Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter J. Weis, MD, FACP, FACR
Commander, Medical Corps, United States Navy (Retired)
Division of Rheumatology, Scripps Clinic
Assistant Clinical Professor, University of California, San Diego
# INTRODUCTION

**PATIENT**
- 1/7 visits are for a MSK complaint
- Patient wants relief
- Patient wants an explanation

**PRIMARY CARE PROVIDER**
- Is this a systemic process or a localized issue?
- Do I embark on a lab work-up?
- Do I “keep” or “send” NSAID and film??

---

# OVERVIEW OF TALK

- “Rheum History”, Pattern
- “Rheum Review of Systems”
- Focused Physical Examination
- Laboratory Evaluation
- Imaging
- Pattern Recognition
- The Elderly
- Management (brief, PEARLS)
THE RHEUMATOLOGIC HISTORY
Arthralgia vs. Arthritis

JOINT PATTERN

- Location (joint or periarticular structure)
- Inflammatory vs. noninflammatory
  - Worse or better with activity vs. rest?
- Additive?
- Migratory?
- Acute vs chronic?
- Number of involved joints
  - Monoarthralgia/arthritis
  - Oligoarthalgia/arthritis [up to 4]
  - Polyarthalgia/arthritis [5 and up]
JOINT PATTERN

- Site / distribution of affected joints
  - Axial or peripheral
  - Symmetric or asymmetric
- Presence or absence of enthesopathy – suggestive of the SNSA’s (AS, PsA, Reiter’s/Reactive, IBD associated)
  - Dactylitis (“sausage digit”)
  - Enthesitis or tendinitis
- Worse in the morning? Better with activity? = inflammatory

The “Five” Minute Rheumatologic Review of Systems (ROS)
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**ROS - RASH**

- **Acute Cutaneous Lupus**
- **Discoid Lupus**

- **Dermatomyositis**
- **Heliotrope rash**
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

ROS - RASH

Palpable purpura - HSP

ROS - RASH

Livedo reticularis – APLA Syndrome vs vasculitis
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**ROS - PSORIASIS**

Psoriatic arthritis

**ROS - RASH**

Circinate Balanitis in Reactive arthritis
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

ROS - CONJUNCTIVITIS

Reactive arthritis

ROS - UVEITIS

Behcet’s SNSA’s
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

ROS - RAYNAUD’S

Scleroderma
SLE
DM/PM
MCTD

ROS – ORAL/GENITAL ULCERS

SLE
Behcet’s
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**ROS - POLYCHONDРИTIS**

Relapsing polychondritis

**ROS-ENTHESOPATHY**

SNSA’s:
- Reiter’s
- AS
- Psoriatic
- IBD
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**ROS - NODULES**

- RA
- Gout

**OTHER ROS**

- IBD symptoms
- Infectious diarrhea or STD sx preceding
- Photosensitivity
- Hypercoagulable event
- Recurrent pregnancy loss?
- Heme/renal/CNS or PNS disease
- Sicca (ocular, oral)
- Pleuropericarditis (lupus, Still’s, RA)
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

AGE

1-15 yo
- JCA
- Still’s
- Acute Rheumatic Fever

20-45 yo
- SLE / RA
- SNSA’s
- PM/DM
- Disseminated gonococcal infection
- Vasculitis

45-60 yo
- Crystalline (MSU, CPPD)
- Osteoarthritis
- Sjogren’s

65 +
- PMR
- GCA
- Crystalline (CPPD, MSU, others)
- Dermatomyositis (THINK Malignancy)
# Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

## GENDER

**MEN**
- MSU crystals (gout)
- OA of knees
- AS
- Reactive (Reiter’s)

**WOMEN**
- RA
- SLE
- Sjogren’s
- OA of fingers

## FAMILY HISTORY

- Nodal osteoarthritis
- SLE
- RA
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

