

PRINCIPLES OF CAREGIVING

FUNDAMENTALS

SECTION TEN - TRANSFERS AND POSITIONING

CONTENT:

- A. Principles of Body Mechanics for Back Safety
- B. Transferring (use of Gait Belt)
- C. Ambulation (Walking)
- D. Turning and Positioning
 - 2. Preventing Contractures
 - 3. Range of Motion (ROM) Exercises
- E. Assistive Devices
 - 1. Canes
 - 2. Walkers
 - 3. Wheelchairs

OBJECTIVES:

1. Identify and demonstrate good body mechanics related to transferring and walking with consumers.
2. Explain the importance of positioning and repositioning of consumers.
3. Describe common assistive devices and techniques for using them safely.
4. Demonstrate the safe use of selected assistive devices.

SKILLS:

1. Positioning
2. Use of Gait Belt
3. Transfer out of Bed
4. Transfer from Chair to Walker
5. Use of Mechanical Lift
6. Assistance with Ambulation

KEY TERMS:

Ambulation

Body mechanics

Contractures

Gait belt (transfer belt)

Mechanical Lift

Range of motion (ROM) exercises

Transfer

Walker

Wheelchair

A. PRINCIPLES OF BODY MECHANICS FOR BACK SAFETY

Using correct body mechanics is an important part of a DCW's job because:

- a. The individual with a disability depends on the DCW for hands-on assistance and if the DCW does not take care of his/her back with the correct body mechanics, the DCW will not be able to provide that much needed assistance.
- b. Not using correct body mechanics puts the safety of the consumer and DCW at risk.
- c. Some injuries cause permanent disabilities.

Just as lifting, pushing, and pulling loads can damage your back so can bending or reaching while working in an individual's home. As a DCW, you may have witnessed firsthand the pain and misery a back injury can cause. The good news is that you can learn some simple ways to reduce the risk of injuring your back.

Body mechanics principles that play an integral part of this section are:

- a. Center of gravity over base of support
- b. Principles of body leverage. Using leg and arm muscles is important, but so is applying body leverage. Mirror posture of the consumer. Use body as a unit of "one".
- c. It is important for the DCW to be aware of center of gravity over base of support in working with a consumer.
- d. Safety - remove throw rugs or other obstacles.

B. TRANSFERRING

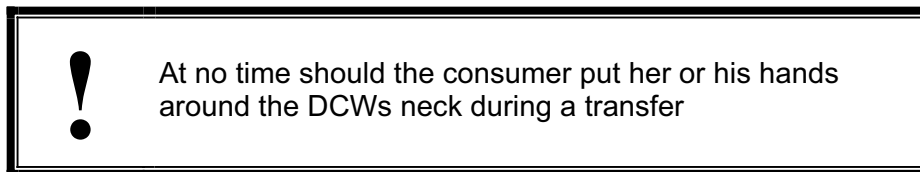
A move as basic as getting in and out of a chair can be difficult for an individual with a disability, depending on her / his age, flexibility, and strength. Techniques for assisting an individual with transfers can vary. Some persons require a high level of assistance, also called maximum assist. The DCW will have to use assistive devices, such as a gait belt or a mechanical lift. Other persons will need less assistance, making the devices optional. The height and stability of the chair or other sitting surface also plays a role in the successful transfer. A slightly raised seat is preferable to one that is low or deep. A chair that has armrests is also preferable.

- a. **Maximum assist** – Mechanical lift, gait belt with total assist
 - Mechanical Lift
 - Gait belt with consumer who is 50% or less weight bearing
- b. **Moderate assist**
 - Gait belt with consumer who is 50% or more weight bearing
 - Verbal cues with moderate physical assist
- c. **Minimum assist**
 - Gait belt optional
 - Hands on with consumer who is 85 - 90% weight bearing
 - Verbally & physically guiding consumer
 - Stand by assist (this is to insure safety)

General Guidelines for Assistance with Transfers

While procedures can vary for certain kinds of transfers, there are general guidelines that apply when assisting with any transfer.

