Textbook Content

Mobility Factors

The senior population is at risk of losing their independence and health due to a gradual decline of their mobility. As a person gets older, their body becomes more susceptible to illness, injury and disease which can affect their mobility. Particularly devastating diseases that effect mobility are any type of cancer, arthritis, multiple sclerosis and Parkinson's disease. As people lose the ability to walk unaided, they tend to suffer further deterioration that can interfere with other daily living activities. Joints become stiff, muscles weaken, and complications such as pressure sores and joint contractures can develop, limiting a senior's ability to function even further.

The invention and improvement of devices such as walking aids and wheelchairs have assisted the senior to regain their mobility by improving their gait. An improved gait allows seniors to become less dependent on others, maintain a healthy lifestyle and continue to live well into their later years.

Ambulatory Devices

There are several categories of devices used to improve mobility and /or gait. The term "gait" refers to a person's pattern of walking. These include canes, walkers and wheelchairs as well as some other select devices.

There are several devices (such as a transfer wheel, pivot wheel and bed risers) that are considered Durable Medical Equipment (DME). Information on these devices can be obtained from your DME supplier.

Canes

A cane typically is used when only one upper extremity is required for balance or bearing weight. Canes widen a person's base of support, and as a result, provide increased balance. There are three typical cane designs. These include:

- **Standard wooden canes** are inexpensive, lightweight, and can be custom fit to the proper length. Standard aluminum canes are more expensive, but their length is easily adjusted and avoids the need for custom fitting.

- **Offset canes** allow the persons weight to be displaced over the shaft of cane and are usually made of aluminum. Their length is adjustable.

- **Multiple-legged canes**, also known as quad canes, provide an increased base of support and permit more weight bearing. Multiple-legged canes have the advantage of being able to stand upright on the floor when not in use. This frees a person's hand to perform other tasks. The disadvantage of multiple-legged canes is all the legs of the cane need to be in contact with the ground at the same time.

The gait pattern of a person using a cane usually involves placing the cane in the opposite hand from the leg with the most severe problem (deficit). The cane is then advanced with the opposite (deficient) leg.

See the following illustrations to help identify the different cane types.

FIGURE 1. Standard wooden cane, which must be custom fitted for length.

FIGURE 2. Standard aluminum cane. The length is adjustable.

FIGURE 3. Offset cane. Th length is adjustable.

FIGURE 4. Multiple-legged, or "quad cane." The four points of the cane should simultaneously contact the floor.

FIGURE 5. Walk cane. Walk canes are best for patients requiring continuous weight bearing using only one hand.

Walkers

Walkers were developed to assist clients in walking from one point to another while still maintaining a sense of independence. Walkers are made for persons with lower limb weakness and provide a larger base of support. Three different types of walkers include:

- **Standard walkers** have four legs with rubber tips that should come into simultaneous contact with the floor. The standard walker is the most stable, but requires a slower gait pattern because persons using it must be able to pick the walker completely off the ground and place it forward before stepping forward.

- **Front-wheeled walkers** are best for persons with a gait that is too fast for a standard walker or who have difficulty lifting a standard walker. Wheels permit the client to maintain a more normal gait pattern than they would with a standard walker, but they also decrease stability.

- **Four-wheeled walkers** can be used if person require a larger base of support and do not rely on the walker to bear weight. If a client applies full body weight through the device, it could roll away, resulting in a fall. These walkers are best for higher functioning people who walk long distances and require minimal weight bearing. When needed, these walkers can be modified to provide sturdier construction, larger wheels, hand braking systems, or seats.

For walkers with wheels, it may be helpful for the wheels to be on the inside the frame of the walker. This will allow for a narrower clearance in hallways and tight spaces. Any change like this should be made by the Durable Medical Equipment (DME) provider.

In the typical gait for walking with a walker, the user first advances the walker, then the client steps forward with one foot, followed by the other.