PATTERN RECOGNITION ACUTE

Parvovirus infection

PATTERN RECOGNITION ACUTE

Sarcoid / Lofgren’s Syndrome
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

PATTERN RECOGNITION
INDOLENT

Rheumatoid arthritis

PATTERN RECOGNITION
BRIEF & RELAPSING

SLE
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

PATTERN RECOGNITION MIGRATORY

Acute Rheumatic Fever

Disseminated GC

“FOCUSED” FIVE MINUTE PHYSICAL EXAM (PE)

- alopecia
- nasal / genital / oral ulcers
- rash
- synovitis – joint inflammation
- cutaneous vasculitis
- adenopathy / HSM

- enthesitis
- dactylitis
- xerostomia
- mononeuritis multiplex
- pleuropericarditis
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

PE - RASH

Keratodermia blenorrahgica – Reactive arthritis

PE - ALOPECIA

SLE
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

PE - RASH

ECM - Lyme

PE - RASH

Gottron’s papules - DM
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

PE - VASCULITIS

PE - PERIUNGUAL CHANGES

SLE
Vasculitis
PM/DM
MCTD
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**PE - PERIUNGUAL CHANGES**

- OA
- RA / SLE
- SNSA
- CRYSTALLINE
- PERIARTICULAR
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

OA C-SPINE

OSTEOARTHRITIS HIP
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

OSTEOARTHRITIS

OA
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

SNSA - ANKYLOSING SPONDYLITIS

SNSA
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

SNSA - AS

CRYSTALLINE ARTHRITIS
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

GOUT

LABORATORY
“…we got an ANA, ESR, and RF to check for some autoimmune disease....”

- It isn’t that simple, and that approach really doesn’t work well....

- All rheum lab tests require clinical correlation and context to interpret results ...

- Should use rheum labs to support or refute your clinical impression, not to create one....
Pitfalls in Lab Use

- Misdiagnosis & Labeling
  - AOSD (Adult Onset Still’s Disease / Systemic JIA)
    - Is it RF (-) or RF (+) ?
  - Pain all over with a positive ANA (+)
    - Pain and ANA (+) is usually FMS
  - What percentage of RA patients are RF (-) ?
    - .5 / .7 / .8 ?
  - What is most common cause for RF (+) in U.S. ?

- Tendency For Additional Testing
  - ENAs are often ordered following a positive ANA
    - Runs up costs
    - Done needlessly to reassure no diffuse CTD
    - Unnecessary anxiety for the patient

Is there some autoimmune process going on here ?

This question is best answered by a simple two step process ....
BEFORE YOU ORDER ANY LAB TEST…

1. History

2. Physical Examination

Then make an initial clinical assessment, integrating patient symptoms and signs with your knowledge of the diffuse CTDs...

BEFORE YOU ORDER ANY SEROLOGY …

- ESR and CRP
  - inflammation
- UA with micro and P:C ratio
  - glomerulonephritis
- CBC
  - anemia chronic inflammation / hemolysis / etc.
- Hep B & C serologies
  - extrahepatic manifestations of Hep B and C mimic CTDs
- TSH
  - occult hypothyroidism
- CPK
  - myositis
- CMP
  - LFTs and renal function
- Lipids
  - accelerated atherogenesis w/ inflammation
  - pseudovasculitis from cholesterol emboli syndrome
ESR

- Non-specific lab test but very sensitive
- Infection / malignancy / CTD / pregnancy / anemia / hypoalbuminemia / obesity/ESRD
  - all raise the ESR
- Westergren (up to 160 mm/hr)
- Useful for “ruling out” disease:
  - GCA / PMR/RA
  - a systemic inflammatory process
  
  $\text{men} = \frac{\text{age}}{2}$
  
  $\text{women} = \frac{\text{age} + 10}{2}$

C-REACTIVE PROTEIN

- First seen in 1930 in sera of patients with pneumococcal pneumonia
- A protein that could precipitate C-polysaccharide of pneumococcus
- Innate immune response
- Can activate complement
- Quicker rise and fall than ESR
- Sensitive, but not diagnostic, of any particular condition
- Marker for CHD (hs-CRP)
- Rises with BMI and CKD

