

NGN NCLEX 2026 • PEDIATRIC NURSING • MUSCULOSKELETAL / AUTOIMMUNE

Juvenile Idiopathic Arthritis

The most common chronic rheumatic disease of childhood — an autoimmune condition causing persistent joint inflammation in clients younger than 16 years. High-yield for NCLEX pediatric, immune, and pharm content.

SYSTEM: MSK • AUTOIMMUNE

AGE: < 16 YEARS

DURATION: ≥ 6 WEEKS

CHRONIC • RELAPSING

SOURCE NOTE: This topic was not in the uploaded session notes. Content is drawn from standard NGN NCLEX 2026 references — Saunders Comprehensive Review (Silvestri), ATI Pediatric Nursing, Lippincott NCLEX-RN, and the American College of Rheumatology (ACR) pediatric guidelines. Verified against current 2024–2026 pediatric rheumatology recommendations.

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Definition & Overview

WHAT IT IS • WHY IT MATTERS

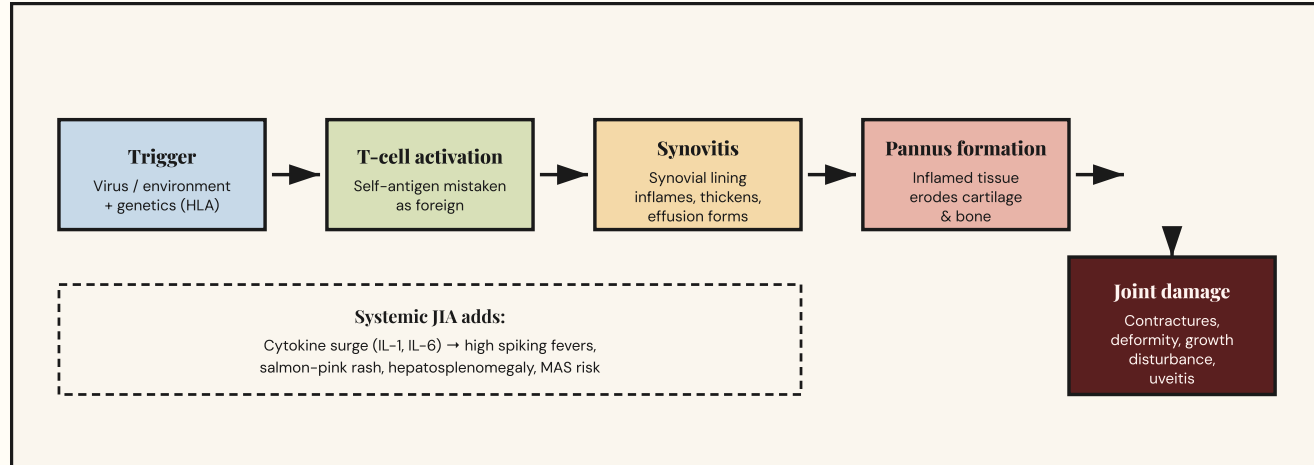
- ▶ **JIA** = chronic autoimmune inflammation of one or more joints, beginning **before age 16**, lasting **at least 6 weeks**, with no other identifiable cause.
- ▶ Formerly called *Juvenile Rheumatoid Arthritis (JRA)*. The name changed because JIA is **not the same disease as adult RA** — many children are rheumatoid factor (RF) negative.
- ▶ Cause is **unknown (idiopathic)**. Believed to be triggered by environmental factors in a genetically susceptible child. Females are more commonly affected (except enthesitis-related and systemic types).
- ▶ Hallmark = **morning stiffness, joint warmth/swelling**, and **chronic inflammation** that can lead to joint damage, growth disturbances, and vision loss if untreated.

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Pathophysiology (Simplified)

TRIGGER → AUTOIMMUNE CASCADE → JOINT DAMAGE

An unknown trigger (likely viral or environmental) in a genetically susceptible child activates a self-directed immune response targeting the synovium.



