Breaking Down “Arthritis”

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March 2016
What is Arthritis?

- While often referred to as a single disease, arthritis is actually an “umbrella” term used for a group of more than 150 medical conditions.

- The common thread—musculoskeletal manifestations; specifically the joints.

- Many of these diseases are systemic and can affect multiple organs including the heart, lungs, brain, liver, kidneys and skin.

- Increased morbidity and mortality.

Incidence and Prevalence

- Estimated 52.5 million adults will be diagnosed with some form of arthritis.

- Currently, 1 in 5 adults have been told they have arthritis.

- By 2030, 67 Million Americans will be diagnosed with arthritis.

- An estimated 294,000 children under 18 have some form of arthritis or 1 in 250 kids.

Rising Annual Costs

- Total Costs $128 Billion compared to $86.2 billion in 1997.
- Medical expenditures $80.8 Billion, up from $51.1 billion in 1997.
- Earning lost $47 Billion compared to $35.1 in 1997.
- 3% of all Hospitalizations.
- 5% of all Ambulatory Care visits.
- 1 in 3 people diagnosed with arthritis are disabled.
- Most common cause of disability in the US.

Breaking Down Arthritis

- Non-Inflammatory
  OA/DJD

- Inflammatory
  RA, PsA, Gout, SLE
Chief Complaint

Tender=68

Swollen=66
Osteoarthritis (OA)

- The most common form of Arthritis in the US.
- One of the ten most disabling diseases in developed countries.
- 80% of those with OA will have significant limitations, including limits to ADLs.
- Affects women at approximately 2:1 to their male counterparts.
- Can be idiopathic or secondary.

Idiopathic OA

- Unknown causality

- Localized in one joint
  - Most common in the hands, fingers, feet, knees, hip, or spine.
  - Less common joints- shoulder, temporomandibular, sacroiliac, ankle, or wrists.

- Generalized-can consist of three or more joints
Secondary OA

Caused by specific conditions or enhanced risks for OA.

1. Trauma.
2. Hereditary-Mother’s hands?

More likely to have a atypical presentation
Clinical Presentation of OA

- Joint pain-movement/use
- TTP
- Morning stiffness *lasting less than one hour* upon awaking or any extended periods of inactivity throughout the day.
- Loss of flexibility
- Crepitus-grating sensation/cracking/popping
- Boney tenderness and enlargement
- No palpable warmth
- Nodules (Herberdens and Bouchards)
ACR Criteria for OA of the Hand

Hand pain, aching, or stiffness and at least 3 of the following features:

- Hard tissue enlargement of 2 or more of 10 selected joints.
- Hard tissue enlargement of 2 or more DIP joints.
- Fewer than 3 swollen MCP joints.
- Deformity of at least 1 of 10 selected joints.

Herberden’s Nodules
Bouchard’s Nodules
ACR Therapeutic Intervention
OA Hands

- Physical Therapy.
- Evaluation of Impact on ADLs.
- Teach Joint Protection.
- Assistive Devices.
- Thermal Modalities.
- Splints for Trapezio to Carpal Joint.
ACR Pharmacological Intervention OA Hands

- Topical Capsaicin Cream
- Acetaminophen
- NSAIDs-Cox2
- Tramadol
- IA Injections-Steroids
- Opioids
- Over 75—Topical only
OA of PIPs and DIPs

Most common joints are 2\textsuperscript{nd} and 3\textsuperscript{rd} DIP, 2\textsuperscript{nd} and 3\textsuperscript{rd} PIP and the 1\textsuperscript{st} MCP of both hands.
ACR Criteria for OA of the Hip

Hip pain and at least 2 of the following 3 items:

1. Erythrocyte sedimentation rate <20 mm/hour
2. Radiographic femoral or acetabular osteophytes
3. Radiographic joint space narrowing

OA of the Hip
ACR Therapeutic Intervention
OA of the Hip

- Exercise.

- Decrease WT—1lb=3lbs of pressure!

- Aquatic Therapy/Exercise.

- Psychology.

