



CNOR Cram Sheet

Mometrix TEST PREPARATION



1. Pre/Postoperative Patient Assessment and Diagnosis

Pre/Postoperative Patient Assessment

Braden Scale:

An assessment tool used to identify risk for skin breakdown/pressure injury

Venous thromboembolism (VTE) risk factors:

- Immobility
 - Particularly postoperatively in surgeries that limit movement
- Patient history
 - History of VTE
 - Obesity
 - History of prostate cancer and/or cardiac disease

Monitoring nutritional status for effective wound healing:

The gold standard is using albumin levels.

Signs of fat embolism:

- Tachycardia
- Tachypnea/shortness of breath
- Mental status changes
- Petechiae
- Fever

Assessing for hypokalemia:

- First sign is often hypotension
- Muscle cramps/twitches/weakness
- Fatigue
- Arrhythmias

Complications in burn patients:

- Increased risk for hypothermia
- Electrolyte imbalances
- Dehydration
- Malnutrition

Various types of urinary incontinence:

- Stress
- Urge
- Overflow
- Functional

Specific procedural pre- and postoperative assessments:

- **Transurethral resection of the prostate (TURP):**
Assess for hypervolemia and hyponatremia in the post-anesthesia care unit (PACU).

Femoropopliteal bypass:

Ensure that angiogram studies are available to the surgeon prior to surgery.

Post-thoracoscopy/lobectomy:

Assessment should always begin with an assessment of respiratory status.

Lab Values and Measurement

PT/PTT/INR lab values:

- PT: 11-13.5 seconds
- PTT: 25-35 seconds
- INR: <1 second
(For patients on warfarin: 2.0-3.0)

Basic metabolic panel (BMP) lab values:

- Glucose
- Calcium
- Sodium
- Potassium
- CO₂
- Chloride
- BUN
- Creatine



Hgb (Hemoglobin) lab values:

- Males >18 years: 14.0-17.46 g/dL
- Females >18 years: 12.0-16.0 g/dL

Hct (Hematocrit) lab values:

- Males >18 years: 40-50%
- Females >18 years: 35-45%

Electrolyte lab values (normal ranges):

- Potassium: 3.5-5.5 mEq/L
- Sodium: 135-145 mEq/L
- Calcium: 8.2-10.2 mg/dL
- Phosphorus: 2.4-4.5 mEq/L
- Magnesium: 1.7-2.2 mg/dL

ABGs and common causes of abnormal values:

- Normal ranges:
 - pH: 7.35-7.45
 - CO₂: 35-45 mmHg
 - HCO₃: 22-28 mEq/L
- Uncompensated respiratory acidosis:
(Common cause: hypoventilation)
 - Decreased pH
 - Increased CO₂
 - Stable HCO₃
- Uncompensated respiratory alkalosis:
(Common cause: hyperventilation)
 - Increased pH
 - Decreased CO₂
 - Stable HCO₃

- Uncompensated metabolic acidosis:
(Common causes: kidney failure, severe diarrhea, diabetes)
 - Decreased pH
 - Stable CO₂
 - Decreased HCO₃
- Uncompensated metabolic alkalosis:
(Common causes: severe vomiting, hypovolemia, hypokalemia)
 - Increased pH
 - Stable CO₂
 - Increased HCO₃

Lab values of specific conditions:

- Hyper/hypoparathyroidism
- Hyper/hypothyroidism
- Diabetes
- Hypoglycemia

Medications and Allergies

Systemic signs and risk factors for a latex allergy:

Individuals who are allergic to latex may also be allergic to certain foods, like bananas, which should be screened for during assessment.

Conversions:

1 gram of pure water equals 1 mL.

Eye medications:

Identify the effects that various eye medications have on the pupils.

Critical components of medication reconciliation:

- Identify when blood thinners were last administered.
- Consider interactions of common herbal supplements, such as how ginkgo affects bleeding.
- Understand that a soybean allergy can indicate an allergy to propofol.

