Rheumatoid Arthritis

Instructional Module 4

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AY22-23

Learning Outcomes

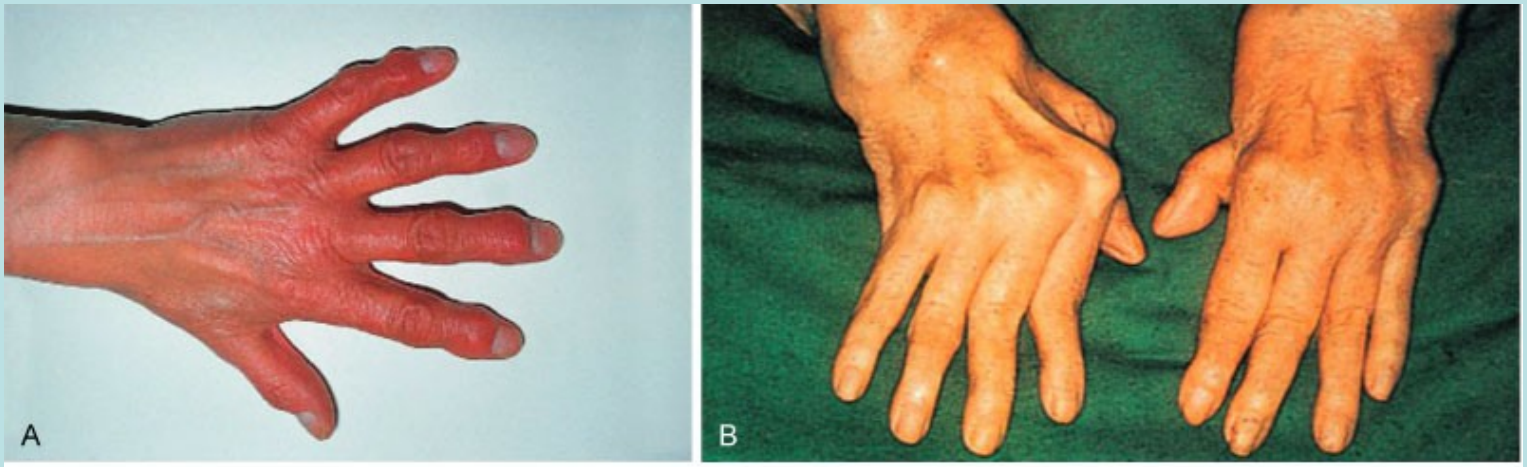
- **Identify the clinical manifestations, interprofessional care, and nursing management of Rheumatoid Arthritis, Systemic Lupus Erythematosus, and HIV/AIDS.**
- **Describe the pathophysiology of each disorder and the role of specific therapies in the management of each disorder.**
- **Demonstrate the ability to assess, plan, implement, and evaluate nursing interventions associated with each specific disorder.**

Rheumatoid Arthritis (RA) Videos

- https://youtu.be/RauJmjLH-hQ
- https://youtu.be/Yc-9dfem3IM
- https://youtu.be/r8PjxvR6Dqw
- https://youtu.be/dMCXG9zQ2qI

	Osteoarthritis	Rheumatoid Arthritis
Age of onset	Usually begins after age 40	May begin at any age, but usually before age 50
Location of joint pain	Usually affects weight-bearing joints, such as the knees and hips, but also affects the finger joints; pain is often on one side of the body only	Usually affects small joints, such as the hand, foot, wrist, elbow, shoulder, or ankle, usually on both sides of the body
Joint appearance	Usually cool, not red or swollen	Inflammation causes joints to be warm, red, and swollen
Morning joint stiffness	Lasts only a few minutes	Lasts for at least 30 minutes and can persist for hours
Symptoms besides joint pain and stiffness	Usually does not affect overall health	May be accompanied by fatigue, weight loss, and fever
Disease progression	Symptoms gradually worsen over a period of years	Symptoms worsen over a period of weeks or months
What eases pain or stiffness	Pain subsides with rest and worsens with activity	Stiffness decreases with activity

Comparison of Hands in Osteoarthritis & Rheumatoid Arthritis



From Stevens A, Lowe J: *Pathology: an illustrated review in colour*, ed 2, London, 2000, Mosby.

