Musculoskeletal Assessment

Purpose of the Musculoskeletal system
• Support
• Movement
• Protection
• Hematopoiesis
• Mineral storage

Normal Structure
• Tissues
  – Cartilage
  – Ligaments/tendons
  – Fascia
• Bones
• Muscles
• Joints
History & interview

• Chief complaint
• Self-care behaviors
• Pain
• History of trauma, surgery
• Family history of osteoporosis
• Alcohol use
• Smoking
• Diet - Calcium intake
• Sports activities

Physical Examination

General Inspection

• Posture/Body alignment
  – Standing
  – Sitting
  – recumbent
• Gait
  – Unsteady
  – Shuffling
  – Limp
  – Steady

Physical Exam (con’t)

• Muscles
  – Mass
  – Tone
  – Strength
• Symmetry
Physical Exam

• Joints
  – ROM
  • Active
  • Passive
  • Full
  • Limited
  • Stiffness
  • Contractures
  – Symmetry

Factors Influencing Assessment

• Age
• Gender
• Lifestyle

Diagnostic testing

• X-ray
• MRI
• CT scan
• Bone density
• Calcium
• ANA
• Sedimentation rate(ESR)
• Hct/Hgb
Common behaviors with alterations

• Deformity
• Swelling
• Tenderness
• Limited motion
• Atrophy
• Pain

Nursing Diagnosis

• Impaired physical mobility
• High risk for injury
• Self care deficit
• Risk for impaired skin integrity
• Body image disturbance
• Social isolation

Outcomes

• Increased mobility without injury
• Increased ability to care for self
• Intact range of motion (ROM)
Interventions

- Patient positions
- Moving & transferring
- ROM
  - Active
  - Passive
  - Active-assisted
- Pain relief
  - Anti-inflammatory drugs
  - Muscle relaxants
- Nutritional support
  - Calcium
  - Vitamin D

Documentation

Complications of immobility

- Metabolic system
  - Decreased wound healing
  - Muscle atrophy
  - Decreased subcutaneous fat
  - Anorexia
- Respiratory system
  - Atelectasis
  - Hypostatic pneumonia

Complications of Immobility

- Cardiovascular system
  - Orthostatic hypotension
  - Increased cardiac workload
  - Thrombus formation
- Musculoskeletal changes
  - Loss of endurance
  - Decreased muscle mass
  - Atrophy
  - Impaired joint mobility
  - Impaired calcium metabolism
Complications of Immobility

• Urinary system
  – Downward flow diminishes – urinary stasis
  – Urine more concentrated
  – Risk for calculi
  – Risk for UTI
• Integumentary system
  – Prolonged pressure - ischemia
  – Pressure ulcers

Complications of Immobility

• Gastrointestinal
  – decreased GI motility/ peristalsis
  – Constipation
  – Diarrhea form fecal impaction
  – Anorexia – negative nitrogen balance
    • Weight loss
    • Decreased muscle mass
    • weakness

Complications of Immobility

• Psychosocial
  – Body image disturbance
  – Depression
  – Social isolation
  – Hopelessness
  – Sleep-wake disturbances
  – Impaired coping
Complications of Immobility - Developmental

- Infants, toddlers
  - Delay in gross motor skill development
  - Delay in intellectual development
- Adolescents
  - Delay in developing independence
- Adults
  - Loss of identity due to possible role changes
- Older adults
  - Physical dependence

Musculoskeletal system

Keep on Moving!