Rheumatology for the Internist

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Learning Objectives

- Evaluate the signs and symptoms of potential rheumatologic diseases and recognize patients who require further diagnostic workup.
- Use appropriate diagnostic testing based on key features from the patient's history, physical examination, and prior workup.
- Identify patients who need more urgent evaluation by a rheumatologist and, when necessary, initiate treatment before rheumatology consultation.

3 Patients

- The joint pain patient
- The muscle pain patient
- The positive ANA patient

The Joint Pain Patient

- 58 year old female with 8 months of MCP/PIP pain

The Usual Suspects

- Osteoarthritis
    - Bouchard/Heberden nodes, degenerative changes on xray
- Rheumatoid Arthritis
    - Symmetric polyarthritis, MCP/PIP hand distribution
- Spondyloarthritis
    - History of psoriasis, IBD, or back pain
- Gout
    - Podagra, significant family history, and typical triggers (alcohol, red meat, etc)

Osteoarthritis

Table 1. Recommendations for physical, psychosocial, and mind-body approaches for the management of osteoarthritis of the hand, knee, and hip

Intervention	Joint		
	Hand	Knee	Hip
Exercise			
Balance training			
Weight loss			
Self-efficacy and self-management programs			
Tai chi			
Yoga			
Cognitive behavioral therapy			
Cane			
Tibiofemoral knee braces		(Tibiofemoral)	
Patellofemoral braces		(Patellofemoral)	
Kinesiotaping	(First carpometacarpal)		
Hand orthosis	(First carpometacarpal)		
Hand orthosis	(Other joints)		
Modified shoes			
Lateral and medial wedged insoles			
Acupuncture			
Thermal interventions			
Paraffin			
Radiofrequency ablation			
Massage therapy			
Manual therapy with/without exercise			
Iontophoresis	(First carpometacarpal)		
Pulsed vibration therapy			
Transcutaneous electrical nerve stimulation			

Legend
Strongly recommended
Conditionally recommended
Strongly recommended against
Conditionally recommended against
No recommendation

Table 2. Recommendations for the pharmacologic management of osteoarthritis of the hand, knee, and hip

Intervention	Joint		
	Hand	Knee	Hip
Topical nonsteroidal antiinflammatory drugs			
Topical capsaicin			
* Oral nonsteroidal antiinflammatory drugs			
Intraarticular glucocorticoid injection			
Ultrasound-guided intraarticular glucocorticoid injection			
Intraarticular glucocorticoid injection compared to other injections			
Acetaminophen			
* Duloxetine			
Tramadol			
Non-tramadol opioids			
Colchicine			
Fish oil			
Vitamin D			
Bisphosphonates			
Glucosamine			
Chondroitin sulfate			
Hydroxychloroquine			
Methotrexate			
Intraarticular hyaluronic acid injection	(First carpometacarpal)		
Intraarticular botulinum toxin			
Prolotherapy			
Platelet-rich plasma			
Stem cell injection			
Biologics (tumor necrosis factor inhibitors, interleukin-1 receptor antagonists)			

Legend
Strongly recommended
Conditionally recommended
Strongly recommended against
Conditionally recommended against
No recommendation

Rheumatoid Arthritis

- Labs
  - Rheumatoid Factor
  - Anti-CCP antibody
  - ESR (Adjust for age)
  - CRP
- Xrays
  - Hands and/or feet
- Referral to Rheumatology

ESR Age-Adjustments (Upper Limits of Normal)

Male: Age/2

Female: (Age + 10) / 2

Starting DMARD therapy

- 2021 ACR RA Treatment Guidelines
  - Methotrexate is first-line for moderate/severe disease activity
  - Hydroxychloroquine is first-line for low disease activity
  - Cautious use of glucocorticoids

Table I: Disease-Modifying Antirheumatic Drug (DMARD) Classifications Indicated for Treating Rheumatoid Arthritis.

DMARD CLASSIFICATION	FDA-APPROVED DRUGS*
CSDMARD (CONVENTIONAL SYNTHETIC DMARD)	• hydroxychloroquine • leflunomide • methotrexate • sulfasalazine
TSDMARD (TARGETED SYNTHETIC DMARD)	• baricitinib • tofacitinib • upadacitinib
BDMARD (BIOLOGIC DMARD)	*Anti-TNF biologics:* • adalimumab • certolizumab pegol • etanercept • golimumab • infliximab
	Non-TNF biologics: • abatacept • rituximab • tocilizumab • sarilumab

**Drugs are listed in alphabetical order and in no order of preference. As of September 2021.*

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Starting Methotrexate

- Obtain baseline labs
  - Hepatitis B (Hep B sAg, Hep B cAb) and Hepatitis C screening
  - Baseline CBC/diff, serum creatinine, AST, and ALT
- Goal MTX dose is 15mg within 4-6 weeks
  - Usual starting dose 7.5-10mg
- Repeat labs 1 month after
- Monitoring labs every 3 months (standing lab orders)
  - Transient elevations in AST/ALT can be seen if labs are taken within 48 hours of MTX

Starting Methotrexate

- **MTX is a WEEKLY medication** (2.5mg tabs)
  - "Methotrexate Mondays"
- Patients need supplemental folic acid (usually 1mg daily)
- Avoid in patients who frequently drink alcohol
- Reconsider in patients with known liver or renal dysfunction

Starting Hydroxychloroquine

- Hydroxychloroquine is a daily medication (200mg tabs)
- One of the safest medications in rheumatology
  - Safe but Slow; Can take 3-6 months to become effective
- Risk of hydroxychloroquine-induced retinopathy
  - Max dose of 5mg/kg daily (most patients max out at 400mg daily)
  - Baseline eye exam, usually repeat at year 5 and then annually thereafter
- Be mindful of QT-prolonging agents
  - Antibiotics, antiepileptics, and antidepressants

Patient fulfilling PMR case definition (primary or secondary care)

1. Assess comorbidities[1], other relevant medications and other risk factors for steroid related side effects[2]
2. Assess possible risk factors for relapse/prolonged therapy[3]
3. Consider specialist referral (experience or risk of side-effects, relapse/prolonged therapy and/or atypical presentation)
4. Document minimal clinical and laboratory dataset

Start oral prednisone equivalent 12.5-25mg/day[4] ‡

Consider MTX if at high risk for side effects/ relapse and/or prolonged therapy[6]

Increase steroid dose[13]

Re-assess

yes

Clinical improvement at 2-4 wk?[7]

no

Confirmation of PMR

no

Diagnosis in question

yes

Gradual tapering of glucocorticoids[8]

no

Relapse[9]

Remission[9]

yes

Taper prednisone until discontinuation[10,11,12]

‡Consider i.m. methylprednisolone as an alternative to oral prednisone[5]

Co-Managing Rheum Patients

- Prednisone ≥ 20mg for over a month
  - Patients need PJP prophylaxis (e.g. Bactrim DS, Atovaquone, or Dapsone)
  - Vitamin D
  - GI prophylaxis

Final Tips

- ESR>100 is concerning
  - Infection, cancer, vasculitis, and lupus
- ANAs in isolation are non-diagnostic
  - A negative ANA is useful to rule out lupus, however Sjogren's can still be present
  - ANA by HEp-2 Substrate (IFA) instead of ANA direct (ELISA)

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Thank You!

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