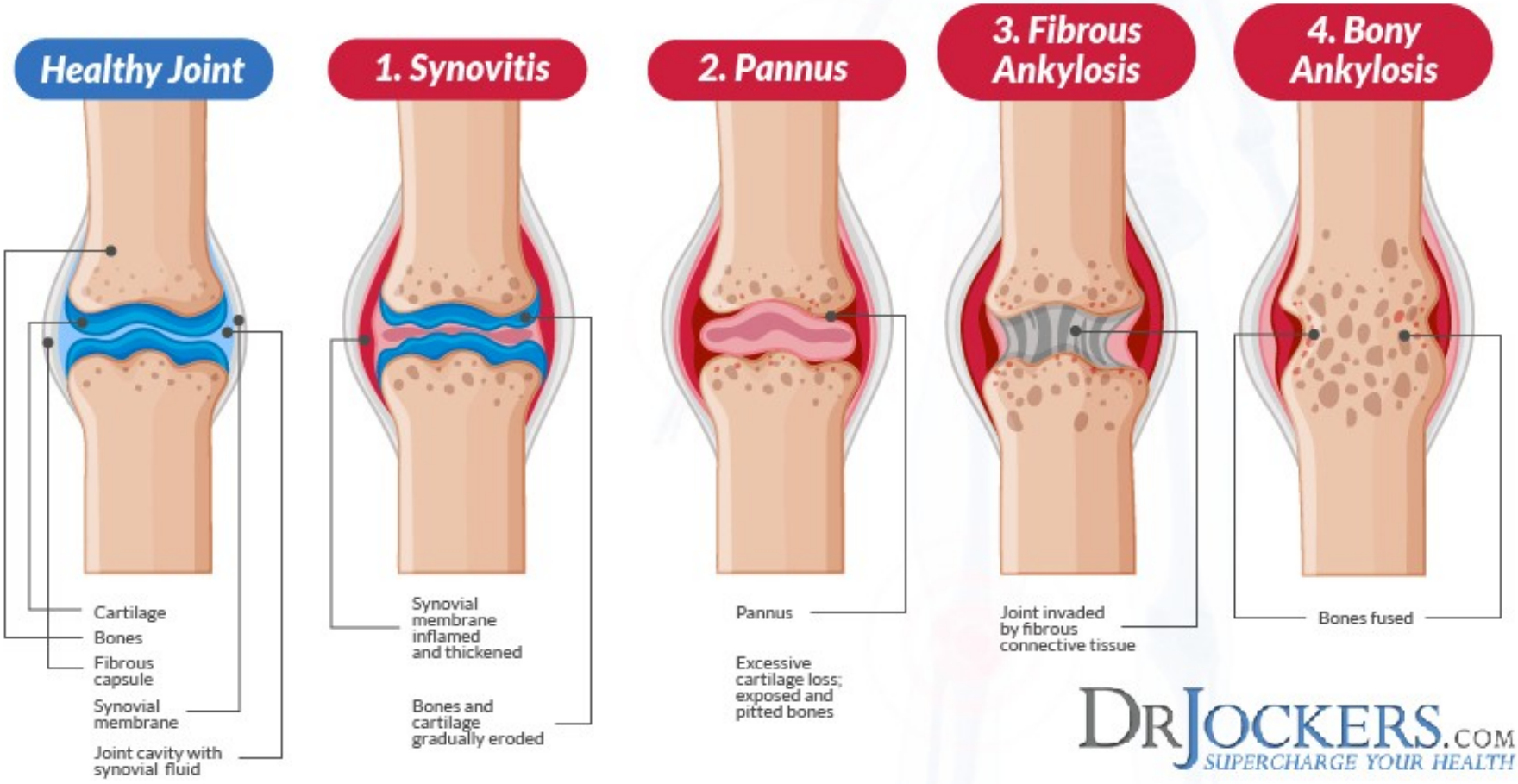
Rheumatoid Arthritis (RA)

- Chronic, systemic autoimmune disease
- Inflammation of connective tissue in joints
- Periods of remission and exacerbation
- Extraarticular manifestations
- Genetic link

Etiology and Pathophysiology

- **Autoimmune etiology**
  - Combination of genetics and environmental triggers
- **Antigen triggers formation of abnormal immunoglobulin G (IgG)**
- **Autoantibodies develop against the abnormal IgG**
  - Rheumatoid factor (RF)

Stages of Rheumatoid Arthritis



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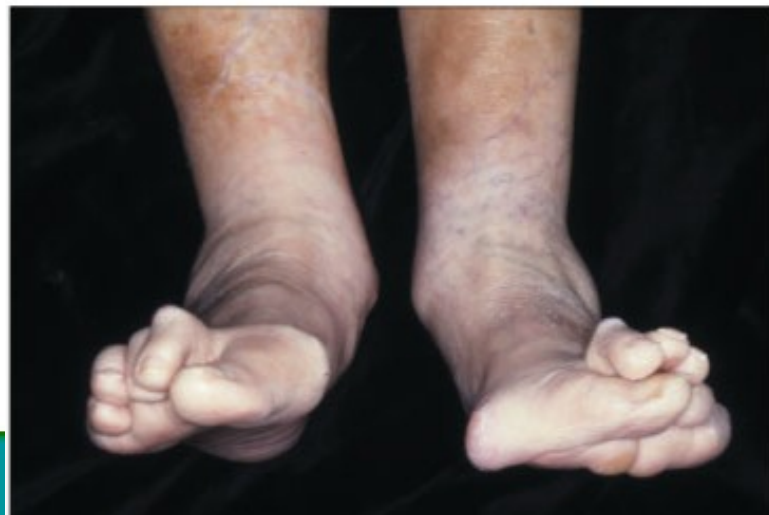
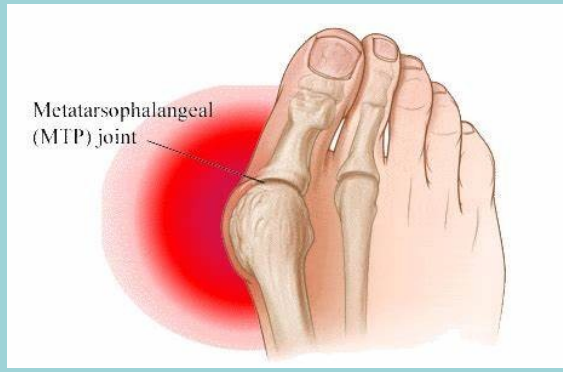
Clinical Manifestations: Joints