- No Opinion on Tai Chi.
ACR Pharmacological Intervention OA of the Hip

- Acetaminophen
- NSAIDs-Cox2
- Tramadol
- IA Injection

Does not recommend: glucosamine, chondroitin, topical or opioids.
ACR Criteria for OA of the Knee

- **Clinical/Laboratory (5 of 9)**
  - Age > 50
  - Morning Stiffness ≤ 30 Mins
  - Crepitus
  - Boney Tenderness
  - Boney Enlargement
  - No Palpable Warmth
  - ESR < 40mm/hour
  - RF < 1:40
  - Synovial Fluid OA

- **Clinical/Radiographic (1 of 3)**
  - Age > 50
  - Morning Stiffness ≤ 30 Mins
  - Crepitus
  - ***Plus Osteophytes***

ACR, 2012
Radiographic Evidence of OA

![Normal knee vs. Osteoarthritic knee](image)
ACR Therapeutic Intervention
OA of the Knee(s)

- Walking
- Cardio
- Aquatic Therapy
- Decrease WT
- Psychosocial Intervention
- Undecided on: TENs, bracing, or Tai Chi.
ACR Pharmacological Intervention OA of the Knee(s)

- Acetaminophen
- NSAIDs-Cox2
- Topical NSAID
- Tramadol
- IA-Steroid

Undecided on: Opioids and Hyaluronic Acid.

Say no to: topical capsaicin, glucosamine, and chondroitin.
Diagnostics

- By ACR Criteria, No diagnostics are required

- Do further investigation to rule out a life-threatening condition and to prevent/delay long-term comorbidities

- Laboratory: CBC, CMP, ESR, CRP

- RF, CCPs, ANA, Uric Acid-(as symptoms warrant)

- Radiographs: XRs-Joint of Interest as well as one above and one below
Differential

- Arthritis-OA, RA, SLE, PsA

- Bone Disease-OP, osteopenia, or osteolytic lesions

- Paget’s Disease (irregular breakdown and formation of bone tissue)

- Neuropathic Bone Pain
Nonpharmacologic Therapy

- **Self-management programs**
  Arthritis Self-Help Course, Arthritis Foundation

- **Weight loss (prn)**
  1 lb wt loss = 3 lbs relief to hip/knees!

- **Physical therapy**
  Spine, hip, knees, hands

- **Range of motion exercises**
  Instruct the patient on FROM of joint(s) involved

- **Strengthening exercises** — Yoga has the best clinical evidence!
  Weight training to build muscle groups surrounding involved joint

Nonpharmacologic Therapy

- Assistive devices for ambulation
- Occupational therapy
- Joint protection and energy conservation
- Assistive devices for ADLs
- Aerobic aquatic exercise program
- YMCAs, Health Spas, chiropractors
- Heat/Warm therapy

Inflammatory Arthritis

- Rheumatoid Arthritis (RA)
- Psoriatic Arthritis (PsA)
- Gout
- Systemic Lupus Erythematosus (SLE)
Inflammatory Response

* Targeted therapy
Rheumatoid Arthritis
Impact of Rheumatoid Arthritis

- RA affects 2.1 million Americans.
- There are 2.5 times as many women as there are men with RA.
- Onset of RA is usually middle-age, but it often occurs between 20-40 yrs of age.
- There is a high risk of disability and mortality in people with RA.
- Rheumatoid arthritis joint damage occurs early, often within the first two years of the disease.
- 50% of RA patients are unable to hold down fulltime employment within 10 yrs. of diagnosis.

Financial and Personal Disease Burden of RA

- Occurs in the most physical and financially productive years.

- $2K-10K per patient annual costs.

- Accounts for 22% of all deaths from arthritis and other rheumatic conditions.

- Persons with RA are two times more likely to die than persons of the same age without RA in the general population.


Diagnosis of RA

- ACR criteria requires “Synovitis not better explained by another diagnosis”.

