WORK UP OF RHEUMATOLOGY PATIENTS BEFORE REFERRAL

Dr. Lori Albert, November 24, 2011
Disclosures

- I have no conflict of interest to declare for this lecture
Learning Objectives

- Recognize scenarios where referral to a rheumatologist is essential.
- Plan appropriate investigations in a given clinical scenario to aid in decision-making regarding referral to a rheumatologist.
- Employ strategies to facilitate timely evaluation by a rheumatologist.
Reflect

- Write down your top three reasons for referring to a rheumatologist
- Write down what scares you the most when faced with a rheumatology problem
- Write down the commonest challenge you face when referring for rheumatology related problems
Top Three Referrals
What scares you most?
Commonest Challenge with referrals
Ask yourself these questions:

1. Why does your patient need to see a rheumatologist specifically?
2. What are you worried about?
3. What is the patient worried about?
4. What is the worst-case scenario?
5. What are the key features of the worst-case scenario—have you looked for them?
6. Are there alarm bells?
7. How do you maximize getting a timely referral?
8. What can you do while you are waiting?
Alarm Bells
(“Must” referrals)

- Renal involvement - Glomerulonephritis, Uncontrolled hypertension
- Pancytopenia
- Progressive pulmonary disease
- Tissue ischemia
- CNS/PNS involvement
- Unexplained systemic disease
- Marked disability
- Others
Scenarios
Scenario

1. The young woman with joint pain
Polyarthritis- Acute

- **Infectious**
  - Gonocccocal
  - Lyme
  - Bact. Endocarditis
  - Viral (esp rubella, HepB,C, parvovirus, EBV,HIV)

- **Non-Infectious**
  - Rheumatoid
  - SLE
  - Psoriatic
  - Reactive
  - Polyarticular gout
  - Sarcoid
  - Serum sickness
Polyarthritis-Chronic Inflammatory

- RA
- SLE
- Other collagen vascular diseases
- Inflammatory myositis
- Reactive arthritis
- Psoriatic arthritis
- Polyarticular gout

- Enteropathic arthritis
- Calcium pyrophosphate deposition (CPPD) disease
- Sarcoid
- Vasculitis
- Elderly onset disease/PMR
Polyarthritis-Chronic Noninflammatory

- Osteoarthritis
- Calcium pyrophosphate deposition (CPPD) disease
- Polyarticular gout
- Benign hypermobility syndrome
- Hemochromatosis
Why refer to a rheumatologist?

- What worries you most?
- What worries the patient most?
- How do I best manage this patient’s problem?
- I’m frustrated and don’t know what to do with this person (diagnosis, symptom management)
Try to categorize as Inflammatory or Non-inflammatory

<table>
<thead>
<tr>
<th>Feature</th>
<th>Inflammatory</th>
<th>Non-inflammatory/ Mechanical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning Stiffness</td>
<td>&gt;1hr</td>
<td>&lt;30 min</td>
</tr>
<tr>
<td>Joint swelling</td>
<td>Usually present</td>
<td>Usually absent</td>
</tr>
<tr>
<td>Activity</td>
<td>May improve symptoms</td>
<td>May worsen symptoms</td>
</tr>
<tr>
<td>Rest</td>
<td>May worsen symptoms</td>
<td>May improve symptoms</td>
</tr>
<tr>
<td>Systemic involvement</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Significant</td>
<td>Minimal</td>
</tr>
<tr>
<td>NSAID responsiveness</td>
<td>Yes (usually)</td>
<td>Yes (sometimes)</td>
</tr>
</tbody>
</table>

**Synovitis**: Evidence of warmth, swelling, tenderness in a joint
New Classification Criteria for RA

Table 3. The 2010 American College of Rheumatology/European League Against Rheumatism classification criteria for rheumatoid arthritis

