

PRESENTATION ON PERIOPERATIVE NURSING



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LECTURER
ICON

Introduction



- ❑ The perioperative period begins when the patient is informed the need for surgery, includes the surgical procedure and recovery and continues until the patient resumes his or her usual activities

An illustration of a surgeon wearing a green scrub suit and a matching green surgical cap. The surgeon's face is partially obscured by a white surgical mask. The background is a light blue gradient. The text "WHAT IS SURGERY?" is written in large, bold, blue capital letters with a black outline, centered over the surgeon's face. On the left side of the image, there is a vertical green bar with a brown arrow pointing right and some thin, dark lines.

WHAT IS SURGERY?

Surgery



- ❑ Is the use of instruments during an operation to treat injuries, diseases, and deformities.
- ❑ Is a stressful, complex event.
- ❑ The branch of medicine concerned with diseases and trauma requiring operative procedures.
- ❑ Surgical procedures are named according to:
 - the involved body organ, part, or location
 - the suffix that describes what is done during the procedure.
- ❑ Physicians who perform surgery include surgeons or other physicians trained to do certain surgical procedures

Surgical procedure suffixes

- ❑ ectomy - Removal by cutting (appendectomy)
- ❑ lysis – Destruction of (electrolysis)
- ❑ orrhaphy - Suture of or repair (herniorrhaphy)
- ❑ oscopy - Looking into (endoscopy)
- ❑ ostomy - Formation of a permanent artificial opening (colostomy)
- ❑ otomy - Incision or cutting into (tracheotomy)
- ❑ plasty - Formation or repair (mammoplasty)



Indications



INDICATIONS FOR SURGERY

C ORRECTION OF DEFECTS

A ALTERATION OF FORM

R ESTORATION OF FUNCTION

D IAGNOSIS AND TREATMENT



Setting



SETTINGS FOR SURGERY

INPATIENT SETTINGS:

- hospitals

OUTPATIENT SETTINGS:

- hospital based ambulatory surgical centers
- free-standing surgical centers
- physicians' offices
- ambulatory care centers

Classification



CLASSIFICATIONS OF SURGERY

P URPOSE / REASON

U RGENCY

R ISK, DEGREE OF

E XTENT



PURPOSE OF SURGERY

- **DIAGNOSTIC**

e.g. BREAST BIOPSY, EXPLORATORY LAPAROTOMY

- **ABLATIVE**

e.g. MASTECTOMY, HYSTERECTOMY

- **CONSTRUCTIVE**

e.g. CHEILOPLASTY, PALATOPLASTY

- **RECONSTRUCTIVE**

e.g. ORIF

- **PALLIATIVE**

e.g. COLOSTOMY, NERVE ROOT RESECTION

- **COSMETIC**

e.g. REVISION OF SCARS, RHINOPLASTY

Urgency



URGENCY OF SURGERY

- **EMERGENCY**
e.g. GUNSHOT WOUND, SEVERE BLEEDING
- **URGENT**
e.g. KIDNEY OR URETHRAL STONES
- **ELECTIVE**
e.g. CATARACT REMOVAL, HERNIA REPAIR
- **OPTIONAL**
e.g. CIRCUMCISION

Degree of risk



DEGREE OF RISK

- **MAJOR**

e.g. EXPLORATORY LAPAROTOMY, CESAREAN SECTION

- **MINOR**

e.g. INCISION AND DRAINAGE

Extent of surgery



EXTENT OF SURGERY

- **SIMPLE**
e.g. SIMPLE MASTECTOMY
- **RADICAL**
e.g. RADICAL MASTECTOMY



**WHAT IS
PERIOPERATIVE
NURSING?**

Perioperative nursing



- ❑ Perioperative is term used to describe the entire span of surgery, including what occur before, during and after the actual operation.

Phases of perioperative nursing



PERIOPERATIVE NURSING PHASES

P

REOPERATIVE PHASE

I

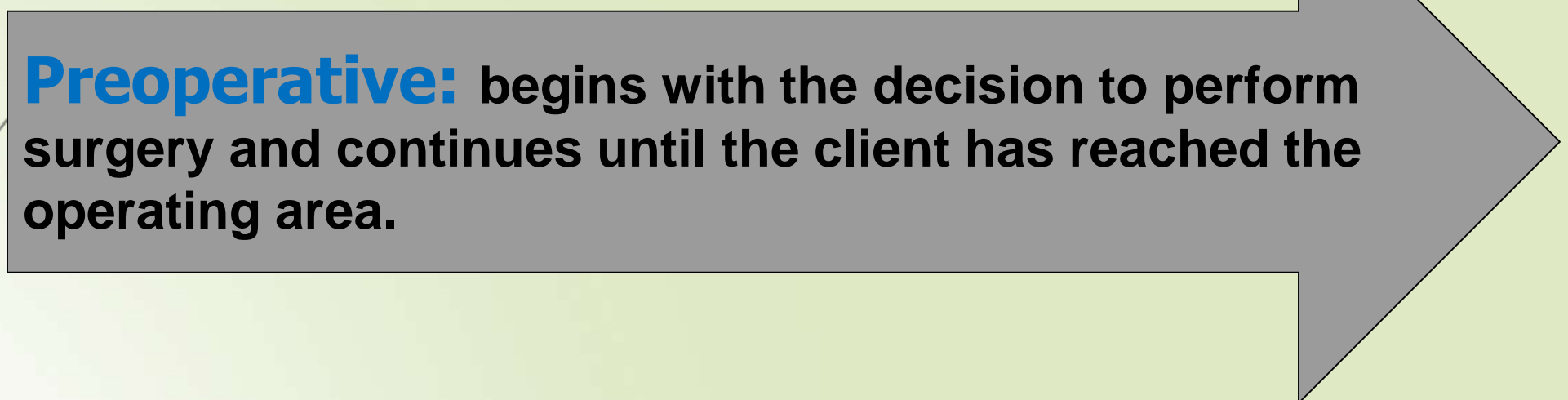
NTRAOPERATIVE PHASE

P

OSTOPERATIVE PHASE



Preoperative phase



Preoperative: begins with the decision to perform surgery and continues until the client has reached the operating area.

Goals

- ❑ **Assessing and correcting** physiologic and psychologic **problems** that may increase surgical risk.
- ❑ Giving the person and significant others complete learning / **teaching guidelines** regarding surgery.
- ❑ **Instructing and demonstrating exercises** that will benefit the person during postop period.
- ❑ Planning for discharge and any projected changes in lifestyle due to surgery.



Role of nurse in preoperative nursing



1. Pre-operative Assessment
2. Obtaining Informed Consent
3. Preoperative Teaching
4. Physical Preparation Of Patient
5. Psychological Preparation Of Patient

1. Preoperative Assessment



- ❑ I. Review preoperative **laboratory and diagnostic studies**
- ❑ II. Review the client's **health history**
- ❑ III. Assess **physical needs**
- ❑ IV. Assess **psychological needs**
- ❑ V. Assess **cultural needs**

I. Review preoperative laboratory and diagnostic studies:

- ❑ Complete blood count.
- ❑ Blood type and cross match.
- ❑ Serum electrolytes.
- ❑ Urinalysis.
- ❑ Chest X-rays.
- ❑ Electrocardiogram.
- ❑ Other tests related to procedure or client's medical condition, such as: prothrombin time, partial thromboplastin time, blood urea nitrogen, creatinine, and other radiographic studies.