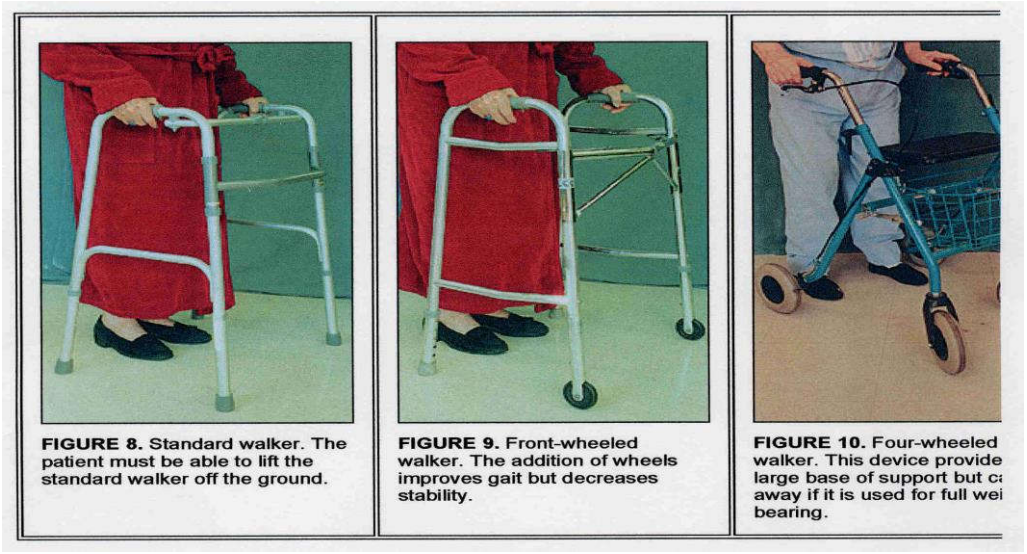

FIGURE 8. Standard walker. The patient must be able to lift the standard walker off the ground.

FIGURE 9. Front-wheeled walker. The addition of wheels improves gait but decreases stability.

FIGURE 10. Four-wheeled walker. This device provide large base of support but c away if it is used for full wei bearing.

Gait Belt

A gait belt is a supportive aid used to help a weak or unsteady person to transfer or walk. It is a sturdy cloth strap, measuring about three inches wide and three feet long. The gait belt gives you more control of the person's body. It is helpful when assisting someone who has difficulty moving into a standing position or when transferring a person from one position to another. Gait belts are sometimes called a walking belt or transfer belt.

Gait Belt Application

The following explains how to apply a gait belt:

- Put the belt around the client's waist over clothing with the buckle in front.
  - If the person wearing the belt is female, be sure the belt is not over her breasts.
  - Never place a gait belt over bare skin, drains, feeding tubes, a urostomy, or a colostomy
  - Thread the belt through the teeth of the buckle. Put the belt through the other two openings to lock it.
- Tighten the belt until it is snug but comfortable.
  - It should not create breathing difficulties or discomfort
  - Allow enough room to get your fingers under the belt

Helping Someone to Walk With or Without a Gait Belt

Walking is highly beneficial for maintaining health, independence, and a positive mood. If a person's condition allows, walk with them several times a day, even if it is only for short distances. Some things to consider when walking your client are:

- Clear obstacles from the pathway before you begin.
- If you are using a gait belt, stand slightly behind and to one side of the person, holding onto the gait belt at each side of their waist.
- If you are walking without a gait belt, support them with one hand around their waist and the other supporting their elbow and forearm.
- Change the size of your steps to accommodate what the client can do
- Encourage them to go a few more steps than they did during the previous walk if their condition permits them to do so

Using a Gait Belt in a Stand Pivot Transfer

- Ask the client to scoot forward in his chair or bed in a seated position so the gait belt can be placed around their waist. Make sure the belt is positioned over the clothing and that the buckle is in front. This will allow for easier belt adjustments and removal.
- Feed the end of the belt through the portion of the buckle with teeth. Pull on the loose end of the belt to tighten it to the proper tightness. The belt should be snug to the client, but you should still be able to get your fingers between the belt and the client to hold on to them.

- Ask the client to slide forward to the edge of where they are seated, making sure their feet are placed flat on the floor. Be sure the location you are transferring to is close by.
- Place your fingers between the gait belt and the client, using an underhand motion to grasp the gait belt. Ask the client to stand as you lift them with the belt and guide them to the transfer location.
- Help the client to safely sit down on the transfer location. Ask them to slide back a bit, so they are not in danger of falling from the seated location. Once the client is safely seated on the transfer location, remove the gait belt.