<table>
<thead>
<tr>
<th>Target population (Who should be tested?): Patients who</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) have at least 1 joint with definite clinical synovitis (swelling)*</td>
</tr>
<tr>
<td>2) with the synovitis not better explained by another disease†</td>
</tr>
</tbody>
</table>

Classification criteria for RA (score-based algorithm: add score of categories A-D; a score of ≥6/10 is needed for classification of a patient as having definite RA)‡

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Joint involvement§</td>
<td></td>
</tr>
<tr>
<td>1 large joint†</td>
<td>0</td>
</tr>
<tr>
<td>2–10 large joints</td>
<td>1</td>
</tr>
<tr>
<td>1–3 small joints (with or without involvement of large joints)#</td>
<td>2</td>
</tr>
<tr>
<td>4–10 small joints (with or without involvement of large joints)</td>
<td>3</td>
</tr>
<tr>
<td>&gt;10 joints (at least 1 small joint)**</td>
<td>5</td>
</tr>
<tr>
<td>B. Serology (at least 1 test result is needed for classification)††</td>
<td></td>
</tr>
<tr>
<td>Negative RF and negative ACPA</td>
<td>0</td>
</tr>
<tr>
<td>Low-positive RF or low-positive ACPA</td>
<td>2</td>
</tr>
<tr>
<td>High-positive RF or high-positive ACPA</td>
<td>3</td>
</tr>
<tr>
<td>C. Acute-phase reactants (at least 1 test result is needed for classification)‡‡</td>
<td></td>
</tr>
<tr>
<td>Normal CRP and normal ESR</td>
<td>0</td>
</tr>
<tr>
<td>Abnormal CRP or abnormal ESR</td>
<td>1</td>
</tr>
<tr>
<td>D. Duration of symptoms§§</td>
<td></td>
</tr>
<tr>
<td>&lt;6 weeks</td>
<td>0</td>
</tr>
<tr>
<td>≥6 weeks</td>
<td>1</td>
</tr>
</tbody>
</table>

Score of ≥6 indicative of the presence of definite RA
## ACR criteria for diagnosis of systemic lupus erythematosus

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malar rash</td>
<td>Fixed erythema, flat or raised, over the malar eminences, tending to spare the nasolabial folds</td>
</tr>
<tr>
<td>Discoid rash</td>
<td>Erythematous raised patches with adherent keratotic scaling and follicular plugging; atrophic scarring may occur in older lesions</td>
</tr>
<tr>
<td>Photosensitivity</td>
<td>Skin rash as a result of unusual reaction to sunlight, by patient history or physician observation</td>
</tr>
<tr>
<td>Oral ulcers</td>
<td>Oral or nasopharyngeal ulceration, usually painless, observed by a physician</td>
</tr>
<tr>
<td>Arthritis</td>
<td>Nonerosive arthritis involving 2 or more peripheral joints, characterized by tenderness, swelling, or effusion</td>
</tr>
<tr>
<td>Serositis</td>
<td>Pleuritis - convincing history of pleuritic pain or rub heard by a physician or evidence of pleural effusion OR</td>
</tr>
<tr>
<td></td>
<td>Pericarditis - documented by EKG, rub or evidence of pericardial effusion</td>
</tr>
<tr>
<td>Renal disorder</td>
<td>Persistent proteinuria greater than 0.5 grams per day or greater than 3+ if quantitation not performed OR</td>
</tr>
<tr>
<td></td>
<td>Cellular casts - may be red cell, hemoglobin, granular, tubular, or mixed</td>
</tr>
<tr>
<td>Neurologic disorder</td>
<td>Seizures OR psychosis - in the absence of offending drugs or known metabolic derangements (uremia, ketoacidosis, or electrolyte imbalance)</td>
</tr>
<tr>
<td>Hematologic disorder</td>
<td>Hemolytic anemia - with reticulocytosis OR</td>
</tr>
<tr>
<td></td>
<td>Leukopenia - less than 4,000/mm3 total on two or more occasions OR</td>
</tr>
<tr>
<td></td>
<td>Lymphopenia - less than 1,500/mm3 on two or more occasions OR</td>
</tr>
<tr>
<td></td>
<td>Thrombocytopenia - less than 100,000/mm3 in the absence of offending drugs</td>
</tr>
<tr>
<td>Immunologic disorders</td>
<td>Positive antiphospholipid antibody OR</td>
</tr>
<tr>
<td></td>
<td>Anti-DNA - antibody to native DNA in abnormal titer OR</td>
</tr>
<tr>
<td></td>
<td>Anti-Sm - presence of antibody to Sm nuclear antigen OR</td>
</tr>
<tr>
<td></td>
<td>False positive serologic test for syphilis known to be positive for at least six months and confirmed by Treponema pallidum immobilization or fluorescent treponemal antibody absorption test</td>
</tr>
<tr>
<td>Antinuclear antibody</td>
<td>An abnormal titer of antinuclear antibody by immunofluorescence or an equivalent assay at any point in time and in the absence of drugs known to be associated with “drug-induced lupus” syndrome</td>
</tr>
</tbody>
</table>
## A word about Fibromyalgia

