

The Arthritis History for a NEW PATIENT

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Welcome to your rotation in Rheumatology at St. Joseph's Health Care Centre. We look forward to teaching you about arthritis and the rheumatic diseases.

INTRODUCTION

Arthritis is often a little “mysterious” and the history and physical examination can be overwhelming. Given this, it can be very difficult for a trainee to capture relevant information necessary for a diagnostic and treatment plan. In general, when rheumatologists approach a new patient with arthritis – the following questions are going through their mind:

1. Is this an inflammatory or non-inflammatory arthropathy?
2. What is the burden of this disease?
 - a. Joint involvement?
 - b. Is there joint damage?
 - c. Constitutional features such as fatigue or sleep disruption?
 - d. Effect on daily living?
3. Are there extra-articular features of the disease?
4. What previous treatments used and how they have worked or not worked?
5. What prior investigations have been performed that may help with the diagnosis?
6. Is there evidence on physical examination to support the historical features?
7. What further investigations need to be performed?
8. What is an appropriate treatment regimen?

Below is an approach to taking an arthritis history from a patient. It is divided into questions followed by information gathered from the questions and the relevance of the information. It is very important to understand why you are asking the question and what you will do with the information you receive.

DEMOGRAPHIC DATA

QUESTION: What is your sex and age?

INFORMATION GATHERED

- It is very important to determine a patient's age and sex as they can be helpful in a patient's diagnosis. For example, a diagnosis of gout presenting in a young woman would be very unusual unless she had other risk factors. Similarly a new diagnosis of ankylosing spondylitis in an 80 year old man is very unlikely as well.

PRESENTATION & PROGRESSION OF THE ARTHRITIS

QUESTION: “When did you first notice your arthritis?”

INFORMATION GATHERED

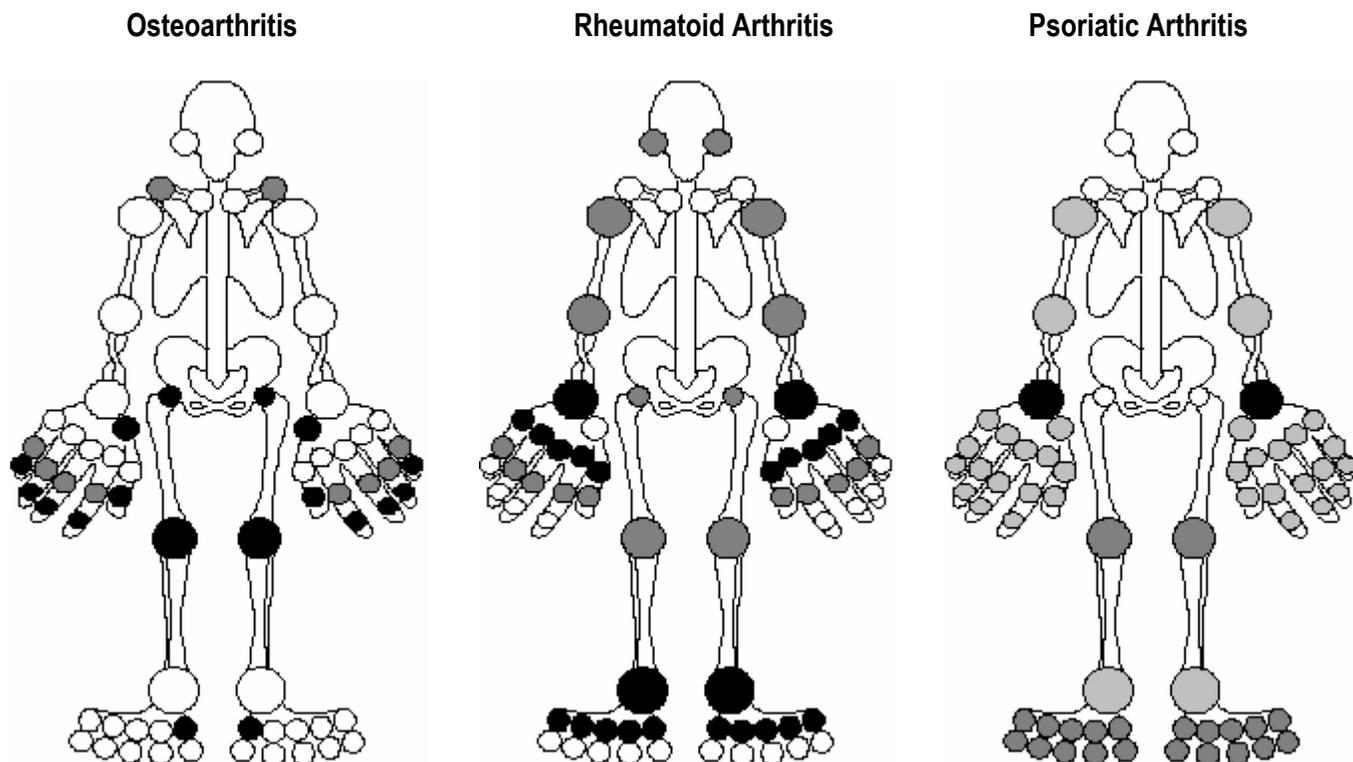
- When was the initial onset of the arthritis? This question is a very important prognosticator. A patient with long-standing arthritis with little disability, no damage or deformity will likely do better than a similar patient with significant damage and deformity. This works well for patients who have had arthritis for a while but is not as useful for those with recent onset arthritis.