Wheelchairs

Wheelchairs were developed to help the senior and disabled regain their independence. Initially, wheelchairs started out as a chair with four wheels that were pushed from behind by another person. In the 1600's, wheelchairs were modified so that a person could propel themselves by turning the wheels by an attached handle. In 1916, the first wheelchairs with motorized parts were developed for those persons who could not propel themselves under their own power or who fatigued easily.

Transfers

Moving the client from one surface area to another is called a transfer. The method used to transfer will vary depending on the weight and height of the client being transferred and the person helping to transfer. The amount of assistance a person may need may vary. One person may need only minimal assistance to get in and out of a wheelchair, while another person may need maximum assistance. No one method is right for everyone. Some examples of a transfer are moving a client to the bed from a chair and moving a client from the bed to a wheelchair.

How to Transfer Someone from a Bed to a Wheelchair

This method of transfer is best used for someone who needs minimal assistance to stand.

Preparing for the transfer:

- Tell the client what you are about to do.
- Both you and the client should wear flat shoes with a non-skid sole.
- Make sure lighting in adequate. Never try to move someone in the dark.
- Some pets can get underfoot. Place pets in another room before attempting a transfer.
- Help them if necessary to sit at the edge of the bed.

Set up the wheelchair by:

- Position the wheelchair close by to reduce the distance of the transfer, but no so close that you or the client will trip over it
- Always begin with the wheelchair on the person's strongest side, if there is one.

- The wheelchair should be set at a 45 degree angle to the bed or the surface you are transferring from.
- **Lock both wheels of the wheelchair**.
- Swing both foot plates up and away to the raised position or remove them.

Beginning the transfer

- Have the client:
  - In a sitting position at the edge of the bed.
  - With their hips closest to the wheelchair and their knees and feet angled away from the wheelchair.
  - Place their hands on the bed to help push up.
- You should:
  - Position your foot between their feet.
  - Your knee between their knees.
  - Your other foot should be behind the first foot about 2 feet back, at a 45 degree angle.
  - Support them by placing your hands underneath and just past their armpits.
  - Position your hands on the sides of their back, fingers pointing toward each other.

The Transfer

- Count 1-2-3 together out loud and **on the count of 3**,
  - Have the client:
    - Lean forward slightly.
    - Shift their weight forward from their buttocks to their feet.
    - Push up with their hands.
  - You should:
    - Shift your weight onto your back leg at the same time.
    - Keep your back straight and knees bent.
    - Help them into a standing position with one smooth continuous move.
- Once the client is standing:
  - Support their lower back with your hands.
  - Give them a moment to adjust in case of dizziness or imbalance.
  - Continue to support them as they take small steps, slowly turning toward the wheelchair.
  - Stop when they can feel the edge of the wheelchair seat on the back of both legs.
- Once the wheelchair touches the back of their legs:
  - Have the client:
    - Reach back towards the arm rests with their knees slightly bent.
    - Put one hand on each armrest of the chair to guide them into the chair.
  - You should:

- Keep your back straight.
- Bend your knees.
- Use your leg muscles as you help to lower them into the chair.

How to transfer from a wheelchair to the car

Beginning the Transfer

- Park the car close to the curb so the client does not have to step down off the pavement before transferring into the car
- Avoid parking on an incline.
- Have the engine turned off – put the car in park with the parking brake on.
- Have the car door open.
- Position the seat as far back as possible.
  - Front passenger seat is preferred.
- Make sure **the wheelchair is locked**.

The Transfer

- Have the client:
  - Put their right hand on the car door.
  - Use their left hand to push off the wheelchair to a standing position.
  - Turn and face the door.
  - Place their left hand on the seatback/door frame.
  - Sit down onto the seat sideways.
  - Turn into the seat one foot at a time (Assisting as necessary).

General Reminders

- Reverse the process for getting out.
- Non friction upholstery such as vinyl or leather helps sliding to be easier.
- A large plastic trash can liner covered by a towel can help sliding on cloth surfaces. Use this solution with caution, as the client could slide off the car seat and fall.
- Talk to your supervisor if you cannot accomplish these transfers safely. Transfer devices are available if a manual transfer becomes unsafe for you or the client,

Other Supportive Materials

- **DVD- Medifecta (www.medifecta.com)**
  - Volume 8 Personal Care (36 minutes)
  -
- **Safety Training Manual Chapters**
  - It's your back don't break it
  - Safe lifting and transfers