... CRP rises with infection and ESR rises with CTD's... (probably not true)
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

CRP

Time Course of Acute Phase Reactants


% Change in Plasma Level

C-Reactive Protein

ESR

Acute phase stimulation

Days

0

100

200

30,000

OTHER ACUTE PHASE REACTANTS

- Alkaline phosphatase
- Transaminases
- Fibrinogen
- Haptoglobin
- Serum amyloid A
- Platelet count
- Ferritin
- Albumin (decreases)
- Total Protein
- Polyclonal Immunoglobulinemia (SPEP)
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

SPECIFIC RHEUMATIC DISEASE LABORATORY TESTS

- RF
- CCP
- Complement
- ANA
- ENA
  - RNP
  - Sm
  - SSA & SSB
  - Scl-70 & Jo-1
- ds-DNA
- ANCA
- APLs
- Cryoglobulins
- HLA B-27
- Myositis Specific ABs

RHEUMATOID FACTOR

- Heterogeneous family of IgM abs directed against IgG Fc portion
- Transiently assoc with infectious diseases (TB, SBE, syphilis, HCV)
- SLE, Sjogren’s, MCTD, Scleroderma, PM/DM
- IPF, cirrhosis, sarcoid
- 1-4% of healthy whites in North American
- Increase with age
- 70-80% of RA pts are seropositive for RF (with time)
- 70% of chronic HCV pts have RF
- Both types II and III cryoglobulinemia can contain RF
- Worse prognosis and more aggressive RA when RF present

Indication: Clinical suspicion for Rheumatoid Arthritis
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

ANTIBODIES TO CITRULLINATED PROTEINS (CCP)

Arginine residues are modified to citrulline by peptidylarginine deiminase (PAD) at sites of inflammation

Antibodies to citrullinated proteins (CCP) are relatively specific to RA


ANTIBODIES TO CITRULLINATED PROTEINS (CCP)

- ELISA available against CCP (cyclic citrullinated peptide)
- Very specific for RA diagnosis
- Utility in defining early and aggressive RA, prior to development of RF (+)
- Useful in RF positive conditions that may mimic RA:
  - Sjogren’s
  - Chronic hepatitis C
  - Cryoglobulinemia
### SEROLOGIC TESTING FOR RA

- **SUMMARY**
  - A positive RF does **not** mean patient has RA
  - A negative RF does **not** mean the patient does **not** have RA
  - CCP – a very useful test that offers similar sensitivity but superior specificity for RA
  - RF is not a screening test for a diffuse CTD

### COMPLEMENT

- A system of interacting serum proteins that function sequentially as initiators, regulators, and effectors of cell lysis and inflammation

- Measurement useful if: *(C3, C4, CH50)*
  - concern for inherited deficiency states
  - concern for immune-complex mediated disease
    - LUPUS, VASCULITIS, CYROGLOBULINEMIA, POST-STREPTOCOCCAL GN, MPGN, SBE
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**ANA**

- **ANA IS a useful screen for one particular CTD -> SLE**
  - is very sensitive - 99% - for SLE
  - is not specific for SLE

- **ANA IS NOT a useful screen for all diffuse connective tissue diseases**
  - not sensitive for diffuse CTD
  - not specific for diffuse CTD

**Indication:** Clinical suspicion for SLE, MCTD, drug-induced LE, scleroderma

- **False positives**
  - 5% of healthy controls pos at 1:160 dilution
  - 10-15% of healthy controls pos at 1:80 dilution
  - 30% of healthy controls pos at 1:40 dilution
  - 1:80 AND 1:40 are normal large majority of the time