QUESTION: “When your arthritis first started, where did it hurt and what joints did it start in?”

INFORMATION GATHERED

- What was the initial pattern of the joint involvement? This is very important in distinguishing an “inflammatory” pattern from a “degenerative” pattern from pain caused by peri-articular structures. For example, if a patient said the arthritis began “in my hands” this could mean a lot of things. It could mean MCP, PIP, DIP, wrist involvement, carpal tunnel syndrome, tenosynovitis etc. If the arthritis “started in the elbows” it could mean true elbow involvement or epicondylitis and similarly if it “started in the feet” the patient could be referring to plantar fasciitis or an Achilles tendonitis. The point – be very specific when asking.

- **IMPORTANT POINT:** Primary Osteoarthritis does not involve the MCPs, Wrists, Elbows, Shoulders, Ankles, or 2-5 MTPs. Arthritis involving these joints is either Secondary Osteoarthritis (Secondary to previous trauma, infection etc) or it is an Inflammatory Arthritis.
- The number of joints involved at the beginning.
 - **Monoarthritis (1):** Typically the way osteoarthritis begins especially if it is in a lower extremity weight bearing joint. However, an inflammatory arthritis may begin as a monoarthritis as well.
 - **Oligoarthritis (1-4):** Can be an early presentation of an inflammatory arthritis but may also represent a degenerative process.
 - **Polyarthritis (>4):** Usually associated with an inflammatory arthritis.



❑ **QUESTION: “How long did it take for your arthritis to first start?”**

❑ **INFORMATION GATHERED**

- The pattern of onset of the arthritis:
 - **Acute Onset (Overnight-Days):** It is unusual for a degenerative problem to be suddenly “out of the blue” unless there has been some aggravating event (i.e. trauma). Inflammatory arthritides that often begin acutely include crystalline arthropathies, infectious arthritis, and reactive arthritis. Other inflammatory types of arthritis usually begin a little bit more insidiously but we still do see acute presentations from time to time.
 - **Subacute Onset (Weeks):** This is a more typical presentation for an inflammatory arthritis. The most common pattern is one which slowly adds more joints over time. It might begin in the hands and then over a period of weeks begin to add other joints such as wrists, knees, ankles, feet etc. This is known as the additive pattern.
 - **Chronic Onset (Months to Years):** This is a more typical presentation for a degenerative type of arthritis. The only caveat is sometimes patients with inflammatory arthritis have not had an early diagnosis and their arthritis has progressed for some time.

❑ **QUESTION: “How has your arthritis progressed and what joints does it involve now?”**

❑ **INFORMATION GATHERED**

- The pattern of progression of the arthritis

- **Unchanged from the Onset:** The arthritis began and has not affected any more joints. This would be more typical for a degenerative type of arthritis.
- **Additive Pattern:** Again, this begins with joints becoming progressively added over time. The patient might say, “It began in my right wrist and then two weeks later my hands became swollen, stiff, and sore and then about a week later my knees became stiff and sore.” This is very typical for the progression of an inflammatory arthritis.
- **Palindromic Pattern:** The begins with a joint becoming involved and reaching peak intensity over 24 hours and then resolving just as quickly as it came on. This pattern of progression is found to be “bizarre” by most patients. A patient might say, “My knee started to hurt on Saturday and on Sunday I couldn’t walk and then by Monday it felt fine again”.
 - SIDE NOTE: A palindrome is a word that is the same coming as going. For example, the word “racecar” is the same when spelled forwards or backwards! Cool! Palindromic arthritis is the same coming as going; in other words, it comes on quickly and leaves quickly.
- **Intermittent Pattern:** Some inflammatory arthritides can come intermittently affecting a joint or joints for some time before settling down and then affecting another joint.
- The pattern of joint involvement now
 - Again, as above is the pattern Inflammatory or Degenerative – see diagrams above.
- The number of joints which are now involved.
 - Monoarthritis (1)
 - Oligoarthritis (1-4)
 - Polyarthritis (>4)