- a. Use a gait belt secured around the person's waist to assist him/her.
- b. Explain each step of the transfer and allow the person to complete it slowly.
- c. Verbally instruct the consumer on the sequence of the transfer. (e.g., Move to the front of the chair, etc.).
- d. When assisting in the transfer of a person **do not grab, pull or lift by the person's arm joints (elbows, shoulders, wrists) as this can cause a joint injury.**



Procedure: Use of Gait Belt

The gait belt, sometimes called transfer belt, is instrumental in providing safe transfers and ambulation for the DCW and the people being served.

Procedure in using a gait belt

- Tell the person what you are going to do.
- Position the person to make application of the belt possible.
- Secure the gait belt around the consumer's waist. Always secure the gait belt around the waist, on top of clothing. For females make sure breast tissue is above the belt.
- The gait belt should be snug. The DCW should be able to place two fingers in between the belt and the person. Buckle in front.

If the person is unable to stand or is too weak to stand, the DCW should use a mechanical lift for transfers. If this is not in the care plan or you do not know how to use a mechanical lift, ask your supervisor for instructions on what to do.



Procedure: Transfer Out of Bed:

- a. Tell the person what you are planning to do.
- b. If it is a hospital bed, make sure the bed is in a low position and the wheels are locked.
- c. Assist the person to a sitting position by supporting the consumer behind the shoulders.
- d. Have the person scoot to the side of the bed and assist in swinging the legs over the side of the bed. Give time for the person to adjust to sitting up.
- e. Make sure the person's feet are flat on the floor and wearing non-skid footwear
- f. Assist to a standing position.

Wheelchair Transfer

- a. Prepare the chair for the transfer.
 - Place at a 45 degree angle to the bed.
 - **Lock the wheels.**
 - Put the footrests in the up position and swing the footrests to the side or remove.
 - Take off the armrest closest to the bed if possible (or flip back armrest if available).
 - Tell the person what you are going to do.
- b. Assist the person to a standing position (place your legs between their legs).
- c. Have the person take baby steps to a standing position in front of the chair (ask the person if he/she feels the chair seat on the back of his/her legs).
- d. Have the person put their hand on the armrest.
- e. Assist the person to a seated position.
- f. Prepare the chair for rolling:
 - Replace the footrests and armrests in their proper position if necessary.
 - Unlock the wheels



Procedure: Transfer from Chair to Walker:

- a. Tell the person what you are planning to do.
- b. Place the walker in front of the person (verbally cue client to put one hand on the center of the walker and the other hand on the surface/armrest of the surface they are arising from). Position yourself in front of the person.
- c. Tell the person to scoot to the end of the chair seat.
- d. Have the person place his/her hands on the armrests, if the chair has them.
- e. Get a rocking movement going.
- f. On the count of three, have the person push down on the armrest and assist the person to a standing position by lifting the person around their waist (or use a gait/transfer belt). Use the arms of the chair, not the walker, to assist in lifting.
- g. Pull the walker in front of the person.
- h. Have the person stand for a minute before walking to adjust to standing position.
- i. When sitting, the person should back up until the chair is felt on the back of the legs and reach back to the arms of the chair to provide a safe descent to the seat.

Using a Mechanical Lift

A mechanical lift is used to transfer a person from a bed to a wheelchair, a wheelchair to a couch, etc. -- **not** to transport from one room to another. There are different models. You will probably learn to operate one type of lift in this class. When you work with a consumer who uses a mechanical lift, be sure to practice using it. If it is a different model, ask for instructions. **Never** operate any device that you have not been trained to use.

