

Occupational Therapy

"How will I dress, cook, call mom, brush my teeth?" Despite what you may be thinking, if there is a will, there is a way! This section explores the role of Occupational Therapy. With creativity, flexibility, and motivation we will work together, learning new techniques to complete the tasks important to you.

Occupational Therapy (OT) works closely with the rest of the rehabilitation team to restore as much of your pre-injury life-style as possible. OT's main focus is on activities of daily living skills (ADL's) which are those things people do for themselves everyday: dressing, feeding, personal hygiene, communication, homemaking, vocational interests, and driving.



We'll help you establish goals within 24 hours of your admission. It is important that you tell us what your interests and priorities are so we can work together in formulating your treatment plan. Once goals are established they are pursued on the unit, in the clinic, and in the community.

OT completes an initial evaluation to determine your functional level and establish a program based on your goals. The evaluation is performed as a team by Occupational Therapy, Physical Therapy and Therapeutic Recreation. Speech Therapy joins the team as necessary. Once the evaluation is complete OT provides treatment in your room for ADL's and at least one time per day in the clinic.

Occupational Therapy Evaluation

The evaluation consists of the following:

- Range of motion (ROM) assessment: This is the degree of movement in all joints. We will take two measurements, one to determine how much you can move a body part and a second one to determine how much range is available.
- Manual muscle testing: This is completed by PT and OT to determine strength of individual muscles. The testing provides us with information in order to develop upper extremity (UE) strengthening programs to strengthen innervated muscles.
- A muscle tone assessment: This establishes the presence or absence of spasticity and the effect it has on your ability to function.
- A sensory test: This is done to determine areas of intact sensation. We test for light touch, sharp/dull, and hot/cold discrimination. It is important for you to know where your sensation is impaired to avoid skin complications, such as breakdown or burns.
- The Upper Extremity Function Test: Assesses your ability to perform arm and hand activities of daily living.
- The activities of daily living assessment: This is done informally on the unit, in the OT clinic, and in the community. This is done to determine in which activities you are independent and in which activities you need help.

The [ADL assessment](#) is ongoing. As you reach each goal it will be documented so that everyone on the team knows your level of independence. After your evaluation has been completed, you will continue to come to the OT clinic daily. Activities performed in OT are selected to increase upper

extremity joint range of motion (active and passive), increase muscle strength of innervated musculature, increase physical tolerance, increase balance, and increase independence with ADL's.

OT teaches you through use of constructive activities to refine the motions and strength gained by corrective exercise in PT. We also work on ADL tasks to gain competency before discharge. This will help you become independent and economically self-sufficient.

An occupational therapist is available to complete treatment from 7:00 AM to 4:30 PM. Treatment on the unit will usually occur between 7:00 AM and 10:00 AM. Emphasis is on personal hygiene, dressing, feeding, functional transfers, and bed mobility.

Activities of daily living (ADL)

Each individual will be asked to complete ADL's in a different way than previously accomplished. There are new ways to complete the activities, which will be fully explored by the therapist and the patient.

If you have quadriplegia, you will probably be starting with self-feeding and grooming activities. If you have paraplegia, you will start with dressing. Once a skill has been achieved, you will begin to conquer another self-care skill. If you have achieved independence with a skill, you will be expected to perform it independently. If you have achieved independence with all morning ADL skills, you will need to be responsible for completing them and adhering to your therapy schedule.

All of the therapists and team members meet regularly on a weekly basis to trouble-shoot problem areas, define goals, and channel treatment for your discharge.

Your family also has responsibility in your treatment program. This is important in discharge planning because we need to know when family members will be available to assist you if necessary. Families will be requested to come to therapy sessions on a periodic basis to learn treatment techniques. Most importantly, your family must be aware of the progress you are making so they will be able to follow through on your program at home.