- Most patients have had clinical symptoms for 5-10 years prior to diagnosis.
2010 ACR-EULAR
Classification Criteria for RA

A. Joint Involvement
   1. 1 Large joint=0
   2. 2-10 Large joints=1
   3. 1-3 Small joints=2
   4. 4-10 Small joints=3
   5. >10 Small joints=5

B. Serology
   1. RF and CCP negative=0
   2. Low RF or Low CCP=2
   3. High RF or High CCP=3

C. Acute Phase Reactants (at least one must be positive for diagnosis)
   1. Normal ESR/CRP=0
   2. Positive ESR or CRP=1

D. Duration of Symptoms
   1. <6 weeks=0
   2. >6 weeks=1

> 6/10 is Diagnostic
Radiological Evidence of RA

- Joint space narrowing
- Bony erosions
- Hands and Feet
- May already be present when first seen by a clinician; worse over time
- Erosions of cartilage and bone are among the cardinal features of RA
Normal -vs- OA -vs- RA
Early RA often Called Osteopenia PIPs

Soft tissue swelling and periarticular osteopenia of proximal interphalangeal joints in rheumatoid arthritis

The plain radiographs of the hand are magnified at the proximal interphalangeal joints of the third and fourth fingers showing soft tissue swelling (yellow arrows) and periarticular osteopenia (white arrows).

Courtesy of Richard Waite, MD.
Early RA X-Rays

MCPs

Plain radiograph of osteopenia of metacarpophalangeal joints in rheumatoid arthritis

The plain x-ray of the left hand in the AP projection shows a normal patient (A) and a patient with radiologically mild rheumatoid arthritis (B). The patient with rheumatoid arthritis demonstrates osteopenia around the metacarpophalangeal joints (white arrows) and mild soft tissue swelling (yellow arrows).

*Image B courtesy of Richard Waite, MD.*
Early RA X-Rays Wrists

Plain radiograph of osteopenia of the wrist in rheumatoid arthritis

The normal radiograph of the left wrist in the AP projection (A) is compared with the left wrist of a patient with rheumatoid arthritis (B). The subtle diffuse osteopenia of the carpal bones is typified by an overall decrease in the density of the bones and by a relative paucity of trabecular markings. Less subtle is the prominent soft tissue nodule overlying the styloid process (arrow).

*Image B courtesy of Richard Waite, MD.*
Erosions on Radiograph
Other Deformities
Rheumatoid Nodules
Extra-Articular Symptoms

- Fever
- Anorexia
- Fatigue
- Weakness
- Swollen lymph nodes (lymphoma)
- Anemia
- Dry eyes/mouth (Sjögren's)
- Neuropathy

*** AM Stiffness lasting >1hr.
Critical Comorbidities Associated with RA

- Pulmonary Fibrosis (long-term)
- Pleural Effusion
- Vasculitis (life threatening)
- Cardiac Disease (chronic inflammation)
- GI Complications (GI bleed, inflammatory bowel)
- Renal Disease (long-term NSAID use)
Morbidity with RA

- Patients with high titer rheumatoid factor, subcutaneous nodules and a slow insidious onset of disease are more likely to develop one of the lethal extra-articular manifestations.

- The majority of patients with chronic unremitting disease exhibit some form of extra-articular disease, and the morbidity and mortality for these patients is higher than in the unaffected RA population.
Treatment in RA

ACR Pharmacologic Guidelines:

1. **NSAIDS** - naproxen sodium, voltaren, meloxicam etc.

2. **DMARDS** - (Disease-modifying antirheumatics drugs) - methotrexate, sulfasalazine, leflunomide, azathiaprine, cytoxan.


4. **Corticosteroids** - used for flares

***Combined Side effects: alterations in renal/liver functions, infection, GI bleed, and myelosuppression.
Rheumatology Therapy

- DMARDs
- Second DMARD
- TNFa/biologic
- Targeted Biologic-T cell inhibitor, B cell inhibitor.
Therapeutic Goals

- Quality of Life
- Comfort Measures
- Joint Integrity
- Delay/Avoid Disability
- Delay/Avoid Comorbidities
Psoriatic Arthritis (PsA)
PsA Incidence and Prevalence

- First recognized as a disease in the 1950s.
- Psoriatic arthritis is associated with psoriasis on the skin.
- 10 to 30% of people with psoriasis develop psoriatic arthritis, although it often may go undiagnosed, particularly in its milder forms.
- Most common in people between the ages of 30 and 50.
- Psoriatic arthritis affects men at a slightly higher percentage than women.
PsA Incidence and Prevalence

- In North America, psoriatic arthritis is reported to affect about 1 million adults or 2.5 percent of the Caucasian population.