II. Review the client's health history:

- ❑ History of present illness and reason for surgery
- ❑ Past medical history
- ❑ Medical conditions (acute and chronic)
- ❑ Previous hospitalization and surgeries
- ❑ History of any past problem with anesthesia
- ❑ Allergies
- ❑ Present medications
- ❑ Substance use: alcohol, tobacco, drugs
- ❑ Review of system

Perioperative Medication Management

Know when to hold 'em ... Know when to fold 'em

Opioids	Continue
Buprenorphine	Consider alternate med
Non-selective NSAIDs	Hold
COX-2-selective NSAIDs	Continue
Naltrexone	Hold

β-Agonists	Continue
Theophylline	Hold

Insulin, basal or long acting	Continue
Insulin, intermediate acting	Adjust dosing
Insulin, short acting	Hold
Oral hypoglycemics	Hold on day of surgery

β-Blockers	Continue¹
Statins	Continue
α-2 Agonists	Continue
Ca ²⁺ Blockers	Continue
Antiplatelets & anticoagulants	Evaluate risk/benefit
ACEIs	Hold²
Diuretics	Hold

H ₂ Blockers	Continue
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Steroids	Continue, consider stress dosing
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Herbal medications	Stop 1 week prior
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Strong evidence • Moderate evidence • Weaker evidence
(See reference 1 for summary of recent evidence)



III. Assess physical needs:

- ? Ability to communicate
- ? Vital signs
- ? Level of consciousness
- ✓ Confusion
- ✓ Drowsiness
- ✓ Unresponsiveness
- ? Weight and height
- ? Ability to move/
ambulate
- ? Level of exercise
- ? Prostheses
- ? Circulatory status





Nutritional Status:

- ❓ This can be a situation of deficit or excess
- ❓ Assess for individuals who are prone to general nutritional deficiencies:
 - o Aged
 - o Cancer patients
 - o Gastrointestinal problems
 - o Chronic illness/Chronic steroid use
 - o Alcoholics/Drug Addicts
- ❓ Also assess for excess (Obesity):
 - o Poor wound healing because of decreased blood supply
 - o Hard to access surgical site
 - o Decreased lung capacity



III. Assess psychological needs:

- Emotional state
 - Causes of Fears
 - Fear of Unknown (Anxiety)
 - Fear of Anesthesia
 - Fear of Pain
 - Fear of Death
 - Fear of disturbance on Body image
 - Worries –loss of finances, employment, social and family roles.



contin...

- Level of understanding of surgical procedure, preoperative and postoperative instruction
- Coping strategies
- Support system



Nursing intervention to minimize anxiety



- ❑ Explore client's feeling
- ❑ Allow client's to speak openly about fears/concern.
- ❑ Give accurate information regarding surgery (brief, direct to the point and in simple terms)
- ❑ Give empathetic support
- ❑ Consider the person's religious preference and arrange for visit by a priest / minister as desired



V. Assess cultural needs:

Language-need for interpreter



2. OBTAINING INFORMED CONSENT



- ❑ An active, shared decision making process between the provider and recipient of care.
- ❑ Before surgery, the client must sign a surgical consent form or operative permit.
- ❑ Clients must sign a consent form for any procedure that requires anesthesia and has risks of complications.
- ❑ If an adult client is confused, unconscious, a family member or guardian must sign the consent form.
- ❑ If the client is younger than 18 years of age, a parent



- ❑ In an emergency, the surgeon may have to operate without consent, health care personnel, however, makes every effort to
- ❑ obtain consent by telephone, or fax.
- ❑ Each nurse must be familiar with agency policies and state laws regarding surgical consent forms.
- ❑ Clients must sign the consent form before receiving any preoperative sedatives.
- ❑ The nurse is responsible for ensuring that all necessary parties have signed the consent form and that it is in the client's chart
- ❑ Before the client goes to the operating room (OR).



Purpose

- ❑ To ensure that the client understands the nature of the treatment including the potential complications and disfigurement
- ❑ To indicate that the client's decision was made without pressure
- ❑ To protect the client against unauthorized procedure
- ❑ To protect the surgeon and hospital against legal actions by a client who claims that an unauthorized procedure was performed

Pre-operative teaching

- ❑ Incentive Spirometer
- ❑ Diaphragmatic Breathing
- ❑ Coughing
- ❑ Splinting
- ❑ Turning
- ❑ Foot and Leg Exercise
- ❑ Early Ambulation



Incentive Spirometer



Cont...

- ❑ Let client sit upright, at 45 degrees minimum
- ❑ Take two normal breaths. Place mouthpiece of spirometer in mouth
- ❑ Inhale until target, designated by spirometer light or rising ball, is reached, and hold breath for 3 to 5 seconds
- ❑ Encouraged to use incentive spirometer about 10 to 12 times per hour.
- ❑ Deep inhalations expand alveoli, which prevents atelectasis and other pulmonary complication.



PREOPERATIVE TEACHING



DIAPHRAGMATIC BREATHING



Diaphragmatic Breathing



- ❑ Refers to a flattening of the dome of the diaphragm during inspiration, with resultant enlargement of upper abdomen as air rushes in. During expiration, abdominal muscles contract.
- ❑ In a semi-Fowlers position, with your hands loose-fist, allow to rest lightly on the front of lower ribs.
- ❑ Breathe out gently and fully as the ribs sink down and inward toward midline.

Cont...

- ❑ Then take a deep breath through the nose and mouth, letting the abdomen rise as the lungs fill with air.
- ❑ Hold breath for a count of 5.
- ❑ Exhale and let out all the air through your nose and mouth.
- ❑ Practice twice daily preoperatively.





PREOPERATIVE TEACHING



COUGHING EXERCISES

Coughing and splinting



- ❑ Lean forward slightly while sitting in bed.
- ❑ Breathe, using diaphragm
- ❑ Inhale fully with the mouth slightly open.
- ❑ Let out 3-4 sharp hacks.
- ❑ With mouth open, take in a deep breath and quickly give 1-2 strong coughs.
- ❑ Promote removal of chest secretions
- ❑ Interlace his fingers and place hands over the proposed incision site, this will act as a splint and will not harm the incision.



PREOPERATIVE TEACHING

BODY EXERCISES

- **LEG EXERCISES**
- **TURNING-TO-SIDES EXERCISES**
- **GETTING-OUT-OF-BED EXERCISES**



Turning

- ❑ Turn on your side with the uppermost leg flexed most and supported on a pillow
- ❑ Grasp the side rail as an aid to maneuver to the side
- ❑ Practice diaphragmatic breathing and coughing while on your side



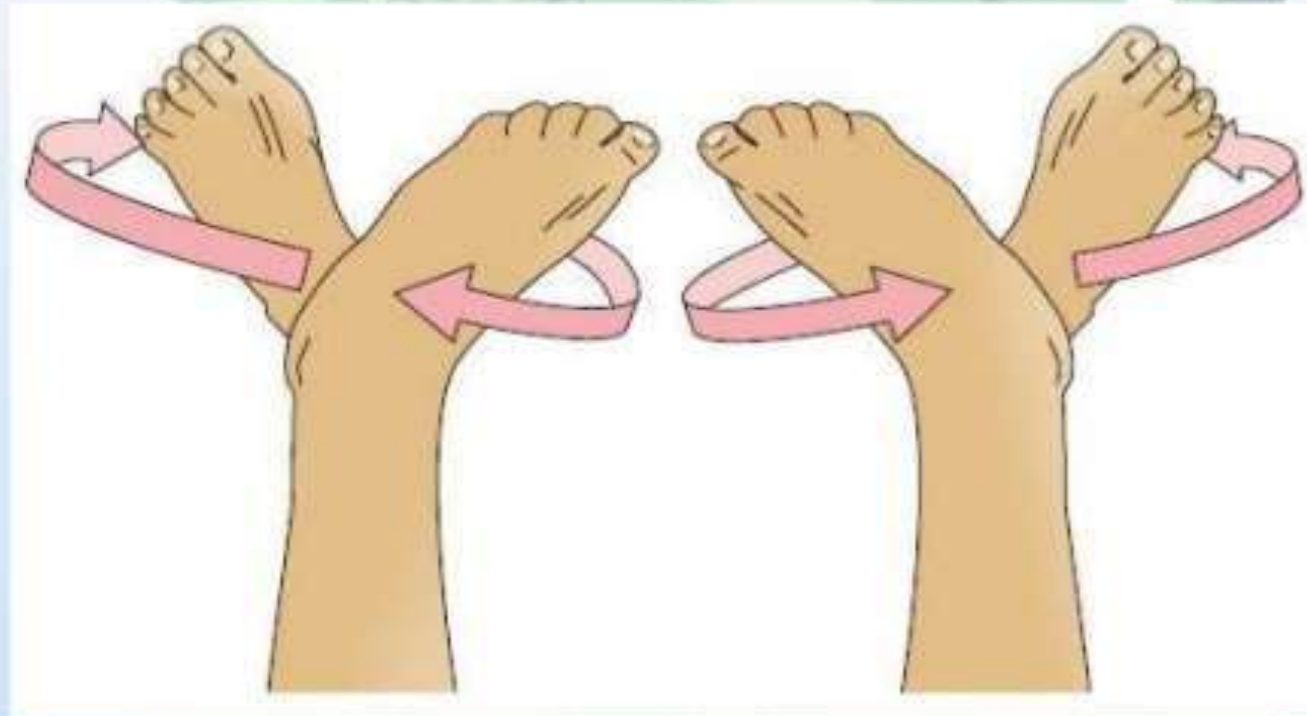


Foot and leg exercise

- ❑ Moving the legs improves circulation and muscle tone.
- ❑ Have the patient lie supine, instruct patient to bend a knee and raise the foot –hold it a few seconds and lower it to the bed.
- ❑ Repeat above about 5 times with one leg and then with the other. Repeat the set 5 times every 3-5 hours.
- ❑ Then have the patient lie on one side and exercise the legs by pretending to pedal a bicycle.
- ❑ For foot exercise, trace a complete circle with the



