

# Arthritis: OA vs RA vs other form

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### Diagnostic workup of arthritis

After taking a thorough history and performing a physical exam, if you suspect a form of arthritis in your patient but it is not clear which type, you can start with a few simple lab tests and imaging.

#### Lab tests

- RF, CCP (anti-cyclic citrullinated peptide Ab) → if one + inc sensitivity, if both +, increases diagnostic specificity
- ESR, CRP (both are usually elevated)
- ANA (to exclude SLE, though may be + in 1/3 with RA). If +ANA, get anti-DS DNA and anti-smith b/c high spec for SLE
- CBC-d (often with anemia and low plt c/w chronic inflammation), LFTS & UA (disorders other than RA, Uric acid (exclude polyarticular gout))
- other considerations with negative above tests: parvo B19, hep B/C, **lyme**, Borrelia

#### Imaging

- XR hands, wrists, and feet (characteristic joint erosions vs another process such as psoriatic, spondyloarthropathy, gout, chondrocalcinosis)

#### Joint fluid analysis

- synovial fluid if suspect gout

### DDX of RA and OA include:

Confirming a diagnosis of rheumatoid arthritis (RA)\*: Differential diagnosis

Diagnosis	Sex	Age	Lab tests	Comments
Undifferentiated seronegative polyarthritis	F > M	35-65	10-15 percent RF+	Chronic seronegative inflammatory polyarthritis, atypical of RA or fails to meet classification criteria for RA. Up to 20 percent of cases may evolve into RA; nearly 50 percent will go into remission.
Psoriatic arthritis	M = F	30-55	<20 percent RF+	10 percent of those with psoriatic arthritis will have an RA-like distribution (MCPs, PIPs, wrists). Cutaneous psoriasis will be evident in the vast majority of cases.
Tophaceous gout	M > F	25-70 M >45 F	95 percent RF- >95 percent ↑ serum urate	Intermittent inflammatory arthritis during the onset, with evolution of tophi and chronic inflammatory polyarthritis. Elevated serum urate and tophi help distinguish from RA.
Erosive inflammatory OA	F > M	>60	RF- (or normal for age)	Chronic polyarthritis with intermittent or sustained inflammation affecting PIP and DIP joints. Radiographs demonstrate distinctive erosions and evidence of OA.
Pseudogout	F = M	>60	5-10 percent RF+	5 percent of patients will have "rheumatoid-like" inflammatory arthritis with stiffness, fatigue, synovitis, and elevated ESR, often lasting 4 weeks to several months.
Reactive arthritis (formerly known as Reiter's syndrome)	M > F	16-50	95 percent RF-; 50-80 percent HLA-B27+	See criteria for spondyloarthropathies; often associated with low back pain, ocular, genitourinary, or GI symptomatology and enthesitis (heel pain).
Enteropathic arthritis	M = F	All ages	95 percent RF-	20 percent of patients with Crohn's disease or ulcerative colitis will develop peripheral arthritis. Diagnosis may be difficult until GI involvement becomes apparent. Associated with oral ulcerations, GI symptoms or other features of spondyloarthropathy
Systemic lupus erythematosus	F > M	15-40	10-15 percent RF+; usually ANA+	Chronic nondeforming inflammatory polyarthritis associated with ANA positivity and other features of SLE.
Polymyositis/dermatomyositis	F > M	30-60	95 percent RF-; 50 percent ANA+; 70 percent ↑ CK	Chronic inflammatory arthritis uncommonly occurs early in course of PM/DM. Features of proximal muscle weakness, bulbar dysphagia, muscle enzyme elevation or skin involvement (ie, Gottron's papules) should be sought.
Scleroderma	F > M	30-50	95 percent RF-; >90 percent ANA+	Chronic inflammatory polyarthritis may predominate over skin changes early in the disease. Associated with Raynaud's phenomenon, sclerodactyly, dysphagia, hypertension, or renal abnormalities.
Sarcoid arthritis	F > M	20-40	25 percent RF+	15 percent of patients with sarcoidosis will develop arthritis. Early in the disease a chronic inflammatory oligo or polyarthritis lasting weeks to months may develop and typically involve the ankles and knees. Other features of sarcoidosis (ie, erythema nodosum, hilar adenopathy) are usually apparent.
Parvovirus B19-associated arthritis	F > M	Any age	<10 percent RF+; >80 percent anti-B19 IgM antibodies (acutely)	Adults manifest a flu-like picture, seldom develop the "slapped-cheek" rash and arthralgias are more common than arthritis. Arthritis is an acute inflammatory polyarthritis with an RA-like distribution lasting 2 weeks. Less than 10 percent develop a chronic inflammatory arthritis.
Polymyalgia rheumatica	F > M	>50	90 percent RF-; >95 percent ↑ ESR	Proximal girdle pain and stiffness without synovitis.