- It is less prevalent among African Americans and Native Americans.

- Psoriatic arthritis affects 5-8% of patients with psoriasis.

- Psoriatic arthritis represents about half the incidence of rheumatoid arthritis.

Clinical Manifestations

- Psoriatic arthritis primarily involves the small joints of the fingers and toes.
- Up to 80 percent of patients will have nail pitting.
- Asymmetrical.
- Affects the ligaments, tendons, fascia and joints.
- Tends to be more severe in patients with greater skin involvement.
- The skin is usually affected first, often preceding the development of arthritis by as long as twenty years.
Clinical Manifestations

- Skin manifestations optional.

- Good Hx can reveal lesion in the scalp (dandruff) or nail pitting (can be mistaken as fungus).

- Dactylitis or a sausage-like appearance of the digits.

- Enthesitis-Inflammation of the tendons.

- The upper cervical spine tends to be affected in about 5 percent of patients, usually males.
Nail Pitting, Enthesitis, Dactylitis
Clinical Presentation

- Generalized fatigue.

- Tenderness, pain and swelling over tendons.

- Swollen fingers and toes.

- Stiffness, pain, throbbing, swelling and tenderness in one or more joints.
Clinical Presentation

- Reduced range of motion.
- Morning stiffness.
- Nail changes (the nail separates from the nail bed and/or becomes pitted and mimics fungus infections).
- Redness and pain of the eye, such as conjunctivitis.
ACR Criteria/Clinical Guidelines?

- There are no ACR guidelines for PsA.

- Diagnosis is made by process of elimination.

- Referral to Rheumatology.

- Currently, a diagnosis of psoriatic arthritis is made in people with psoriasis with symptoms of arthritis and a negative blood test for rheumatoid factor.

- 40% of PsA patients have a family member with psoriasis.
Pharmacological Management

1. **NSAIDS**—naproxen sodium, voltaren, etc.

2. **DMARDS**—methotrexate, sulfasalazine, leflunomide, azathiaprine, cytoxan.

3. **Biologics**—etanercept, infliximab, and adalimumab.

4. **Corticosteroids**—used for flares

***Combines Side effects: alterations in renal/liver functions, infection, GI bleed, and myelosuppression.
Therapeutic Goals

- Quality of Life
- Comfort Measures
- Joint Integrity
- Delay/Avoid Disability
- Delay/Avoid Comorbidities
Role of the Family Practice Clinician

- Physical Exam-look for psoriasis/nails.
- Diagnostics-CBC, CMP, ESR, CRP, RF, Anti-CCPs
- Start NSAIDs
- Refer patient to Rheumatology
Special Considerations

- Patients with psoriasis are often followed by dermatology, rheumatology, and their PCP.

- Patients can be prescribed both DMARDs and biologic agents by multiple providers.

- Be sure to obtain a detailed medication list of all current prescriptions!
Gout “Fun-Facts”

- Gout has the unique distinction of being one of the most frequently recorded medical illnesses throughout history.

- It is often related to an inherited abnormality in the body's ability to process uric acid. Uric acid is a breakdown product of purines that are part of many foods we eat.

- The body’s inability to handle uric acid can cause attacks of painful arthritis (gout attack), renal calculi, and blockage of the glomeruli, and ultimately, lead to renal failure.

- Some patients may develop elevated blood uric-acid levels (hyperurecemia) without having arthritis or kidney problems. Therapeutic intervention is controversial.

Incidence and Prevalence

- Affects 1 million people in the United States with estimates of 100,000 new cases annually.
- Approximately 10% of American males have hyperurecemia.
- Gout is nine times more common in men than in women.
- Predominantly attacks males after puberty, with a peak age of 75.
- In women, gout attacks usually occur after menopause.

Risk Factors

- Obesity
- Excessive weight gain (especially in youth)
- Moderate to heavy ETOH
- HTN
- Abnormal kidney function
- High purine diet
Risk Factors

- Drugs (HCTZ, low-dose aspirin, niacin, cyclosporine, tuberculosis medications (pyrazinamide/ethambutol).)

- Diseases lead to excessive production of uric acid in the body (leukemias, lymphomas, hemoglobin disorders).