It is important to recognize that you are not finished with the entire rehabilitation process when you are discharged. Therapy is often indicated for continued progress. Additional therapy can take the form of home health or outpatient services. Home health is prescribed when an OT needs to come into your home to address skills which are needed for the home setting, or if you are home-bound.

Outpatient therapy is prescribed as you are able to come to the clinic, and have continued therapy needs. Discharge from rehabilitation is the initial stage of progress and achievement.

The home visit

Since our final goal is to restore to you as much of your former life-style as possible, knowledge about the architectural design and physical arrangement of the home is important. This assists in realistic planning of treatment and later, near the time of discharge, in determining if you can function as independently at home as you can in the hospital. The home visit is planned within the first few weeks of your admission to allow your family sufficient time to make any necessary changes.

Things the therapist looks for on the home visit are:

- Accessibility of rooms and facilities, like the bathroom and kitchen in the home.
- Mobility permitted by size, furnishings, and arrangement of the rooms.
- Safety of independent functioning in the home.
- Need for modifications or assistance to ensure safe functioning.

It is helpful if you and your family have started to think about several factors, such as how permanent is your residency? Do you plan on staying where you are or do you plan to go to college or get an apartment of your own? What are your financial limitations? How much physical assistance is available if necessary? Transportation availability? What changes you would like to see made?

After the home visit is completed, recommendations will be reviewed with you and your family. A written report including short term and long term recommendations will also be provided to you. We will also make a list of equipment you will need and why. An equipment justification is often necessary for insurance to cover the cost of durable medical equipment needed for bathing, toileting and dressing. This will be completed by your Occupational Therapist.

Occupational Therapy issues

Splinting

It may be necessary for people with high level spinal cord injuries to wear resting hand splints. These splints are to be worn primarily at night and are designed to help prevent restrictive joint tightening in finger joints and the wrist. If finger and wrist mobility is lost, the chance to perform the hand skills necessary to do everyday self-care activities may also be lost.

Other splints that may be useful are splints that hold objects, such as eating utensils and pens or pencils.

Adapted Equipment

Since the main part of OT focuses on restoring independence as much as possible, it is important to work closely with your Occupational Therapist to look for the easiest and safest way to accomplish tasks of daily living. Often a simple piece of equipment will work, which makes the difference between dependence and independence. It is important to know that some items make activities of daily living easier and may only be needed on a short term basis until strength increases or coordination improves. The OT department has most equipment supplies or has materials necessary to make equipment as it is needed.



Self-Feeding

Items may be simple as utensil cuffs to assist those with higher level spinal cord injuries and have use of their arm, but are unable to hold utensils in their hand. For other aspects of self feeding, items such as a sandwich holder, dycem (a special material to hold your plate in place),



scoop dish, long straw, or adaptive knives are available. When a patient is unable to use either arm to feed themselves because of absent musculature, a feeding device that is operated by movements of the chin can be used.

Personal Hygiene

Some of the equipment adapted to promote independence in this area include hair brushes, razors, long handled sponges, wash mitts, finger nail brushes, and adapted scissors. For showering you will need to learn how to transfer to a shower commode chair or bench.



Bowel and Bladder Management

Occupational therapy works with nursing to help you gain independence in this area. A shower commode chair is an example of an item needed to complete your bowel program. A para-mirror is a special mirror with a long handle that allows independence in skin inspections to check for reddened areas. It may also be used initially to visualize inserting a suppository. Females will use a para-mirror to see their urinary opening when inserting a catheter. If you have quadriplegia you will learn to use equipment that will help you insert your suppositories (Supp-a-Sert), and do digital stimulation (Digi-Stim).

Dressing and undressing

Occupational therapy works with the patient on the nursing unit in the mornings to learn techniques for self dressing.

To put pants on:

Step one is to elevate the back of the bed if you are not independent in sitting up.

Step two is to reach your feet by bending over or by crossing one leg over another to pull pants over feet. A dressing stick often helps if you cannot reach to your toes or you do not have grip strength in your hands.