INFLAMMATORY FEATURES OF THE ARTHRITIS

QUESTION: “Do you notice swelling in your joints?”

INFORMATION GATHERED

- Swelling in the joints can be indicative of an inflammatory problem. Osteoarthritis can also be associated with swelling but it may not be as dramatic as swelling with an inflammatory arthritis.
- Be specific when you ask this question. If the patient tells you that their hands swell then ask them exactly where and what joints. Is it the DIPs, PIPs, MCPs, wrists, extensor or flexor tenosynovium, or just the whole hand in general?
- Patients with Fibromyalgia will also complain of swelling in the joints. For example, they might complain of swelling of the whole hand. If you press on and ask them, in particular, what joints in the hand swell they will usually not be able to point to specific joints. That being said, inflammatory arthritis can also do the same but it is important to try to distinguish.

QUESTION: “Do your joints become warm to the touch?”

INFORMATION GATHERED

- This question is tricky because flaring osteoarthritis and the joints involved in an inflammatory arthritis may both be mildly warm.
- “Hot” joints are usually associated with redness and seen with infection, gout, and reactive arthritis.

QUESTION: “Do your joints turn colours such as pink or red?”

INFORMATION GATHERED

- Arthritic conditions where the joints turn bright red (usually very painful): Infection, Gout, Reactive Arthritis, and sometimes Psoriatic Arthritis when it is very acute although this is very rare.
- The joints of patients with other types of inflammatory arthritis DO NOT turn red unless something else is going on. Patients with rheumatoid arthritis may notice their joints becoming purple.
- The joints of patients with osteoarthritis DO NOT turn red unless something else is going on.

DIURNAL PATTERN OF THE ARTHRITIS

QUESTION: “When you wake up in the morning do your joints feel stiff and sore?”

INFORMATION GATHERED

- Almost every person with arthritis will feel stiff and a little sore in the morning.
- It is important to try and distinguish between pain and stiffness.

❑ QUESTION: “How long does it take for you to feel as best as you are going to feel for the rest of the day?”

❑ INFORMATION GATHERED

- Patients with Osteoarthritis can have morning stiffness that usually lasts 15-30 minutes.
- Patients with inflammatory arthritis will have prolonged morning stiffness which lasts at least one hour. As a patient rests or sleeps inflammation continues with inflammatory fluid building up in and around the joints. When the patient wakes up to get going this buildup of fluid makes them feel stiff. As they get moving the fluid is eventually reabsorbed (lymphatics & venous) and the patient feels looser.

❑ QUESTION: “Where do you feel the morning stiffness?”

❑ INFORMATION GATHERED

- Patients with inflammatory arthritis can feel stiff all over but can usually tell you that the stiffness is confined to joint areas. Patients with Fibromyalgia will also complain of morning stiffness but it is more generalized complaining of stiffness from head to toe in muscles and in joints.

❑ QUESTION: “Do you ever have days when you have no morning stiffness?”