- Hypothyroidism has been noted in patients with gout.
Precipitating Factors in the Patient Predisposed to Gout

- In patients at risk of developing gout, certain conditions can precipitate acute attacks including: dehydration, injury to the joint, fever, excessive dining, heavy alcohol intake, and recent surgery.

- Gout attacks triggered by recent surgery are probably related to changes in the body-fluid balance as patients temporarily discontinue normal oral fluid intake in preparation for and after the surgery.
Clinical Presentation

- Rapid and extremely painful onset of joint inflammation most common in 1st toe; can also be seen in ankles, wrists, fingers, knees and elbows.

- Reports “waking-up” with excruciating pain at one localized joint; no trauma.

- Inflammation, pain, heat, erythema, and inability to move/touch/use affected joint.

- Often present to the local ER.
ACR Criteria for Gout (1/2)

Gout may be diagnosed if one of the following criteria is present:

- Monosodium urate crystals in synovial fluid
- Tophi confirmed with crystal examination

At least six of the following findings:

- Asymmetric swelling within a joint on a radiograph*
- First metatarsophalangeal joint is tender or swollen*
- Hyperuricemia*
- Maximal inflammation developed within one day*

ACR Criteria for Gout (2/2)

- Monoarthritis attack*
- More than one acute arthritis attack*
- Redness observed over joints*
- Subcortical cysts without erosions on a radiograph
- Suspected tophi
- Synovial fluid culture negative for organisms during an acute attack
- Unilateral first metatarsophalangeal joint attack
- Unilateral tarsal joint attack

Tophi in Gout

- Most gout patients will develop tophi, or build up uric crystals in the soft tissues within 2 years of onset of disease.

- First flare is most commonly noted after 20 years of elevated uric acid levels.
Gout on X-Ray with Erosions
Tophi in Gout
Acute Treatment of Gout

- NSAIDS-indomethacin, naproxen.

- Allopurinol, Uloric.

- Colchicine-if not on for maintenance.

- Rest.

- Uncovered, removal of constricting covering.

- Consider narcotics and corticosteroids for severe cases/pain.
Non-Pharmacological Management

- Weight loss.
- Hydration.
- Reduction in ETOH consumption.
- Low purine diet.
# Foods High in Purines

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Pharmacologic Management

- NSAIDS - indomethacin, naproxen

- Colchicine - reduces uric acid production and inflammation. Can be used both in acute and maintenance; if acute attack while on therapy, must stop medication. SE - diarrhea

- Allopurinol - maintenance. Inhibits xanthine oxidase, interfering w/ conversion of hypoxanthine and xanthine to uric acid. SE - skin reactions.

- Uloric - xanthine oxidase (XO) inhibitor indicated for the chronic management of gout. (Cannot be taken with aza, theophylline, or 6-MP).
Considerations for the PCP of the Gout Patient

- Gout is often mistaken for cellulitis
- Renal function-Bun, Cr
- Drugs for HTN, cardio-prevention, TB
- Avoidance of ETOH and purines
- Prevention of Disability
- GI Bleeding/Clotting Risks
Considerations for the PCP of the Gout Patient...FYI

- Consider Rheumatology Consult on the first attack.

- 60% will have a second attack within one year of the first episode.

- Gout patients who are incompletely managed will result in Renal Damage!
Systemic Lupus Erythematosus
SLE Incidence, Prevalence, & Mortality

- Prevalence estimates vary widely, and range as high as 1,500,000.

- Incidence. Existing estimates range widely, from 1.8 to 7.6 cases per 100,000 persons per year in parts of the continental United States.

- 1,032,000 Ambulatory Care visits/year.

- Among rheumatic conditions, lupus has a relatively high mortality; increases death rate by 35%.

- Causes of death are mainly active disease, organ failure (e.g., kidneys), infection, or cardiovascular disease from accelerated atherosclerosis.

(cdc, 2014).
(Lupus Foundation of America, 2014).
SLE Facts

- Lupus is a prototype autoimmune disease with a wide array of clinical manifestations (rash, photosensitivity, oral ulcers, arthritis, pleuritis, pericarditis, kidney problems, seizures and psychosis, blood cell abnormalities).

- It is characterized by the production of antibodies to components of the cell nucleus.

- Primarily a disease of young women.