Define and explain all parts of the mechanical lift

- Spreader bars (Open)
- Push Handles
- Caster wheels
- Hydraulic sleeve
- Boom
- Cradle
- Pin stop or wing nut
- Sling types
 - Canvas
 - One piece
 - Commode cut out
 - Mesh
 - Split or U shape



Procedure: Use of mechanical Lift with a Sling with Chains:

- Examine a mechanical lift to make sure the lift is in proper working condition.
- Tell the person step-by-step what is going to be done.
- Have the bed flat when transferring a person from bed to chair.
- Roll the person onto his/her side, away from the DCW and place the smooth side of the sling touching the person. Reinforce correct body mechanics when rolling the person.
- Insert chain hooks (if using sling with chain) from inside the sling to outside so the hooks will not scratch the person.
- Secure the person's arms inside sling. If the person cannot do this themselves, this can be accomplished by rolling the bottom of the person's T-shirt over the person's arm or using a hand towel wrapped around the person's arm as a muff.
- Pump the handle until person is raised just free of the bed.

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- Use the steering handle to pull the lift from the bed and maneuver to a chair or maneuver the lift so the wheelchair can be put into the proper position for the lift.
- Slowly release the valve and lower the person while putting your hand on the person's knee and gently move the person so the person is touching the back of the chair. This step will help to achieve good placement on the chair.
- Check to see if the person is positioned correctly on the chair. Unhook the chains and move the lift out of the way. Leave the sling under the person unless directed differently.



There are many different lifts and slings. Make sure you get instructions before using any lift.

C. AMBULATION (WALKING)



Procedure: Assistance with Ambulation:

Note: Refer to the section on transfers for proper use of a gait belt.

- a. Apply gait belt, unless instructed not to or one is not available.
- b. Always walk on the person's weak side.
- c. Walk slightly behind the person while holding onto the gait belt from behind and placing your hand under the belt from the bottom versus from the top of the gait belt.

D. TURNING AND POSITIONING

Some individuals spend much time in bed or in a chair or wheelchair. Some persons can shift or turn on their own, but others will need assistance. The DCW is responsible for reminding the individual to change position regularly and to provide assistance when needed. This will help prevent skin breakdown and stiffness. Refer back to the section on prevention of pressure ulcers in chapter X. After turning or after a transfer, it is also important to ensure proper positioning for the individual.

1. Preventing Contractures

A contracture is a stiffening of a muscle due to immobilization. Following a stroke or other injury, muscles can remain inactive for long periods of time. During this period of time, the muscle atrophies: it gets smaller and shorter, sometimes to the point that it can no longer be used. Contractures can form in the hands, fingers, arms, hips, knees and calves, as well as other areas.

Once a contracture has developed, it can be difficult and painful to treat. It severely

restricts a person's movement and independence. **DCWs can help prevent contractures through proper positioning, exercise and equipment.**