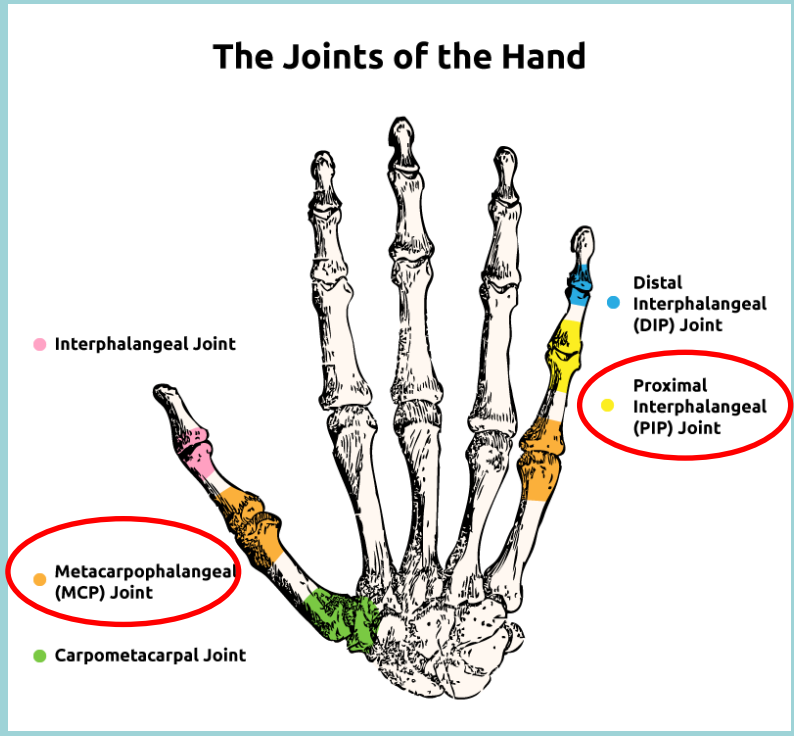
- **Onset typically insidious**
- **Fatigue, anorexia, weight loss, generalized stiffness**
- **May report history of precipitating event**
  - Infection, stress, exertion childbirth, surgery, emotional upset



Clinical Manifestations: Joints

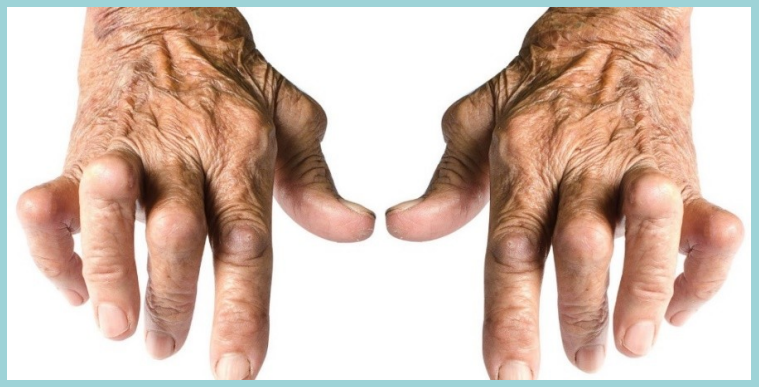
- **Symptoms occur *symmetrically***
- **Morning stiffness 60 minutes or longer**
- **Joints tender, painful, warm to touch**
- **Pain ↑ with motion, intensity varies**