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Major Subtypes (ILAR Classification)

EACH BEHAVES DIFFERENTLY — KNOW THE PATTERNS

SUBTYPE 01

Oligoarticular

≤ 4 joints in first 6 months.
Asymmetric, large joints (knees, ankles). **Highest risk of uveitis.**
ANA often positive.

Most common (~50%)

SUBTYPE 02

Polyarticular RF-

≥ 5 joints, symmetric. Small & large joints. RF negative. Better prognosis than RF+.

~20%

SUBTYPE 03

Polyarticular RF+

≥ 5 joints, symmetric. **Resembles adult RA.** Worst prognosis. Older girls.

~5%

SUBTYPE 04

Systemic (Still's)

Quotidian spiking fevers ≥ 2 wks,
salmon-pink evanescent rash,
hepatosplenomegaly, serositis.
MAS risk.

~10%

SUBTYPE 05

Enthesitis-Related

Inflammation where tendons insert into bone. Boys > 6 yrs. HLA-B27+. Linked to ankylosing spondylitis.

~10%

SUBTYPE 06

Psoriatic / Undifferentiated

Arthritis with psoriasis, dactylitis ("sausage digits"), or nail pitting. Or doesn't fit other categories.

~5%

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Signs & Symptoms

EARLY VS LATE • RED FLAG FINDINGS

Early / Mild

- ▶ **Morning stiffness** — eases with movement (signature finding)
- ▶ Joint swelling, warmth, tenderness (often **without redness** — different from septic joint)
- ▶ Limping, refusal to walk, "clumsy" gait (especially in toddlers)
- ▶ Decreased activity, irritability, regression of milestones
- ▶ Low-grade fever, fatigue
- ▶ Loss of appetite, weight loss, poor growth

Late / Severe

- ▶ **Joint contractures** and deformities
- ▶ Muscle atrophy around affected joints
- ▶ **Growth disturbances** — leg length discrepancy, micrognathia (small jaw)
- ▶ Permanent **vision loss** from chronic uveitis
- ▶ Anemia of chronic disease
- ▶ Functional disability, school absenteeism

RED FLAGS — Notify provider immediately

- ▶ **High spiking fevers $\geq 39^{\circ}\text{C}$ (102.2°F) with salmon-pink rash** → systemic JIA flare or new diagnosis
- ▶ **Macrophage Activation Syndrome (MAS)** — sustained fever, falling cell counts, hepatomegaly, elevated ferritin, bleeding → **life-threatening**, ICU emergency
- ▶ **Eye pain, photophobia, vision change, red eye** → acute uveitis (but chronic uveitis is usually SILENT — screen routinely)
- ▶ **Sudden severe joint pain with redness + fever** → rule out septic arthritis (a different emergency)
- ▶ **Signs of infection** in child on biologics/MTX → suppressed immunity, sepsis risk
- ▶ **Refusal to bear weight** in a young child — investigate before assuming behavioral

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Priority Nursing Interventions

ABC FRAMEWORK • SAFETY • FUNCTION PRESERVATION

A

AIRWAY / ACUTE

Assess for **TMJ involvement** & micrognathia → difficult airway. Monitor systemic JIA for pericarditis/pleuritis (chest pain, dyspnea).

B

BREATHING

Monitor RR, lung sounds. Watch for **pleural effusion / pericardial effusion** in systemic JIA. Pulse ox PRN.

C

CIRCULATION

VS q4h during flare. Assess for anemia (pallor, fatigue, low Hgb). **MAS:** falling platelets/WBC + rising ferritin = emergency.

D

DISABILITY / DAILY FUNCTION

Assess pain (FACES / Numeric). ROM. **Preserve mobility** — splinting, PT, activity within tolerance.

