MUSCULOSKELETAL · PERIOPERATIVE

Hip Replacement

Total Hip Arthroplasty (THA) & Partial Hip (Hemiarthroplasty) — Pre-op & Post-op Nursing Care, Complications & Teaching

NGN NCLEX 2026 · HIGH-YIELD

1 Definition & Overview

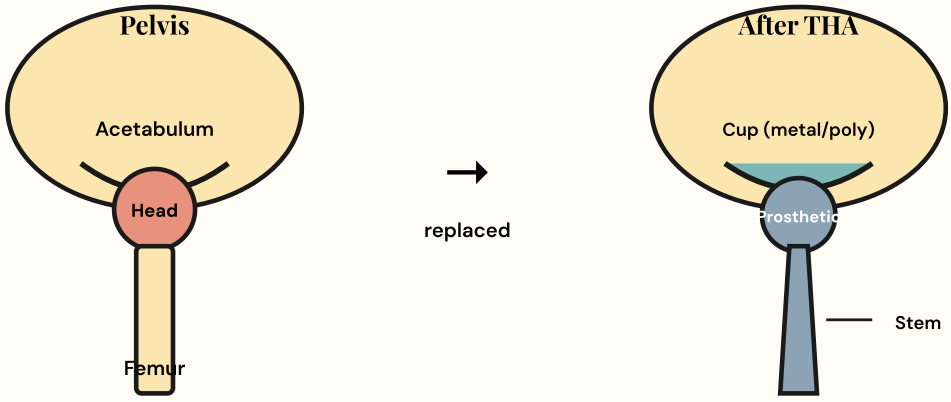
What is being replaced and why

Total Hip Arthroplasty (THA)

- **Both** femoral head AND acetabulum replaced
- Femoral component (metal stem + ball) + acetabular cup (metal/poly liner)
- For severe OA, RA, AVN (avascular necrosis), failed prior surgery
- Typically **elective**, scheduled procedure

Partial Hip (Hemiarthroplasty)

- **Only** femoral head replaced — acetabulum preserved
- Most common for **displaced femoral neck fracture** in older adults
- Faster surgery, less blood loss, but **higher fat embolism risk**
- Often **urgent/emergent** after fall



THA: both ball + socket replaced. Hemiarthroplasty: only ball replaced.

2 Surgical Approach & Why It Matters

Approach determines the hip precautions

The surgeon's approach determines which movements will dislocate the new joint. **Always know the approach** before teaching precautions.

1. Indication: severe joint damage or hip fracture
2. Approach chosen (posterolateral most common)
3. Hip joint capsule & muscles cut → weak spot
4. Prosthesis placed → vulnerable until soft tissue heals (~6–12 wk)

🔴 POSTERIOR Approach (most common)

*Weak spot: posterior capsule cut → prosthesis pops **OUT THE BACK** with flexion/adduction/internal rotation*

- **NO hip flexion > 90°**
- **NO adduction** past midline (no crossing legs)
- **NO internal rotation** (toes turned in)

🟢 ANTERIOR Approach

*Weak spot: anterior capsule → prosthesis pops **OUT THE FRONT** with extension/external rotation*

- **NO hip extension** (no backward stretch)
- **NO external rotation** (toes turned out)
- **NO bridging** the hips off the bed

🚨 NCLEX RULE

Most NCLEX questions assume **POSTERIOR approach** unless told otherwise. Memorize the 3 No's of posterior precautions cold.

3 Priority Assessments — Pre-op vs Post-op

What changes between phases

PRE-OP Assessment

- Baseline VS, weight, H&H, ECG, type & cross
- Pain level, ROM, functional status, gait
- Skin integrity (esp. surgical site)
- **Distal neurovascular check** (baseline)
- Med rec — esp. **anticoagulants, NSAIDs** (stop per protocol)
- Allergies (latex, metal, contrast, antibiotics)
- Cognitive baseline (older adults — delirium risk)
- Pre-op anxiety, support system, home setup

POST-OP Assessment

- **ABC first** — RR, O_2 sat (PE risk)
- VS Q15 min × 4 → Q30 min × 4 → Q1H
- **5 P's distal:** Pulses, Pallor, Paresthesia, Pain, Paralysis
- Surgical site: bleeding, drainage, hematoma
- Drain output (Hemovac/JP) — color & volume
- **Leg position:** abducted, neutral rotation, toes up
- Pain — quality, location, response to meds
- I&O, voiding (catheter often removed POD#1)
- Bowel sounds, last BM (opioid constipation)
- LOC, delirium signs (esp. elderly)

RED FLAGS — Call Provider Immediately

DISLOCATION: sudden severe pain, leg shortened, internally rotated, unable to bear weight