Table II. The American College of Rheumatology 2010 preliminary diagnostic criteria for fibromyalgia (2).

<table>
<thead>
<tr>
<th>Criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A patient satisfies diagnostic criteria for fibromyalgia if the following three conditions are met:</td>
</tr>
</tbody>
</table>

1. Widespread Pain Index ≥ 7 and Symptom Severity Score ≥ 5 or Widespread Pain Index between 3 and 6 and Symptom Severity Score ≥ 9
2. Symptoms have been present at a similar level for at least 3 months
3. The patient does not have a disorder that would otherwise explain the pain

Please go to: [www.arthritis-research.org/research/fibromyalgia-criteria](http://www.arthritis-research.org/research/fibromyalgia-criteria) for more useful information on this.
Ascertainment:

1) Widespread Pain Index (WPI): Note the number areas in which the patient has had pain over the last week. In how many areas has the patient had pain? Score will be between 0 and 19:

- Shoulder girdle, Lt
- Shoulder girdle, Rt
- Upper arm, Lt
- Upper arm, Rt
- Lower arm, Lt
- Lower arm, Rt
- Hip (buttock, trochanter), Lt
- Hip (buttock, trochanter), Rt
- Upper leg, Lt
- Upper leg, Rt
- Lower leg, Lt
- Lower leg, Rt
- Jaw, Lt
- Jaw, Rt
- Upper back
- Lower back
- Chest Neck
- Abdomen

2) Symptom Severity Score:
   - Fatigue
   - Waking unrefreshed
   - Cognitive symptoms

For the each of the three symptoms above, indicate the level of severity over the past week using the following scale:

- 0 = No problem
- 1 = Slight or mild problems: generally mild or intermittent
- 2 = Moderate: considerable problems, often present and/or at a moderate level
- 3 = Severe: pervasive, continuous, life-disturbing problems

Considering somatic symptoms\(^a\) in general, indicate whether the patient has:

- 0 = No symptoms
- 1 = Few symptoms
- 2 = A moderate number
- 3 = A great deal of symptoms

The Symptom Severity Score is the sum of the severity of the three symptoms (fatigue, waking unrefreshed, cognitive symptoms) plus the extent (severity) of somatic symptoms in general. The final score is between 0 and 12.

---

\(^a\)For reference purposes, here is a list of somatic symptoms that might be considered: muscle pain, irritable bowel syndrome, fatigue/tiredness, problems thinking or remembering, muscle weakness, headache, pain/cramps in abdomen, numbness/tingling, dizziness, insomnia, depression, constipation, pain in upper abdomen, nausea, nervousness, chest pain, blurred vision, fever, diarrhea, dry mouth, itching, wheezing, Raynaud’s, hives/welts, ringing in ears, vomiting, heartburn, oral ulcers, loss/change in taste, seizures, dry eyes, shortness of breath, loss of appetite, rash, sun sensitivity, hearing difficulties, easy bruising, hair loss, frequent urination, painful urination, and bladder spasms.
Workup

- What can I do after history and physical to assist with diagnosis/urgency of referral?
Are there Alarm Bells?