✓ Pain & Inflammation

- ▶ **Administer NSAIDs around the clock** during flare (scheduled, not PRN) — give with food
- ▶ Apply **warm moist heat or warm bath in morning** to relieve stiffness
- ▶ Apply **cold packs** to acutely swollen joints (10–15 min)
- ▶ Reposition q2h; support joints in neutral alignment
- ▶ Avoid pillows under knees (promotes flexion contractures)

✓ Mobility & Function

- ▶ **Encourage activity — bed rest is contraindicated** except during severe flare
- ▶ ROM exercises daily; **swimming & cycling** are ideal (low joint stress)
- ▶ Use splints at night to prevent contractures, not during day activity
- ▶ Refer to PT/OT for individualized program
- ▶ Firm mattress; small or no pillow under head

✓ Eye / Safety

- ▶ **Slit-lamp exam every 3–6 months** (uveitis can be silent → blindness)
- ▶ More frequent screening for ANA+, oligoarticular subtype, < 7 yrs at onset
- ▶ Report any eye redness, pain, or vision change immediately
- ▶ Fall risk during flare — clear pathways, supportive shoes

✓ Growth & Development

- ▶ Plot growth on pediatric charts every visit
- ▶ Assess for **school absenteeism, peer isolation, depression**
- ▶ Encourage age-appropriate play and peer interaction
- ▶ Nutrition: calcium + vitamin D (especially on steroids); high-protein during flare
- ▶ Coordinate care with school nurse — 504 plan if needed

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Pharmacology Comparison

FIRST LINE → DMARDS → BIOLOGICS

DRUG / CLASS	MECHANISM	KEY SIDE EFFECTS	NURSING CONSIDERATIONS
NSAIDs Ibuprofen, Naproxen	Inhibit COX → ↓ prostaglandins → ↓ pain & inflammation. First-line.	GI upset, GI bleed, renal toxicity, tinnitus, increased bleed time	Give with food. Monitor stool for occult blood, BUN/Cr. Takes 3–4 weeks for full anti-inflammatory effect. Avoid aspirin in children (Reye's risk).
Methotrexate DMARD — gold standard	Folate antagonist → suppresses immune response & inflammation. Used when NSAIDs inadequate.	Hepatotoxicity , bone marrow suppression, mouth ulcers, N/V, alopecia, teratogenic	Weekly dosing (NOT daily — never). Give folic acid supplement. Monitor CBC, LFTs, Cr. Avoid live vaccines. Strict pregnancy prevention in teens. Avoid alcohol.
Biologics Etanercept, Adalimumab (TNF inhibitors); Tocilizumab (IL-6); Anakinra (IL-1)	Block specific cytokines (TNF-α, IL-1, IL-6) driving inflammation.	Serious infection risk (TB reactivation), injection-site reactions, increased malignancy risk	TB screen before starting. No live vaccines. Hold if infection/fever. Refrigerate; rotate injection sites. Tocilizumab & Anakinra used for systemic JIA / MAS.
Corticosteroids Prednisone, IA triamcinolone	Broad anti- inflammatory and immunosuppressive. Used for severe flares, MAS, uveitis.	Growth suppression , weight gain, Cushingoid features, osteoporosis, hyperglycemia, mood changes, immunosuppression	Use lowest effective dose, shortest time. Never stop abruptly — taper. Calcium + Vit D. Monitor BG, BP, growth. Intra-articular injections preferred over systemic when possible.
Other DMARDs Sulfasalazine, Leflunomide, Hydroxychloroquine	Various immunomodulating effects.	Sulfa allergy (sulfasalazine), retinal toxicity (hydroxychloroquine), GI upset, hepatotoxicity	Baseline & periodic eye exam for hydroxychloroquine. Check for sulfa allergy. Monitor CBC, LFTs.

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NCLEX Test Traps

WHAT STUDENTS CONFUSE • PRIORITY VS DISTRACTOR

x WRONG ASSUMPTION

"Promote bed rest to protect inflamed joints."

✓ CORRECT PRIORITY

Encourage activity within tolerance. Prolonged immobility → contractures, muscle atrophy, and worse function. Bed rest is only for severe acute flare.

x WRONG ASSUMPTION

"Apply ice in the morning to reduce stiffness."

✓ CORRECT PRIORITY

Use **warm** moist heat or a warm bath/shower in the morning for stiffness. Use cold for acute swelling. Heat = chronic stiffness; cold = acute inflammation.

x WRONG ASSUMPTION

"The child has no eye pain or redness, so eye exams aren't urgent."

