49-year-old woman, multi-joint arthritis: right shoulder MRI — what next?

Evidence brief for clinician review, Nov 27, 2026. Merged from three AI research runs; every cited study was checked on PubMed.

Bottom line

- **This is a whole-joint problem, not just a cuff tear.** Moderate GH effusion with synovial proliferation and capsular edema, possible loose bodies or nodular synovitis, bipolar chondral loss and severe AC arthropathy, in a patient with multi-joint arthritis. **Rule out inflammatory, crystal and septic arthritis before treating it as a rotator cuff problem.**
- **Next step:** exam (active vs passive ROM, ER at the side), radiographs, labs, and **US-guided GH aspiration before any steroid**. Refer to rheumatology if serology, fluid or joint pattern suggests inflammatory disease.
- **Then 3–6 months of conservative care:** PT plus **one** image-guided steroid injection aimed at the dominant pain source (GH for synovitis or stiffness, AC if AC is the tender source). PRP is not guideline-supported.
- **The >50% partial tear is not urgent** (Goutallier 0, no retraction) but can progress, so follow it with imaging. **Surgery is for failed conservative care:** cuff repair, loose-body removal, synovial biopsy or synovectomy, labral debridement (not repair), and distal clavicle excision only if AC pain is clinically confirmed.

Evidence by scenario

Scenario	Key numbers (source)
Tear progression	Partial tears overall: 0.26%/month to full thickness (95% CI 0.15–0.36); symptomatic and asymptomatic similar (Tsuchiya 2021). **High-grade tears: 16/52 (30.8%) converted; Kaplan–Meier 30.8% at 3 y, 64% at 4 y** (Oh JH 2020). MRI cohort: 20.9% at mean 26 mo, low year-1 hazard 3.2%, year-2 17.2%; only 19.2% had follow-up MRI (Oh SY 2025)
Nonoperative course	37/76 (49%) partial tears treated nonoperatively, ASES 85.1 at 46 mo; tear >50% predicted outcome (Lo 2018). RCT: 6 mo of nonoperative care before repair gave outcomes similar to immediate repair, and 10/34 improved and dropped out (Kim 2018)
Steroid injection	Subacromial steroid: no SPADI difference at 12 mo in 708 patients (GRASP, Hopewell 2021). Frozen shoulder: IA steroid best short-term option, pain −1.0 VAS vs placebo (Challoumas 2020). AC injection: 47% 1-yr success (95% CI 37–57) (Miedema 2023)
PRP	PRP > steroid at 3 mo (ASES +13.0 vs +2.9), no difference at 12 mo (Kwong 2021). **Interstitial supraspinatus tears: no healing or clinical benefit, adverse events 54% vs 26%** (Schwitzguebel 2019). Steroid better at 3 and 6 mo (Guity 2026)
Repair technique	Transtendon vs completion repair: retear OR 0.97 (0.39–2.44), 9 studies, 719 patients (Papadopoulos 2026). Intratendinous tears repaired: ASES 51.4→90.6 (Park 2015, level IV)
Arthritis and added procedures	Chondral lesions in 32% at cuff repair; **bipolar lesions improved less**, but 80–92% still exceeded MCID (Baumgarten 2020). Mild GH OA: retear OR 1.24 (0.82–1.89) (Fang 2025). Routine DCE added nothing (ASES MD 1.41) and caused AC instability (Wang 2018). SLAP debridement beat repair with cuff repair (UCLA 34 vs 31) (Abbot 2009)
If it is frozen shoulder	Primary frozen shoulder: 59% normal or near normal at 4.4 y, 6% severe (Hand 2008). Hydrodilatation gives at least short-term gains in disability and passive ER over steroid (Poku 2023)

Workup details and differentials

- **Labs:** CBC, ESR, CRP, RF, anti-CCP. **Fluid:** cell count, crystals (CPPD needs crystals in fluid), Gram stain and culture. **Radiographs:** Grashey, axillary, outlet; look for chondrocalcinosis, erosions and calcified bodies.
- **Loose bodies vs nodular synovitis:** secondary osteochondral fragments (most likely with grade 3 chondral loss), synovial chondromatosis, rice bodies (inflammatory arthritis), or TGCT. Contrast or GRE MRI only if TGCT is still suspected; no blooming does not exclude it (Crim 2021).
- **Reduced ROM:** passive equals active with lost ER points to capsulitis or GH OA; passive greater than active points to pain or cuff. Capsular edema alone is nonspecific (Xiang 2025).

Caveats

Most studies exclude this mix of synovitis, cartilage loss and AC disease. High-grade natural-history cohorts are small and select patients who return for imaging. The >50% repair rule rests on older series (Ellman 1990, Weber 1999) and AAOS 2025, not RCTs. AAOS 2025 is used qualitatively only.

Questions to consider

1. Is passive ER lost? Are the other joints actively inflamed? Is there psoriasis?
2. What do the aspirate and serology show? Does she need rheumatology before any procedure?
3. Which compartment does a diagnostic injection relieve: GH, AC or subacromial?
4. When should repeat imaging be done (for example at 6–12 months) if she is managed without surgery?

For clinician review, not medical advice. Identifiers from the report were removed before research; this summarizes published evidence only.

Refs (PMID): Tsuchiya JSES 2021 (32920110); Oh JH CiOS 2020 (33274029); Oh SY OJSM 2025 (41189698); Lo OAJSM 2018 (30271226); Kim AJSM 2018 (29505742); Hopewell Lancet 2021 (34265255); Challoumas JAMA Netw Open 2020 (33326025); Miedema CiSE 2023 (37316179); Kwong Arthroscopy 2021 (33127554); Schwitzguebel AJSM 2019 (31161947); Guity JSES Int 2026 (41732435); Papadopoulos JSES RRT 2026 (42004757); Park AJSM 2015 (25389369); Baumgarten OJSM 2020 (33173799); Fang PLoS One 2025 (39854332); Wang CORR 2018 (30334833); Abbot AJSM 2009 (19364887); Hand JSES 2008 (17993282); Poku Br Med Bull 2023 (37496207); Crim Skeletal Radiol 2021 (33410963); Xiang BMC MSK 2025 (40241075); Ellman CORR 1990 (2182260); Weber Arthroscopy 1999 (10210067); AAOS Rotator Cuff CPG 2025.

Models: Claude claude-opus-5-5 (effort max) · Codex gpt-6.1-sol (effort max) · Grok grok-4.7 (effort xhigh). Merged and PubMed-checked by Grok Bot.