- Renal involvement - Glomerulonephritis, Uncontrolled hypertension
- Pancytopenia
- Progressive pulmonary disease
- Tissue ischemia
- CNS/PNS involvement
- Unexplained systemic disease
- Marked disability
If you think this is RA
A Phone Call is warranted!
(or a fax or a very clear referral!)
Investigations: Start with Basics

- CBC
- Creatinine
- Urinalysis
- LFT
- R/O non-rheumatologic disorders
- ESR/CRP??
“special tests”

- ESR/CRP
- “Serology”
ESR

- Increased by
  - Acute phase reactants
  - Paraproteins
  - Anemia (fewer cells, less repellent forces)

- ALSO
  - Age, gender, pregnancy, diabetes, renal failure, malignancy, tissue damage (MI, CV)
Erythrocyte Sedimentation rate

RBC repel one another due to electrostatic forces (negatively charged). Therefore, they settle in the tube at a certain rate.
Inflammatory state: Increased ESR

Positively charged acute phase proteins neutralize negative charges and allow RBC to aggregate

Now RBC fall at a faster rate, further distance
A good rule of thumb,…

- **For Men**
  - Upper limit of normal of ESR = \( \text{Age} \times \frac{2}{2} \)

- **For Women**
  - Upper limit of normal of ESR = \( \text{Age} + 10 \times \frac{2}{2} \)

Thus, test is of limited value in the elderly population!
CRP

- Direct measure of acute phase reactants

- Produced by liver during inflammatory states
  - Less sensitive to irrelevant factors
  - Responds more quickly
  - More expensive
  - Don’t always know how to interpret
ESR, CRP

- **Limited utility** for differentiating inflammatory joint disease from noninflammatory joint disease on their own

- **Good physical examination** should inform the decision about ordering these tests
Rheumatoid Factor

- **Sensitivity:** 75-80% in RA population
- **Specificity:** 80-98% for RA

- Incidence of +RF in general population is about 1% (increases with age)
Conditions causing positive Rheumatoid Factor

- Rheumatoid arthritis
- Other systemic rheumatic diseases
- Cryoglobulinemia*
- Infections
  - bacterial endocarditis
  - Hepatitis, TB, Syphilis, parasitic disease, viral
- Pulmonary diseases
- Malignancy
Rheumatoid Factor

- RF is not diagnostic for RA
- RF should not be used to “screen” for RA
- Testing is most useful when there is a moderate level of suspicion for RA
- 20% patients are seronegative, so clinical evaluation the most important
Anti-Cyclic Citrullinated Peptide Antibodies (Anti CCP)

- Ab against amino acids formed by posttranslational modification of arginine (citrullination)

- Sensitivity similar to RF ~ 68% -75%+
- Highly specific ~95%

- May be detected in healthy people years before onset of RA (at present this does not have clinical application)
Antinuclear Antibody (ANA)

Antibodies that react with nuclear antigens

eg: nucleic acids (DNA, RNA), histones and components of the centromere
Antinuclear Antibodies

- Immunoflorescence ANA
- ELISA ANA
- Bioplex ANA screen
Anti-Nuclear Antibody : IFA

Serial Dilutions

1:40 → 1:80 → 1:160 → 1:320 etc
Patterns of ANA (IF)

Homogeneous

Rim

Speckled

Nucleolar

Staining patterns are not specific and not reliable for diagnosing different diseases
Antinuclear Antibody (ANA)

- a sensitive screen for suspected Systemic Lupus Erythematosus (SLE)