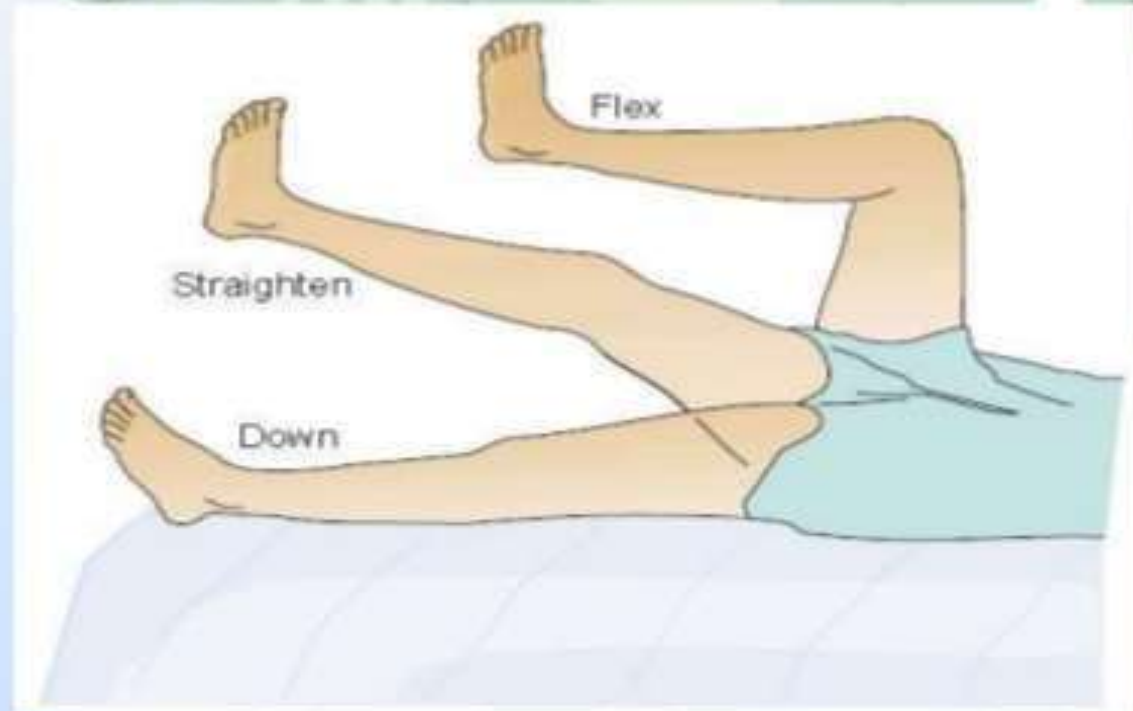
PREOPERATIVE TEACHING



FOOT EXERCISES



PREOPERATIVE TEACHING



LEG EXERCISES

Prepare the patient in the evening before surgery



- ❑ **Preparing the Skin:** have a full bath to reduce microorganisms in the skin.
- ❑ Hair should be removed within 1-2mm of the skin to avoid skin breakdown, use of electric clipper is preferable.
- ❑ Preparing the G.I tract: NPO, cleansing enema as required
- ❑ Preparing for Anesthesia: Avoid alcohol and cigarette smoking for at least 24 hours before surgery.
- ❑ Promoting rest and sleep: Administer sedatives as ordered.

Preparing the Person on the Day Of Surgery



- ❑ Awaken 1 hour before preop medications
- ❑ Morning bath, mouth wash
- ❑ Provide clean gown
- ❑ Remove hairpins, braid long hair, cover hair with cap if available.
- ❑ Remove dentures, colored nail polish, hearing aid, contact lenses, jewelleryes.
- ❑ Take baseline vital sign before preop medication.

Cont....

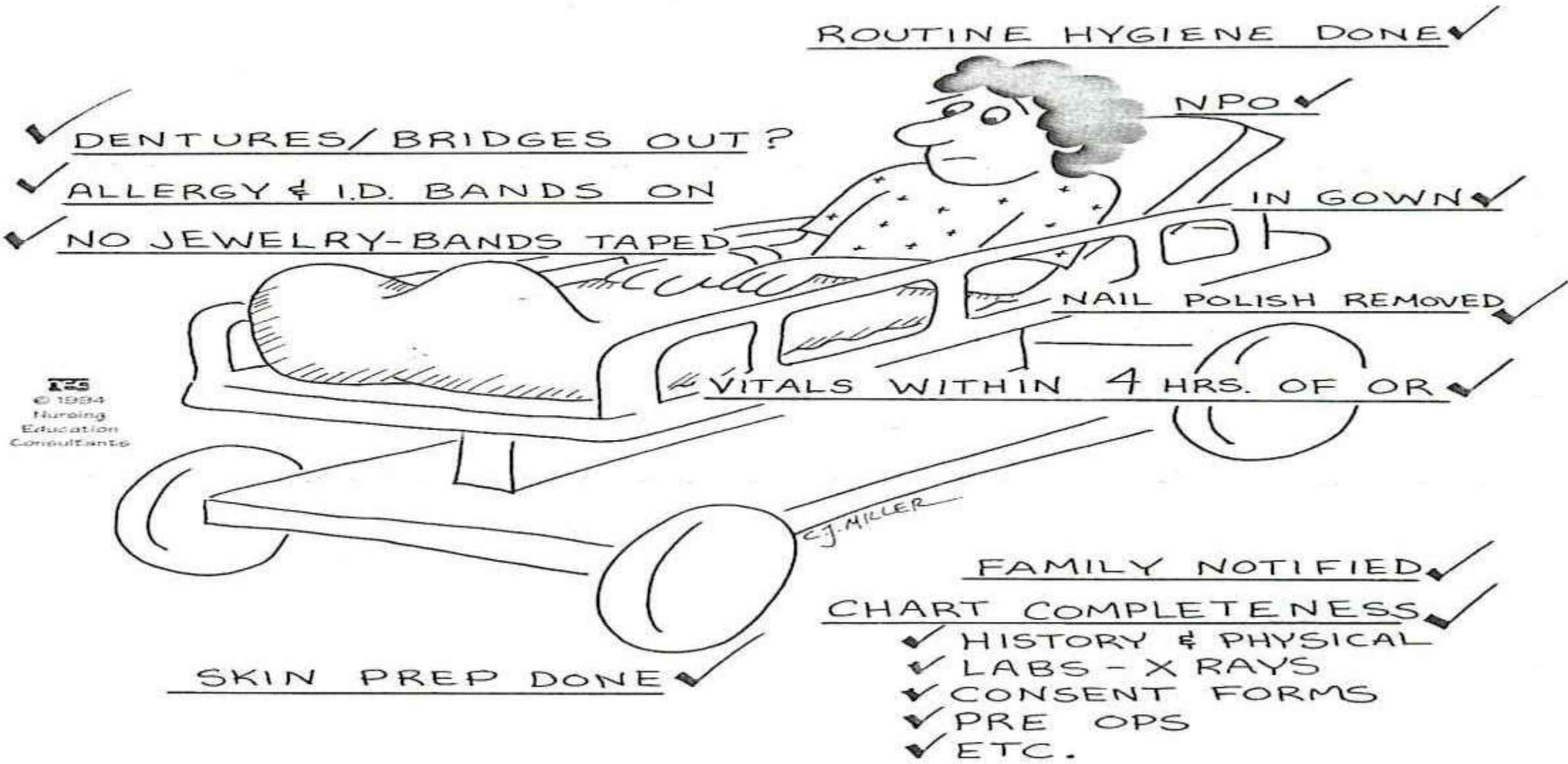
- ❑ Check ID band, skin prep
- ❑ Check for special orders –enema, IV line
- ❑ Check NPO
- ❑ Have client void before preop medication
- ❑ Continue to support emotionally
- ❑ Accomplished “preop care checklist



PREOPERATIVE PREPARATION CHECKLIST

1. Religion (Specify: _____)	YES	NO	DOES NOT APPLY	EXPLANATION (Include abnormal lab findings)
2. Addressograph plate				
3. Identaband on				
4. Preop teaching				
5. OR permit signed				
6. Special permit signed				
7. Chest x-ray				
8. Electrocardiogram				
9. Blood work				
10. Urinalysis				
11. Type and cross match (#of units)				
12. History and Physical				
13. Draped (gown, cap & blanket)				
14. Nail polish & makeup removed				
15. Jewelry and earrings removed				
16. Rings removed. Taped vertical _____				
17. Dentures removed				
18. Prosthesis removed				
19. Glasses or contacts removed				
20. Hearing aid removed				
21. Wig, hairpins, hairpiece removed				
22. False eye removed				
23. Voided (time and amount)				
24. Catheter				
25. Enema				
26. Family member present & where				
27. Allergies (specify)				
28. Vital signs recorded and time _____ BP _____ T _____ P _____ R _____				
29A. Preop Medication: _____	Time Given: _____	29B. Special Procedures: _____		
30. Special medication.				
31. Date: _____	Signature of nurse preparing patient: _____			

PRE OP CHECK LIST



ROUTINE HYGIENE DONE ✓

NPO ✓

✓ DENTURES/BRIDGES OUT?

