Ambulatory Aids

Chapter 26
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Objectives

By the end of this lecture the students should be able to:
- Name activities that prepare the client for ambulation.
- Name examples of isometric exercises that tone and strengthen lower extremities.
- Identify techniques for building upper arm strength.
- Name devices used to assist patients with ambulation.
- Name examples of ambulatory aids.
- Explain the purpose of a temporary prosthetic limb.
- Describe how the prosthetic limb is applied.

PREPARING FOR AMBULATION

- Perform isometric exercises with lower limbs
- Perform isotonic exercises with upper arms
- Dangle at the bedside
- Use a tilt table
ISOMETRIC EXERCISES

- Used to promote muscle tone and strength.
- Muscle tone is the ability of muscles to respond when stimulated
- Strength is the power to perform
- Frequent contraction of muscle fibers retains or improves muscle tone and strength

### Examples of Isometric Exercises

#### Quadriceps setting (quad setting)
- Ask client to tighten the quadriceps muscles by flattening the back of the knees into the mattress.
- Check to see if the kneecaps move upward.
- Hold the contracting position for a count of five.

#### Gluteal setting
- Performed by contracting and relaxing the gluteal muscles (buttocks muscles).
- Pinch the cheeks of the buttocks together hold for a count of five.
- Repeat three times each hour.
UPPER ARM STRENGTHENING
- Needed for clients who walk with a walker, cane, or crutches
- Flexion and extension of arms and wrists, raising and lowering weights with the hands, squeezing a ball or spring grip, and performing modified hand push-ups in bed

Hand pushups:
- Flex the elbows
- Place the hands, palms down, at approximately shoulder level
- Straighten the elbows to lift the head and chest off the bed
- Repeat 3-4 times per day

DANGLING
- Dangling-sitting on the edge of the bed to normalize blood pressure

http://pwp.netcabo.pt/0413553701/titles.jpg
TILT TABLE

- Tilt Table—device that raises the client from a supine to standing position, helping to adjust being upright and bearing weight on their feet

http://pwp.netcabo.pt/041557019/tilt1.jpg

Easy stand

http://www.sammonspreston.com/images/products/921555BL.JPG

ASSISTIVE DEVICES

- Parallel bars: double row of stationary bars as handrails to gain practice in ambulating
- Walking belt: applied around the client’s waist to support the client if he/she loses balance
**AMBULATORY AIDS**

- **Canes:** Hand-held ambulation device made of wood or aluminum with rubber tips to reduce slipping.
  - Cane must be of right height with the handle parallel with the client’s hip, providing elbow flexion of approximately 30 degrees.

**AMBULATORY AIDS**

- **Walkers:** Most stable ambulatory aid.
  - Stand within the walker.
  - Hold on to the walker at the padded handgrips.
  - Pick up the walker and advance 6-8 inches.
  - Take a step forward.
  - Support the body weight on the handgrips when moving the weaker leg.

**Side walker and pilot walker**

[Images of a side walker and pilot walker]

http://www.sammonspreston.com/images/products/562112L.JPG
Walkers

http://www.sammonspreston.com/images/products/552902L.JPG

AMBULATORY AIDS

- Crutches: ambulatory aid generally used in pairs
  - Requires upper arm strength
  - Axillary
  - Forearm
  - Platform

Measuring for crutches
CRUTCH WALKING GAITS

- SWING-THROUGH GAIT
- TWO-POINT GAIT
- THREE-POINT GAIT
- FOUR-POINT GAIT
Some clients with leg amputations ambulate using a prosthetic limb:
- Symes amputation
- Below-the-knee amputation
- Above-the-knee amputation
- Entire leg
- Hemipellectomy
**NURSING IMPLICATIONS:**

- Impaired Physical Mobility
- Risk for Disuse Syndrome
- Unilateral Neglect
- Risk for Trauma
- Risk for Peripheral Neurovascular Dysfunction
- Risk for Activity Intolerance
GERONTOLOGICAL CONSIDERATIONS

- Older clients may have limited or unsteady mobility
- Older adults tend to acquire flexion of the spin leading to altered center of gravity
- Older adults may have flexing of the hips or knees, shuffling gait
- Older adults may develop foot abnormalities requiring podiatric care
- A gait belt is an important safety device
- Evaluate home safety
- Older adults may require ambulatory aids

GERONTOLOGICAL CONSIDERATIONS

- Assess the client’s attitude about the use of assistive devices
- Utilize a bedside commode
- A ramp helps older adults enter or leave a residence more conveniently
- Rubber tips and handgrips on ambulatory aids should be kept clean and replaced when they are worn