❑ INFORMATION GATHERED

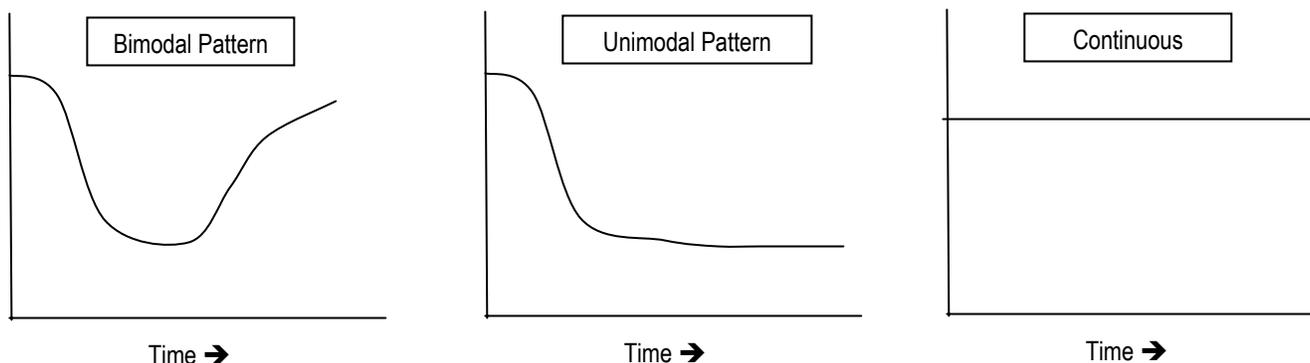
- Patients with inflammatory arthritis usually have some degree of morning stiffness everyday. Their disease does fluctuate and therefore the degree of morning stiffness will as well but it is usually present in some capacity.
- Patients with fibromyalgia may say that they feel stiff and sore for 4 days out of the week and the other 3 they have no morning stiffness at all. This would be an unusual pattern for a true inflammatory arthritis.

❑ QUESTION: “Is your arthritis usually better or worse as you get moving/ with activity?”

❑ INFORMATION GATHERED

- Patients with osteoarthritis will inevitably become worse as they use the involved joint.
- Patients with inflammatory arthritis will usually become better as they get moving. However, if they do too much they can become worse towards the end of the day. I call this a bimodal diurnal pattern. Patients with longer standing inflammatory arthritis may have accompanying secondary degeneration causing them to become worse as they use their joints.

Patterns of Stiffness and Soreness in Inflammatory Arthritis throughout the day:



CONSTITUTIONAL FEATURES

❑ QUESTION

- “Has your energy level changed?”

❑ INFORMATION GATHERED

- Any painful condition can have an impact on energy levels and the perception of energy as patients work with the pain.

- Patients with inflammatory arthritis and connective tissue diseases notice a reduction in their energy level and associated fatigue. In particular, some patients (especially those with SLE) can discern fatigue from their illness from fatigue due to other causes.
- All patients with fibromyalgia have low energy.
- Patients with osteoarthritis should have normal to slightly lower energy as well.

□ QUESTION

- “How well do you sleep at night and do you feel refreshed when you wake in the morning?”

□ INFORMATION GATHERED

- Is the sleep at night comfortable or uncomfortable and why so.
- Is the sleep continuous or interrupted?
 - Bad bed partner
 - Pain from arthritis
 - Up to the bathroom
- Is the sleep restorative or non-restorative?
 - Sleep which is non-restorative can make coping with day to day life (especially when in pain) very difficult. When fatigued, pain can be perceived at a higher level.

□ QUESTION

- “Do you have any fevers or chills?”

□ INFORMATION GATHERED

- Fevers should not be seen with osteoarthritis.
- It is unusual to have a fever accompany an otherwise uncomplicated inflammatory arthritis. If a patient with an inflammatory arthritis develops a fever think of infection first, especially if they are taking immunosuppressive medications.
- Fevers are more commonly seen with diseases such as Infectious Arthritis, Gout, Adult Onset Still’s Disease, Lupus etc.

□ QUESTION

- “Have you lost any noticeable weight?”

□ INFORMATION GATHERED

- Weight loss can be a part of the presentation of an inflammatory arthritis.
- Otherwise patients usually report weight gain due to immobility.

SOCIAL & FUNCTIONAL INQUIRY

□ QUESTION

- “Are you able to perform your normal activities of daily living independently?”
 - Personal Hygiene
 - Can you dress yourself?
 - Can you bathe yourself?
 - Can you groom yourself?
 - Household Chores
 - Can you cook your meals?
 - Can you clean the house?
 - Can you shop for food?
 - Mobility
 - How far can you comfortably walk?
 - How long can you comfortably stand?
 - Can you drive a car?
 - Employment
 - Are you able to work?
 - What type of work do you do?
 - Have you taken any time off work because of your arthritis?

- Social Support
 - Who do you live with?
 - Do you have family nearby who can help you?
 - What other supports do you have?

□ INFORMATION GATHERED

- When treating patients with arthritis it is very important to determine their level of functioning.
 - We know that people who present with a significant reduction in their normal functioning tend to do worse over time.
 - When we are treating arthritis we are looking for a meaningful improvement in the level of functioning.
 - Rheumatologists often use a tool known as a Health Assessment Questionnaire or HAQ to determine the level of disability in their patients. The HAQ is often accompanied by 10 cm scales pertaining to sleep, fatigue, pain, and overall global health.
 - An employment history is essential. Did you know that 50% of patients with RA will not be working 10 years from the initial diagnosis? It is important to address vocational issues early in the disease course so vocational counseling can begin immediately. A patient with RA with a manual labour job will not fare as well as if the patient worked in an office with less physical demand on his or her joints.