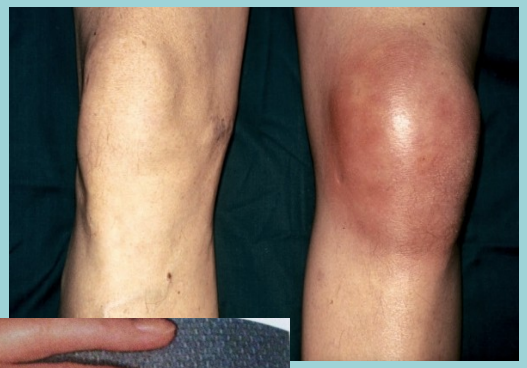


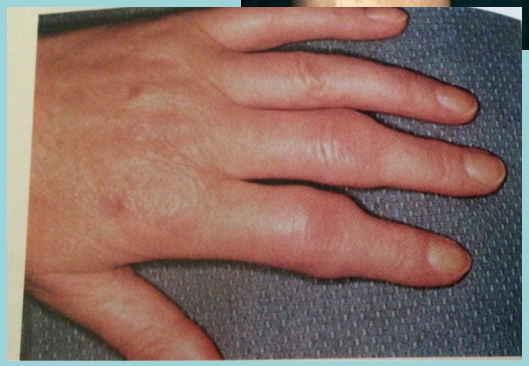


Clinical Manifestations: Joints

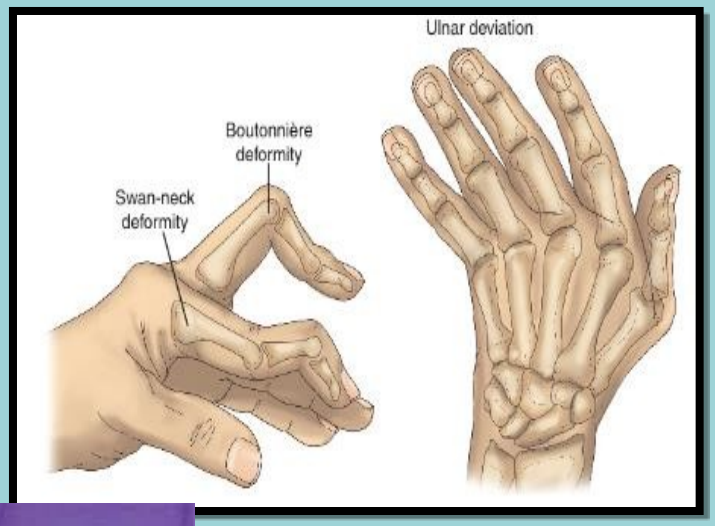
- Tenosynovitis
- Deformity and disability
- Subluxation
- Walking disability
- Deformities in the hands