- 95-100% of SLE patients are ANA positive
Positive ANA

- Can be found in association with many autoimmune disorders
  - Scleroderma 85%
  - Mixed Connective Tissue Disease 93%
  - Polymyositis/Dermatomyositis 61%
  - Rheumatoid Arthritis 41%
  - Sjogren’s Syndrome 48%
Positive ANA

- Can also be seen in patients with organ-specific autoimmune disease
  - Hashimoto’s thyroiditis 46%
  - Graves’ disease 50%
  - Autoimmune hepatitis 63-91%
  - Primary Biliary Cirrhosis 10-40%
Positive ANA

Other disorders:

- Chronic infectious diseases (mononucleosis, hepatitis C, Subacute bacterial endocarditis, TB, HIV)
- Some lymphoproliferative disorders
- Some Hematologic disorders: idiopathic thrombocytopenic purpura, autoimmune hemolytic anemia
- Drugs
## Positive ANA in Normal Persons

<table>
<thead>
<tr>
<th>Dilution</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:40</td>
<td>20-30%</td>
</tr>
<tr>
<td>1:80</td>
<td>10-12%</td>
</tr>
<tr>
<td>1:160</td>
<td>5%</td>
</tr>
<tr>
<td>1:320</td>
<td>3%</td>
</tr>
</tbody>
</table>

Female sex and aging are associated with higher ANA.
ANA

- Best used when your pre-test probability for lupus is moderate
- Not recommended as a random screening test
- Not useful to diagnose other conditions but may support a clinical diagnosis
- Virtually rules out SLE when negative
The young woman with joint pain

- What can I do while I’m waiting?
The young woman with joint pain

- What can I do while I’m waiting?
- NSAIDS (watch renal function, LFT)
The young woman with joint pain

- What can I do while I’m waiting?
- NSAIDS (watch renal function, LFT)
- Arthritis society referral
  - Splinting
  - ADL
  - Energy conservation
2. The older woman with pain
- Diagnostic approach is the same
- What specific disorders are you most worried about?
Polymyalgia Rheumatica

- Age 50 years or older at disease onset
- Bilateral aching and morning stiffness ≥ 1 month
  - in neck or torso/shoulders or proximal arms/hips or proximal thighs (2/3)
- Erythrocyte sedimentation rate (Westergren) ≥ 40 mm/h
- Elevated CRP
- Response to prednisone
What about Giant Cell Arteritis?

- Found in 15-30% of those with PMR
- Age ≥50 years
- Localized headache of new onset
- Tenderness or decreased pulse of the temporal artery
- ESR >50 mm/h
- Positive Biopsy
Clinical evaluation
- Headache
- Jaw claudication (fatigue of chewing muscles)
- Cerebral ischemic symptoms
- Visual symptoms (blindness, amaurosis fugax, diplopia)
- Other non-cranial ischemia
Why refer to a rheumatologist?

- What worries you most?
- What worries the patient most?
- How do I best manage this patient’s problem?
- I’m frustrated and don’t know what to do with this person (diagnosis, symptom management)
Are there Alarm Bells?

- Renal involvement - Glomerulonephritis, Uncontrolled hypertension
- Pancytopenia
- Progressive pulmonary disease
- Tissue ischemia
- CNS/PNS involvement
- Unexplained systemic disease
- Marked disability
If you think this is GCA, 
A phone call is warranted!
Workup

- CBC
- Creatinine
- Urinalysis
- LFT
- ESR, CRP!!
The older woman with pain

- What can I do while I’m waiting?
The older woman with pain

- What can I do while I’m waiting?

- If you think this is PMR
  - Prednisone 10-15 mg po od

- If you think this is GCA
  - Prednisone 60mg po od
  - Try to arrange temporal artery biopsy
3. The patient with back pain
The Common Problem of **Acute** Back Pain

**Acute pain**

- Often nonspecific in nature
- Subsides without intervention within 3 months in 90% of patients
The Common Problem of *Chronic* Low Back Pain

- **Low back pain > 3 months**
  - ~ 95% Mechanical (Degenerative Disc Disease)
  - ~ 5% Inflammatory (Spondylitis)
Why refer to a rheumatologist?