FAT EMBOLISM (24–72h, esp. partial hip): petechiae chest/axilla/conjunctiva, sudden dyspnea, AMS, tachycardia

DVT/PE: unilateral calf swelling/pain · sudden chest pain, dyspnea, tachycardia, low SpO_2

4 Priority Nursing Interventions

Pre-op preparation → Post-op care

PRE-OP CARE

Preparation

- Verify **informed consent** & surgical site marking
- NPO after midnight (or per protocol)
- CHG shower/skin prep night before & AM of surgery
- Stop **NSAIDs, anticoagulants** per provider (~7 days pre-op for ASA/warfarin)
- Type & screen / cross-match — blood loss expected
- IV access, pre-op labs, ECG, CXR
- **Cefazolin (Ancef) IV** within 60 min of incision
- SCDs applied; remove jewelry, dentures

Pre-op Teaching

- Demonstrate **hip precautions** (return demonstration)
- Incentive spirometer Q1–2H while awake
- Ankle pumps, quad/glute sets — start in bed
- Log-roll technique (don't twist hip)
- Pain scale + multimodal pain plan
- Expect drain, IV, Foley, SCDs on waking
- PT begins POD#0 or POD#1 — early ambulation
- Discharge planning: home setup, adaptive equipment

POST-OP CARE

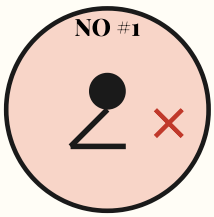
ABC & Safety Priorities

- **Airway/Breathing:** O_2, IS Q1–2H, cough/deep breathe — prevent atelectasis & PE
- **Circulation:** VS, H&H trend, monitor for hemorrhage, drain output
- **Pain:** multimodal — opioid PCA, scheduled APAP, ice
- **Position:** supine with abduction pillow between legs · NO pillow under knee (contracture risk)
- **5 P's neurovascular** checks Q1–2H first 24h
- Bed in low position, call light in reach, fall precautions

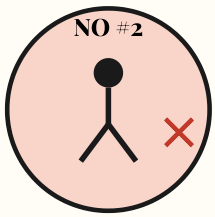
Mobility & Complication Prevention

- **Ambulate POD#0 or POD#1** with PT — weight-bearing per surgeon
- Maintain hip precautions during ALL transfers
- **SCDs + anticoagulant** for DVT prophylaxis
- Ankle pumps Q1H while awake
- Turn Q2H using **log-roll** with pillow between legs
- Stool softeners (docusate) — prevent straining/constipation
- Encourage 2–3 L fluid/day (unless restricted)
- High-protein, iron-rich diet for wound healing

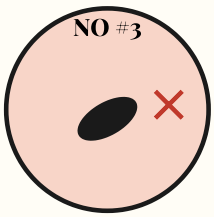
The 3 NO's of Posterior Hip Precautions



Flexion > 90°
(no low chairs, no bending)



Adduction past midline
(no crossing legs/ankles)



Internal rotation
(toes turned inward)

5 Potential Complications

What to watch for, when it happens, what to do

Complication	When	Signs/Symptoms	Nursing Action
Dislocation	Any time — highest risk first 6–12 wk	Sudden severe pain, **leg shortened & internally rotated**, inability to move, "pop" sensation	Keep leg abducted, don't move pt, notify surgeon STAT, prep for closed reduction
DVT	POD #2 – 14, peak first 2 wk	Unilateral calf swelling, warmth, redness, pain (not Homan's — outdated)	SCDs, anticoagulant, doppler U/S, no leg massage
Pulmonary Embolism 🚨	Often POD #2 – 10	Sudden dyspnea, pleuritic chest pain, tachycardia, ↓SpO_2, anxiety, hemoptysis	↑HOB, high-flow O_2, call rapid response, STAT CT-PA, anticoagulate
Fat Embolism 🚨	12–72 hr (esp. partial hip / fx)	**Petechiae chest/axilla/conjunctiva**, sudden dyspnea, AMS, tachycardia, fever	O_2, support BP, supportive care, ICU transfer
Hemorrhage / Anemia	First 24–48 hr	Drain >250 mL/hr fresh blood, ↓BP, ↑HR, ↓H&H, pale, lightheaded	Apply pressure, IV fluids, type & cross, transfuse PRN
Infection	Early (< 4 wk) or late	Fever, ↑WBC, redness, warmth, drainage (purulent), ↑pain, dehiscence	Cultures, IV antibiotics, may need washout or revision
Neurovascular Injury	Intra-op / immediate post-op	**Foot drop** (peroneal/sciatic nerve), numbness, ↓pulses, pallor	Reposition, loosen dressing, notify surgeon, neuro check Q1H
Compartment Syndrome	First 24–48 hr	Pain **unrelieved by meds**, tense compartment, pallor, paresthesia, pulselessness (late)	Remove constrictive dressing, notify surgeon STAT — fasciotomy
Constipation / Ileus	POD #1–5	No BM, distended abdomen, no flatus, ↓bowel sounds	Stool softeners, ambulate, fluids, fiber, PRN laxative
Delirium (elderly)	POD #1–3	Acute confusion, agitation, sleep-wake disturbance	Reorient, minimize sedation, manage pain, hydrate, mobilize, sleep hygiene

