Osteoarthritis vs Rheumatoid Arthritis

NGN NCLEX 2026 • HIGH-YIELD REVIEW

MUSCULOSKELETAL SYSTEM

1 Definition & Overview

Osteoarthritis (OA)

"Wear & Tear" — Degenerative Joint Disease

- **Non-inflammatory** degeneration of articular cartilage
- **Localized** disease — joints only, no systemic involvement
- Most common form of arthritis; affects weight-bearing joints
- Typically occurs after age **50+**

Rheumatoid Arthritis (RA)

Autoimmune, Systemic, Inflammatory

- **Autoimmune disease** — body attacks its own synovium
- **Systemic** — affects joints AND organs (lungs, heart, eyes, vessels)
- Chronic inflammation leads to joint destruction & deformity
- Onset typically ages **30–60**; more common in women (3:1)

2 Pathophysiology (Simplified)

OA Cascade

Mechanical stress / aging / obesity / injury

↓

Breakdown of **articular cartilage**

↓

Bone-on-bone friction → osteophytes (bone spurs)

↓

Joint-space narrowing, stiffness, pain with use

RA Cascade

Autoimmune trigger (genetic + environmental)

↓

Synovium inflames → pannus forms

↓

Pannus erodes cartilage, bone, ligaments

↓

Joint deformity + systemic inflammation (fever, fatigue, organ damage)

3 Signs & Symptoms

OA Clinical Picture

- **Asymmetrical** joint involvement
- Affects large weight-bearing joints: **knees, hips, spine**
- Hands: **DIP** (Heberden's nodes) & **PIP** (Bouchard's nodes)
- Pain **WITH activity**, relieved by rest
- Morning stiffness **< 30 minutes**
- Crepitus (grating) on movement

RA Clinical Picture

- **Symmetrical** joint involvement
- Affects small joints first: **PIP, MCP, wrists**
- Deformities: **swan neck, boutonnière, ulnar drift**
- Joints **warm, red, swollen, tender**
- Morning stiffness **> 1 hour** (often hours)
- Systemic: fatigue, low-grade fever, weight loss, anemia

- NO systemic symptoms
- Labs: usually **normal**

- Rheumatoid nodules (subcutaneous)
- Labs: ↑ RF, ↑ anti-CCP, ↑ ESR, ↑ CRP

🚨 RED FLAGS — Report Immediately

- **RA:** Chest pain / SOB → pericarditis or pulmonary fibrosis
- **RA:** Sudden vision changes → scleritis / Sjögren's
- **RA:** Signs of infection (fever, cough, wounds) while on immunosuppressants
- **OA/RA:** Acute, severely swollen hot joint → rule out septic arthritis
- **OA:** Cauda equina signs (bladder/bowel changes, saddle anesthesia) with spinal OA

4 Priority Nursing Interventions

🅰️ ABCs & Safety First

- **Assess** pain (0–10), stiffness duration, joint ROM, deformities
- **Monitor** for systemic complications in RA (cardiac, pulmonary, ocular)
- **Prevent falls** — altered gait, joint instability, steroid-related weakness
- **Infection surveillance** (RA + immunosuppressants = high risk)

💊 Pain & Joint Management

- **Heat** for chronic stiffness (morning); **Cold** for acute inflammation/flares
- Balance **rest & activity** — rest during RA flares, exercise between flares
- Teach **joint protection**: large muscles, avoid prolonged gripping, use assistive devices

- Encourage **low-impact exercise**: swimming, walking, cycling, isometrics
- Apply splints during acute RA flares to reduce deformity

📈 Monitoring & Documentation

- Track functional status (ADLs) — changes guide treatment
- Monitor **labs**: CBC, LFTs, renal function (especially on DMARDs/NSAIDs)
- Assess skin integrity (rheumatoid nodules, pressure areas)
- Evaluate emotional response — chronic disease = depression risk

5 Pharmacology

OA Medications

Drug / Class	Mechanism	Key Side Effects	Nursing Considerations
Acetaminophen *(Tylenol)*	Central analgesic — first-line for OA	Hepatotoxicity (max 3–4 g/day)	Assess liver function; avoid alcohol
NSAIDs *(Ibuprofen, Naproxen, Celecoxib)*	Inhibit COX → ↓ prostaglandins → ↓ pain/inflammation	GI bleed, renal impairment, ↑ BP, cardiac risk	Give with food; monitor BUN/Cr, black tarry stools; avoid in CKD
Topical Capsaicin	Depletes substance P → ↓ pain signal	Burning sensation at site	Wash hands after; avoid eyes/broken skin
Intra-articular Corticosteroids	Injected for local inflammation relief	Limited to ~3–4 injections/year — cartilage damage	Monitor blood glucose; assess injection site

Duloxetine ***(Cymbalta)***	SNRI — chronic OA pain	Nausea, dry mouth, suicidal ideation	Taper slowly; monitor mood

RA Medications (DMARDs & Biologics)

Drug / Class	Mechanism	Key Side Effects	Nursing Considerations
Methotrexate ⭐ ***(First-line DMARD)***	Inhibits folate → ↓ immune proliferation	Bone marrow suppression, hepatotoxicity, mouth sores, **teratogenic**	Give **folic acid**; monitor CBC/LFTs; no alcohol; no pregnancy; watch infection
Hydroxychloroquine ***(Plaquenil)***	Antimalarial DMARD	**Retinal toxicity**, GI upset	Baseline + yearly eye exam; take with food
Sulfasalazine	Anti-inflammatory DMARD	GI upset, photosensitivity, orange urine	Full water intake; sun protection
Biologics / TNF-α Inhibitors ***(Etanercept, Adalimumab, Infliximab)***	Block tumor necrosis factor → ↓ inflammation	**↑↑ Infection risk** (TB reactivation), injection site reactions	**Screen for TB before starting;** avoid live vaccines; hold during active infection
Corticosteroids ***(Prednisone)***	Potent anti-inflammatory — short-term bridge	Hyperglycemia, osteoporosis, Cushingoid, immunosuppression	**Never stop abruptly** — taper; monitor glucose & infection
JAK Inhibitors ***(Tofacitinib)***	Block Janus kinase pathway	Infection, thrombosis, ↑ lipids	Monitor CBC, lipids, liver; TB screen

6 NCLEX Test Traps ⚠️

TRAP #1

Morning stiffness duration is the giveaway. OA < 30 min; RA > 1 hour. If the stem says "stiffness improves after she starts moving in an hour" → RA.