✓ ALLERGY & I.D. BANDS ON

IN GOWN ✓

✓ NO JEWELRY-BANDS TAPED

NAIL POLISH REMOVED ✓

VITALS WITHIN 4 HRS. OF OR ✓

SKIN PREP DONE ✓

FAMILY NOTIFIED ✓

CHART COMPLETENESS ✓

- ✓ HISTORY & PHYSICAL
- ✓ LABS - X RAYS
- ✓ CONSENT FORMS
- ✓ PRE OPS
- ✓ ETC.

TES
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Nursing
Education
Consultants

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Physical preparation of the patient



? Preoperative preparation includes the following areas:

1. Nutrition and fluids
2. Elimination
3. Hygiene
4. Medications
5. Sleep
6. Care of valuables
7. Prostheses
8. Special orders
9. Surgical skin preparation
10. Safety protocols
11. Vital signs
12. Anti embolic stockings

Nutrition and Fluids:



- ❑ Adequate hydration and nutrition promote healing.
- ❑ Usually “NPO after midnight” followed because it anesthetics depress gastrointestinal functioning and there was a danger the client would vomit and aspirate during the administration of a general anesthetic.

TABLE 18-8**Preoperative Fasting Recommendations***

Liquid and Food Intake	Minimum Fasting Period (hr)
Clear liquids (e.g., water, clear tea, black coffee, carbonated beverages, and fruit juice without pulp)	2
Breast milk	4
Nonhuman milk, including infant formula	6
Light meal (e.g., toast and clear liquids)	6
Regular or heavy meal (may include fried or fatty food, meat)	8

Source: Practice guidelines for preoperative fasting and the use of pharmacologic agents to reduce the risk of pulmonary aspiration: application to healthy patients undergoing elective procedures: a report by the American Society of Anesthesiologists. Available at www.asahq.org/publicationsAndServices/NPO.pdf.

*For healthy patients of all ages undergoing elective surgery (excluding women in labor).

Bowel and bladder elimination



- ❑ Enemas may be ordered if bowel surgery is planned.
- ❑ The enemas help prevent contamination of the surgical area (during surgery) by feces.
- ❑ Prior to surgery an indwelling Foley catheter may be ordered to ensure that the bladder remains empty.
- ❑ This helps prevent injury to the bladder, particularly during pelvic surgery.

Hygiene



- ❑ In some settings, clients are asked to bathe or
- ❑ shower the evening or morning of surgery (or both).
- ❑ The purpose of hygienic measures is to reduce the risk of wound infection by reducing the amount of bacteria on the client's skin.
- ❑ The client's nails should be trimmed and free of polish, and all cosmetics should be removed so that the nail beds, skin, and lips are visible when circulation is assessed during the perioperative phases

Preoperative medications



- ❑ preoperative medications are given to the client prior to going to the operating room.
- ❑ Commonly used preoperative medications includes:
 - Narcotics
 - Antiemetics
 - Anticholinergics
 - Sedatives
 - Antibiotics

Sleep



- ❑ Nurses should do everything to help the client sleep the night before surgery. Often a sedative is ordered. EG: ALPRAZOLAM
- ❑ Adequate sleep helps the client manage the stress of surgery and helps healing.

Care of values and prosthesis



- ❑ Valuables such as jewellery and money should be sent home with the client's family or significant other.
- ❑ If valuables/money cannot be sent home, they need to be labeled and placed in a locked storage area per the agency's policy.
- ❑ All prostheses (artificial body parts) such as partial or complete dentures, contact lenses, artificial eyes, and artificial limbs and eyeglasses, wigs, and false eyelashes must be removed before surgery.

Special orders

- ❑ The nurse checks the surgeon's orders for special requirements (e.g., the insertion of a nasogastric tube prior to surgery, the administration of medications, such as insulin, or the application of antiemboli stockings).



Skin preparation



- ❑ The surgical site is cleansed with an antimicrobial to remove soil and reduce the resident microbial count to sub pathogenic levels
- ❑ Remove the hair at the site of surgery
- ❑ Surgical site marking

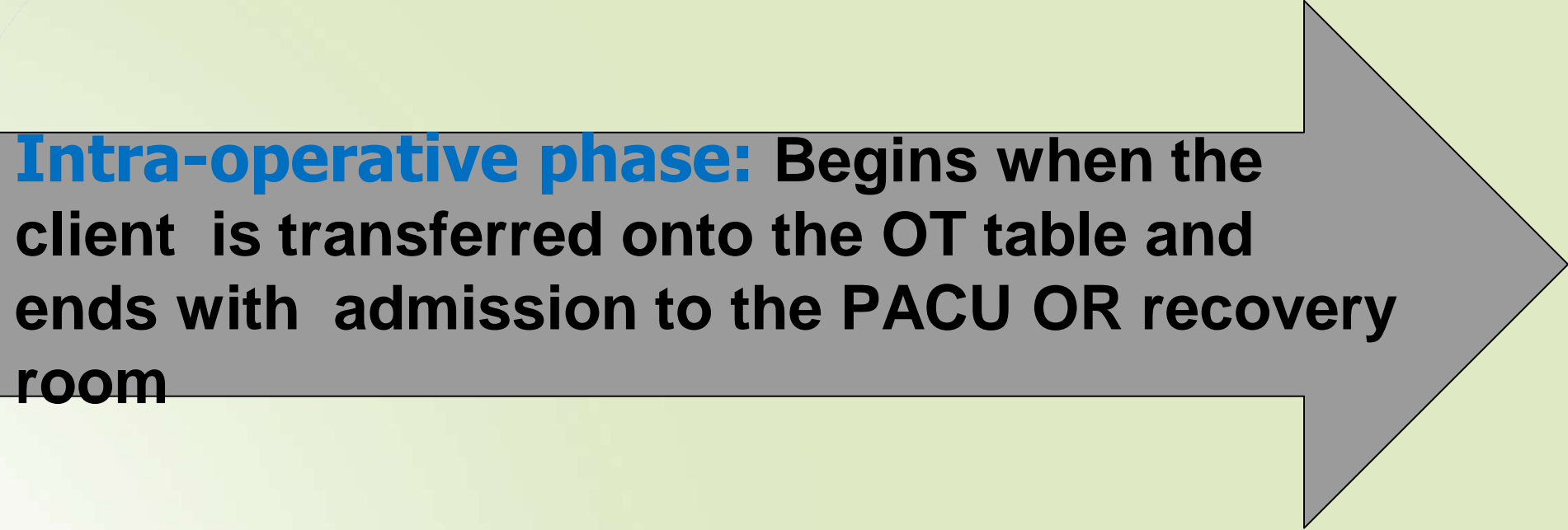


Psychological preparation

- ❑ Careful preoperative teaching can reduce fear and anxiety of the clients.
- ❑ Promote positive coping strategies:
 - Imagery
 - Distraction
- ❑ Provide opportunity for visits for family and friends.



Intra-operative phase



Intra-operative phase: Begins when the client is transferred onto the OT table and ends with admission to the PACU OR recovery room



- ❑ Extends from the time the client is admitted to the operating room, to the time of administration of anesthesia, surgical procedure is done, until he/she is transported to the recovery room/PACU
- ❑ Nursing activities include: providing safety, maintaining an aseptic environment, ensure proper functioning of equipment, providing the surgeon with specific instruments and supplies for the surgical field, and proper documentation



Goals of care (HASH)

- ❑ H- homeostasis
- ❑ A- asepsis
- ❑ S- safe administration of anesthesia
- ❑ H- hemostasis





What's in the Operating Area?

