



Caring for Clients with Common Musculoskeletal Disorders



Osteoporosis

- "Porous Bones"
- Fragile bones with risk of fractures
- 80% are women over the age of 60
- Cause unclear



Osteoporosis – Risk Factors

- | Cannot be Changed | Can be Changed |
|-----------------------|-----------------------|
| ■ Age | ■ Calcium deficiency |
| ■ Female | ■ Estrogen deficiency |
| ■ Family history | ■ Smoking |
| ■ Endocrine disorders | ■ Excess alcohol |
| | ■ Sedentary lifestyle |
| | ■ Medications |

Osteoporosis

- Reduced bone mass
- Imbalance of bone growth and maintenance
- Formation does not keep pace with resorption, resulting in loss of bone mass

Osteoporosis

- Type I
- Type II

TABLE 43-1 NIH Recommended Daily Calcium Intake.

AGES	MILLIGRAMS OF CALCIUM
0-6 months	400
6 months-1 year	600
1-5 years	800
6-10 years	800-1,200
11-24 years	1,200-1,500
25-50 years	1,000
Pregnant or lactating	1,200-1,500
51-64 years: Women on HRT and men	1,000
51 years: Women not on HRT	1,500
65 and older	1,500

Osteoporosis

- Medications
 - Calcium supplements
 - Hormone replacement
 - Other drugs

Osteoporosis – Nursing Care

- Risk for Injury
- Imbalanced Nutrition: Less than Body Requirements
- Pain

Osteomalacia

- Adult rickets
- Insufficient amounts of calcium or phosphate
 - No mineralization of bone matrix
- Results in deformities and pathologic fractures
- Cause is lack of vitamin D

Paget's Disease

- Increase of osteoclasts
- Osteoblasts are stimulated
- Cause unknown

Osteomalacia/Paget's Disease

- Replace vitamin D
- Calcium and phosphate supplements
- Biphosphonates and calcitonin drugs

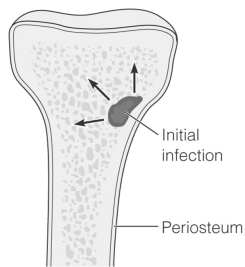
Osteomyelitis

- Infection in the bone
 - *Staphylococcus aureus*
 - Any age
 - Older adults at risk
 - Pathogens enter the bone from an open wound
 - Spread to the bone from local tissue

Osteomyelitis

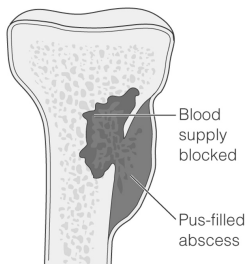
- Pathogens lodge and multiply
- Phagocytes attempt to contain the infection
- The bone marrow cavity allows the infection to spread
- Disruption of blood supply leads to necrosis of the bone

Osteomyelitis



A Initial infection

Osteomyelitis



B Acute phase

Osteomyelitis

- Early diagnosis and antibiotic therapy
 - WBC
 - Blood and tissue cultures
 - MRI
 - Bone scan
- Medications intravenously
- Surgery
 - Cultures
 - Debridement

Osteomyelitis – Nursing Care

- Pain
- Hyperthermia
- Impaired Physical Mobility
- Teaching
 - Medications and wound management
 - Rest and limited weight bearing
 - Good nutrition

Common Foot Disorders

Hallux Valgus

- Metatarsophalangeal (MTP) joint enlarged
 - Enlargement and lateral displacement of great toe
 - Callus develops
- Pressure
 - Pointed-toe shoes or high heels

Hallux Valgus



Hammertoe

- Flexion of the proximal interphalangeal joint (PIP) with hyperextension of the MTP and distal interphalangeal joints (DIP)
- Affects any toe
- Causes painful corns to develop

HAMMERTOE



Foot Disorders

- Corrective shoes and orthotic devices
- Analgesics and corticosteroids
- Surgery
- Nursing Care
 - Pain
 - Risk for Infection

Arthritis

- Inflammation of a joint
- Localized
 - Osteoarthritis
- Systemic
 - Rheumatoid arthritis
 - Systemic lupus erythematosus