Know side effects of specific drugs:

- Tropicamide
- Pilocarpine
- Reversal agents
- Steroids
- Anti-inflammatory drugs
- Morphine



2. Individualized Plan of Care Development and Expected Outcome Identification

Surgical Planning

Nursing care plans:

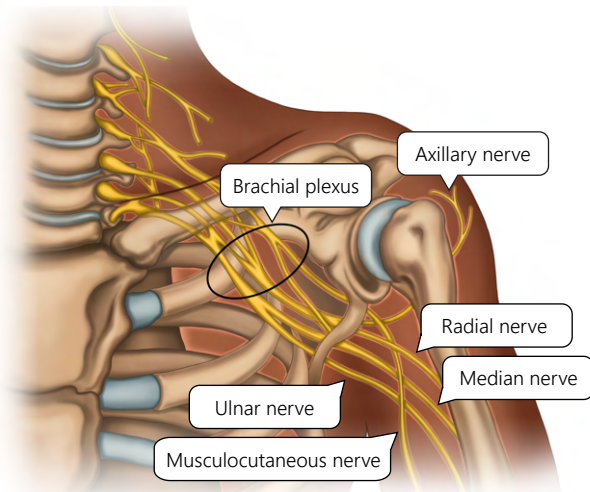
Understand nursing care plans and nursing diagnoses.

Preparing surgical equipment:

- Electrosurgery (bipolar vs. monopolar instrumentation and indications)
- Only bipolar electro-surgical units should be used for cochlear implant procedures.
- For trauma patients, prepare instruments and equipment for rapid sequence intubation.

Basic anatomy:

Know that the ulnar nerve arises from the brachial plexus within the axilla region.



Room preparation:

Know basic room prep that occurs before a case starts.

Transporting patients to the OR:

- Confirm identity using two identifiers, confirm correct site has been marked, and confirm procedure to be performed.
- Confirm that the chart contains a current H&P, signed consent form(s), required labs/X-rays, etc.
- Confirm patient's ability to self-transport vs. stretcher requirements.

Eye surgery details:

- Procedures
- Impact of specific medications
- Education
- Manifestation of anxiety (fearing the loss of eyesight)

Site preparation:

- Hair removal options (removal with a razor risks more infections than a shaver or no hair removal)
- Skin prep for a skin graft donor site (colorless prep is preferred to allow proper visualization of the skin while taking the graft)

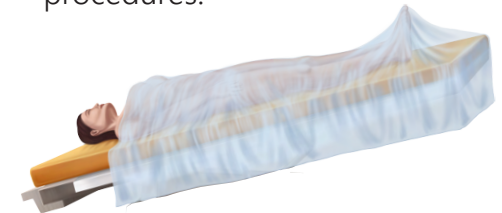
Pre-procedural fasting requirements:

Know the NPO (nil per os, which means "nothing by mouth") rules for various ages (such as a 3-month-old baby).

Special Considerations

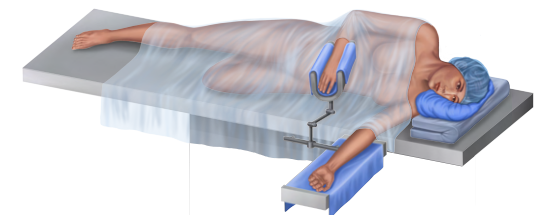
Obese patients:

- Know how to develop care plans for patients with obesity.
- Considerations for positioning the patient in the Trendelenburg position during laparoscopic abdominal procedures.



Pregnant patients:

Pregnant patients should be positioned in the left lateral decubitus position to prevent the weight of the uterus from constricting vital vessels and facilitate blood return to the heart.



3. Management of Intraoperative Activities

Intraoperative Patient Care

Sellick's maneuver:

Circoid pressure prevents the regurgitation of gastric contents during intubation.

Patient positioning:

- Understand which positioning devices have risks for nerve compression or other complications and how to assess for those complications.
- Understand which surgical positions carry risks for nerve damage or compromise critical functions.

Anesthesia:

- Understand the implications and monitoring requirements for patients under local anesthesia.
- Be familiar with femoral nerve blocks.
- Understand the signs, symptoms, and treatment for local anesthetic systemic toxicity (LAST).
- Understand basic monitoring for a patient under general anesthesia.
- Understand the anesthetic effects that put a patient at risk for malignant hyperthermia.