A surgical suite is a controlled environment designed to minimize the spread of infectious organisms and allow a smooth flow of patients, personnel, and the instruments and equipment.

Unrestricted Area

- provides an entrance and exit from the surgical suite for personnel, equipment and patient
- street clothes are permitted in this area, and the area provides access to communication with personnel within the suite and with personnel and patient's families outside the suite

CONT....

❑ Semi-restricted Area

- ❑ provides access to the procedure rooms and peripheral support areas within the surgical suite.
- ❑ personnel entering this area must be in proper operating room attire and traffic control must be designed to prevent violation of this area by unauthorized persons
- ❑ peripheral support areas consists of: storage areas for clean and sterile supplies, sterilization equipment and corridors leading to procedure room



CONT...

Restricted Area

- includes the procedure room where surgery is performed and adjacent substerile areas where the scrub sinks and autoclaves are located
- personnel working in this area must be in proper operating room attire



Environmental Safety


- ❑ The size of the procedure room
- ❑ Temperature and humidity control
- ❑ Ventilation and air exchange system
- ❑ Electrical Safety
- ❑ Communication System



Size of the Procedure Room

- ❑ Usually rectangular or square in shape
- ❑ 20 x 20 x 10 with a minimum floor space of 360 square feet
- ❑ Each procedure room must have the following equipment:
 - -Communication System
 - -Oxygen and vacuum outlets
 - -Mechanical ventilation assistance equipment
 - -Respiratory and Cardiac monitoring equipment
 - -X ray film illumination boxes
 - -Cardiac defibrillator
 - -High-efficiency particulate air filters
 - -Adequate room lighting and Emergency lighting





Temperature and Humidity Control

- ❑ The temperature in the procedure room should maintained between 68 F -75 F (20 -24 degrees C)
- ❑ Humidity level between 50 -55 % at all times



Ventilation and Air Exchange System



- ❑ Air exchange in each procedure room should be at least 25 air exchanges every hour, and five of that should be fresh air.
- ❑ A high filtration particulate filter, working at 95% efficiency is recommended.
- ❑ Each procedure room should be maintained with positive pressure, which forces the old air out of the room and prevents the air from surrounding areas from entering into the procedure room.

Electrical Safety

- ❓ Faulty wiring, excessive use of extension cords, poorly maintained equipment and lack of current safety measures are just some of the hazardous factors that must be constantly checked
- ❓ All electrical equipment new or used, should be routinely checked by qualified personnel.
- ❓ Equipment that fails to function at 100% efficiency should be taken out of service immediately.



The Surgical Team

- ❑ The Patient
- ❑ The Anesthesiologist or Anesthetist
- ❑ The Surgeon
- ❑ Scrub Nurse
- ❑ Circulating Nurse
- ❑ RNFA (Reg. Nurse First Assistant)
- ❑ Surgical Technologists



Surgeon

□ Responsibilities

- ❑ Primary responsible for the preoperative medical history and physical assessment.
- ❑ Performance of the operative procedure according to the needs of the patients.
- ❑ The primary decision maker regarding surgical technique to use during the procedure.
- ❑ May assist with positioning and prepping the patient or may delegate this task to other members of the team



First Assistant to the Surgeon



❑ Responsibilities

- ❑ May be a resident, intern , physician's assistant or a perioperative nurse.
- ❑ Assists with retracting, hemostasis, suturing and any other tasks requested by the surgeon to facilitate speed while maintaining quality during the procedure.

Anesthesiologist



□ Responsibilities

- ❑ Selects the anesthesia, administers it, intubates the client if necessary, manages technical problems related to the administration of anesthetic agents, and supervises the client's condition throughout the surgical procedure.
- ❑ A physician who specializes in the administration and monitoring of anesthesia while maintaining the overall well-being of the patient.

Scrub Nurse

? Responsibilities

- ? May be either a nurse or a surgical technician.
- ? Reviews anatomy, physiology and the surgical procedures.
- ? Assists with the preparation of the room.
- ? Scrubs, gowns and gloves self and other members of the surgical team.
- ? Prepares the instrument table and organizes sterile equipment for functional use.
- ? Assists with the drapping procedure.
- ? Passes instruments to the surgeon and assistants by anticipating their need.
- ? Counts sponges, needles and instruments.
- ? Monitor practices of aseptic technique in self and others.



Circulatory nurse



❑ Responsibilities

- ❑ Must be a registered nurse who, after additional education and training, specialized in perioperative nursing practice.
- ❑ Responsible and accountable for all activities occurring during a surgical procedure including the management of personnel equipment, supplies and the environment during a surgical procedure.
- ❑ Patient advocate, teacher, research consumer, leader and a role model.
- ❑ May be responsible for monitoring the patient during local procedures if a second perioperative nurse is not

SEDATION AND ANESTHESIA



- ❑ During the surgical procedure, the patient will need sedation, anesthesia, or a combination of these
- ❑ Sedation and anesthesia have four levels: minimal sedation, moderate sedation, deep sedation, and anesthesia.

Minimal Sedation



- ❓ The minimal sedation level is a drug-induced state during which the patient can respond normally to verbal commands. Cognitive function and coordination may be impaired, but ventilatory and cardiovascular functions are not affected.

Moderate Sedation

- ❑ Moderate sedation is a form of anesthesia that may be produced intravenously. It is defined as a depressed level of consciousness that does not impair the patient's ability to maintain a patent airway and to respond appropriately to physical stimulation and verbal command. Its goal is a calm, tranquil, amnesic patient who, when sedation is combined with analgesic agents, is relatively pain-free during the procedure but able to maintain protective reflexes.



Deep Sedation

- ❓ Deep sedation is a drug-induced state during which a patient cannot be easily aroused but can respond purposefully after repeated stimulation. The difference between deep sedation and anesthesia is that the anesthetized patient is not arousable.





Anesthesia

? State of "Narcosis"

- Anesthetics can produce muscle relaxation, block transmission of pain nerve impulses and suppress reflexes.
- It can also temporary decrease memory retrieval and recall.

? The effects of anesthesia are monitored by considering the following parameters:

- Respiration
- O₂ saturation
- CO₂ levels
- HR and BP

TYPES OF ANESTHESIA



? General

- Anesthesia is a state of narcosis, analgesia, relaxation, and reflex loss
- Clients under general anesthesia are not arousable, not even to painful stimuli
- Produces amnesia
- Can be administered through IV or inhalation Gas anesthetics are administered by inhalation and are always combined with oxygen
- Nitrous oxide is the most commonly used gas anesthetic agent

CONT...

- ❓ When inhaled, the anesthetics enter the blood through the pulmonary capillaries and act on cerebral centers to produce loss of consciousness and sensation



General anesthesia consists of four stages

- ? Stage I (beginning anesthesia)
- ? Stage II (excitement/delirium)
- ? Stage III (surgical anesthesia)
- ? Stage IV (medullary depression)



Stage I (beginning anesthesia)

? extends from the administration of anesthesia to the time of loss of consciousness

- The client may have a ringing, roaring or buzzing in the ears, and although still conscious, may sense an inability to move the extremities easily
- During this stage, noises are exaggerated
- During this stage, noises are exaggerated. Unnecessary noises and motions are avoided when anesthesia begins.



Stage II (excitement/delirium)

- extends from the time of loss of consciousness to the time of loss of lid reflex
- It may be characterized by shouting, struggling, talking, singing, laughing, or crying of the client but often avoided if anesthetic is administered smoothly and quickly
- Assist anesthesiologist/ anesthetist if needed to restrain client. Client should not be touched except for purposes of restraint.





Stage III (surgical anesthesia)

- Extends from the loss of lid reflex to the loss of most reflexes. Surgical procedure is started

Stage IV (medullary depression)

- it is characterized by respiratory/cardiac depression or arrest. It is due to overdose of anesthesia.
Resuscitation must be done

Regional

- Temporary interruption of the transmission of nerve impulses to and from specific area or region of the body.
- Reduce all painful sensations in one region of the body without inducing unconsciousness
- Topical, local infiltration, epidural, spinal
- Client receiving regional anesthesia is awake and aware of his/her surroundings unless medications are given to produce mild sedation or to relieve anxiety
- agents used are lidocaine and bupivacaine.