TRAP #2

Symmetry matters. Bilateral, mirror-image joints = RA. One knee or one hip = OA. Don't miss this on hand questions — DIP asymmetric = OA; MCP/PIP symmetric = RA.

TRAP #3

Heberden's vs Bouchard's. Both are OA. Heberden's = DIP (distal/end); Bouchard's = PIP (proximal/middle). "H" is at the tip.

TRAP #4

Heat vs Cold. Acute red, hot, swollen RA flare → **COLD**. Chronic morning stiffness → **HEAT**. Students reverse these.

TRAP #5

Methotrexate & folic acid. You DO give folic acid with MTX (reduces side effects). Students think folic acid cancels the drug — it doesn't.

TRAP #6

Rest vs exercise in RA. During an active flare → REST the joint. Between flares → exercise. Total rest causes contractures; total activity worsens flares.

TRAP #7

Live vaccines + biologics = NO. MMR, varicella, zoster (live) are contraindicated with TNF-α inhibitors. Inactivated flu is fine.

TRAP #8

Hydroxychloroquine = eye exam. If the stem asks about follow-up care on Plaquenil, pick the ophthalmology visit — retinal toxicity is the killer side effect.

TRAP #9

OA labs are normal. If ESR, CRP, or RF are elevated, it's NOT OA. Don't be fooled by a question that gives a lab panel.

TRAP #10

First-line OA = acetaminophen, NOT NSAIDs. NSAIDs are second-line due to GI/renal/cardiac risk, especially in older adults.

NCJMM Clinical Judgment Framework

1

Recognize Cues

Symmetry? Morning stiffness > 1 hr? Warm/red joints? Systemic signs? Labs (RF, ESR, CRP)?

2

Analyze

OA (degenerative, localized) vs RA (autoimmune, systemic). Identify flare vs stable phase.

3

Prioritize

Safety (falls), pain control, infection prevention (RA on

4

Evaluate

Pain ↓? ROM improved? ADLs preserved? Labs stable? No medication toxicity?

immunosuppressants), joint protection.

7 Patient Education

Lifestyle & Activity

- ✓ Weight loss relieves joint stress (especially OA knees/hips)
- ✓ Low-impact exercise 30 min/day: swim, walk, bike
- ✓ Avoid high-impact (running, jumping)
- ✓ Use assistive devices (cane on STRONG side)

Joint Protection

- ✓ Use large muscles/joints for tasks
- ✓ Avoid prolonged gripping or pinching
- ✓ Apply splints during RA flares
- ✓ Alternate rest & activity; pace yourself

Heat & Cold Therapy

- ✓ Warm shower/compress for morning stiffness
- ✓ Cold pack 20 min for acute swelling/flare
- ✓ Never apply ice directly to skin

Medication Teaching

- ✓ Take NSAIDs WITH food, watch for black stools
- ✓ MTX: folic acid, no alcohol, report infection
- ✓ Never stop steroids abruptly — taper
- ✓ No live vaccines on biologics

When to Call Provider

- ✓ Fever, cough, wound (infection on immunosuppressants)
- ✓ New or worsening joint deformity
- ✓ Vision changes (Plaquenil users)
- ✓ Unusual bleeding or bruising

Emotional & Social

- ✓ Chronic pain → depression risk; screen & refer
- ✓ Connect with Arthritis Foundation support groups
- ✓ Occupational therapy for home modifications
- ✓ Family education — help without overhelping

8 Memory Boosters

🔤 "O.A." = Older, Asymmetric

O **O**lder adults (50+), **O**verweight, **O**veruse

A **A**symmetric, **A**ctivity-related pain, **A**cetaminophen first

🔤 "R.A." = Rheumatoid = Rigid & Redness

R **R**igid in the morning (>1 hr), **R**edness/warmth, **R**heumatoid factor +

A **A**utoimmune, **A**mbidextrous (symmetrical), **A**ffects whole body

🖐️ Hand Nodes: "H is at the tip"

Heberden's → **D**IP (distal / far end of finger) — "**H**" & "**D**" both live at the end

Bouchard's → **P**IP (proximal / middle knuckle) — think **B**ouchard sits in the middle

Both occur in **OA**. In RA, the MCP & PIP swell, but no nodes — you get deformities like swan neck & ulnar drift.

💊 Methotrexate = "M.T.X."

M **M**onitor CBC/LFTs; **M**outh sores

T **T**eratogenic (NO pregnancy); **T**ake folic acid

X E**X**tra caution: infection risk, no alcohol, no live vaccines

🥵🥶 Heat vs Cold: "ICE the Inflamed"

Inflamed, red, swollen flare → ICE (cold pack)

Stiff, chronic, morning → HEAT (warm shower)

🚶 Cane Rule: "COAL"

Cane **O**pposite **A**ffected **L**eg — support the weak side with the strong arm.