✓ CORRECT PRIORITY

JIA-associated **chronic uveitis is silent** until vision is damaged. Routine **slit-lamp exam every 3–6 months** is non-negotiable, especially in oligoarticular ANA+ children.

x WRONG ASSUMPTION

"Give methotrexate daily like other arthritis meds."

✓ CORRECT PRIORITY

Methotrexate for JIA is dosed ONCE WEEKLY. Daily dosing causes severe toxicity (bone marrow suppression, hepatotoxicity, death). Give folic acid to reduce side effects.

x WRONG ASSUMPTION

"Give aspirin for arthritis pain."

✓ CORRECT PRIORITY

Avoid aspirin in children — risk of Reye's syndrome. Use ibuprofen or naproxen as first-line NSAIDs. (Historical JRA tx used aspirin; current pediatric practice does NOT.)

x WRONG ASSUMPTION

"Live vaccines are safe — the child needs immunizations."

✓ CORRECT PRIORITY

Children on **MTX, biologics, or high-dose steroids should NOT receive live vaccines** (MMR, varicella, LAIV). Give inactivated vaccines (annual flu shot) instead. Complete live vaccines **BEFORE** starting immunosuppressants when possible.

x WRONG ASSUMPTION

"Fever + joint pain in a child = JIA."

✓ CORRECT PRIORITY

First rule out **septic arthritis** (single hot, red, exquisitely tender joint, refusal to move it, high fever)

— a true emergency. JIA pain improves with movement; septic arthritis does not.

✗ WRONG ASSUMPTION

"A pillow under the knees keeps the child comfortable."

✓ CORRECT PRIORITY

Do **NOT** place pillows under affected joints — flexion positioning promotes **permanent contractures**. Keep joints in neutral extension. Use night splints, not flexion supports.

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Patient & Family Education

DAILY CARE • LONG-TERM MANAGEMENT

Daily Routine

- ▶ **Warm bath or shower every morning** — eases stiffness before school
- ▶ Take medications at the **SAME** time daily, even when feeling well
- ▶ Apply heat for stiffness; cold for acutely swollen joints
- ▶ Stretch and do ROM exercises daily — PT-guided program
- ▶ Firm mattress; **no pillow under the knees**

Activity & School

- ▶ **Stay active** — swimming, cycling, walking are best
- ▶ Avoid high-impact sports during flares; otherwise participate as tolerated
- ▶ School modifications: extra time between classes, two sets of books, breaks to move, extended test time
- ▶ Encourage peer relationships; arthritis does not define the child
- ▶ Wear supportive shoes; avoid prolonged sitting

Medication Safety

- ▶ **Methotrexate is WEEKLY only** — set a calendar reminder; never daily
- ▶ Take NSAIDs with food to protect the stomach
- ▶ Watch for signs of infection (fever, sore throat, wound) → call provider; biologics suppress immunity
- ▶ Use **sunscreen** on methotrexate (photosensitivity)
- ▶ No alcohol with methotrexate (hepatotoxic)
- ▶ Never stop steroids abruptly — must taper

Long-Term Monitoring

- ▶ **Eye exams every 3–6 months** — even with no symptoms
- ▶ Lab work: CBC, LFTs, ESR/CRP on schedule
- ▶ Annual flu vaccine (inactivated only on biologics)
- ▶ Dental care: TMJ involvement may need orthodontic monitoring
- ▶ Calcium + vitamin D; weight-bearing activity for bone health
- ▶ Mental health screening — depression/anxiety common in chronic illness

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Memory Boosters & Mnemonics

PATTERN RECOGNITION • QUICK RECALL

MNEMONIC 01

S • O • A • P

Stiffness in the morning • **O**ligo joints (most common) • **A**NA+ → uveitis risk • Pain that improves with movement

MNEMONIC 02

SALMON STILL

Salmon—pink rash = **Still's** disease (systemic JIA). Comes & goes with the spiking fever. Other signs: hepatosplenomegaly, serositis.

