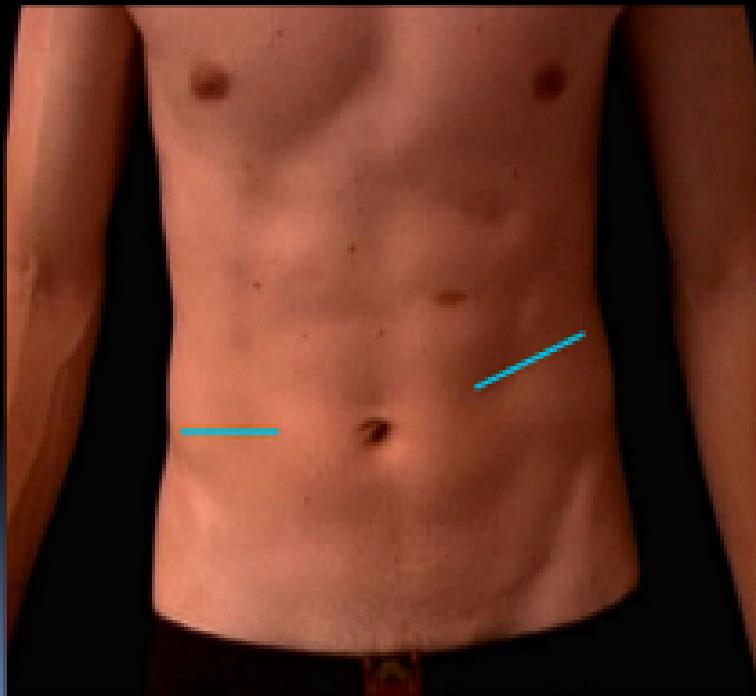
PARAMEDIAN INCISIONS



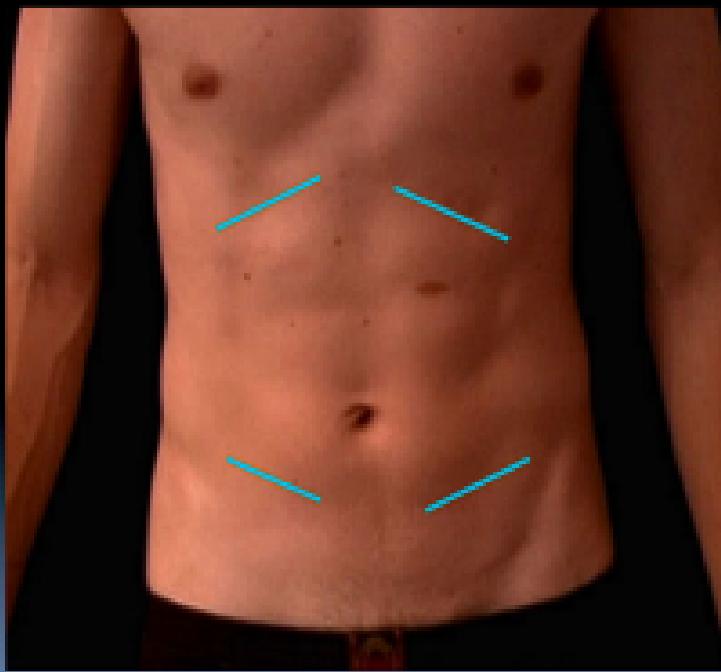
MID-ABDOMINAL TRANSVERSE INCISIONS



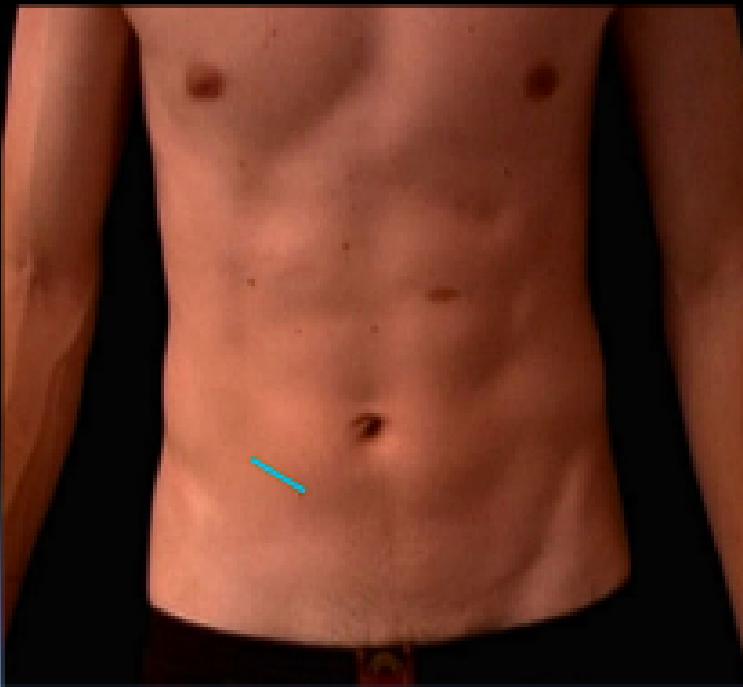
THORACOLUMBAR INCISIONS



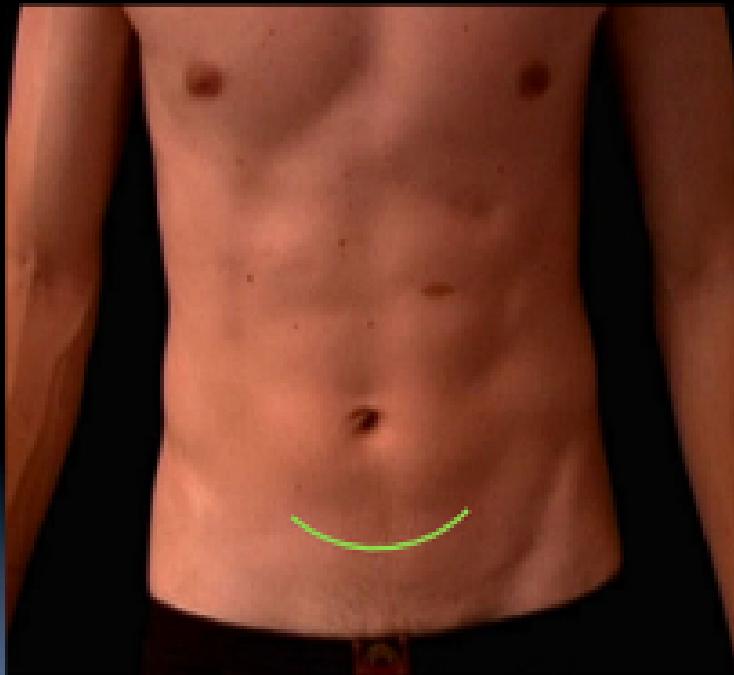
OBLIQUE INCISIONS



MC BURNEY'S INCISIONS



PFANNENSTIEL INCISIONS



SURGICAL POSITIONS



SUPINE POSITION



PRONE POSITION



SEMI-FOWLER'S POSITION



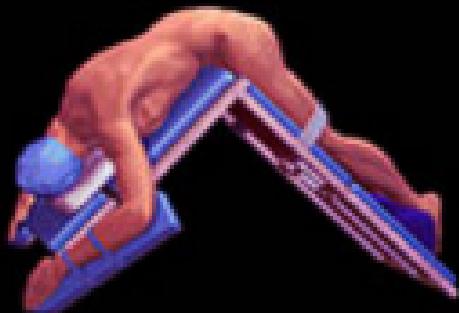
LATERAL POSITIONS



LITHOTOMY POSITIONS



KRASKE OR JACKNIFE POSITION



OTHER POSITIONS

- T-POSITION
- REVERSE T POSITION
- KIDNEY POSITION

DUTIES & RESPONSIBILITIES OF OR NURSES

A. CIRCULATING NURSE

1. Receive pt from Surgical ward nurse

- Endorsement- Pre-operative Checklist
 - Right Pt, schedule
 - Informed Consent

Consent- signifies pt 's willingness to undergo a procedure

General Consent

Informed Consent

Purpose: "Protects the pt from any unwanted procedure to be done on him and protects the hospital from any claim of the pt that an unwanted procedure was done on him. "

Informed Consent:

Considerations:

- Legal Age
- Timing
- Who is qualified to sign?
- Coverage:

Pre-operative Medications:

- Prepares client for anaesthesia
- Potentiates effect of anaesthesia
- Allays pt's anxiety

1. Narcotic Analgesic
2. Sedative
3. Anticholinergic

DUTIES & RESPONSIBILITIES OF OR NURSES

A. CIRCULATING NURSE

1. Receive pt from Surgical ward nurse

- Endorsement- Pre-operative Checklist
 - Right Pt, schedule
 - Informed Consent
 - Client preparation before the surgery.
 - * The day & night before the surgery
 - * The morning of the surgery

- * The day & night before the surgery

- Pre-operative visit
- Client education on Post-op activities
- Ensure all lab & dx exam results are in and reported to MD
- Check CP clearance
- Check Blood Products
- Monitor VS, I&O
- Secure Consent

- * The day & night before the surgery

- Bathing prn
- Light evening meal
- NPO post midnight
- Psychological & spiritual support
- Administer Laxative drug if ordered
- Removal of nail polish

- * The morning of the surgery

- Ensure NPO
- Oral care
- Enema if ordered
- Shaving
- Review post op exercises
- Pre-op medication
- Monitoring
- Removal of dentures
- Endorsement to OR