Skin closure and wound healing:

- Understand the various types of suturing methods for closure and their indications (e.g., existing infections require interrupted sutures).
- When a wound is surgically closed, it heals by **primary intention**.
- When a wound is left open, it heals by **secondary intention** (generally via new tissue growth from the wound bed).
- When a wound is initially left open and is then closed with a delayed primary closer, it heals by **tertiary intention**.

Medication management:

- When handing medications to the surgeon, say the medication name and the concentration.
- When taking verbal orders, write the order down and show it to the surgeon to confirm.
- Understand labeling of medications that are drawn outside of the OR.
- Epinephrine is used in conjunction with local anesthesia because it prolongs the effects by constricting the vessels and keeping the medication in place, allowing for longer pain control.

Reversal agents for various drugs:

Agent	Reversal Agent
Succinylcholine	Sugammadex
Other neuromuscular blockers	Neostigmine
Benzodiazepines (alprazolam, diazepam, midazolam)	Flumazenil
Opioids (morphine, fentanyl)	Naloxone
Heparin and enoxaparin	Protamine sulfate



Interventions for benzodiazepine overdose:

- Airway management
- Monitor the patient's breathing.
- Flumazenil administration
- Monitor the patient's vital signs.
- Avoid using stimulants to reverse sedation.
- Assess and treat complications.

Intraoperative Equipment and Instruments

Foley bag:

Know the proper Foley bag placement when transporting a patient and during surgery (on the frame of the bed).

Microscope:

Understand indications for a microscope during specific procedures (i.e., a vasovasostomy).

Tourniquet:

Understand the proper use and management of tourniquets during surgery.

Active Bovie electrode:

Understand proper active Bovie electrode use.

Direct coupling:

This is when an active electrode touches and transfers electricity to another instrument.

New instrument policies:

- An in-service representative will provide specialized training for new instruments.
- New products should be evaluated by a multidisciplinary team.

Surgical count policies:

- General timing of each count
- Indication of each count
- Personnel involved in each count
- For open bladder surgery, the first surgical count is done prior to closing the bladder.
- Weigh sponges to monitor blood loss in pediatric patients.
- The type, timing, and documentation of C-section counts

Intraoperative Equipment and Instruments

Procedure-specific complications:

- Post-femoropopliteal bypass:
 - Assess for pulses on the extremity of the procedure.
 - If you lose pulses in the feet and the feet start to turn blue, call the surgeon.
- Continuous bladder irrigation in a patient with transurethral resection of the prostate (TURP) is done postoperatively to flush possible clots that may cause an obstruction.

Surgical site infections (SSIs)

- Know that most SSIs present within the first 30 days after surgery.

- Common signs and symptoms:
 - Tachycardia, hypertension, and fever
 - Purulent drainage, redness, warmth, and/or swelling at the surgical site
 - Mental status change (in older patients)
- Risk factors:
 - Presence of jewelry and hair removal by razor
 - Broken sterile technique
 - Immunocompromise
 - Increased length of surgery
 - Increased number of people in the OR
 - Malnutrition
- Prevention measures:
 - Hair removal with clippers only when necessary
 - Aseptic technique/hand hygiene
 - Assessment of risk factors and mitigation of these factors when possible
 - Appropriate skin prep
 - Appropriate room setup with equipment cleaned and covered prior to start
 - Preoperative prophylactic antibiotics
- Understand the concept of SSI bundles/protocols as evidence-based prevention measures for SSIs.

4. Communication and Documentation

Legal and Ethical Considerations

Consent:

Know how to handle consent during emergency surgery situations.

Patient advocacy:

- For patients with a DNR order, discuss the order with the patients prior to surgery.
- Speak to the surgeon and anesthesiologist about suspending the order during surgery.
- Inform the surgeon if a patient changes their mind after entering the OR and says they no longer want surgery.

Ethical dilemmas:

- If a nurse is assigned to a procedure that is against their religious belief, they should remind charge of their beliefs so other staff can be found.
- The effort to find other staff in the case of conflict with religious beliefs should only be made if the nurse has made their beliefs clear ahead of time and there is adequate staffing.

Truthful documentation:

Understand the concept of veracity (truthfulness) as it relates to documentation.