- Occurs from infancy to old age, with peak occurrence between ages 15 and 40.

- Females are affected far more than males (6-10:1).

SLE....More Facts

- Black/African Americans (and possibly Hispanics, Asians, and Native Americans) are affected more than Caucasians.

- Although there is a strong familial aggregation, the disease is relatively uncommon and most cases are sporadic.

- May occur with other autoimmune conditions (e.g., thyroiditis, hemolytic anemia, idiopathic thrombocytopenia purpura).

From 1988 through 2000 hospitalizations with lupus listed as a discharge diagnosis increased from <60,000/year to >100,000/year, with an annual average of 77,000 hospitalizations.

Among rheumatic conditions, lupus has a relatively high mortality.

Patients with lupus have an increased frequency of related autoimmune problems, such as Sjogren’s syndrome (i.e., dry eyes, dry mouth) and antiphospholipid syndrome (i.e., clotting problems, strokes, fetal loss), that require additional treatments.
Clinical Presentation

- Painful or swollen joints and muscle pain
- Unexplained fever
- Rash
- Pleuritic CP
- Alopecia
- Raynaud’s
- Abnormal Blood Chemistry
Clinical Presentation Continued

- Photo Sensitivity
- Swelling (edema) in legs or around eyes
- Mouth/Nasal ulcers
- Swollen glands
- Extreme fatigue
- Seen by multiple providers without definitive Dx.
1. Malar rash - Fixed erythema, flat or raised, over the malar eminences, tending to spare the nasolabial folds.

2. Discoid rash - Erythematous raised patches with adherent keratotic scaling and follicular plugging; atrophic scarring may occur in older lesions.

3. Photosensitivity - Skin rash as a result of unusual reaction to sunlight, by patient history or provider observation.

4. Oral ulcers - Oral or nasopharyngeal ulceration, usually painless, observed by provider.
1997 ACR Criteria SLE (2/5)

5. Arthritis-Nonerosive arthritis involving 2 or more peripheral joints, characterized by tenderness, swelling, or effusion.

6. Pleuritis or pericarditis-convincing pleuritic pain, or rubbing heard by a provider or evidence of pleural effusion; EKG findings.

7. Renal Disorders-Protienuria > 0.5gms/day or cellular casts (RBCs, Hgb, etc.).

8. Neurologic Disorders-Sz (in absences of metabolic cause) or psychosis (in absence of metabolic or drug induced causes).
9. Hematologic disorder
   a) Hemolytic anemia--with reticulocytosis
      OR
   b) Leukopenia--less than 4,000/mm$^3$ total on 2 or more occasions
      OR
   c) Lymphopenia--less than 1,500/mm$^3$ on 2 or more occasions
      OR
   d) Thrombocytopenia--less than 100,000/mm$^3$ in the absence of offending drugs
1997 ACR Criteria SLE (4/5)

10. Immunologic disorder

Anti-DNA: antibody to native DNA in abnormal titer

----OR----

Anti-Sm: presence of antibody to Sm nuclear antigen

----OR----

Positive Antiphospholipid Antibody
1997 ACR Criteria SLE (5/5)

11. Positive ANA by IFA.

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.

A person is said to have systemic lupus erythematosus if any 4 or more of the 11 criteria are present, serially or simultaneously, during any interval of observation.

Potential Lethal Complications

- Cardiac-vasculitis, endocarditis, myocarditis, pleural pericarditis
- Pulmonary-pulmonary hypertension, pneumonitis, embolism, interstitial fibrosis
- Renal-renal syndrome, glomerulonephritis
- Heme-anemia, thrombocytopenia, hypercoagulopathy
- Neuro-seizures, coma, confusion, psychosis, demyelinating disorders
- Skin-vasculitis, bruising
Differentials

- Undifferentiated Connective Tissue Disorder
- Sjogren’s Syndrome
- Antiphospholipid Antibody
- ITP
- Fibromyalgia (with positive antibody)
- Early RA
- Vasculitis
Treatment of SLE

- DMARDs - Plaquenil, sulfasalazine.
- Steroids - flares and maintenance.
- Biologics - arthralgia and renal preservation.
- Symptomatic treatment of clinical features unique to each patient (i.e., cardiac, renal).
Role of the PCP in the Dx of the SLE Patient

- The ACR recommends to refer the SLE (or suspected SLE) patient to Rheumatology.