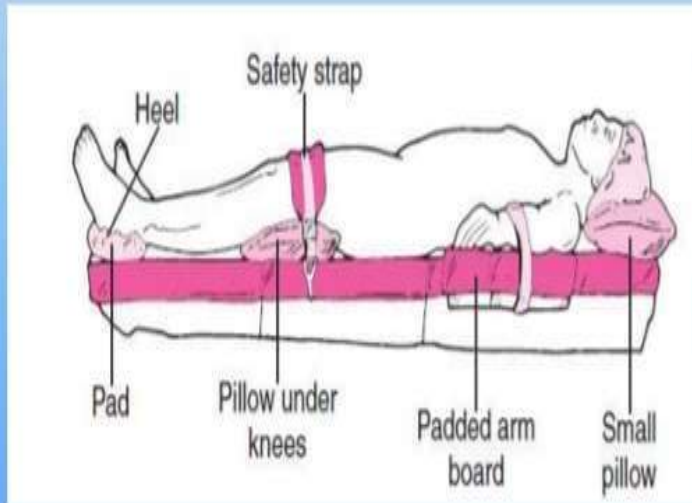


Positions during surgery

Supine (Dorsal Recumbent)



SURGICAL POSITIONS SUPINE

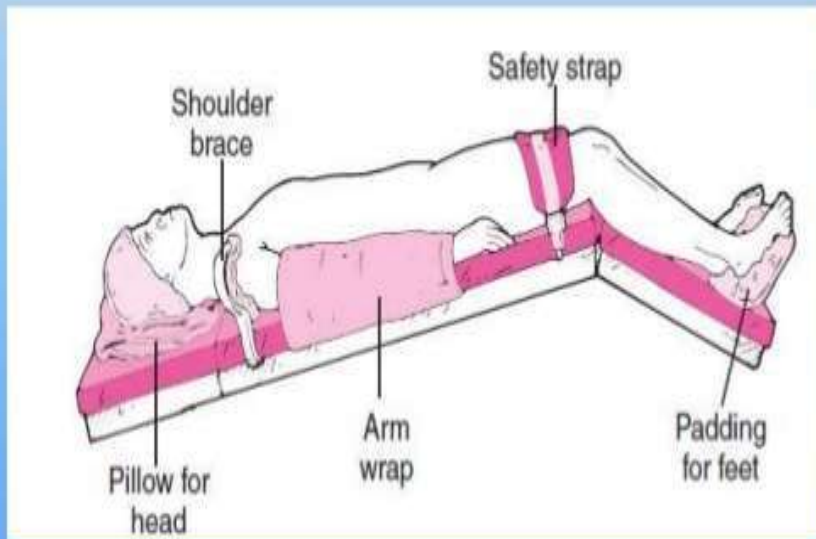


- ❑ Surgeries involved are: Abdominal, extremity, vascular, chest, neck, facial, ear, breast surgery
- ❑ **Positioning Techniques**
 - Patient lies flat on back with arms either extended on arm boards or placed along side of body.
 - Small padding placed under patient's head, neck and under knees
 - Vulnerable pressure points should be padded.
 - Safety strap applied 2 in. above knees.

Trendelenburg Position



SURGICAL POSITIONS TREDELENBURG

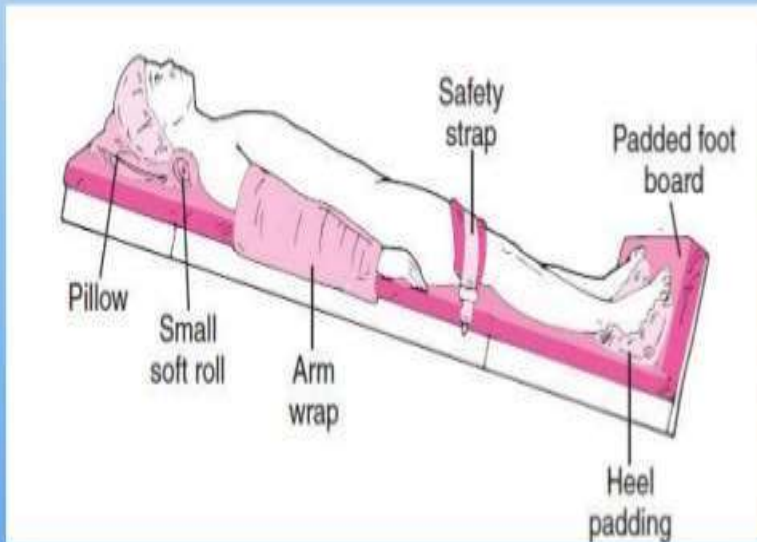


- ❑ Surgeries involving lower abdomen, pelvic organ
- ❑ **Positioning Techniques**
 - Patient is supine with head lower than feet.
 - Shoulder braces should not be used as they may cause damage brachial plexus.
 - When patient is returned to supine position, care must be taken move leg section slowly, then the entire table to level position.
 - Modification of this position can be used for hypovolemic shock.
 - Extremity position and safety strap are the same as for supine



Reverse Trendelenburg

SURGICAL POSITIONS REVERSE TRENDELENBURG



☐ Surgeries involved are Upper abdominal, head, neck and facial surgery

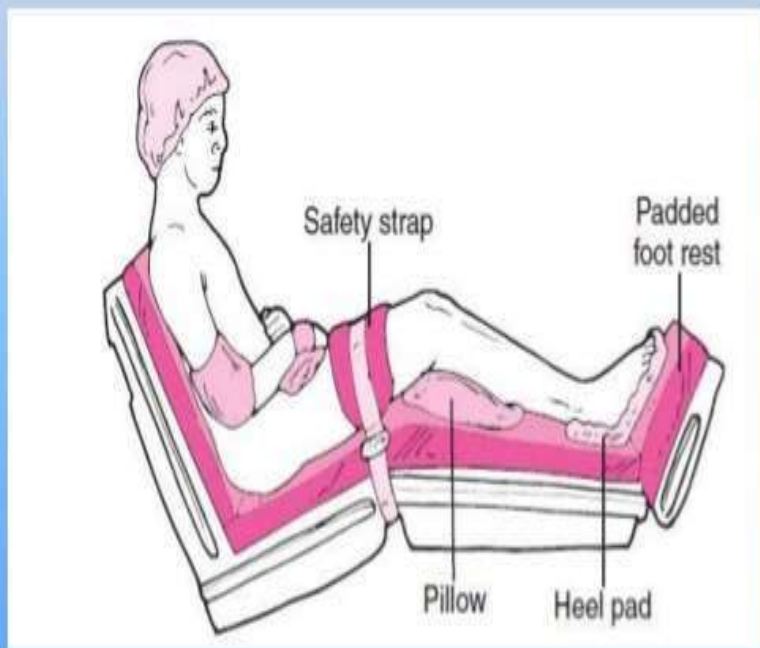
☐ Positioning Technique

- Patient is supine with head higher than feet.
- Small pillow under neck and knees.
- Well-padded footboard should be used to prevent slippage to foot of the table.
- Patient should be returned slowly to supine position.



Fowler's position

SURGICAL POSITIONS FOWLER'S / SITTING



❑ **Modified Fowler (Sitting Position)-** surgeries involved are Otorhinology (ear and nose), neurosurgery

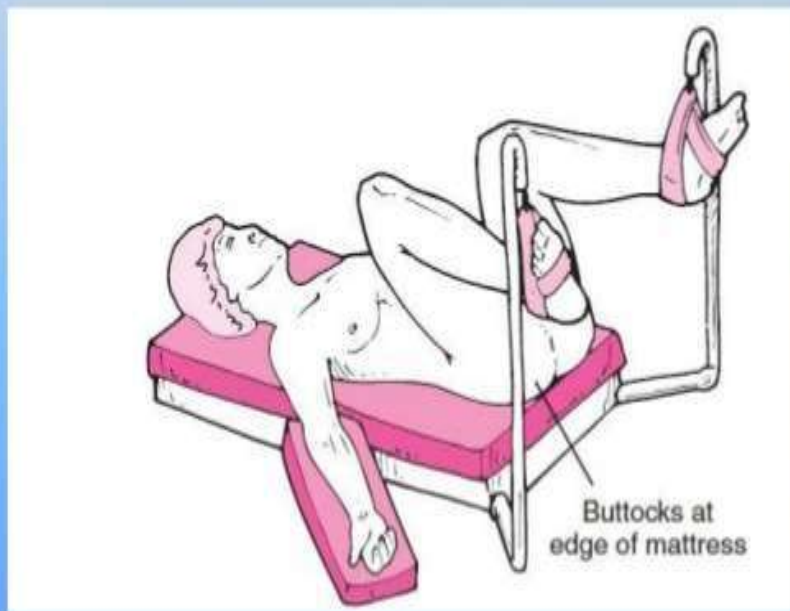
❑ **Positioning Techniques**

- Patient is supine, positioned over the upper break in the table
- Backrest is elevated, knees flexed
- Slow movement in and out of position must be used to prevent drastic changes in blood volume movement.
- When using special neurologic headrest, eyes must be protected.