MNEMONIC 03

EYES WIDE OPEN

JIA—uveitis is *silent*. Don't wait for symptoms — slit-lamp every **3–6 months**. ANA+, oligoarticular, <7 yrs = highest risk.

MNEMONIC 04

MOVE IT or LOSE IT

Activity preserves function. Bed rest = contractures + atrophy. Swim, bike, stretch — NOT rest.

MNEMONIC 05

HOT vs COLD

Heat for stiffness in the morning (chronic). Cold for acutely hot, swollen joints. Don't mix them up.

MNEMONIC 06

M.T.X. = "Mark The X" (weekly!)

Methotrexate is dosed ONCE A WEEK, never daily. Mark the day on a calendar. Give folic acid. Watch LFTs.

MNEMONIC 07

MAS = "Make Aware Stat"

Macrophage Activation Syndrome: persistent fever + falling cell counts + rising ferritin + bleeding. Life-threatening. ICU emergency.

MNEMONIC 08

No Live, No Aspirin

On MTX/biologics → **NO live vaccines**. In any child < 18 → **NO aspirin** (Reye's syndrome). Easy NCLEX wins.

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NCJMM Clinical Judgment Scenario

SIX-STEP NEXT GENERATION CLINICAL JUDGMENT MEASUREMENT MODEL

Scenario

A 6-year-old girl is admitted to the pediatric unit. Her parents report she has been limping in the mornings for the past 3 months, complaining of knee pain that gets better after she "warms up." She has missed several days of school due to "tiredness." On exam, the left knee is swollen, warm, and held in slight flexion. Temp 37.6°C (99.7°F), HR 96, RR 20, BP 100/64. CBC: mild anemia. ESR elevated. ANA positive, RF negative. The provider diagnoses oligoarticular JIA and orders naproxen scheduled BID and an ophthalmology referral.

STEP 1 • RECOGNIZE CUES

What matters most?

Morning stiffness that improves with activity · asymmetric single large-joint involvement · warmth/swelling without redness · ANA+ / RF- · school absenteeism · slight flexion contracture forming · age < 7 with ANA+ → **high uveitis risk**.

STEP 2 • ANALYZE CUES

What do the cues mean?

Pattern fits **oligoarticular JIA** — NOT septic arthritis (no high fever, no exquisite tenderness, pain improves with movement). The ANA+ & young age place her in the highest-risk group for **chronic anterior uveitis**, which is asymptomatic. Flexion at the knee signals early contracture risk.

STEP 3 • PRIORITIZE HYPOTHESES

What's the biggest threat?

- #1 **Silent uveitis** → **vision loss** if not screened.
- #2 **Joint contracture / loss of function** from poor positioning & inadequate movement.
- #3 Inadequate pain & inflammation control.
- #4 Psychosocial impact (missed school, peer isolation).

STEP 4 • GENERATE SOLUTIONS

What interventions address the priorities?

Schedule **slit-lamp exam** within the next 1–2 weeks and every 3–6 months ongoing. Administer naproxen with food, scheduled (not PRN). Teach **warm bath each morning**, daily ROM, swimming. Position the knee in extension; **no pillow under it**. PT referral. School plan for movement breaks.

STEP 5 • TAKE ACTION

Implement the plan

Give naproxen with breakfast and dinner. Place warm moist pack to the knee × 15 min before AM ambulation. Coordinate ophthalmology consult *before discharge*. Educate family: weekly med calendar, signs of GI bleed, swim 2–3×/wk, no aspirin ever. Provide written 504 plan letter for school. Plot growth.

STEP 6 • EVALUATE OUTCOMES

Did it work?

Expected: ↓ morning stiffness within 2–4 weeks of NSAID therapy · improved ROM and gait · weight gain & return to school · normal eye exam · pain ≤ 3/10 with morning routine · family verbalizes correct med schedule, sun precautions, and uveitis-screening importance. **Re-evaluate:** if no improvement in 3–4 weeks → step up to methotrexate.

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