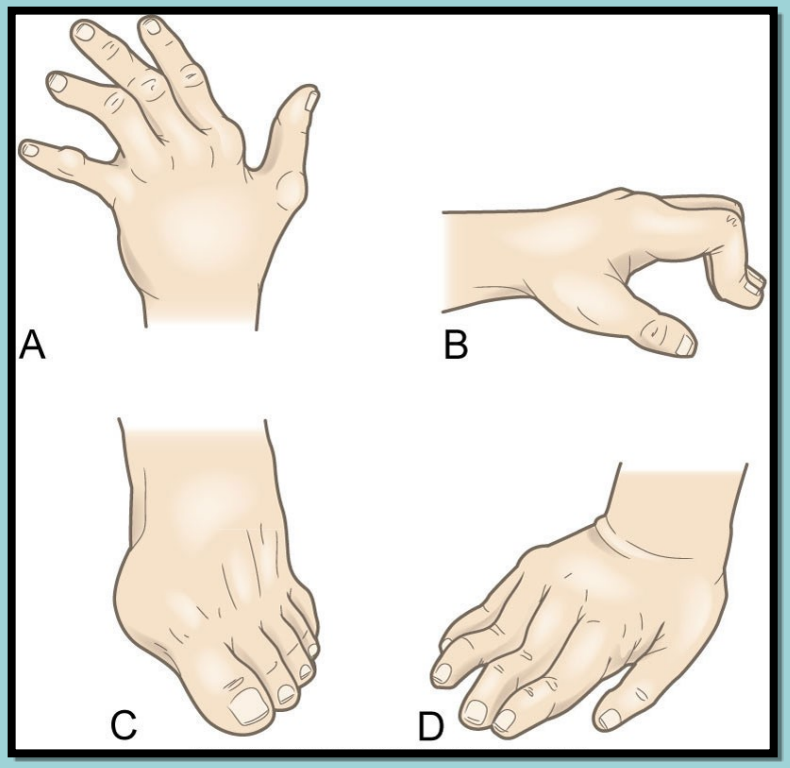


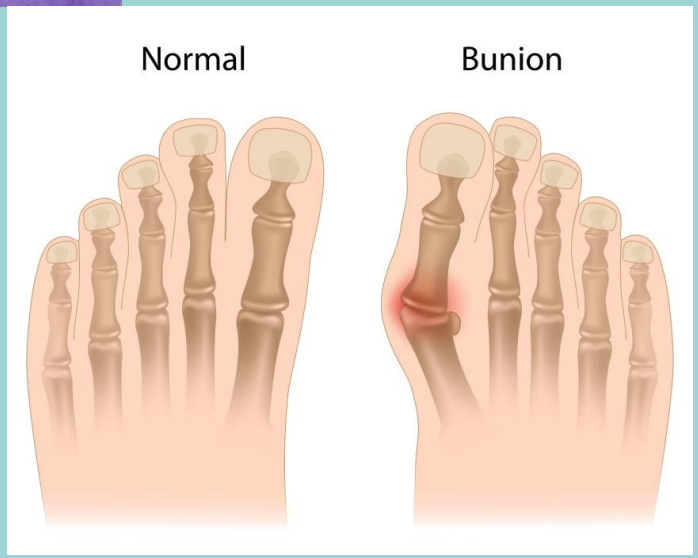




Typical Deformities of RA

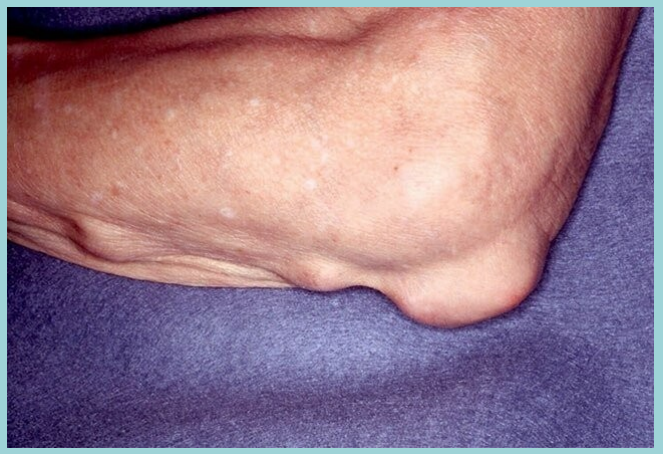






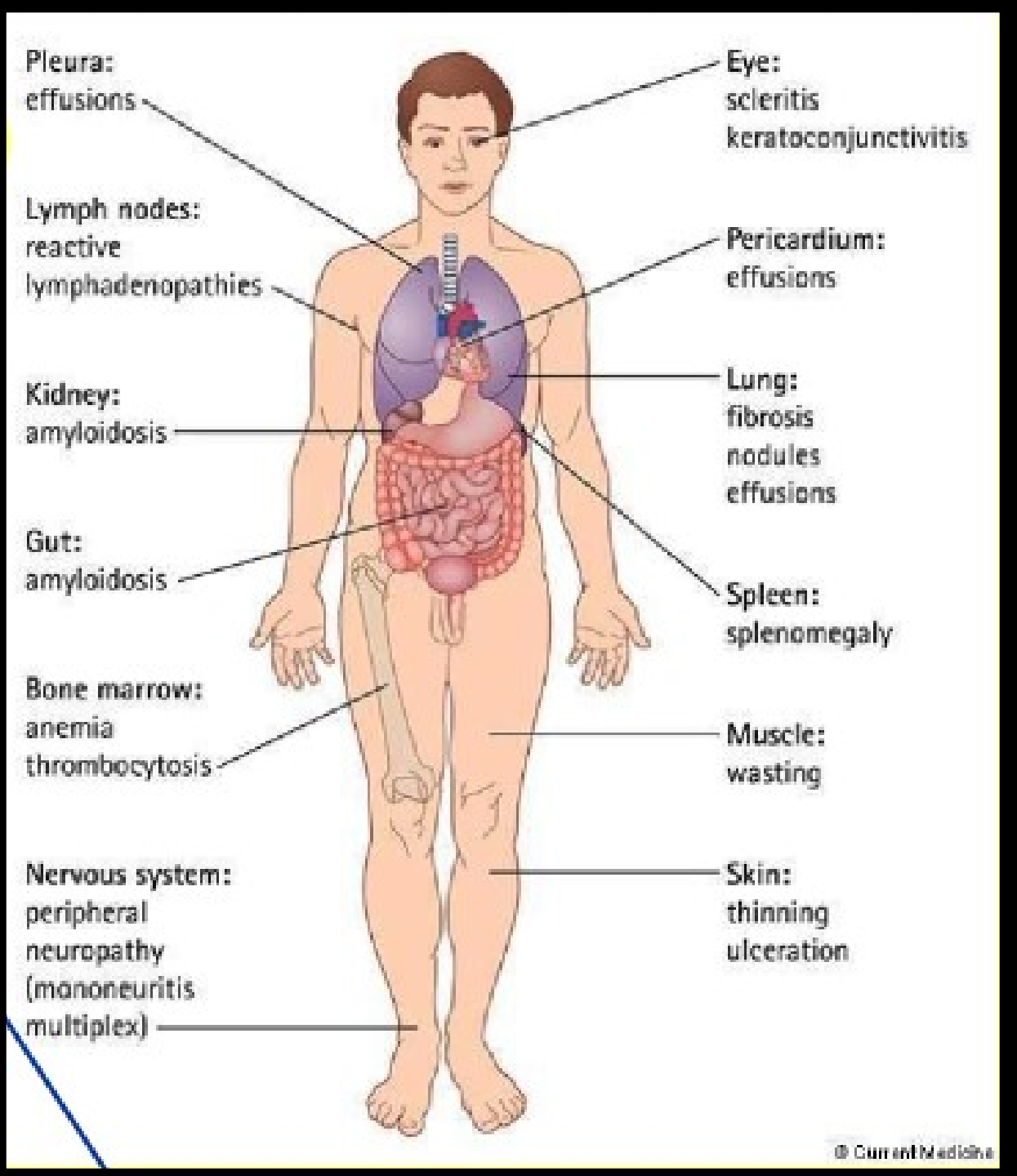
Clinical Manifestations:
Extraarticular Manifestations