Procedure: Positioning in a Bed or Chair

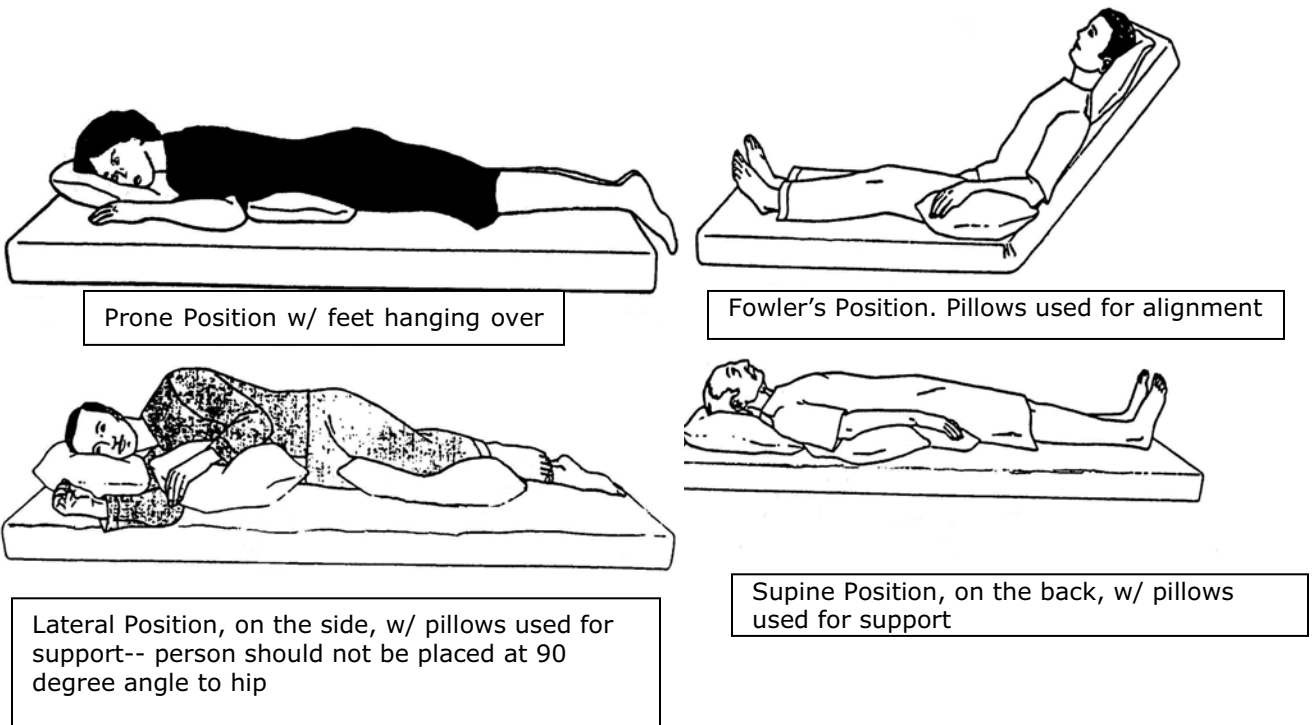
When a person with a disability is sitting, make sure she / he is sitting upright to prevent contractures from forming in the chest muscles and the front of the shoulders. Make sure that both feet are flat on the floor, and encourage the person to keep palms open and down in a relaxed manner, possibly against a table or armrest. This will prevent contractures from developing in the hand. Putting a rolled washcloth in the person's hand may help prevent hand contractures and will also help with hygiene.

The person may slide down in the chair. The DCW needs to assist the individual with repositioning. A gait belt should be used when providing assistance. If the person is sitting in a wheelchair, make sure the wheels are locked before repositioning the consumer. Even with good sitting position, the person should be encouraged to shift weight slightly occasionally. This can help prevent soreness and pressure ulcers on the skin.

When a person remains in bed for a long time, it is also important to turn and shift weight. Some individuals just need to be reminded; others need assistance. The person can alternate positions from being on the back (supine) to the side (lateral) or face down (prone). Some beds can be adjusted so that the head is higher (Fowler's position). See the illustrations on the next page.

People who cannot change position need to have the **DCW change his/her position** in bed or in a chair/wheelchair **at least every two hours.**

Positioning in Bed



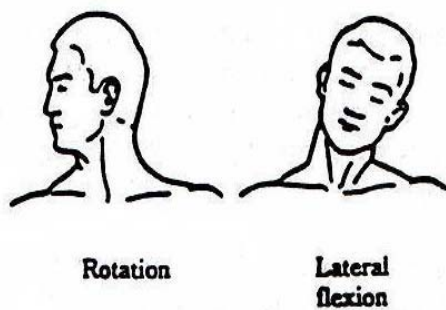
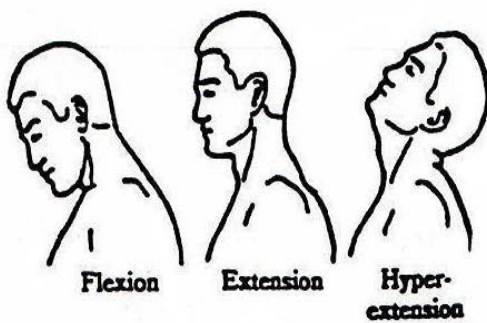
2. Range of Motion (ROM) Exercises

Range of motion exercises are the best defense against the formation of contractures. A physical therapist, home health nurse or other health care professional should recommend helpful ROM exercises for an individual with disabilities to do at home. These exercises will concentrate on the joints. Each motion should be repeated, slowly and gently, and never beyond the point of pain. **Never exercise a joint that is swollen or red.**