Step three is to pull pants up to the hips. If hand function is not present a dressing ladder can be used. The dressing ladder hooks into belt loops or small loops sewn into pants. It allows you to link arms through loops in order to pull the pants up.

Step four is to pull pants over the hips. You will need to lie down and roll from side to side to pull pants over hips and buttocks. A zipper pull and a button hook allow you to finish donning pants.

To Put On Socks and Shoes:

Patient must be able cross one leg over the other. If hand function is not present small loops can be sewn into your socks so you can hook your thumb in the loop and pull the sock over your foot. Shoes may need to be adapted with velcro straps to promote independence. Elastic shoe laces may be used so that it is not necessary to tie your shoes if hand function is not present.

Work simplification

Work simplification refers to completing a task in the most energy efficient fashion. The purpose is to plan activities to conserve your energy and pace yourself, so you have enough energy for work, self-care, and play/leisure.

Each job has 3 parts:

- The "get ready" (collection of tools and equipment)
- The job itself
- The clean up

Questions to ask yourself:

- Why is the job necessary?
- What purpose does it serve?
- Where is the best place to do it?
- When should it be done?
- Who should do it?
- How should it be done?

Eliminate unnecessary details

- Let dishes drip dry
- Make baked potatoes instead of peeling them

Combine details

- Cook and serve in the same utensil
- Complete your bowel program and then shower. This eliminates the need to undress and dress an extra time.

Change

- Body position and motions, such as using larger muscle groups
- Tools, workplace, and equipment
 - a. Are tools suitable for the job? In good condition?
 - b. Is the workplace arranged for minimum of reaching and bending?
- Are frequently used items within easy reach?
- Sequence
 - a. Are dried ingredients measured before liquids to save dish washing?
 - b. Are menus planned before doing the week's shopping?
- Raw materials (use packaged mixes, frozen foods, dehydrated foods)
- Finished product (baked apples instead of apple pie)

Principles of work simplification

- Plan work, and work according to a plan.
- Spread heavy and light tasks throughout the day or week.
- Eliminate unnecessary tasks.
- Avoid rushing.
- Use both hands to work.
- Lay out work areas and storage areas within normal reach. Avoid all unnecessary bending, reaching and stretching.
- Slide objects instead of lifting or carrying them; for example slide pots from sink to stove. Use a cart or table on wheels to transport items.
- Provide special work areas - mixing center, range center, sink center.
- Select equipment that can be used for more than one job (Pyrex mixing bowls, vacuum cleaner with attachments, combination steam and dry iron).
- Select foods that eliminate preparation (dehydrated, frozen, packaged mixes, canned foods).
- Avoid holding - use suction cups, electric mixers, bowl holders.
- Let gravity work - for example laundry chutes, shopping bags, etc.
- Conveniently place tools so they can be obtained quickly and easily. A pegboard can be used to hang tools.
- Select household appliances with controls within easy reach. Push button controls are easiest to use.
- Create good working conditions such as bright lighting, ventilation, wear comfortable clothing.
- Materials, utensils and equipment should be located to permit best sequence of motion. For example, a laundry basket on a chair near the ironing board containing items to be ironed and a rack on the other side of the board for hanging clothing provides a suitable sequence.
- Duplication of inexpensive items needed in places eliminates a great deal of energy expenditure in going back and forth.

Good kitchen storage

- Store supplies and utensils where they will be used within easy reach.
- Arrange cupboards so that all articles are easy to see, reach, and grasp.
- Avoid clutter on shelves and in drawers by eliminating unnecessary utensils and tools.
- Store heavy objects, heavy pans, or stacks of dinner plates on shelves that are easiest to reach. Use vertical dividers for dish storage. Cup and glass racks at lower level.
- Store electrical appliances where they can be used on the counter. Avoid the temptation of putting them away and taking them out with each use.
- Store mixing bowls individually. Use vertical partitions for baking pans, trays, lids.
- Space shelves to fit articles to be stored.
- Use a pegboard to hang pre-positioned equipment. An electric mixer with beaters attached, or commonly used kitchen utensils can be stored on a pegboard.