□ QUESTION: “Have you had to give up any activities because of your arthritis?”

□ INFORMATION GATHERED

- Patients function at all different levels. Some patients may be able to perform all of their activities of daily living but have had to give up other activities. Imagine an Olympic caliber volleyball player who can function quite well day to day but has had to give up volleyball. This also has a serious impact on this person’s life.

□ QUESTION: “Do you smoke?”

□ INFORMATION GATHERED

- Smoking can have an adverse effect on arthritis in the following ways:
 - Smokers are less likely to respond to medications (e.g. Plaquenil in SLE)
 - Smokers can have worse disease (e.g. More rheumatoid nodules)
 - Smokers have an increased risk of cardiovascular disease

□ QUESTION: “How much alcohol do you drink?”

□ INFORMATION GATHERED

- It is important to determine alcohol consumption as it can interact unfavourably with some of the medications used to treat the rheumatic diseases.

□ QUESTION: “Are you employed or on disability?”

□ INFORMATION GATHERED

- This is also a very important question. Patients who are on disability are not likely to return to work and tend to do worse than patients who manage to keep working.

□ QUESTION: “Do you have private medical insurance?”

□ INFORMATION GATHERED

- Given the cost of medications it is important to determine if patients have assistance in paying for them.

□ QUESTION: “Financial difficulties?”

□ INFORMATION GATHERED

- Very important when prescribing medications as some medications can be very expensive

□ QUESTION: “Sexual Health Issues?”

□ INFORMATION GATHERED

- This issue is usually left until you know the patient a little better and feel comfortable discussing issues about sexual health as it pertains to patients with arthritis.

RHEUMATOLOGIC & GENERAL REVIEW OF SYSTEMS

The review of systems in rheumatology serves three purposes:

1. To gather evidence pertaining to risk factors for diseases
2. To gather evidence pertaining to associated factors for diseases
3. To obtain further evidence of other medical problems

□ General Review of Systems

- Heart Disease
- Pulmonary Disease
- Renal insufficiency
- Hepatic problems
- Neurologic problems
- Special Sensory problems – Vision & hearing

□ Are there any Clues to suggest this might be Infectious?

- Bacterial
 - Usually just monoarticular – very red and warm joint
 - Associated Fevers and Chills
 - Portal of entry – skin wound, chest, urine, diarrheal illness
 - Prior underlying joint abnormality – prosthetic joint, RA, OA
- Viral
 - Usually acute polyarticular onset
 - Known exposure to parvovirus
 - May have an associated rash – Parvovirus
 - Duration less than 6 weeks
 - Other people sick at home
 - Hepatitis & HIV
 - Sexual transmission, blood transfusions, tattoos, IVDU
 - Known hepatitis B or C
 - Known HIV
- Sexually transmitted
 - Sexual history
 - Genital sores or discharge
 - Other Rashes
 - Fevers/Chills
- Other
 - History of travel

□ Are there any Clues to suggest this might be RA?

- Risk Factors
 - Strong family history?
- Associated Symptoms
 - Rheumatoid Nodules?
 - Sicca Features?
 - Raynaud's Phenomenon?
 - Ocular Inflammation?
 - Pulmonary Involvement?
 - Carpal Tunnel Syndrome?

□ Are there any Clues to suggest Seronegative Spondyloarthritides?

- Psoriasis or Family history of Psoriasis?
- Nail Changes?
- Other Rashes – Reactive arthritis?