DUTIES & RESPONSIBILITIES OF OR NURSES

A. CIRCULATING NURSE

1. Receive pt from Surgical ward nurse (endorsement)
2. Establish rapport with client.
3. Place pt on OR table & never leave pt alone.
4. Position for anaesthesia (supine or quasi fetal position)
5. Perform Lumbar prep for Spinal/Epidural

Induction of Anesthesia

6. Supine position
7. Perineal Prep with proper positioning

Catheterization

8. Supine
9. Abdominal Skin prep
10. Surgical positioning
11. Draping
12. Cutting time

DUTIES & RESPONSIBILITIES OF OR NURSES

B. SCRUB NURSE

1. Receive pt from Surgical ward nurse.
2. Prepare & organize the OR unit based on the case.
3. Open sterile packs & add sterile supplies & instruments.
4. Perform surgical scrubbing, gowning and gloving.
5. Organize sterile fields.

Surgical scrubbing: (surgical conscience)

Time Method	1st round	2nd round	3rd round
Hand	1 min	1 min	1/2 min
Arm	1 min	1 min	none
Elbow	1/2 min	none	none
	$2.5 \times 2 = 5 \text{ mins}$	$2 \times 2 = 4 \text{ mins}$	$1/2 \times 2 = 1 \text{ min.}$

Brush-stroke Method	1st round	2nd Round	3rd round
Finger tips	10/3	5/3	3
Hand	10	5	3
Arm	6	3	none
Elbow	6	none	none

DUTIES & RESPONSIBILITIES OF OR NURSES

B. SCRUB NURSE

6. Serve gowns and gloves to surgeons
7. Instrument count
8. Draping
9. Cutting time

Anaesthesia- loss of sensibility to pain.

Stages:

- Induction
- Excitement
- Surgical Anaesthesia
- Medullary

Types:

1. General- produces sensory, motor, reflex and mental **block**.

- Inhalation gas/liquid
- IV

2. Regional

- Spinal
- Epidural
- Nerve Blocks- plexus
- Local- infiltration, application, spray

General Anaesthesia

Inhalation Agents:

A. Non-Halogenated gas

1. Nitrous oxide- BLUE- Initial restlessness
2. Cyclopropane- Orange- for short procedure

B. Halogenated Fluid

1. Halothane- RED- Hypotension
2. Enflurane - Yellow- muscle relaxation
3. Sevoflurane- sweet taste- pedia

Intravenous Barbiturates:

- Thiopental

Neuroleptic Agents

- Fentanyl- decreases motor

Dissociative agents

- Ketamine- hallucinations

STAGES OF G.A.

STAGE I (INDUCTION)	Beginning anesthesia Drowsy, dizzy Depressed pain sensation
STAGE II (EXCITEMENT/ DELIRIUM)	Excitement Irregular breathing Involuntary motor movements
STAGE III (SURGICAL)	Appropriate for surgery Muscle relaxation, constricted pupils, absent pupil reflex
STAGE IV	Medullary depression Near death

*

LOCAL ANESTHESIA

=produces analgesia without LOC
(LIDOCAINE & PROCAINE)

1. TOPICAL: applied over surgical site
EMLA
2. FIELD/NERVE BLOCK: injected into **SQ or perineural space** near or around desired anesthesia site.
3. SPINAL: into subarachnoid space (inside arachnoid)
4. EPIDURAL: into epidural space (outside arachnoid), used in OB

Sutures:

Absorbable:

Non-synthetic

- Cut gut
 - Chromic
 - Plain

Synthetic

- Dexon
- Vicryl
- PDS

None Absorbable

Non-synthetic

- Silk
- Cotton

Synthetic

- Nylon

* POSTOPERATIVE PHASE

IMMEDIATE POST-OP CARE/ RR

1. Assure ABC

- *O2 therapy with client on side/lateral position if applicable
- *Maintain artificial airway until gag reflex returns
- *Suction secretions & encourage deep breathing
- *Check VS q 15 min until stable, then 30 min
- *Check skin color, temp, drains, dressings

* POSTOPERATIVE PHASE

IMMEDIATE POST-OP CARE/ RR

2. Note level of consciousness: reorient client
3. Discharge from RR when awake & responsive
with easy breathing & acceptable BP &
circulation.

* POSTOPERATIVE PHASE

CONTINUING POST-OP CARE

1. Promote optimal respiration: coughing, deep breathing, splinting incision, early ambulation, turning in bed.
2. Promote optimal circulation: early ambulation, leg exercises
3. Promote optimum nutrition, F&E balance, monitor IV, I&O, UO, drains, dressings, return of peristalsis (flatus, bowel movement)
4. Pain control: analgesics & comfort measure
5. Wound care

Hemostasis- to minimize blood loss

Mechanical

- Pressure- manual, digital; dressing, clamps, gel foam drain penrose

Chemical

Thermal

Common discomforts:

- 1. Pain**
- 2. Urinary retention-indwelling cath**
- 3. Hiccups**