- Dx SLE-CBC, CMP, ESR, CRP, Lupus 12 Panel.
  {Order an ANA with reflex to Lupus 12 Panel}

- Do not tell the patient that they have SLE based on ANA screening test!
Role of the PCP of the SLE Patient

- Monitor SLE
- Assess disease activity and for complications
- Manage and treat toxicities
- Pregnancy, surgery, anemia
Common Grounds in Autoimmune Diseases

- Arthralgia
- Constitutional symptoms
- Elevated inflammatory markers
- Patients have often seen multiple providers for symptoms
- Potential/actual Depression-Use of tool such as PQH-9
Role of the Family Practice Clinician

- Physical Exam

- Compare findings to ACR Guidelines

- Diagnostics-CBC, CMP, ESR, CRP, RF, Anti-CCPs

- NSAIDs if not already started; Consider PPI.

- Refer patient to Rheumatology-HMO patients may not be allowed consultation without specific findings. Know HMO specifications for referral.
Etiology

- Unknown

- Thought to have many different cytokin involvement (IL-1, IL-6, TNFa, CD-20). Basis of biologic therapies and current research

- Strong family history to no family history
Targeted Therapy In Inflammatory Arthritis

Define (or redefine) treatment target

Use predictors of response and outcome to inform decisions

**Disease activity**
- High
- Poor prognostic features
  - Present

**Disease activity**
- Low, moderate, high
- Poor prognostic features
  - Present or absent

**Disease activity**
- Low
- Poor prognostic features
  - Absent

---

Therapeutic decision to induce remission

- Aggressive, systemic therapy
- Mild, local therapy

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Target of remission on medication achieved?

- Yes
- No

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Therapeutic decision

- Maintenance therapy, taper when appropriate
- Withdrawal of medication when appropriate

---

Final target
Remission off medication

Frequent reassessment
- e.g. 3-monthly intervals

Re-assess at a maximum of 6-12 week intervals
(tight control)
Primary Care Role

- Patients on DMARDs, Biologics, and steroids or combinations thereof:
  1. Increased risk for infection.
  2. Increased Risk of Certain Cancers.
  3. Vaccine Status.

- Consider P.T.
- Consider support groups.
- Patient education-dispel myths.
Fibromyalgia
What is it?

- Fibromyalgia is one of a group of soft tissue pain disorders that affect muscles, tendons, and ligaments.

- Non-inflammatory.

- Etiology is not known.
Incidence and Prevalence

- The most common cause of generalized, musculoskeletal pain in women between ages of 20 and 55 years.

- Approximately 2% of the population.

- Six times more common in females than males.

- More than 40% of the patients in a pain clinic meet diagnostic criteria for FM.
Clinical Presentation

- Cardinal manifestation is *widespread musculoskeletal pain*.
- Usually involves both sides of the body.
- Fatigue.
- Sleep Disturbances.
“Fibro-Fog”

- Cognitive and mood disturbances are present in the majority of patients.

- Depression and/or anxiety are present in 30 to 50 percent of patients.

- Headaches are present in more than 50 percent of the patients.

- Sleep Disturbances.
2010 ACR FM Criteria

- Widespread pain:
  - Pain $\geq 7$
  - Severity $\geq 5$

- Sxs present for $>3$ months

- Patient does not have a disorder that would better explain the pain.
Diagnostic Criteria

Criteria
A patient satisfies diagnostic criteria for fibromyalgia if the following 3 conditions are met:

1. Widespread pain index (WPI) \( \geq 7 \) and symptom severity (SS) scale score \( \geq 5 \) or WPI 3–6 and SS scale score \( \geq 9 \).
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.