- History or Family history of Inflammatory Spinal Disease?
- Prodromal Diarrheal or Urinary Tract Infection?
 - Usually occurs 10-14 days preceding the onset of arthritis but can be up to 4 weeks afterwards.
- Predominant Lower Limb Involvement?
 - Can be a feature of reactive arthritis, Ankylosing spondylitis, and arthritis associated with IBD
- Symptoms to suggest Inflammatory Bowel Disease?
- History or Enteseal Pain (Achilles, Plantar Fasciitis, patellar tendonitis, rotator cuff tendonitis, costochondritis etc)?
- History of Dactylitis (Sausage like digit)?
- History of Ocular Inflammation?
- Carpal Tunnel Syndrome?
- **Are there any Clues to suggest a Connective Tissue Disease?**
 - Alopecia
 - CNS Symptoms
 - Headaches
 - Psychiatric Illness
 - Other neurologic illness
 - PNS Symptoms
 - Neuropathy
 - Oral or Nasal Ulceration, nosebleeds, or chronic sinusitis
 - Lymphadenopathy
 - Skin Rashes
 - Malar Rash
 - Photosensitive Rash
 - Other Rashes
 - Raynaud's Phenomenon
 - Pulmonary Problems
 - Pleuritic Chest Pain
 - New onset SOB
 - New onset Cough
 - Cardiac Problems
 - Gastrointestinal Problems
 - Renal Problems
 - Known renal disease
 - New onset hypertension
 - Hematuria
 - Proteinuria
 - Miscarriages
 - Blood Clots
- **Are there any Clues to suggest Crystalline Arthritis?**
 - Gout
 - Past history of gout / family history of gout
 - Diuretic use
 - Alcohol abuse
 - Renal Calculi or renal insufficiency
 - Hypothyroidism, hyperparathyroidism
 - Associated with hypertension, obesity, insulin resistance, hypercholesterolemia
- **Are there any Clues to suggest a Degenerative Pattern?**
 - Genetic – Family History
 - Advanced age
 - Obesity – lower extremity OA
 - Female gender
 - Prior trauma

MEDICATION SAFETY ASSESSMENT

This can often be done during a review of systems and social history. In rheumatology, there are a number of medications used which can have adverse effects. It is very important to document prior medical problems to reduce the frequency of adverse medication related events. Specifically, the following should be addressed:

- **Risk Factors for Peptic Ulcer Disease** – The risk of peptic ulceration in RA is higher than the general population.
 - Prior History of an ulcer or GI bleed of any type
 - Concurrent use of anticoagulants – Coumadin
 - Heavy use of Alcohol
 - Concurrent use of steroids
- **Evaluation for Cardiac Disease** – This is important for a few reasons:
 - Patients with chronic inflammatory diseases (RA & SLE) have an increased risk of coronary artery disease. It is important to control all modifiable risk factors to improve survival.
 - Smoking
 - Diabetes
 - Cholesterol
 - Weight – Exercise programs & diet
 - Hypertension
 - Congestive heart failure – Some medications may make this worse
 - Corticosteroids
 - NSAIDs
 - Biologics
 - Atherosclerotic disease – Some medications might make this worse (controversial)
 - COXIBs
 - Estrogens
- **Evaluation for Liver Disease** – Important to ask as many of our medications (methotrexate) are hepatotoxic and many others are metabolized hepatically.
 - Alcohol intake, Hepatitis
 - NSAIDs
 - Methotrexate
 - Azathioprine
 - Leflunomide
 - Sulfasalazine – rare
- **Evaluation for Renal Disease** – Important to ask as some of our medications may be nephrotoxic while many others are renally excreted.
- **Pregnancy & Lactation** – Many of our medications are absolutely contraindicated in pregnancy and lactation. It is VERY important to discuss pregnancy and lactation plans with all patients (particularly women) of child bearing potential.

PREVIOUS INVESTIGATIONS

This is self explanatory and the investigations should be recorded.

PREVIOUS TREATMENTS

It is imperative to ask about previous treatments. I find that many residents and students ask about previous treatments but don't ask if they worked or not. A common scenario is as follows:

Patient: "I took the methotrexate but it didn't work and they stopped it"

Physician: "How long did you take it for?"

Patient: "About 4 weeks"

Physician: "How many tablets did you take a week?"

Patient: "About 3"

Physician: "Did you have any side effects"

Patient: "No"

Clearly in this case the patient was not given a proper dose or duration of Methotrexate to see if it was efficacious or not. The methotrexate was stopped prematurely. This patient was restarted on appropriate doses of methotrexate and for an appropriate length of time and it worked for her. When asking about medication I always ask what they were on and then how well it worked. For example, "Rate for me on a scale of 1 to 10 how well the naproxen worked for you?", or "Would you say that the naproxen helped you 10%, 50% or 90%?" Both of these scales give good indications of how well the treatment worked.