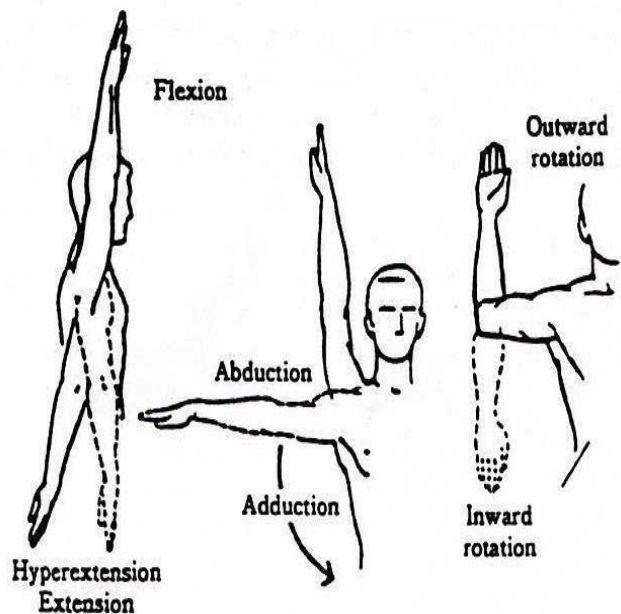
Some individuals will be able to do ROM exercises independently with nothing more than encouragement and direction from you. Others will need assistance from you, possibly helping them to lift, stretch and move limbs and joints, or being physically "cued" on how to perform the exercise. Still others, who are very limited physically, may be dependent on you to actually move them through the exercises. Regardless of how much you must be involved, the consumer will benefit from the movement, and it will allow them to maintain more range of motion.

Active ROM exercises are done by the person.

Passive ROM exercises are done by the caregiver. Passive ROM exercises should be approved by a health care professional to limit liability. Refer to the care / support plan or ask your supervisor for instructions before assisting with any exercises.

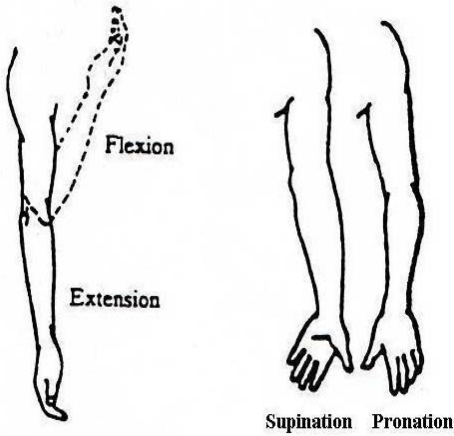


Range of motion exercises for the neck



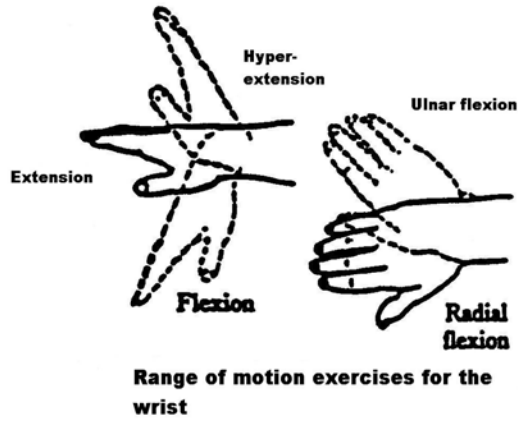
Range of motion exercises for the shoulder

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Range of motion exercises for the elbow