6 Pharmacology

Drugs across the perioperative spectrum

Drug / Class	Purpose	Key Side Effects	Nursing Considerations
Cefazolin (Ancef) CEPHALOSPORIN	Pre-op surgical prophylaxis	Diarrhea, rash, anaphylaxis (cross-react PCN)	Give within **60 min of incision**; check PCN allergy
Enoxaparin (Lovenox) LMWH	DVT prophylaxis	Bleeding, thrombocytopenia (HIT)	SQ **"love handles"** — don't aspirate, don't expel air bubble, don't rub site
Warfarin (Coumadin) VITAMIN K ANTAGONIST	Long-term DVT prevention	Bleeding; teratogenic	Monitor **INR (goal 2–3)**; antidote: **vitamin K**; limit green leafy veg consistency
Apixaban / Rivaroxaban DOAC / Factor Xa	DVT prophylaxis	Bleeding (limited reversal: andexanet alfa)	No routine lab monitoring; assess for bleeding
Aspirin (low-dose) ANTIPLATELET	VTE prophylaxis (selected pts)	GI bleed, bruising	Used per ortho protocol; assess bleeding
Opioids (morphine, hydromorphone, oxycodone) NARCOTIC	Acute post-op pain	Respiratory depression, sedation, **constipation**, N/V, urinary retention	Monitor RR & sedation; antidote **naloxone**; pair w/ stool softener
Acetaminophen NON-OPIOID	Multimodal pain	Hepatotoxicity > 4 g/day	Scheduled, around-the-clock; check LFTs
Ketorolac (Toradol) NSAID	Short-term post-op pain	GI bleed, AKI, ↑bleeding	**≤ 5 days only**; caution post-op bleeding risk
Docusate (Colace) STOOL SOFTENER	Prevent opioid constipation	Mild cramping	Start with opioid; encourage fluids/fiber
Iron sulfate SUPPLEMENT	Post-op anemia	Constipation, dark stool, GI upset	Take w/ **vitamin C / OJ** for absorption; can take w/ meals to ↓GI upset

7 NCLEX Test Traps

Wrong vs. right — what students miss

❌ WRONG	✅ RIGHT
"I'll put a pillow under my knee for comfort."	Never pillow under knee — causes **flexion contracture**. Pillow goes **BETWEEN** legs (abduction).
"I'll cross my ankles when sitting to look more relaxed."	**Never cross legs** — adduction past midline can dislocate the hip.
"I'll sit in my favorite low recliner at home."	Use **elevated chair**, raised toilet seat — hip cannot flex past 90°.
"I'll bend down to put on my socks and shoes."	Use **long-handled sock aid, reacher, shoehorn** — no bending forward past 90°.
Nurse positions affected leg in internal rotation with toes pointed in.	Affected leg in **abduction with neutral or slight external rotation — toes UP**.
Nurse checks Homan's sign daily to assess for DVT.	Homan's is **outdated/unreliable**. Assess for **unilateral calf swelling, warmth, pain**.
Patient with sudden chest pain — nurse waits to recheck VS in 30 min.	Sudden chest pain + dyspnea + tachycardia post-op hip = **PE until proven otherwise**. ↑HOB, O_2, rapid response NOW.
Petechiae on chest 2 days after partial hip — nurse documents as bruising.	Petechiae on chest/axilla/conjunctiva 24–72h post-op = classic **FAT EMBOLISM** sign. Notify provider STAT.

8 Patient & Family Education

Pre-op prep + post-op discharge teaching

Pre-op Teaching

- Stop NSAIDs/anticoagulants per provider; bring med list
- CHG shower night before & morning of surgery
- NPO after midnight
- Practice hip precautions, log-rolling, IS BEFORE surgery
- Arrange home setup: raised toilet, elevated chair, grab bars, no scatter rugs
- Arrange ride home, support person, follow-up appts
- Stop smoking — impairs healing
- Optimize nutrition (protein, iron, vit C/D)

