Chapter 13

Traction

Objectives
1. Discuss the physiological effects of therapeutic traction
2. Discuss the indications, contraindications, and precautions associated with traction
3. Identify the differences between positional, manual, and mechanical lumbar traction

Objectives
4. Explain the setup procedures and treatment parameters for lumbar traction
5. Discuss the differences between manual and mechanical cervical traction
6. Explain the setup procedures and treatment parameters for cervical traction

Physiological Effects
- Separation of vertebral bodies
- Centripetal force on the soft tissues surrounding the vertebrae
- Increased discharge of proprioceptive discharge
- Improve arterial, venous, and lymph flow
- Mobilize vertebral joints
- Stretch connective tissue
- Lessen compressive effects of posture

Indications
- Disk herniation
- Nerve root impingement
- Spondylolisthesis
- Narrowing within the intervertebral foramen
- Osteophyte formation

Indications
- Degenerative joint disease
- Muscle spasm
- Subacute pain
- Joint hypomobility
- Discogenic pain
Contraindications
- Acute sprain or strain
- Acute inflammation
- Vertebral joint instability
- Bone tumors
- Bone diseases
- Osteoporosis
- Bone or joint infections

Contraindications
- Vascular conditions
- Pregnancy
- Cardiac or pulmonary problems

Lumbar Traction Techniques
- Positional
- Manual
- Mechanical

Mechanical Traction Equipment
- Lumbar
  - Split table
  - Harness
  - Traction motor unit
- Cervical
  - Table w/traction motor unit
  - Over the door harness w/weights

Mechanical Traction Parameters
- Body position
- Traction force
- Intermittent vs. sustained traction
- Duration of treatment
- Progressive steps
- Regressive steps

Body Position
- Dependent on specific pathology and patient comfort
Direction of Traction Force
- Unilateral
- Bilaterally

Amount of Traction Force
- Lumbar
  - Initial treatment – 30 lbs
  - Assess tolerance for traction
  - Subsequent treatments
    - ¼ - ½ the patient’s body weight
- Cervical
  - < 20 lbs.

Intermittent vs. Sustained Traction
- No conclusive research evidence to support one method over the other
  - Sustained
    - lumbar disk pathology
  - Intermittent
    - cervical pathology
    - on time: 3-10 sec.
    - duration: 3-10 min.

Progressive Steps
- Gradual increase in traction force using a preselected number of steps
  - Example:
    - 20 lb. traction force over 5 progressive steps
      - 1/5 (20) = 4 lbs.
      - 2/5 (20) = 8 lbs.
      - 3/5 (20) = 12 lbs.
      - 4/5 (20) = 16 lbs.
      - 5/5 (20) = 20 lbs.

Regressive Steps
- Gradual decrease in traction force using a preselected number of steps
  - Example:
    - 20 lb. traction force over 4 progressive steps
      - 1/4 (20) = 5 lbs.
      - 2/4 (20) = 10 lbs.
      - 3/4 (20) = 15 lbs.
      - 4/4 (20) = 20 lbs.

What questions do you have?