- **Positive with SBE/age/liver disease/thyroid disease**

- **Pattern may be helpful w/ diagnosis**

- **Titer doesn’t correlate with disease activity but does correlate with probability of underlying autoimmune dz**

- **Positive ANA does not, in isolation, diagnose SLE or a diffuse CTD**

- **Negative ANA “rules out” SLE (… most of the time)**
## Conditions Associated with a Positive ANA

- SLE
- MCTD
- Systemic Sclerosis
- Sjogren’s
- RA
- PM
- DM
- Discoid lupus

- Autoimmune thyroid dz
- Autoimmune hepatitis
- PBC
- Autoimmune cholangitis
- Drug-induced lupus
- Chronic infections
- ILD
- Primary PHTN
- Lymphoproliferative d/o

## ANA Patterns

- Nucleolar
- Homogeneous
- Speckled
- Nucleolar

- Rim
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

<table>
<thead>
<tr>
<th>ANA PATTERNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATTERN</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Homogeneous</td>
</tr>
<tr>
<td>Speckled</td>
</tr>
<tr>
<td>Nucleolar</td>
</tr>
<tr>
<td>Rim</td>
</tr>
</tbody>
</table>

**SPECIFIC ANA’s**

**ds-DNA**

- Correlates well with renal disease activity of lupus
- Probably pathogenic
- Moderate sensitivity (70%)
- Nearly 100% specific for SLE
- Patients receiving infliximab (Remicade®), minocycline, d-PEN
- One of ACR Classification Criteria for SLE

Indications: pos ANA and clinical suspicion for SLE
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**EXTRACTABLE NUCLEAR ANTIGENS (ENA Panel)**

**RNP**
- Ab to RNP - recognizes a complex of protein and small nuclear RNA designated U1
- Speckled ANA
- ELISA methodology
- Low to moderate sensitivity
- **Diagnostic of MIXED CONNECTIVE TISSUE DISEASE**
  - Presence required to make dx
  - No other ENA’s should be found
  - Overlapping clinical features of SLE, PM, RA, and PSS
  - Frequently will be RF (+)
- Can be seen in SLE (30%) but usually with Sm or ds-DNA

Indication: Clinical suspicion for MCTD or SLE

**EXTRACTABLE NUCLEAR ANTIGENS**

**Smith (Sm)**
- Ab to Sm recognize nuclear proteins that bind to small nuclear RNAs, forming complexes involved in messenger RNA processing
- More severe disease
- Speckled ANA
- ELISA methodology
- Higher prevalence in AA & Asians with SLE
- **Low to moderate sensitivity (10-40%)**
- Highly specific for SLE
- One of ACR Classification Criteria for SLE

Indication: Clinical suspicion for SLE
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

EXTRACTABLE NUCLEAR ANTIGENS

HISTONE

- High sensitivity and low specificity
- **Drug induced lupus** gives anti-histone alone
- **SLE** gives anti-histone along with ds-DNA or Smith
- May be seen in RA
- Of limited clinical usefulness unless one suspects drug-induced lupus (INH, procainamide, hydralazine)

EXTRACTABLE NUCLEAR ANTIGENS

Ro/SS-A

- Protein-RNA complex found in both nucleus and cytoplasm
- **Sjogren’s and SLE**
- 70-95% of primary Sjogren’s
- 10-60% of SLE
- **Found in ANA-neg lupus** (if rodent tissue used to do ANA, less of an issue with Hep-2)
- Subacute cutaneous lupus (a very photosensitive lupus)
- Neonatal SLE and congenital heart block

La/SS-B

- Protein-RNA complex found in both nucleus and cytoplasm
- **Sjogren’s and SLE**
- 50% of Ro/SS-A positives are also La/SS-B positive
- Unusual La/SS-B pos only
- Found in ANA-neg lupus (if rodent tissue used to do ANA, far less issue with Hep-2)
- May protect against renal disease
- Isolated La/SS-B in autoimmune hepatitis and PBC