Suggestions to facilitate independent bathing

- A hand held shower hose (such as a water pic) permits thorough washing and rinsing. The water must be turned on and tested before being directed at any part of the patient's body which has no feeling.



- The shower hose can be adapted by attaching a C-cuff or by attaching a velcro "D" ring strap.
- Taps may be adapted by riveting or gluing a lever arm to them. A long lever tap may be purchased to replace an unsuitable tap.
- Bath mitts are made by sewing two washcloths together. Three sides are sewn together, leaving an opening for your hand. The wrist may be loose or closed with velcro. Soap may be slipped in for washing and removed for rinsing.
- Soap-on-a-rope can also be made at home by drilling a hole in the soap and stringing a cord through it.
- A long-handled sponge will assist in reaching and a C-cuff may be attached to it to assist grasp.
- Shampoo should be placed in an easy to reach position. Screw-top bottles may be loosely fastened or a pump may be used.



Telephone suggestions

It is very important to have a way to communicate with the outside world. This is especially important if you are going to be alone for any length of time. Devices such as speaker phones, mouth sticks, and touch tone phones allow independence with phone operation. One store which offers a variety of equipment is Radio Shack. Your occupational therapist may visit a Radio Shack with you in order to practice with different phones and choose a phone which best meets your needs.

One way of using a telephone, if you lack use of your hands, is through an Environmental Control Unit (ECU). An ECU is a method of operating and controlling functions within your home, allowing you to maintain your independence. It can be programmed to control functions such as turning on the television, adjusting volume to the television, accessing a computer, and opening and closing your front door. An ECU is evaluated later in the rehabilitation process to ensure exactly what level of assistance you will need and what purposes the ECU will serve.

Guidelines for selecting a house or apartment

Outside the House or Apartment

- There should be a flat walkway (about twice as wide as the wheelchair) up to the entrance.
- There should be as few steps as possible at the entrance.
- Ramps
 - a. Federal guidelines dictate there should be one foot in length for every one inch of rise.
 - b. Minimum width of ramps is 36" inside the side rails.
 - c. When there is not room for a straight ramp, it is required that a level landing of at least 5' by 5' square be installed at each turn. The landing is not considered part of the run.
 - d. If you are renting an apartment, be sure the owner will allow you to install a ramp.
 - e. If you are buying a house, make sure there is sufficient room and city ordinances will not interfere.
 - f. There should be easy access to where your car is parked, preferably over a paved surface.
 - g. Ideally, there should be a covering over the ramped area and to your car.
- The yard should be fairly level to permit easy maneuvering of the wheelchair.

Inside the House or Apartment

- Single levels are the most desirable.
- Doorways into and throughout the home should be wide enough for the wheelchair and equipment to fit through. Measure at the narrowest point with the door open (26" is minimum, and 30" is preferred)
- All rooms and hallways should be wide enough for the wheelchair and any equipment you may have. Hallways should be at least 45" at the narrowest point.
- Look at all door sills; they should be as low as possible.
- There should be either firm wall-to-wall carpeting or no carpet at all. Loose rugs and shag carpeting are difficult to maneuver a wheelchair over and are hazardous with ambulation equipment. All throw rugs should be removed.
- Light switches: Rocker or push-button are easiest to use. Preferred height is 3'0" to 3'9".

Bathroom

- If you do not have a wheel-in shower, you need to be able to get the wheelchair parallel to tub or shower. If you have a tub/shower combination, a shower curtain is best. If not, glass doors and track should be removed. Get the owner's permission.
- Avoid bath stall showers with narrow doors and high ledges. Also avoid unusually short bathtubs.
- Make sure there is enough space on either or both sides of the toilet for wheelchair approach.
- Make sure the owner will permit installation of grab bars near the toilet, tub or shower if you are renting.
- You can get closer to the sink if there are no cupboards underneath.
- The bottom edge of mirrors should be 36" from the floor.
- The door should open out or have breakaway hardware in case of emergency.