Communication and Reporting

Communication:

- Principles of effective communication during transitions in care
- The process for handling interruptions in the OR while documenting important information

Reporting:

Understand the components of hand-off reports (SBARs, checklists).

5. Infection Prevention and Control of Environment, Instrumentation, and Supplies

Infection Control Measures

Procedures:

- Procedure-specific infection control measures, such as confining and containing during cast placement by changing gown and gloves
- Specific procedures and protocols for room turnover, specifically after "dirty" cases

Management:

- Understand the management of gas gangrene cases, specifically that rooms require regular turnover.

• PPE management:

- Know what to do when a nurse has contaminated themselves when gowning and gloving.
- Know the criteria for surgical gowns related to being impervious to fluids.

Precautions:

- Standard and universal precautions for various infectious diseases, including:
 - Hepatitis C
 - MRSA
 - Tuberculosis
- Understand transmission precautions:
 - Contact
 - Droplet
 - Airborne
- Understand Creutzfeldt-Jakob disease (CJD):
 - Know how CJD affects the brain
 - During procedures, use disposable items and clean the room with bleach

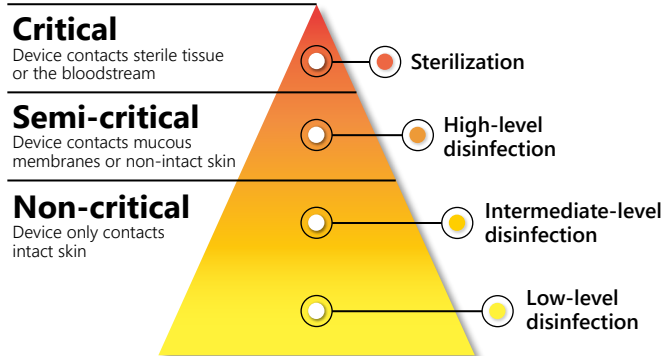
Sterilization Protocols

Sterilization methods:

- Understand the various sterilization methods, including their indications, advantages, and disadvantages:
 - Low-temp hydrogen peroxide gas plasma
 - Steam
 - Ethylene oxide

Monitoring sterility:

- Understand the various measures of monitoring sterility:
 - Chemical indicators are placed outside of the pack to detect sterility.
 - Biological indicators (BIs) are used to monitor sterilization effectiveness.
 - The Bowie Dick test evaluates the performance of pre-vacuum steam sterilizers.
- Sterility is event-related, not time-related.
- Understand proper storage and handling of peel-packed items.
- Understand proper handling and processing of flexible endoscopes post-intubation.
- Be familiar with Spaulding classifications, and remember that acupuncture needles are considered a critical item.



Safety Protocols and Procedures

Laser safety:

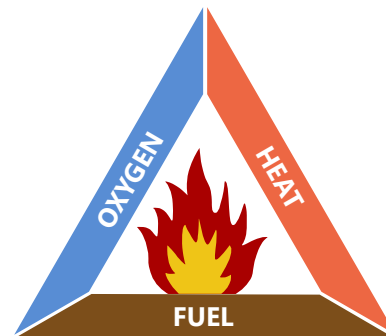
- Understand general laser safety procedures.
- Know that laser instruments should be ebonized to reduce laser reflection off instruments.

Radiation safety:

- OSHA ionizing radiation standards
- Monitoring and filming radiation exposure for healthcare workers

Fire-related emergency procedures:

- In the event of an ET tube fire, remove the ET tube and prepare for extubation.
- Know the components of the fire triangle:



X-ray protection:

Understand patient protection measures during intraoperative X-rays.

Humidity:

- Understand how humidity control affects microorganism growth and electrostatic discharge.
- Know the guidelines for maintaining humidity in the OR.

Storage and handling:

- Understand storage and handling of spill kits for hazardous agents (such as chemotherapy) in the OR.
- Understand methods for storing a cranial bone flap for autologous tissue management.

Patient safety:

- Understand how a nurse ensures patient safety and care under various surgical and anesthesia conditions.
- Know how the method of root cause analysis (RCA) is used for patient safety and system-level concerns.