Indications: Clinical suspicion for SLE or Sjogren’s
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

### SPECIFIC NUCLEOLAR ANTIGENS

<table>
<thead>
<tr>
<th>Sci-70 (Anti-topoisomerase I)</th>
<th>Jo-1 (Anti-synthetase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Found in 20-30% of patients with diffuse systemic sclerosis</td>
<td>Found in 30% of PM/DM patients</td>
</tr>
<tr>
<td>VERY specific</td>
<td>HIGHLY specific</td>
</tr>
<tr>
<td>Associated with nucleolar ANA pattern</td>
<td>Anti-histidyl tRNA synthetase / a cytoplasmic protein</td>
</tr>
<tr>
<td>Lung Involvement/ILD</td>
<td>Lung Involvement/ILD</td>
</tr>
<tr>
<td>Fever, arthritis, Raynaud's</td>
<td></td>
</tr>
</tbody>
</table>

Scleroderma specific antibodies: anti-RNA pol I, anti-RNA pol III, anti-U3 small nucleolar RNP, and anti-Th small nucleolar RNP - all very insensitive

### ANCA

Indirect Immunofluorescence

- Formalin Fixation
  - Strong cationic proteins (e.g. MPO)
  - Weak cationic or neutral proteins (e.g. PR3)

- Ethanol Fixation
  - Antibodies to strong cations
  - Antibodies to neutral proteins or weak cations (e.g. PR3)

Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**Anti-Neutrophil Cytoplasmic Antibody**

**C-ANCA**
- Ab against *proteinase-3* (found in neutrophils and monocytes)
- C-ANCA usually found in widespread *Wegener's Granulomatosis*
- C-ANCA seen less frequently with limited *Wegener's Granulomatosis*

**P-ANCA**
- Ab against *myeloperoxidase* or elastase
  - Several forms of *systemic vasculitis*:
    - Churg-Strauss
    - MPA
    - SLE
- Ab against non MPO antigens
  - IBD
  - RA
  - Pauci-immune GN

**ANTIPHOSPHOLIPID AB’s (APLs)**

- **Lupus anticoagulant (LAC)**
  1. prolonged PTT or PT or final common pathway
  2. failure to correct by mixing patient plasma w/ nml plasma
  3. correction with addition of excess phospholipid or platelets
  4. ruling out other coagulopathies
- **Anticardiolipin antibodies (ACLA)**
  - via ELISA
- **Beta-2 glycoprotein I antibodies (B2GP1)**
  - via ELISA
- **All associated with venous or arterial thrombosis or recurrent fetal loss**
CRYOGLOBULINS

Group of serum Ig's with conformational change in the cold:

- Precipitate or gel on cold exposure
- Phenomenon reversible with re-warming
- Found in variety of clinical situations

- **TYPE I**
  - Single monoclonal lg or light chain

- **TYPE II**
  - "mixed" – a monoclonal and a polyclonal directed against the monoclonal (often RF)

- **TYPE III**
  - "polyclonal" – no monoclonal lg

CRYOGLOBULINS

- Acrocyanosis / digital necrosis
- Palpable purpura
- Livedo reticularis
- Raynaud’s
- Arthritis / GN
- Peripheral neuropathy

**Type II:**

- Now recognized as being driven by chronic hep C in most cases …
- Usually low C4
- Essential mixed cryoglobulinemia
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**HLA B-27**

- Class I MHC cell surface marker
- Found in 7-8% of NA whites, 3-4% of NA AA’s, 18-50% of Haida Indians
- Prevalence:
  - Ankylosing spondylitis – 90%
  - Reactive – 80% w/ axial disease
  - IBD-associated arthritis - 50% w/ axial disease
  - Psoriatic arthritis – 50% w/ axial disease & 15% with peripheral disease
- Do not use HLA B-27 to diagnose a SNSA