- What worries you most?
- What worries the patient most?
- How do I best manage this patient’s problem?
- I’m frustrated and don’t know what to do with this person (diagnosis, symptom management)
Inflammatory Low Back Pain (IBP)

- IBP is the key clinical symptom of AS
- IBP has certain characteristic features
- Clinical history as a screening test to identify people with possible AS among those who have chronic back pain for other reasons
Proposed new criteria for inflammatory back pain in patients <50 years old with chronic back pain

1. Morning stiffness of >30 minutes' duration
2. Improvement in back pain with exercise but not with rest
3. Awakening because of back pain during the 2nd half of the night
4. Alternating buttock pain

Best trade off between Sensitivity and Specificity with at least 2/4 positive

- Sensitivity 70.3%  Specificity 81.7%

Rudwaleit et al  A&R 54:569, 2006
Workup
Are there Alarm Bells?

- Renal involvement - Glomerulonephritis, Uncontrolled hypertension
- Pancytopenia
- Progressive pulmonary disease
- Tissue ischemia
- CNS/PNS involvement
- Unexplained systemic disease
- Marked disability
Workup

- X-rays of Sacroiliac joints
- +/- HLA-B27
- Evaluate for psoriasis, Inflammatory bowel disease
- CBC
- Creatinine
- LFT
The patient with back pain (inflammatory)

- What can I do while I’m waiting?
The patient with back pain (inflammatory)

- What can I do while I’m waiting?

- Trial of NSAIDS (watch renal/liver)
The patient with back pain (inflammatory)

- What can I do while I’m waiting?
  - Trial of NSAIDS (watch renal/liver)
  - Physiotherapy
Chronic Non-inflammatory back pain

- What worries you most?
- What worries the patient most?
- How do I best manage this patient’s problem?
- I’m frustrated and don’t know what to do with this person (diagnosis, symptom management)
# Differential diagnosis of back pain

<table>
<thead>
<tr>
<th>Mechanical low back or leg pain (97%)</th>
<th>Nonmechanical spinal conditions (1%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumbar strain/sprain (70%)</td>
<td>Neoplasia (multiple myeloma, metastatic, lymphoma, spinal cord tumor and others)</td>
</tr>
<tr>
<td>Degenerative process of disks, facets</td>
<td>Infection (osteomyelitis, paraspinous abscess, epidural abscess)</td>
</tr>
<tr>
<td><em>Herniated disk</em></td>
<td><em>Inflammatory arthritis</em></td>
</tr>
<tr>
<td><em>Spinal stenosis</em></td>
<td></td>
</tr>
<tr>
<td>Spondylolisthesis</td>
<td></td>
</tr>
<tr>
<td>Congential disease</td>
<td></td>
</tr>
<tr>
<td>Visceral disease (2 %)</td>
<td></td>
</tr>
<tr>
<td>(renal, Aortic, pelvic, GI)</td>
<td></td>
</tr>
</tbody>
</table>

Not a complete list..
Lumbar Spinal Stenosis

- Neurogenic claudication
  - a syndrome of bilateral, often asymmetric pain, sensory loss, and/or weakness affecting the legs
  - produced or exacerbated by walking or prolonged standing in an erect posture.
## Typical clinical attributes of solitary root lesions