- Rheumatoid nodules
- Nodular myositis
- Sjogren's syndrome
- Felty syndrome
- Flexion contractures
- Cataracts
- Depression



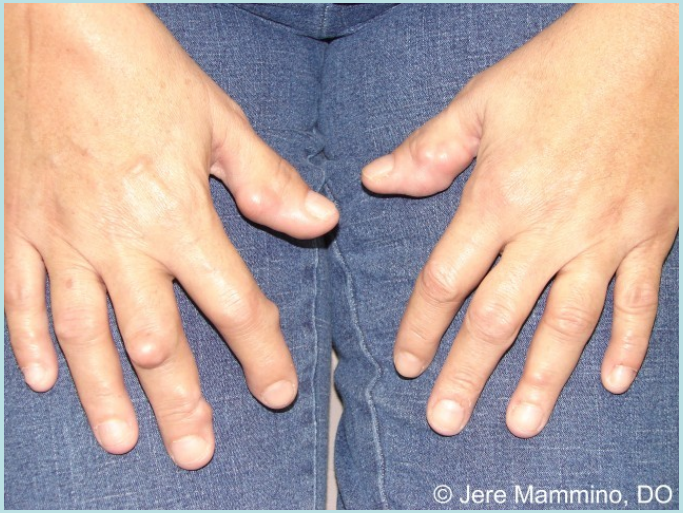
Extra-articular Manifestations of RA

Sjogren's is a systemic disease that involves other organs



Diagnostic Studies

- **Laboratory studies**
  - Rheumatoid factor (RF)
  - ESR and C-reactive protein (CRP)
- **Synovial fluid analysis**
- **X-rays of involved joints**
- **Bone scan**



Interprofessional Care

- **Patient teaching**
  - Drug therapy
  - Disease process
  - Home management strategies
- **Physical therapy**
- **Occupational therapy**
- **Individualized treatment plan**

Goals of Drug Therapy for RA

- Relieve symptoms
- Maintain joint function & ROM
- Manage systemic involvement
- Delay disease progression

Classes of Antiarthritic Drugs

- - **NSAIDs** - Nonsteroidal anti-inflammatory drugs
- - **DMARDs** Disease-modifying antirheumatic drugs
  - Nonbiologic DMARDs (traditional DMARDs)
  - Biologic DMARDs
- **Glucocorticoids**

Name & class	• **Methotrexate – MTX** • DMARD immunosuppressant
Use	• RA and psoriasis • Some forms of leukemia and other cancers
Responsibilities	• Monitor CBC, WBC, Liver fxn studies • Assess pain & ROM
Side Effects	• GI upset, anemia, thrombocytopenia • May cause fetal harm
Education	• Risk for infection, use birth control • Photosensitivity

Drug Therapy:
Biologic Response Modifiers (BRMs)

- **Also called biologics or immunotherapy**
  - Slow progression
  - Classified based on mechanism of action
  - Used to treat moderate to severe disease not responsive to DMARDs
  - Used alone or in combination with DMARDs

Name / Class	• Etanercept (Enbrel) • Biologic DMARD (TNF inhibitor)
Use	• RA • Psoriatic arthritis
Responsibilities	• Assess pain, swelling & ROM • Monitor CBC, esp. WBC, TB testing
Side Effects	• URI, injection site rxn • Risk for TB & malignancies
Education	• Self admin. Subcut injection • Risk of adverse rxn to live-virus vaccine

Other Drug Therapies

- **Corticosteroid therapy**
  - Intraarticular injections
  - Low-dose oral for *limited* time
- **NSAID and salicylates**
  - Anti-inflammatory, analgesic, and antipyretic
  - May take 2 to 3 weeks for full effectiveness
  - Do NOT stop progression of RA

Nutritional Therapy

- **Balanced nutrition important**
- **Loss of appetite or inability to shop for and prepare food → weight loss**
- **Corticosteroid therapy → weight gain**

Surgical Therapy

- Relieve severe pain
- Improve function
- Synovectomy
- Total joint replacement (arthroplasty)