Post-op Discharge Teaching

- **Hip precautions for 6–12 weeks** (or per surgeon)
- Use adaptive equipment: **sock aid, reacher, long shoehorn, raised toilet seat**
- Sleep on back with pillow between legs × 6 wk; no sleeping on operated side
- Sit only in **firm, high chairs with arms**
- Do not bend forward past 90° to tie shoes / pick up objects
- Resume sexual activity ~4–6 wk — operated leg **passive & abducted**
- Driving usually **4–6 wk** (right hip later than left)
- Continue anticoagulant + bleeding precautions × prescribed duration
- Take antibiotic prophylaxis before **dental work** (per surgeon, often lifelong)
- Walk daily; avoid **high-impact** (running, jumping) permanently

🚨 CALL THE SURGEON / GO TO ER IF:

• Sudden severe hip pain, leg shortened or turned inward
• Inability to bear weight or move leg
• Fever > 101°F (38.3°C)
• Redness, warmth, drainage, or opening at incision
• Calf swelling/pain, sudden chest pain or shortness of breath
• Bleeding that won't stop, blood in urine/stool, severe bruising

9 Memory Boosters & Mnemonics

Anchors for high-yield recall

🦴 The 3 NO's (Posterior Approach)

- **NO** hip Flexion > 90°
- **NO** Adduction past midline
- **NO** Internal rotation

"FAI" — Flexion, Adduction, Internal rotation = the unholy trio that dislocates the hip.

👣 "TOES UP, KNEES APART"

Patient's leg in **abduction with toes pointed UP** (neutral rotation). Abduction pillow keeps knees apart.

🚨 Dislocation = "SHORT & TURNED IN"

Operated leg looks **shorter** and **internally rotated** (posterior dislocation) + sudden severe pain. Don't move pt, call surgeon, prep for reduction.

🫁 Fat Embolism = "PETECHIAE in the PARTIAL HIP"

24–72 hr post-op, especially after **partial hip / femoral fracture**: petechiae on chest, axilla, conjunctiva + sudden dyspnea + AMS. Different from PE — look for the rash.

🩺 5 P's — Neurovascular Check

Pulses · **P**allor · **P**aresthesia · **P**ain · **P**aralysis. Add a 6th: **P**oikilothermia (coolness). Foot drop = peroneal nerve injury.

💊 "ABDUCT to PROTECT"

The abduction pillow between the legs literally keeps the new joint **in the socket**. Never remove it without an order.

10 NCJMM Clinical Judgment Scenario

Six-step Next-Gen NCLEX framework

SCENARIO: A 76-year-old female is POD#2 from a right total hip arthroplasty (posterior approach). She has been receiving enoxaparin SQ and PCA hydromorphone. The CNA reports the patient "doesn't look right." On arrival, the nurse finds: BP 96/58, HR 118, RR 28, SpO_2 88% on room air, T 99.2°F. The patient is anxious, complaining of chest tightness and "I can't catch my breath." Right leg is in abduction pillow; small petechiae are noted on the chest wall.

1 Recognize Cues

Relevant: **tachycardia (118), tachypnea (28), hypotension (96/58), hypoxia (SpO_2 88%)**, anxiety, chest tightness, dyspnea, **petechiae on chest**, POD#2 hip arthroplasty, immobile, on opioid.

2 Analyze Cues

Sudden respiratory + hemodynamic deterioration POD#2 → narrowed differential: **pulmonary embolism** (post-op immobility, hip surgery) vs **fat embolism syndrome** (orthopedic, 24–72h window, **petechiae**). Petechiae + timing favor fat embolism, but PE cannot be excluded — both are life-threatening.

3 Prioritize Hypotheses

HIGH priority: Fat embolism syndrome and/or PE — either is an emergent respiratory/cardiac crisis. LOW priority: opioid-induced respiratory depression (RR is HIGH, not low; SpO_2 wouldn't have petechiae).

4 Generate Solutions

↑HOB Fowler's · apply **high-flow O_2 (non-rebreather)** · call **rapid response** · IV access patent, NS bolus for hypotension · STAT ABG, CT-PA, CBC, coags · continuous cardiac/SpO_2 monitor · prepare for ICU transfer · hold next enoxaparin until evaluated · keep pt calm, NPO.

5 Take Action

FIRST: ↑HOB and apply non-rebreather O_2 (ABC — fix the hypoxia). **NEXT:** call rapid response, notify provider, obtain STAT ABG/CT-PA. **THEN:** establish second IV, prepare anticoagulation/supportive measures, transfer to higher LOC.

6 Evaluate Outcomes

Expected improvement: SpO_2 ≥ 94%, RR 12–20, HR < 100, BP > 100 systolic, decreased anxiety/dyspnea, no new petechiae, alert and oriented. **Continued deterioration:** escalate to ICU, intubation prep, treat embolic event per provider orders.

NGN NCLEX 2026 Visual Study Library · Hip Replacement (Total & Partial) · Drawn from standard nursing references (Saunders, ATI, Lippincott) as this topic was not in the uploaded notes.