<table>
<thead>
<tr>
<th>Root</th>
<th>Pain</th>
<th>Sensory loss</th>
<th>Weakness</th>
<th>Stretch reflex loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>Inguinal region</td>
<td>Inguinal region</td>
<td>Rarely hip flexion</td>
<td>None</td>
</tr>
<tr>
<td>L2-L3-L4</td>
<td>Back, radiating into anterior thigh, and at times medial lower leg</td>
<td>Anterior thigh, occasionally medial lower leg</td>
<td>Hip flexion, hip adduction, knee extension</td>
<td>Patellar tendon</td>
</tr>
<tr>
<td>L5</td>
<td>Back, radiating into buttock, lateral thigh, lateral calf and dorsum foot, great toe</td>
<td>Lateral calf, dorsum foot, web space between first and second toe</td>
<td>Hip abduction, knee flexion, foot dorsiflexion, toe extension and flexion, foot inversion and eversion</td>
<td>Semitendinosus/semimembranosus (internal hamstrings) tendon</td>
</tr>
<tr>
<td>S1</td>
<td>Back, radiating into buttock, lateral or posterior thigh, posterior calf, lateral or plantar foot</td>
<td>Posterior calf, lateral or plantar aspect of foot</td>
<td>Hip extension, knee flexion, plantar flexion of the foot</td>
<td>Achilles tendon</td>
</tr>
<tr>
<td>S2-S3-S4</td>
<td>Sacral or buttck pain radiating into the posterior aspect of the leg or the perineum</td>
<td>Medial buttock, perineal, and perianal regions</td>
<td>Weakness may be minimal, with urinary and fecal incontinence as well as sexual dysfunction</td>
<td>Bulbocavernosus, anal wink</td>
</tr>
</tbody>
</table>
Cauda equina syndrome

- Bilateral leg weakness in multiple root distributions (L3-S1)
- May be associated with bowel, bladder and erectile dysfunction (S2-4)
Workup

- For patients over age 50
  - CBC
  - ESR
  - ALP
  - Plain Xray
  - Consider CT/ MRI depending on scenario and findings
Diagnostic algorithm of low back pain

Low back pain

Presence of sciatica? (occasionally without back pain)

No

Simple back pain (60 percent)
- Age under 50
- No signs of sx or systematic disease
- No hx of cancer

(Likelihood of musculoskeletal cause ~0.99)

Improved
- STOP

Not improved
- STOP

Complicated back pain without radiculopathy (37 percent)
- Age over 50
- Systemic signs, sx, or risk factors: fever, weight loss, hx of prior cancer, hematuria, adenopathy, injection drug use

(Radicularity of systemic disease is 1 to 10 percent, depending on the findings. Most patients still have musculoligamentous pain [95 percent].)

Improved
- Plain film and ESR* if risks for osteomyelitis

Not improved
- Noncontrast CT or MRI, choice depends on local availability
- If 12 week failure, meet criteria for subacute low back pain

Yes

Radiculopathy (3 percent)
- Signs and sx of radiculopathy, w/o bladder or bilateral findings
- May also have systemic signs, sx, or risk factors noted in complicated back pain

Urgent situations (<1 percent)
- Acute radiculopathy with urinary retention, saddle anesthesia, bilateral neurologic sx or bilateral exam findings
- Progressive motor weakness
- May have systemic signs, sx, or risk factors.

Plain film

If normal, conservative care for 4 to 6 weeks unless neurologic deficit is progressive

Improved
- STOP

Not improved
- Noncontrast CT or MRI, choice depends on local availability
- If 12 week failure, meet criteria for subacute low back pain
Why refer to a rheumatologist?

- Inflammatory back pain
Other avenues to pursue

- Physiatry
- Pain management clinic
- Physiotherapy
- Non-traditional conservative modalities
- Neurosurgical referral where indicated
What can I do while I’m waiting?

- **Self-Care** (stay active; books, handouts; superficial heat for acute pain)
- **Pharmacologic**
  - Acetaminophen, NSAIDS, muscle relaxants (acute only), antidepressants (chronic only), opioids/tramadol
- **Non-Pharmacologic**
  - Exercise, massage, acupuncture, yoga, relaxation, CBT - for chronic
  - Spinal manipulation (acute or chronic)
Facilitating a referral

- Communication is key
  - Phone call
  - Personal fax (or email if available)

- Clear referral note
  - Indicate your specific concern
  - Include relevant workup
4. Your cases