Dorsal lithotomy

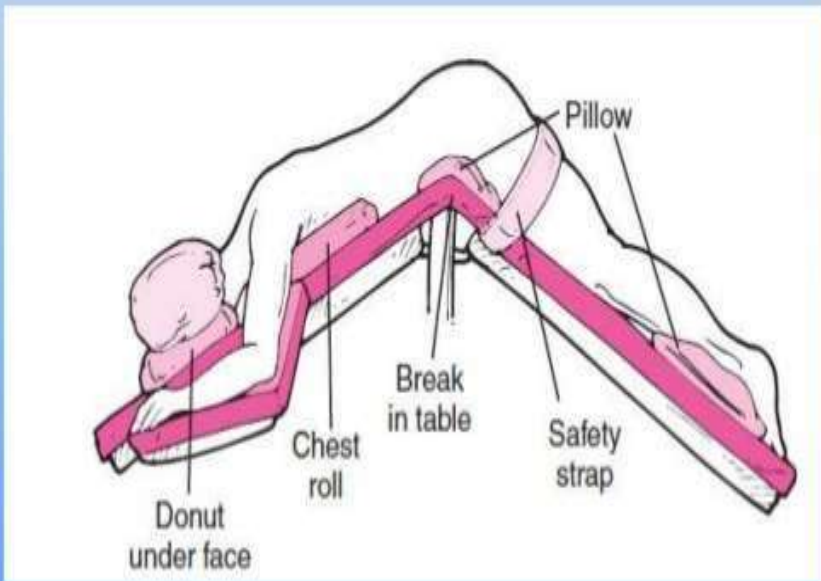
SURGICAL POSITIONS DORSAL LITHOTOMY



- ❑ surgeries involved are Perineal, vaginal, rectal surgeries; combined abdominal vaginal procedure
- ❑ Positioning Techniques
 - Patient is placed in supine position with buttocks near lower break in the table (sacrum area should be well padded)
 - Feet are placed in stirrups, stirrups height should not be excessively high or low, but even on both sides.

Jack Knife

SURGICAL POSITIONS PRONE



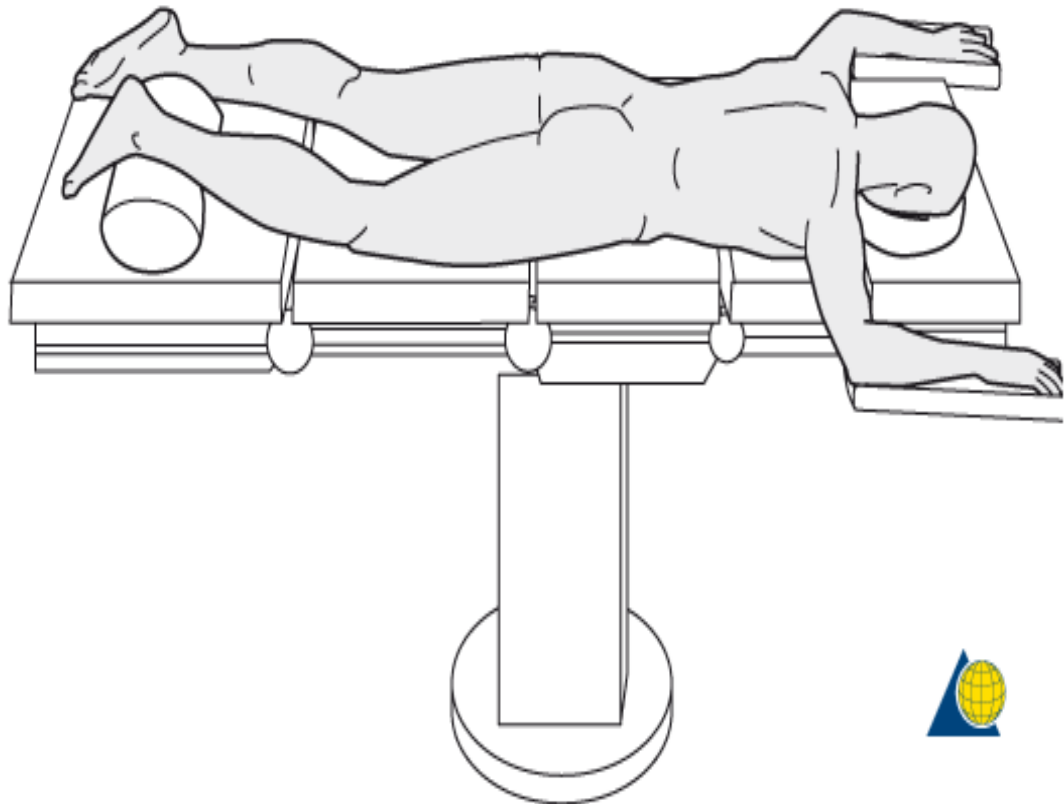
□ **Jack Knife** Position-Rectal procedures, sigmoidoscopy and colonoscopy

□ Positioning Techniques:

- Table is flexed at center break
- All precautions taken with prone position are taken with Jack knife position.
- Table strap applied over thighs



Prone position



❑ **Prone Position:** Surgeries involving posterior surface of the body (spine, neck, buttocks and lower extremities)

❑ **Positioning Techniques**

- Chest rolls are placed on operating table prior to positioning
- Foam head rest, head turned to side or facing downward
- Patient's arms are rotated to the padded arm boards that face head, bringing them

Patient positioning

- ❑ Must take care to:
 - ❑ Prevent undue pressure on nerves, skin over bony prominences, and eyes
 - ❑ Provide correct skeletal alignment
 - ❑ Provide for adequate thoracic excursion
 - ❑ Prevent occlusion of arteries and veins
 - ❑ Recognize and accommodate for previously assessed skeletal deformities



Greatest care must be taken to prevent injury, because:



- ❑ Anesthesia has blocked the nerve impulses and the patient can't complain that they have pain or discomfort can cause:
 - ❑ Muscle strain
 - ❑ Joint damage
 - ❑ Pressure ulcers
 - ❑ Nerve damage



TRANSFER FROM SURGERY

- ❑ After surgery client is stabilized for transfer
- ❑ After local anesthesia, the client may return directly to a nursing unit
- ❑ After general and spinal anesthesia, the client goes to the PACU or in some cases, the intensive care unit
- ❑ SAFETY is always a priority at this time!
- ❑ Never leave client alone
- ❑ Ensure patent airways and prevent falls
- ❑ Continuous monitoring of client