Nursing Assessment

- **Subjective Data**
  - Recent infections, presence of precipitating factors, pattern of remissions and exacerbations
  - Use of aspirin, NSAIDs, corticosteroids, DMARDs
  - Any joint surgery

Nursing Assessment

- **Subjective Data**
  - Family history
  - Malaise
  - Ability to participate in therapeutic regimen
  - Impact on functional ability
  - Anorexia, weight loss
  - Dry mucous membranes of mouth and pharynx

Nursing Assessment

- **Subjective Data**
  - Stiffness and joint swelling, muscle weakness, difficulty walking, fatigue
  - Paresthesia of hands and feet
  - Symmetric joint pain and aching that ↑ with motion or stress on joint

Nursing Assessment

- **Objective Data**
  - Lymphadenopathy, fever
  - Keratoconjunctivitis
  - Rheumatoid nodules
  - Skin ulcers
  - Shiny, taut skin over joints
  - Peripheral edema

Nursing Assessment

- **Objective Data**
  - **Cardiovascular**

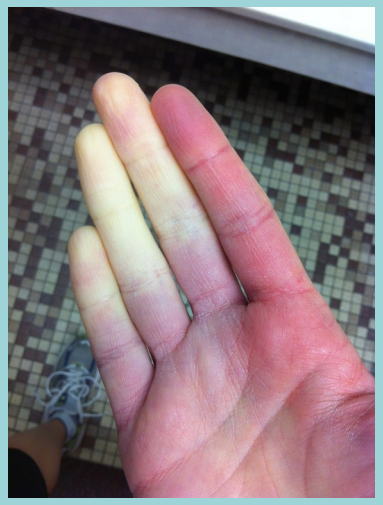
    Raynaud's phenomenon

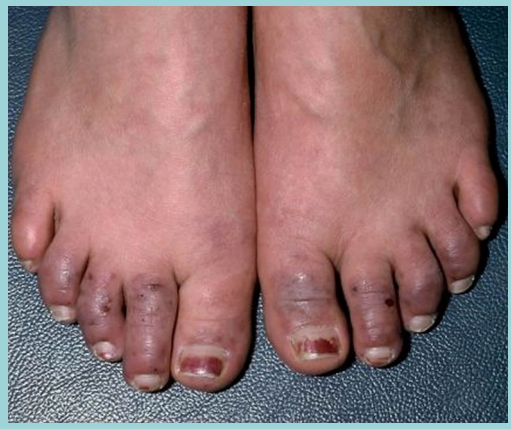
    Distant heart sounds, murmurs

    Dysrhythmias
  - **Respiratory**

    Chronic bronchitis, tuberculosis
  - **GI**

    Splenomegaly (Felty syndrome)





Nursing Assessment

- **Objective Data**
  - **Musculoskeletal**
    - Symmetric joint involvement
    - Swelling, erythema
    - Heat, tenderness
    - Deformities
    - Joint enlargement
    - Limitation of movement
    - Muscle contractures, atrophy

Nursing Assessment

- **Objective Data**
  - **Lab**
    - + Rheumatoid factor
    - ↑ ESR
    - ↑ WBCs in synovial fluid
  - **X-ray findings**
    - Joint space narrowing
    - Bony erosion
    - Deformity
    - Osteoporosis

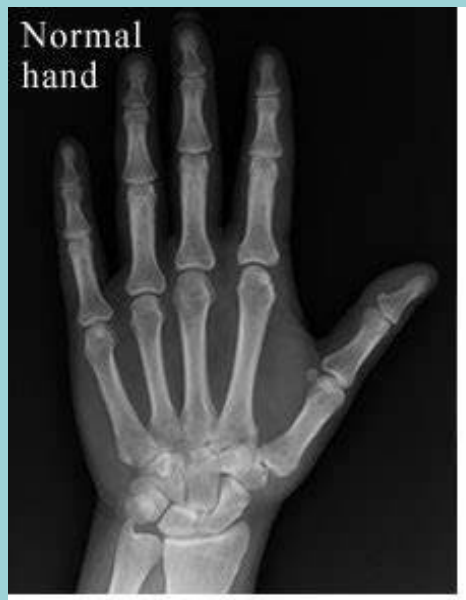


Figure 1

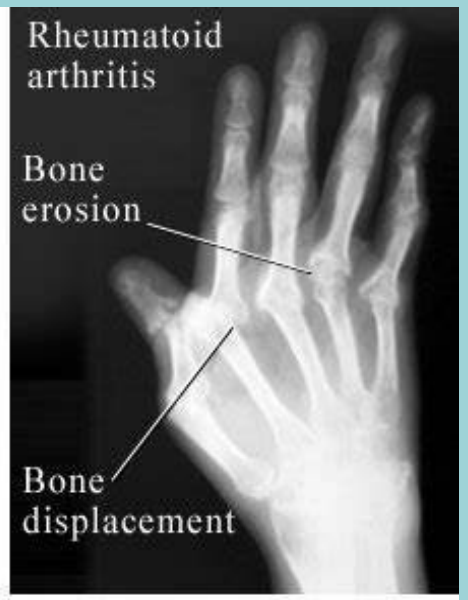


Figure 2

Planning

- **Overall Goals**
  - Satisfactory pain management
  - Minimal loss of functional ability
  - Participate in therapeutic regimen
  - Maintain positive self-image
  - Perform self-care