Bedroom

- Can clothes be removed and rehung in the closet from a sitting position? If not, will the owner permit clothes rods to be lowered?
- Is there enough room to maneuver in the bedroom for activities such as transfers and making the bed?

Kitchen

- Is there enough room to maneuver easily in the kitchen?
- Cupboards and drawers should be reachable from a wheelchair.
- Refrigerators with pullout shelves are most accessible. If one is not available, can refrigerator doors be opened safely?
- Stoves with staggered burners and front controls are safest and most accessible. A mirror angled over the stove will allow you to see inside pots and pans while food is cooking. If there is a counter top range, there can be a cut-out opening underneath for closer approach. Oven doors that open to the side are most accessible: however, they give you no protection against spills.





- There should be enough room to approach the sink. If the cupboard under the sink is cut out, you can wheel under the sink. All exposed pipes should be covered to avoid burns. Lever controls are easiest to use.



Miscellaneous:

- Are there laundry facilities within the apartment or nearby? Facilities within the home would eliminate extra trips and energy expended going to and from the laundromat.
- What shopping facilities are available? Will they suit your needs? Are they accessible?
- Check if light switches, thermostat, and air conditioning switches are within reach. Note where telephone jacks are placed throughout the home.

Please note:

If you have any questions concerning the accessibility of your home or if you need suggestions to make your home accessible, you should always consult your physical or occupational therapist. They will visit your home and be able to suggest modifications.

Suggestions for buying and adapting clothing

Shirts and blouses:

- Large armholes and loose cuffs are easiest to manage.
- Sport shirts worn outside the pants are easiest to put on because they do not require tucking in.
- Buttonholes should be vertical and large enough to permit easy insertion of the button.
- Flat buttons are easiest to manage.
- One inch velcro squares may be substituted for buttons. The top velcro is invisibly sewn and the button is sewn in the buttonhole so that the shirt appears to be buttoned.
- Open-ended zippers such as those on jackets are very hard to start and may require velcro strips as a substitute.

Pants:

- For ease in putting on and removing pants, open loops may be sewn at the waistband. This will enable you to pull by hooking a thumb or finger into the loops.
- Outer pants should be bought a little larger for ease in putting on and for comfort while sitting. Pants should be made of a material that will slide easily.
- Women will find a front zipper easier to manage than a side zipper. A back zipper should not be used because it is the most difficult to zip and because it may cause a pressure area.
- Velcro closures and loops added to zippers will assist in fastening.

Shoes, Socks, and Stockings:

- Shoes should fit well to prevent foot deformities. Inside seams should be smooth to avoid pressure areas. The shoes should be large enough so use of a shoehorn is not necessary.
- A thumb loop can be sewn to the back of the shoe to hook your thumb into and pull on the shoe.
- Shoe fasteners can be adapted with elastic laces, velcro, or zippers.
- Socks should be of a loose knit without tight tops.
- Thumb loops may be sewn to the top of the sock.

Dresses and Skirts:

- If dresses have fastenings, they should be at the side or the front.
- The dress should be fitted for length and fullness while you are seated.

Coats:

- Coats which hang to the hips are the most convenient opposed to a long dress coat.
- Roomy armholes and coats that are made of light material are easiest to manage.
- Buttons or velcro may be substituted for zippers which open at the bottom.
- Ponchos are easiest to put on and require no fastening.

Ties:

- Clip-on ties are easiest to manage.
- Ties may be permanently knotted and the slip knot adjusted to put it over the head.

With creativity, motivation, and flexibility you can learn new methods and techniques to complete any activity which is important to you. A hard-working, strong willed quadriplegic patient, Scott Burk, was quoted as saying, "Never give up hope and try your hardest. Keep your head high!"