**ARTHROCENTESIS**

- **NORMAL/NONINFLAMMATORY (0-2,000 WBC)**
  - Transparent / < 25% POLYS
  - osteoarthritis / AVN / sympathetic effusion
- **INFLAMMATORY (2,000-60,000 WBC)**
  - Translucent / > 50% POLYS
  - RA / SLE / crystal / spondyloarthropathies
- **PURULENT (50,000-100,000 WBC)**
  - Infection / predominantly POLYS
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

GOUT

CPPD
IMAGING STUDIES

- Plain films
  - Usually not helpful for early inflammatory disease or soft tissue disease (tendinitis, bursitis)
- Bone scan
  - Can be helpful to detect subclinical inflammatory activity, not usually
- MRI
  - Very helpful for detecting spondyloarthropathy
  - Ask for specifically a sacro-iliac joint view

SUMMARY

- No lab test replaces your history, physical examination, and pattern recognition for correct diagnosis
- No lab test “screens” for autoimmune disease
- Know the general SENS and SPEC of tests for different diseases before ordering
- Say “NO” to rheum panels
### BRIEF MANAGEMENT AND CLINICAL PEARLS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia</td>
<td>- Suspect if widespread joint and muscle pain and no inflammation on exam</td>
</tr>
<tr>
<td></td>
<td>- Don't go crazy with labs</td>
</tr>
<tr>
<td></td>
<td>- CBC, Chem Panel, TSH, ESR, CRP, ? CK</td>
</tr>
<tr>
<td></td>
<td>- That's it!!!</td>
</tr>
<tr>
<td></td>
<td>- Can refer to Rheumatology</td>
</tr>
</tbody>
</table>

---

**Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort**

*Peter Weis, MD*
### RHEUMATOID ARTHRITIS

- If concerned, get baseline ESR, CRP, RF, ANA, CCP
- X-rays likely not helpful early on.
- Start prednisone 10-20 mg per day if NSAIDS not helpful or contraindicated and patient cannot tolerate pain until rheumatology appointment (ideal for rheumatologist to see patient off steroids)
- There is no point to short course of steroids (pain will return).
- Refer ASAP to rheumatology

### APPROACH TO ELDERLY

- PMR
- GCA
- Crystalline
- DJD
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

**PMR**

**Polymyalgia Rheumatica: Characteristics (Continued)**

- No Muscle Atrophy or True Weakness
- Erythrocyte Sedimentation Rate
  - $>40 \text{ mm/} \text{Hr}$
  - In Many Patients $\geq 100 \text{ mm/} \text{Hr}$
- Rapid Relief With Small Doses of Glucocorticoids

**GIANT CELL ARTERITIS**

High dose steroids THEN eye exam/biopsy-call rheumatology
CRYSTALLINE ARTHROPATHY
ACUTE MANAGEMENT

- Steroids
  - Intra-articular for one joint
  - Prednisone 40 mg per day for 5 days, 30 for 3, 20 for 3, 10 for 3 then stop
- NSAIDS
  - Use early
  - Avoid in CKD, CHF, PUD, chronic liver disease
- Colchicine
  - Try not to use——diarrhea
  - Avoid in CKD or very minimal dosing (one per day)
- Allopurinol or other uric acid lowering therapy
  - Does not treat acute gouty arthritis
  - However, DO NOT STOP FOR GOUT FLARE-UPS!

OSTEOARTHRITIS (DJD)

- Acetomenophen
  - 1 gram every 6 hours as needed (SAFEST)
- NSAIDS
  - REMEMBER CONTRA-INDICATIONS
  - Oral
  - New topicals
- Corticosteroid injections (not oral)
- Viscosupplementation
- Glucosamine sulfate 1500 mg qd?
- Chondroitin 1200 mg per day
Recognition and Appropriate Work-Up of the Patient with Rheumatic Disease Prior to Rheumatology Referral: A Joint Effort

Peter Weis, MD

QUESTIONS?