- Non-Pharmacologic
 - Physiotherapy
 - Occupational Therapy
 - Chiropractor
 - Massage
- Pharmacologic
 - Analgesics
 - NSAIDs
 - DMARDs
 - Steroids
 - Biologics

FAMILY HISTORY

A family history of arthritis can be very useful. Most inflammatory arthritides do not tend to have as strong a familial history as osteoarthritis. Below is an example of diseases and their family histories:

- Adult Still's Disease – Familial cases are exceedingly rare.
- Ankylosing Spondylitis – A first degree relative with AS increases the risk to 5-20%.
- Behcet's Disease – Familial cases are exceedingly rare.
- Calcium Pyrophosphate Deposition – Reported familial/hereditary forms of CPPD.
- Churg Strauss Syndrome – No familial association.
- Complex Regional Pain Syndrome – No familial association.
- Diffuse Idiopathic Skeletal Hyperostosis – May be a genetic component as there is a particularly high prevalence of DISH in the Pima Indians in Arizona, USA.
- Fibromyalgia – More common in family members with FM.
- Gout – Familial cases are common and an independent risk factor for gout.
- Inflammatory Muscle Disease – No familial association.
- Microscopic Polyangiitis – No familial association.
- Mixed Connective Tissue Disease – No familial association.
- Neuropathic Arthropathy – Family history of diabetes.
- Osteoarthritis – Familial cases are very common with heritability of primary OA of the hands reported in as many as 65% of cases.
- Osteoporosis – Family history is very common with osteoporosis and family history of a fracture is a major risk factor for future history of a fragility fracture.
- PMR/GCA – There is a slightly higher risk for patients with siblings with GCA.
- Polyarteritis Nodosa – No associated family history
- Psoriatic Arthritis – A 50 fold increase for first degree relatives with psoriatic arthritis. Fathers are twice as likely to transmit the disease. Monozygotic twins have a 70% concordance rate.
- Reactive Arthritis – May be a small increased risk given the passage of HLA-B27
- Relapsing Polychondritis – No associated family history
- Rheumatoid Arthritis – Does not frequently aggregate in families, however, familial cases are well reported.
- Sjogren's Syndrome – An increased risk is present among family members.
- Systemic Lupus Erythematosus – An increased risk with 5-12% of family members having SLE.
- Systemic Sclerosis – There are reported clusters but these are extremely rare.

- ❑ Takayasu Arteritis – Very rare (case reports) of familial clusters.
- ❑ Wegener's Granulomatosis – No associated family history.

SUMMARIZING THE HISTORY

After completing a relevant arthritis history it is often very useful to summarize your history. The physical examination is then performed to provide further evidence for the disease in question.

FORMULATION OF A DIFFERENTIAL DIAGNOSIS:

After summarizing the history it is important to formulate an initial differential diagnosis prior to the physical examination. This is an important step as it can be a useful guide to focus your examination. For example, the physical examination of a patient suspected of having a connective tissue disease will be different from a patient suspected of having OA of the knee.

ARTHRITIS DIFFERENTIAL

1. **Infectious Arthritis**

- a. Viral
 - i. HIV, hepatitis B/C, Parvo B19, EBV, Rubella
- b. Bacterial
 - i. Gonococcal
 - ii. Non-Gonococcal
 - a. Gram positive (75-80%)
 - b. Gram negative (20-25%)
 - ii. Rickettsia
 - iii. Mycoplasma
- c. Rheumatic Fever
- d. Bowel Bacterial Overgrowth
- e. SAPHO
- f. Mycobacterium
 - i. Tuberculosis
- g. Fungal
 - i. Coccidioidomycosis
 - ii. Sporotrichosis
 - iii. Blastomycosis
 - iv. Cryptococcus
 - v. Histoplasmosis
- h. Spirochetes
 - i. Borrelia Burgdorferi (Lyme)
 - ii. Treponema Pallidum (Syphilis)

2. **Crystalline Arthropathies**

- a. Monosodium Urate Deposition (GOUT)
- b. Calcium Pyrophosphate Deposition (CPPD)
- c. Basic Calcium Phosphate Deposition

3. **Rheumatoid Arthritis & Variants**

- a. Rheumatoid Arthritis (RA)
- b. Juvenile Inflammatory Arthritis (JIA)
- c. Adult Still's Disease (ASD)

4. **Seronegative Arthritides**

- a. Psoriatic Arthritis (PsA)
- b. Ankylosing Spondylitis (AS)
- c. Reactive Arthritis (ReA)
- d. Enteropathic Arthritis (EA)
- e. Undifferentiated Spondyloarthropathy