Ascertainment

1. 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, left
   - Hip (buttock, trochanter), left
   - Jaw, left
   - Upper arm, left
   - Upper arm, right
   - Upper leg, left
   - Upper leg, right
   - Lower arm, left
   - Lower arm, right
   - Lower leg, left
   - Lower leg, right
   - Upper back
   - Jaw, right
   - Lower back
   - Chest
   - Abdomen
   - Neck

2. SS scale score:
   - Fatigue
   - Waking unrefreshed
   - Cognitive symptoms
   For the each of the 3 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 in general, indicate whether the patient has:
   - 0 = no symptoms
   - 1 = few symptoms
   - 2 = a moderate number of symptoms
   - 3 = a great deal of symptoms
   The SS scale score is the sum of the severity of the 3 symptoms (fatigue, waking unrefreshed, cognitive symptoms) plus the extent (severity) of somatic symptoms in general. The final score is between 0 and 12.

* Somatic symptoms that might be considered: muscle pain, irritable bowel syndrome, fatigue/tiredness, thinking or remembering problem, muscle weakness, headache, pain/cramps in the abdomen, numbness/tingling, dizziness, insomnia, depression, constipation, pain in the upper abdomen, nausea, nervousness, chest pain, blurred vision, fever, diarrhea, dry mouth, itching, wheezing, Raynaud’s phenomenon, hives/welts, ringing in ears,
Initial Therapy

- Patient Education: disease, treatment approaches, sleep hygiene, and mood or sleep disorders.
- Exercise: aerobic conditioning, stretching, and strengthening. PT referral.
- Monotherapy for sxs not resolved by nonpharmacological therapy. (Amitriptylline, duloxetine).
Therapy for Nonresponsive-Monotherapy Patients

- Must consider coexisting psychiatric illness/medications.

- Consider Combination Therapy:
  1. Low-dose Duloxetine in the AM
  2. Pregamblin in the PM
Pharmacotherapy

- **Good Evidence with:**
  - Amitriptyline 10-25mg PO 2hr prior to HS-sleep
  - Duloxetine 60mg PO Q AM-50% pain reduction in 12 weeks.
  - Gabapentin 300mg PO daily—titrate to efficacy.

- Acetaminophen & Tramadol—in combination 50% reduction of pain.

- Narcotics are ineffective but often requested.

- Consider Pain Management Referral.
Non-Pharmacological Interventions

- CAM-acupuncture, massage, water aerobics, bio-feed back, chiropractor.
- Exercise: Tai Chi, Yoga, water therapy.
- Physical Therapy.
Consider the DDX

- Labs:
  - CBC, CMP, ESR, CRP, RF, AntiCCPs—must be negative.
  - CK, Adolase—Muscle injury?

- Sleep Apnea?

- Medications Contributing?

- Infection?

- Vitamin Levels
Depression

- 25% will have depression.
- 50% will develop depression.
- Sleep disturbance.
- Depression—evaluate the patient every visit.
# PHQ-9 Screening Tool

<table>
<thead>
<tr>
<th>Question</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>2. Feeling down, depressed, or hopeless</td>
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<td>3. Trouble falling or staying asleep, or sleeping too much</td>
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<td>4. Feeling tired or having little energy</td>
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<td>5. Poor appetite or overeating</td>
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<td>6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down</td>
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<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
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<td>8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety or restless that you have been moving around a lot more than usual</td>
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<td>9. Thoughts that you would be better off dead, or of hurting yourself</td>
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</table>
FM Treatment Center

- Fibromyalgia Treatment Center in Southern California.
- FM Treatment Center at Casa Colina-Pomona, CA.
- Collaborative, Physical Therapy Lead Team approach to FM.
Components of the Program

- **Aquatic program:**
  - An indoor warm-water pool (94-96 degrees)
  - Gentle walking and arm movements
  - Resistive exercises
  - Aquatic exercise equipment

- **Education program that will cover topics such as:**
  - Stress management
  - Nutrition
  - Physiology of exercise
  - Understanding pain
  - Energy conservation and body mechanics
  - Complimentary and holistic medicine
  - Lifestyle management
  - Coping skills
  - Psychological impact of fibromyalgia
Components Continued

- An exercise program:
  - Relaxation to reduce pain and tension
  - Stretching to increase range of motion and flexibility
  - Strengthening to encourage greater mobility and balance
  - Pacing oneself to avoid symptom flare-ups
  - Preventing injuries or strains
  - Tai Chi and Yoga

- Focus on QoL
  - Support groups – pt and family.
  - FM resources.
  - Nutrition and wellness.
Questions???

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References


References