\* 1. RA often begins insidiously with vague constitutional and musculoskeletal symptoms that may last for weeks or months before synovitis becomes apparent.

2. During the first six months of RA, <50 percent of patients will be RF-positive, and the sensitivity of the 1987 ACR criteria is reduced.

### **OA vs RA: Common things being common**

	<b>Osteoarthritis</b>	<b>Rheumatoid Arthritis</b>
Definition	Asymmetric, degenerative disorder of the articular cartilage associated with hypertrophic bone changes	Symmetric, inflammatory, peripheral polyarthritis of unknown etiology
Clinical Features	<ul style="list-style-type: none"> <li>- CMC (esp thumb), DIP joints</li> <li>- absent Heberden nodes</li> <li>- joint is hard and bony</li> <li>- pain is worse after activity, esp after periods of rest (can have morning stiffness but &lt; 30 min)</li> </ul>	<ul style="list-style-type: none"> <li>- MCP, PIP joints</li> <li>- frequently positive Heberden node</li> <li>- joint is soft, warm, tender</li> <li>- pain worse after resting (at least 30 min of morning stiffness)</li> <li>-</li> </ul>
Diagnostic criteria	<p>Diagnosis is primarily clinical. Physical exam is the most important.</p> <p>Labs</p> <ul style="list-style-type: none"> <li>- negative RF and anti-ccp</li> <li>- normal ESR and CRP</li> </ul> <p>Imaging (XR often helpful in distinguishing)</p> <ul style="list-style-type: none"> <li>- narrowing of joint space and osteophytes due to bone remodeling but without erosions or cysts</li> </ul>	<p>Not all of the following must be present but it is helpful</p> <ol style="list-style-type: none"> <li>1) inflammation in 3+ joints</li> <li>2) +RF and/or anti-CCP (though can neg if seronegative or recent onset)</li> <li>3) elevated CRP or ESR (though can be normal inactive/treated RA)</li> <li>4) excluded other dz (SLE, psoriatic, acute viral, gout, CaPhos deposition)</li> <li>5) duration &gt; 6 weeks</li> </ol> <p>**See the following link for the 2010 Rheumatoid Arthritis Classification using a point system. You need 6 out of 10 points to be considered positive</p> <p><a href="http://www.rheumatology.org/practice/clinical/classification/ra/ra_2010.asp">http://www.rheumatology.org/practice/clinical/classification/ra/ra_2010.asp</a></p>
Treatment	<p>NON-PHARM</p> <ul style="list-style-type: none"> <li>- exercise (good evidence on Cochrane review)</li> <li>- weight loss (even 5% can reduce disability)</li> </ul> <p>PHARM</p> <ul style="list-style-type: none"> <li>- start with Tylenol then move up to NSAIDS</li> <li>- corticosteroid injections</li> <li>- hyaluronic acid injections</li> <li>- joint replacement</li> </ul>	<p>Early recognition is imp for tx before destruction of the joint occurs.</p> <p>NON-PHARM</p> <ul style="list-style-type: none"> <li>- rest with PT/OT</li> <li>- anti-inflammatory diet</li> </ul> <p>PHARM</p> <ul style="list-style-type: none"> <li>- refer to rheum for DMAR (non-disease modifying antirheumatoid drug)</li> <li>- NSAIDS</li> <li>- Glucocorticoids</li> </ul>

#### References:

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