5. **Connective Tissue Diseases**

- a. Systemic Lupus Erythematosus (SLE)
- b. Sjogren's Syndrome (SS)
- c. Inflammatory Myopathies (PM/DM)
- d. Systemic Sclerosis (SSc)
- e. Overlap Syndromes
- f. Mixed Connective Tissue Disease (MCTD)
- g. Undifferentiated CTD (UCTD)
- h. Relapsing Polychondritis (RP)
- i. Behcet's Disease (BD)
- j. Vasculitides
 - i. Large Vessel
 - ii. Takayasu Arteritis (TA)
 - iii. Giant-Cell Arteritis (GCA)
- k. Medium Vessel
 - i. Polyarteritis Nodosa (PAN)
 - ii. Kawasaki's Disease (KD)
 - iii. Isolated CNS vasculitis
- l. Small Vessel

- i. Hypersensitivity Vasculitis (drugs, infection)
- ii. ANCA associated (WG, CSS, MPA) vasculitis
- iii. Cryoglobulinemic vasculitis
- iv. Henoch Schonlein Purpura (HSP)
- v. Vasculitis secondary to CTD
- vi. Malignancy associated vasculitis
- vii. Vasculitis mimics - Sepsis

6. **Degenerative Arthritides**

- a. Primary Osteoarthritis
- b. Secondary Osteoarthritis
 - i. Hereditary -Type II collagen defect
 - ii. Mechanical - Post traumatic
 - iii. Metabolic - Hemochromatosis (HC), CPPD
 - iv. Neurovascular (see below)

7. **Arthritis Associated with Systemic Disease**

- a. Sarcoidosis
- b. Metabolic
 - i. Hemochromatosis
 - ii. Wilson's
 - iii. Amyloidosis
 - iv. Lipids
- c. Endocrine
 - i. Diabetes
 - ii. Acromegaly
 - iii. Thyroid
 - iv. Parathyroid
- d. Hematologic
 - i. Hemophilia
 - ii. Sickle Cell
 - iii. Thalassemia
 - iv. Leukemia, Myeloma
- e. Malignancy
 - i. Carcinomatous polyarthritis, metastatic disease
 - ii. Myositis
 - iii. Hypertrophic osteoarthropathy

8. **Neoplasms**

- a. Pigmented Villo Nodular Synovitis (PVNS)
- b. Synovial Chondromatosis
- c. Synovioma

9. **NeuroVascular**

- a. Avascular Necrosis (AVN)
- b. Neuropathic Arthritis

10. **Soft-Tissue Rheumatism**

- a. Fibromyalgia (FM)

11. **Arthritis Associated with Trauma (Burns, frostbite etc)**

OTHER DIFFERENTIAL DIAGNOSES

ACUTE MONOARTHRITIS

- INFECTION
- CRYSTALS
- RA & VARIANT - Monoarticular onset
- SERONEGATIVE - Monoarticular onset
- CTD - Monoarticular onset
- SYSTEMIC DISEASE - Sarcoidosis
- OSTEOARTHRITIS
- NEOPLASM
- AVASCULAR NECROSIS, NEUROPATHIC JOINT
- TRAUMATIC

ACUTE OLIGOARTHRITIS

- INFECTION (gonococcal)
- CRYSTALS
- RA & VARIANTS - ASD, JIA
- SERONEGATIVES
- CONNECTIVE TISSUE DISEASES
- SYSTEMIC DISEASE - Sarcoidosis

ACUTE POLYARTHRITIS

- INFECTION (gonococcal & viral)
- CRYSTALS - rarely
- RA & VARIANTS
- SERONEGATIVES (reactive)
- CONNECTIVE TISSUE DISEASES
- SYSTEMIC DISEASE

CHRONIC MONOARTHRITIS

- INFECTION - atypical mycobacterium
- CRYSTALS
- RA & VARIANTS
- SERONEGATIVES
- CONNECTIVE TISSUE DISEASES
- SYSTEMIC DISEASE
- OSTEOARTHRITIS
- NEOPLASMS
- NEUROVASCULAR
- TRAUMATIC - resulting instability

CHRONIC OLIGOARTHRITIS

- SERONEGATIVES
- CONNECTIVE TISSUE DISEASES
- SYSTEMIC DISEASE
- OSTEOARTHRITIS
- NEUROVASCULAR

CHRONIC POLYARTHRITIS

- INFECTION - unusual
- CRYSTALS - can mimic RA
- RA & VARIANTS
- SERONEGATIVES
- CONNECTIVE TISSUE DISEASES
- SYSTEMIC DISEASE
- OSTEOARTHRITIS