6. Emergency Situations

Medical Complications

Malignant hyperthermia (MH):

- Triggering agents are halothane and succinylcholine.
- Know the signs and symptoms, including:
 - Severe muscle rigidity or spasms
 - Tachypnea
 - Tachycardia
 - Arrhythmia
- Skeletal muscles are the muscle type primarily affected.
- Dantrolene is the only known therapy.

Compartment syndrome:

- Know the signs and symptoms, including:
 - Muscle pain
 - Muscle swelling/bulging
 - Numbness/pins and needles
 - Weakness
- Know the primary risk factors:
 - Age
 - Repetitive impact activity (e.g., running)
 - Working out too intensely/frequently
- Monitor for metabolic acidosis.

Venous air embolism:

- Know the signs and symptoms, including:
 - Difficulty breathing
 - Chest pain
 - Low blood pressure
 - Confusion
 - Cyanosis
- Be familiar with the various forms of treatment, including:
 - Immediately lower the operative site to be below heart level
 - Administer 100% oxygen
 - Flood the surgical site with saline to prevent more air from entering circulation
 - If cardiac arrest occurs, initiate ACLS protocol and administer vasopressors

Pneumothorax:

- Be familiar with various aspects of pneumothorax.
- Pneumothorax is a known risk with inserting a right subclavian central line.

Emergency Response and Management

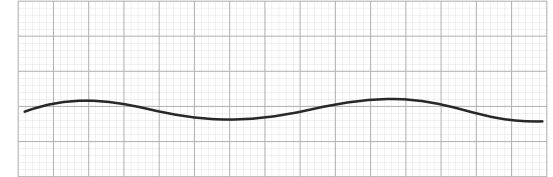
Disaster response:

- Be familiar with implementing the emergency response plan in the event of a major external emergency.
- Know the treatment limitations that are faced during a mass casualty incident.

Intraoperative cardiac emergencies:

- Know the additional rhythms that indicate cardiac emergencies:

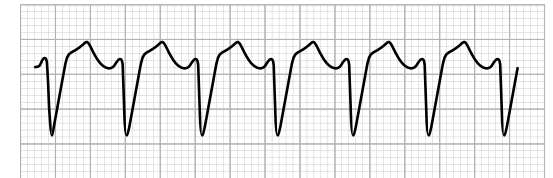
Asystole



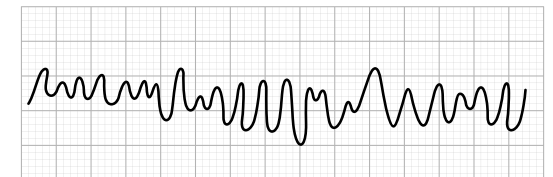
Third-degree heart block



Ventricular tachycardia



Ventricular fibrillation



- Know that bigeminy is a heart rhythm with PVCs every other beat.
- Indications for the use of epinephrine, amiodarone, and lidocaine.
- Know team member roles in cardiac arrest situations.

7. Professional Accountabilities

Ethical and Legal Considerations

Federal regulations and regulatory bodies:

- Self-Determination Act
- HIPAA
- ADA
- OSHA
- The Joint Commission
 - National Patient Safety Goals (NPSGs)

Ethics in the context of nursing:

- Beneficence
- Nonmaleficence
- Veracity
- Justice
- Surgical conscience is the moral obligation to uphold and defend surgical asepsis and sterility.

Nurse Responsibilities

Competency:

The nurse is ultimately responsible for their own competency.

Competing responsibilities:

A moderate sedation nurse should have no competing responsibilities.

UAPs:

Know what an unlicensed assistive personnel (UAP) can assist with:

- Eating
- Bathing
- Toileting
- Ambulating
- Phlebotomy procedures (except for arterial punctures)
- Taking vital signs
- Monitoring intake and output



Five Rights of Delegation:

- Right task
 - A task that is delegated for a specific patient
- Right circumstance
 - Consider the patient setting, resources, and other relevant factors before delegating a task.
- Right person
 - Delegate the appropriate tasks to the right healthcare person.
- Right direction/communication
 - You should communicate using clear, concise, complete, and correct information.
- Right supervision/evaluation
 - Provide appropriate monitoring and evaluation.

8. Resources

Free Resources



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