Osteoarthritis

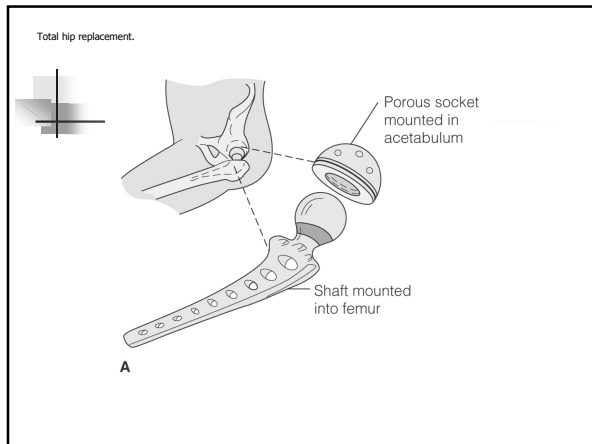
- Entire joint affected
- Cartilage loses strength and elasticity and erodes and ulcerates
- Underlying bone exposed
- Cartilage-coated osteophytes (bony outgrowths)

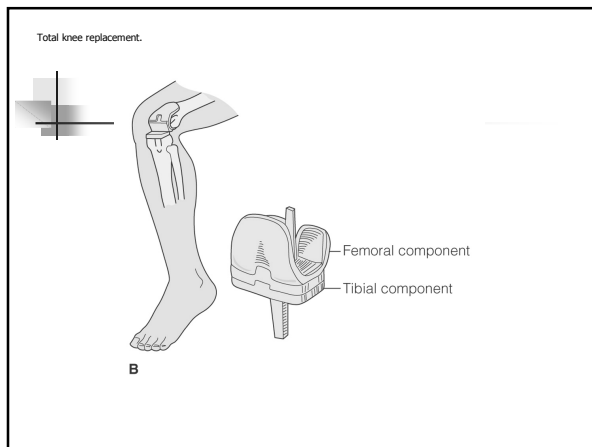
Osteoarthritis

- Manifestations and complications
 - Inflammation in the joint
 - Pain
 - Decrease in joint range of motion
 - Enlarged joints
 - Herniated disk

Osteoarthritis Diagnosis

- History
- Physical and x-ray examination
- Weight reduction and exercise
- Heat for local pain relief
- Medications
- Surgery
 - Arthroscopy
 - Arthroplasty





Osteoarthritis – Nursing Care

- Assessment focuses on effects of the disease and ADLs
- Nursing diagnosis
 - Chronic Pain
 - Impaired Physical Mobility
 - Self-Care Deficit

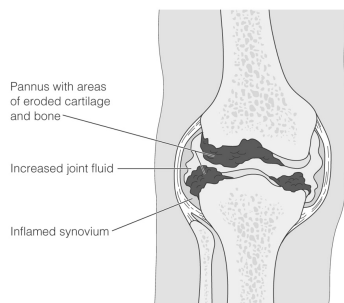
Osteoarthritis – Nursing Care

- Teaching
 - Environmental safety
 - Use of assistive devices to maintain independence
 - Medications
 - Activity and weight bearing
 - Signs and symptoms of infection

Rheumatoid Arthritis

- Chronic
- Women
- Middle age
- Multiple joints
- Remission and exacerbations

Figure 43-6. Joint inflammation and destruction in rheumatoid arthritis.



Rheumatoid Arthritis

- Systemic symptoms
 - Fatigue
 - Anorexia
 - Weight loss
 - Aching and stiffness
- Destruction of joints and immobility

Figure 43-7. Typical hand deformities associated with rheumatoid arthritis. (Source: Custom Medical Stock Photos, Inc.)



Rheumatoid Arthritis

- Diagnosis
 - History and physical exam
 - Rheumatoid factors
 - Erythrocyte sedimentation rate
 - Synovial fluid aspirate
 - X-rays
- Rest and exercise

Rheumatoid Arthritis - Treatment

- Medications
 - Aspirin and NSAIDs
 - Steroids
 - Drugs to modify the autoimmune response
- Surgery
 - Relieve pain and repair or replace joints
 - Arthrodesis (joint fusion)

Rheumatoid Arthritis - Treatment

- Plasmapheresis
- Total lymphoid radiation

Rheumatoid Arthritis – Nursing Care

- Assessment focuses on progress of disease and effect on functional abilities
- Nursing diagnoses
 - Pain
 - Fatigue
 - Ineffective Role Performance
 - Disturbed Body Image

Rheumatoid Arthritis – Nursing Care

- Teaching
 - Disease and systemic effects
 - Rest and exercise
 - Medications
 - Assistive devices
 - Safety