Nursing Implementation: Health Promotion

- **Prevention/cure not possible currently**
- **Early treatment to prevent further joint damage**
- **Community education programs**
  - Symptom recognition to promote early diagnosis and treatment
  - https://www.arthritis.org/

Nursing Implementation:
Acute Care

- **Primary goals in RA management**
  - Decrease inflammation
  - Manage pain
  - Maintain joint function
  - Prevent or correct joint deformity

Nursing Implementation: Acute Intervention

- **Comprehensive program**
  - Drug therapy
  - Balance of rest and activity
  - Joint protection
  - Heat and cold applications
  - Exercise
  - Patient and caregiver teaching

Nursing Implementation: Acute Intervention

- **Start with assessment**
  - Physical
  - Psychosocial needs
- **Identify problems**
- **Plan a program for rehabilitation and education**
- **Interprofessional care team**

Nursing Implementation: Acute Intervention

- **Suppression of inflammation**
  - NSAIDs
  - DMARDs
  - BRMs
- **Patient teaching about medications**
  - Timing of administration
  - Action and side effects
  - Compliance

Nursing Implementation: Acute Intervention

- **Nondrug relief of pain**
  - Therapeutic heat and cold
  - Rest
  - Relaxation techniques
  - Joint protection
  - Transcutaneous electrical stimulation

Nursing Implementation: Acute Intervention

- **Lightweight splints**
- **Occupational therapist → additional self-help devices**

Nursing Implementation: Acute Intervention

- **Plan care around morning stiffness**
- **To relieve joint stiffness and ↑ ability to perform ADLs**
  - Sit or stand in warm shower
  - Sit in tub with warm towels around shoulders
  - Soak hands in warm water

Ambulatory Care: Rest

- Alternate rest periods with activity
- Helps relieve pain and fatigue
- Amount of rest varies
- Avoid total bed rest
- 8–10 hours of sleep + daytime rest
- Modify activities to avoid overexertion

Ambulatory Care: Body Alignment

- **Firm mattress or bed board**
- **Encourage positions of extension**
- **Avoid flexion positions**
  - No pillows under knees
  - Small, flat pillow under head and shoulders

Ambulatory Care:
Joint Protection

- **Modify tasks for less stress on joints**
- **Energy conservation**
  - Work simplification techniques
  - Pacing and organizing
  - Delegation
- **Occupational therapy**
  - Assistive devices

Ambulatory Care:
Heat and Cold Therapy

- **Relieve pain, stiffness, & muscle spasm**
- **Ice**
  - Especially beneficial during periods of disease exacerbation
  - Application should not exceed 10–15 minutes at one time

Ambulatory Care:
Heat and Cold Therapy

- **Moist heat**
  - Heating pads, moist hot packs, paraffin baths, warm baths, or showers
  - Relieve stiffness
  - Should not exceed 20 minutes at a time
  - Be alert for burn potential

Ambulatory Care:
Exercise

- Need recreational & therapeutic exercise
- Gentle ROM exercises done daily
- Limit to one or two reps during acute inflammation

Ambulatory Care: Psychologic Support

- **Patient teaching important**
  - Nature and course of disease
  - Goals of therapy
- **Consider value system and perception of disease**

Ambulatory Care: Psychologic Support

- **Patient is constantly challenged by problems**
  - Limited function and fatigue
  - Loss of self-esteem
  - Altered body image
  - Fear of disability or deformity

Ambulatory and Home Care: Psychologic Support

- Discuss alterations in sexuality
- Patient vulnerable to unproven or even dangerous remedies
- Help patient recognize fears and concerns

Ambulatory and Home Care: Psychologic Support

- Evaluate family support system
- Financial planning
- Consider community resources
- Self-help groups are helpful for some patients
- Strategies to decrease depression

Practice Question:

Etanercept (Enbrel) is prescribed for a patient with stage II rheumatoid arthritis. The nurse determines that the medication is effective if which of the following is observed?

A. Decreased lymphocyte count
B. Absence of Rh factor in the blood
C. Decreased C-reactive protein (CRP)
D. Increased serum immunoglobulin G

- Lehne Ch 73: good pathos & illustration, Safety alert boxes throughout chapter, Key Points & Summary Nsg Implications
- Lewis Ch 64: Table 64.4, 64.5, 64.6, 64.7, 64.8, 64.10, 64.11. Figures 64.3, 64.4, 64.5, Nsg Management (p 1512)
- Compare & contrast OA & RA
- General principals & safety of drug classes
- Patient Teaching for meds and health maintenance