Range of motion exercises for the forearms



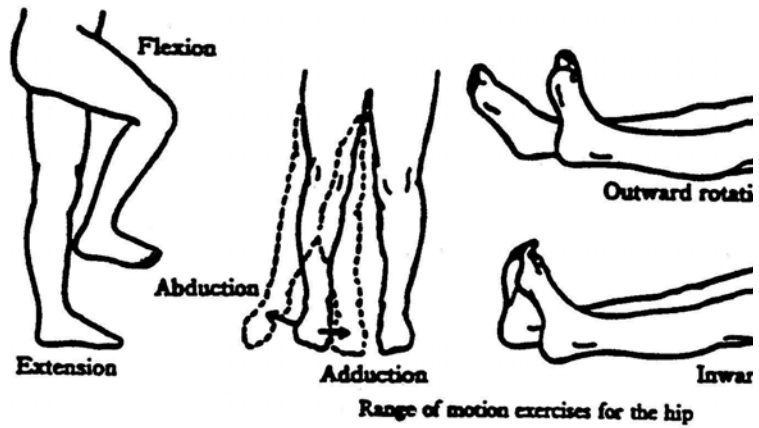
Range of motion exercises for the wrist



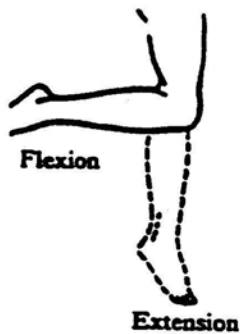
Range of motion exercises for the thumb



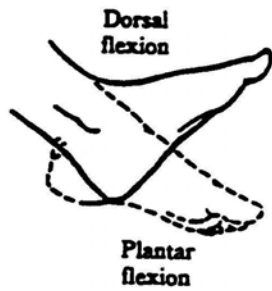
Range of motion exercises for the fingers



Range of motion exercises for the hip



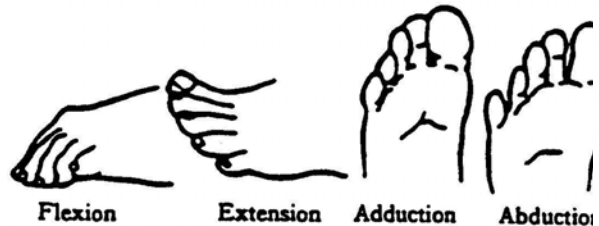
Range of motion exercises for the knee



Range of motion exercises for the ankle



Range of motion exercises for the foot



Range of motion exercises for the toes

E. ASSISTIVE DEVICES

1. Canes

As people grow older important daily activities like walking, dressing, bathing, and eating may become increasingly difficult to manage. Many older people depend on assistive devices to help carry out these activities.

In choosing a cane, metal is preferred over a wooden cane since wood can splinter or crack. The handle of the cane should be as high as the wrist of the hand opposite the person's weak side. While standing and holding the handle of the cane, the elbow should be at a 20 to 30 degree angle. The quad cane, so named because it has four feet, adds more stability to a cane to help the user maintain balance and equilibrium while walking. Tips on the end of cane legs provide traction and absorb shock, thereby cushioning the hand. A convenient option is a wrist strap attached to the handle of a cane allowing the hand to be free without having to set down the cane. It also prevents a person from dropping the cane.

Important Considerations for Effective Cane Use

- A person should not use canes on stairs without using a handrail or the support of another person on the opposite side. Most quad canes and other wide base canes are not safe for use on stairs.
- Because they slip easily, a person should not, in general, use canes on snowy or icy surfaces. However, metal or rubber tips that grip the ice may give more protection against slipping and falling.
- Make sure the cane tips are not worn down. Replacement cane tips are readily available in larger drug stores.

2. Walkers



Walkers rank second behind canes in amount of users, numbering almost two million people in the U.S. Since their introduction over two hundred years ago, walkers have changed greatly. Able to support up to 50% of a person's weight, walkers are more stable than canes. Walkers are helpful for people with arthritis, weak knees or ankles, or balance problems.

The most basic walker design, the rigid walker is the type most often used in therapy. To operate, a person lifts the walker, moves it forward, and puts it back down with each step. Because they require lifting, extended use may cause strain on the wrists, shoulders, and arms.