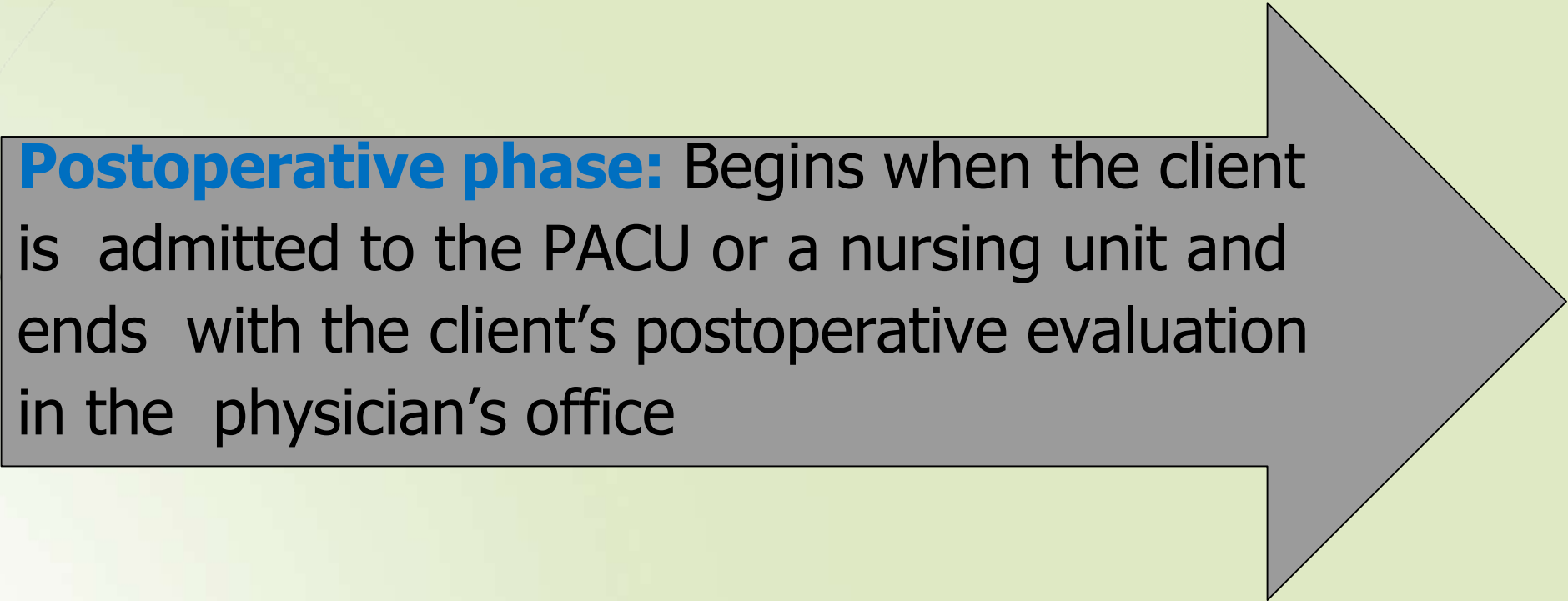
COMPLICATIONS OF THE INTRAOPERATIVE PERIOD

- ❑ Anaphylaxis
- ❑ Postoperative Hypothermia
- ❑ Postoperative Hyperthermia
- ❑ Malignant hyperthermia





Postoperative phase



Postoperative phase: Begins when the client is admitted to the PACU or a nursing unit and ends with the client's postoperative evaluation in the physician's office

Goals

- ❑ Restore homeostasis and prevent complication.
- ❑ Maintain adequate cardio vascular and tissue perfusion.
- ❑ Maintain adequate respiratory function.
- ❑ Maintain adequate nutrition and elimination.
- ❑ Maintain adequate fluid and electrolyte balance.
- ❑ Maintain adequate renal function.
- ❑ Promote adequate rest, comfort and safety.
- ❑ Promote adequate wound healing.
- ❑ Promote and maintain activity and mobility.
- ❑ Provide adequate psychological support.



Assessment

- ❑ A- Airway
- ❑ B- Breathing
- ❑ C- Circulation
- ❑ C- consciousness
- ❑ S-
Safety/Comfort
- ❑ D- Dressing
- ❑ D- Drainage
- ❑ D- Drugs
- E- Elimination
- F- Foods
- F- FLUIDS
- P- Pain



Aldrete's score

☐ Five physiological parameters

1. Activity
2. Breathing
3. Circulation
4. Consciousness
5. Color





AREA OF ASSESSMENT	Point Score	1 hour	2 hours	3 hours
MUSCLE ACTIVITY				
Ability to move all extremities	2			
Ability to move 2 extremities	1			
Unable to control any extremity	0			
RESPIRATION				
Ability to breath deeply and cough	2			
Limited respiratory effort	1			
No spontaneous effort	0			
CIRCULATION				
BP +/- 20% of pre-anesthetic level	2			
BP +/- 20%-40% of pre-anesthetic level	1			
BP +/- 50% pre-anesthetic level	0			
CONSCIOUSNESS LEVEL				
Fully awake	2			
Arousal on calling	1			
Not responding	0			

CONT...



AREA OF ASSESSMENT	Point Score	1 hour	2 hours	3 hours
O2 SATURATION				
Unable to maintain O2 sat >92% on room air	2			
Needs O2 inhalation to maintain O2 sat >90%	1			
O2 sat <90% even with O2 supplement	0			

REQUIRED FOR DISCHARGE FROM PACU: 7 - 8

POSTOPERATIVE COMPLICATIONS



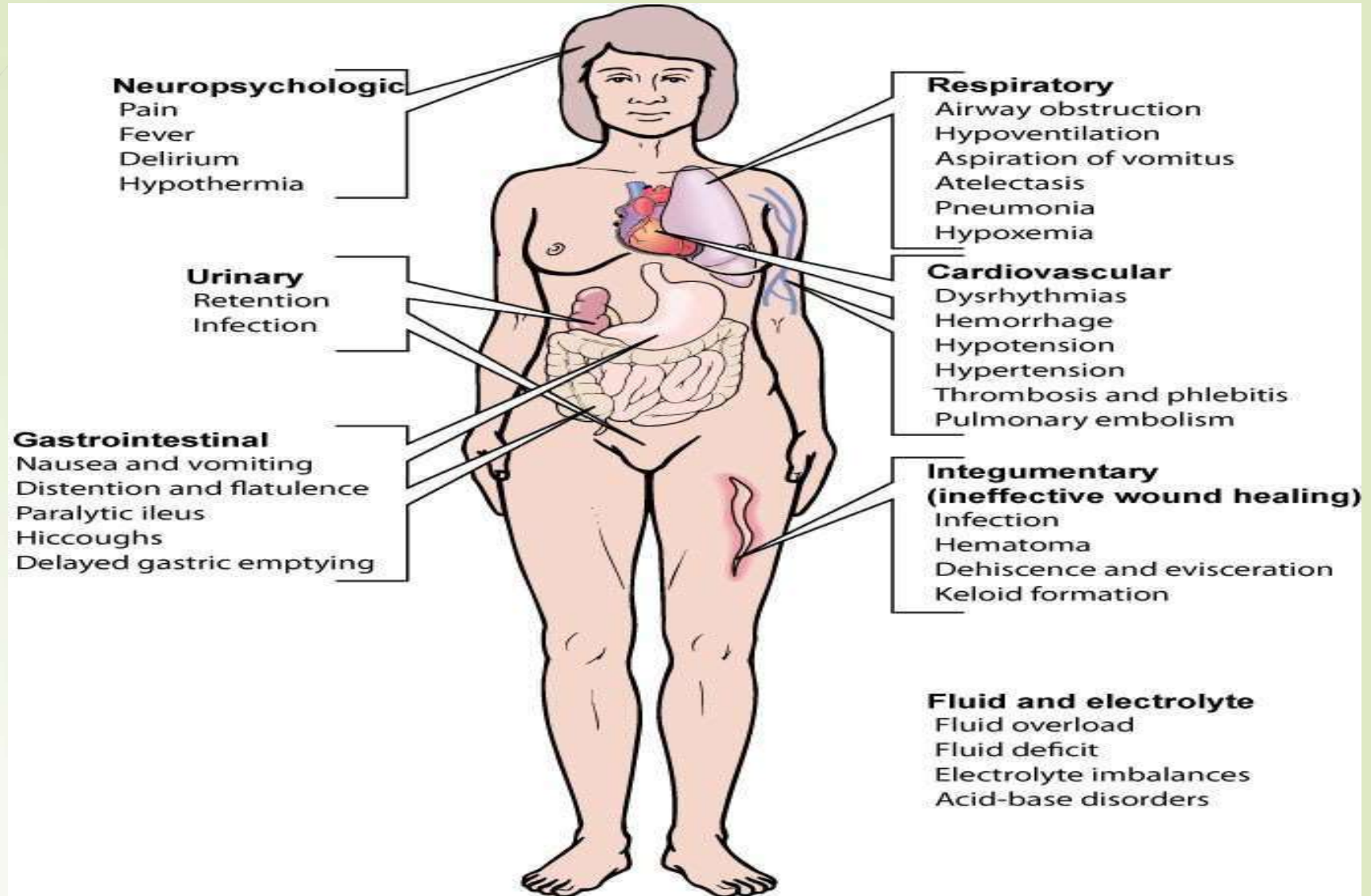
- ❓ Hematological
 - Hemorrhage
- ❓ Respiratory
 - Atelectasis
 - Pneumonia
 - Pulmonary Embolism
- ❓ Cardiovascular
 - Hypotension
 - Cardiac Dysrhythmias
 - Venous Thrombosis
- ❓ Urinary
 - Urinary Retention
 - Low urine production

CONT...

- ❑ Gastrointestinal
 - Paralytic ileus
 - Constipation
- ❑ Neurological
 - CVA/Stroke
- ❑ Immunological
 - Infection
- ❑ Wound Healing
 - Dehiscence
 - Eviscerations
 - Infection
- ❑ Psychological
 - Body image problems



Common postoperative complications



Conclusion

- ❑ Perioperative care is complex, and excellent care. By integrating an effective care planning solution into the perioperative nursing, healthcare organizations can better support their perioperative clinicians in providing evidence-based care that is individualized to the unique needs of the patient.





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