Important Considerations for Effective Walker Use

- a. A professional, such as a physician or physical therapist, should help choose or prescribe a walker and then demonstrate how to walk correctly with it.
- b. Walker height is best when the arm bends at the elbow in a 20 to 30 degree angle. This is achieved by having the top of the handle of the walker at the same height as the bend of the person's wrist.
- c. To prevent tripping or falling, the person should:
 - always look ahead, not at the feet
 - walk inside the walker (avoid pushing walker to far ahead as if it were a "shopping cart")
 - use walkers only in well-lit areas. Cluttered and crowded areas, throw rugs, and wires running across the floor should be avoided.
 - wear appropriate footwear. Properly fitting shoes with rubber soles are best. Loose fitting footwear such as slippers, or slippery-soled shoes, should be avoided.
 - avoid using the walker on stairs.

Small rooms, such as bathrooms, may prevent safe walker use. A solution is to install grab bars. If using a wheeled walker a person may also reverse the wheels so that the wheels are on the inside of the walker, thereby saving 3-4 inches of space.

Types of Walkers



A. Rigid



B. Wheeled



C. Rolling

Unlike the rigid walker, the user merely pushes the two-wheeled walker (B) forward. No lifting is necessary, so the walking style is more natural.

Two-wheeled walkers have automatic brakes that work when you push down on the walker. Some have auto-glide features that allow the rear legs to skim the surface.

Three or four wheeled rolling walkers (C) require less energy and strength to use. Gliding over carpets and thresholds is easier, and they may provide better performance in turning. Three and four wheeled walkers often have hand brakes. Wheel size and walker weight vary greatly in different models of wheeled walkers. All are heavier than rigid or folding walkers. Because many wheeled walkers do not fold, they may be more difficult to transport.

3. Wheelchairs



Today, older Americans use more wheelchairs than any other age group. As the number of people using wheelchairs grows, so the dimensions, characteristics, and kinds of wheelchairs are becoming more diverse. Unfortunately, many people are not aware of the wide variety of wheelchairs to fit different needs and only know about the standard, heavy-duty wheelchair.

Many people pick up wheelchairs from garage sales, or receive them as gifts from well-meaning friends. Unfortunately, this can lead to a poor "fit" between the user and the wheelchair, which can lead to skin

problems in the future. To avoid this, it is very important to consult with an expert, such as a physical or occupational therapist, before selecting a wheelchair. People often use wheelchairs for many years and for extended periods a day, so it is important that the wheelchair be comfortable.

The most frequently prescribed wheelchair is the standard wheelchair. Standard chairs are heavy, usually weighing over forty pounds. People who need to transport or store their wheelchairs might prefer lightweight wheelchairs. These lightweight chairs are as much as thirty pounds lighter than the typical standard chair and require less strength and energy to move.

Power or electric wheelchairs are powered by batteries and require much less physical strength to move than standard (manual) chairs. They provide independence for people who are unable to propel themselves in manual chairs. Since these wheelchairs have to carry heavy batteries and power systems, the frames are generally sturdier than manual chair frames. Because of extra equipment, power chairs may be a bit wider, are harder to maneuver in tight spaces, and are very heavy and do not fold. Most power chairs will require a van for transportation. The wheelchair supplier should explain how and when to charge the batteries. With regular use, a battery should last a minimum of one year before replacement may be necessary. As wheelchair batteries differ from car batteries, buy the batteries only from a wheelchair supplier.

Scooters are also powered by batteries and resemble a horizontal platform with three wheels and a chair. Scooters are useful for people who can walk short distances but need help for long distances. Some scooters disassemble easily for transportation in the trunk of a vehicle. When selecting a scooter, check if you can lift the largest, heaviest part when disassembled. This may help determine how transportable it is for you.

Wheelchair Accessories

- Transfer boards, typically made of wood or plastic, make it possible for a wheelchair user to move from the wheelchair to another seat or bed without standing.
- Safety flags are available to make you and your chair more visible to drivers, should you use your wheelchair while crossing streets.
- If you find that your wheelchair runs into walls, one company sells a kit that provides plastic and rubber bumpers and guards that can be attached to the wheelchair, providing protection for the walls.