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Equipment-Spinal Cord Injury Manual

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Jefferson | Magee Rehabilitation

Regional Spinal Cord Injury Center of the Delaware Valley

NIDRR-designated

Spinal Cord Injury Manual

A publication of the Regional Spinal Cord Injury Center of the Delaware Valley

The Regional Spinal Cord Injury Center of the Delaware Valley provides a comprehensive program of patient care, community education, and research. It is a federally designated program of Thomas Jefferson University and its affiliated institutions of Thomas Jefferson University Hospital and Magee Rehabilitation Hospital.

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Spinal Cord Injury
Patient-Family Teaching Manual

A Publication of the
Regional Spinal Cord Injury Center
of the Delaware Valley

Researched and prepared by the clinical personnel of Thomas Jefferson University Hospital and Magee Rehabilitation Hospital

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Dedication

The Handbook Committee of the RSCICDV gratefully acknowledges the assistance and dedication of all who contributed to this manual, and all the others who worked so hard to make this Handbook a reality.

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Equipment

Equipment

Introduction

During your stay in the hospital, various pieces of equipment will be given to you or ordered for you. Your therapists or nurse will be instructing you in the use, care and repair of this equipment. Also, you will find materials in this section regarding specialized equipment that you may need during your hospital stay and following discharge. There are also reference materials about equipment you may need in the future.

If you have any questions about your equipment while in the hospital, contact your therapist, nurse or case manager.

As part of your follow-up program, equipment will be reviewed and re-evaluated from time to time. If you have questions about equipment after discharge, contact the SCI Follow-Up Clinic for a nurse clinician who will direct you to the proper source.

How Equipment Is Ordered and Financial Aspects of Equipment

After you and your treatment team have finalized the list of your equipment needs, the list will be given to your case manager. Your case manager knows about your insurance coverage for the equipment you will need and will discuss this with you and your family. When everything is finalized, the case manager orders the equipment. Some equipment, such as wheelchairs or braces, are delivered to the therapy department so that your therapist can check them out to be sure they are correct. Other items, which may be large or need to be installed, can be delivered to your home.

Your case manager will talk with you and the treatment team to determine whether your equipment should be purchased or rented. This decision is different for every person and depends on whether you need a particular item temporarily or permanently and on your insurance coverage. It is important to know that some of the permanent equipment, especially wheelchairs and seating items, **may not** be available by the time you are ready to be discharged. In this situation, your case manager and therapists will arrange temporary rental or loaner equipment for your use until the permanent items are available. Every effort will be made to obtain temporary equipment as close as possible to the permanent equipment, but substitutions may be necessary.

If you have a problem with a piece of durable medical equipment, it will be important for you to know which company

has supplied it. You will need to contact that company for necessary repairs. If the equipment is rented or under warranty, it is the company's responsibility to repair it. If the equipment is purchased, you own it, and the financial responsibility is yours for repairs although there still may be warranty coverage. It is important to know what provisions are in your insurance coverage regarding payment for repair or replacement of equipment.

There is a great deal of variation in insurance coverage, and it is hard to generalize. Your case manager can explain your coverage, in terms of what items are covered and the financial aspects of that coverage. Be sure that any necessary forms are completed for insurance purposes regarding equipment.

About Your Equipment

The equipment company which supplied your medical equipment is: _____

Their telephone number is: _____

If you have rental equipment, the equipment company listed above must be contacted for any necessary repairs. Please call to make the necessary arrangements.

If you have purchased equipment, the equipment company above must be contacted for any necessary repairs. If a prescription is needed to have the repairs done, or for insurance purposes, contact your follow up nurse clinician at 215-587- 3406.

If your equipment has been ordered but you haven't received it, please call the equipment company listed above and ask them to help you find out when your equipment will arrive. If you need more help, call the Magee Equipment Office at 215-587 -3032 or 215-587 -3351.

If you need replacement equipment or a new piece of equipment, please call your follow up nurse clinician at: 215-587-3406 . He or she will ask your doctor to write an order for you to be seen by a physical therapist or occupational therapist in the SCI Follow-Up Clinic.

Please plan ahead. When you see that repairs or replacement will be necessary, phone well ahead of time. **When possible, do not wait until the equipment is broken or about to break**. You may not be able to get an appointment immediately or get the equipment company to do emergency

work. Regular maintenance and inspection will save many headaches and inconveniences.

Please keep this paper as a reference for future use.

Instructions for Wearing Splints / Casts

Patient's Name: _____

Name of Splint / Casts: _____

Wearing Schedule: _____ Hours a Day _____ a.m. _____ p.m.

_____ Daytime _____ Night time

Purpose

- Position your hand properly to prevent or decrease contractures (stiff joints).
- Improve your hand function in weak muscles.

Precautions

If any of the following problems should occur in the hand and / or arm, discontinue wearing your splint and notify your occupational therapist.

- Edema (swelling)
- Change in sensation (feeling)
- Decrease in blood flow (discoloration of hand)
- Increase in spasticity (muscle tightening)
- Redness or breakdown of the skin

Check for Pressure Areas

Look for reddened areas after removing the splint. If an area returns to normal color within 10 to 15 minutes, you may continue to wear your splint. If the area remains reddened longer than 10 to 15 minutes, discontinue wearing your splint and notify your therapist.

You and your caregiver should know:

- Reason for the splint
- How to apply it
- Skin precautions
- Wearing schedule / time
- Care of the splint

Cleaning of Splints

The following should be performed:

1. Remove straps if possible. Wash splint gently with soap and warm water at least two times a week. Do not immerse splint or use hot water. It could melt and lose its shape.
2. Do not leave splint near heat sources such as a radiator, a car or a windowsill.
3. If lint adheres to the hook side of the Velcro ®, rub a second piece of Velcro ® across the first piece. If straps become worn, request new ones from your therapist.

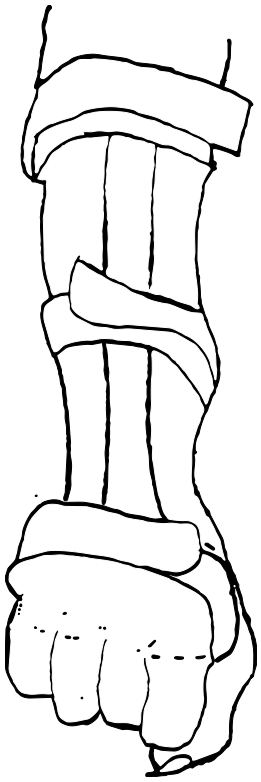
Instructions for Wearing the Dorsal Wrist Splint

Purpose of the Splint

This splint supports a weak or flaccid wrist while doing daily tasks. The universal cuff built into the splint allows you to hold items for tasks such as feeding utensils, grooming supplies or a writing device while providing support to the wrist.

You and the person assisting you should know:

Dorsal Wrist Splint



- The reason for the splint.
- How to apply the splint.
- Skin precautions.
- Wearing time and schedule.
- How to care for the splint.

Application of the Splint

1. The splint is placed over the dorsal (top of forearm) surface of the forearm to maintain the wrist in extension. (The universal cuff portion of the splint should be in the palm of the hand, with the cut out for the thumb placed between the thumb and the first finger.)
2. With one hand, grasp the forearm at the wrist. With the other hand, bend the wrist down and curl fingers into the palm. Unless instructed by your therapist, **do not straighten the fingers all the way!**

Wearing Schedule

The splint should be worn _____hours at a time throughout the day. Passive range of motion in the tenodesis (refer to handout on range of motion) pattern should be done to the wrist and fingers after the splint has been removed.

How to Check for Pressure Areas

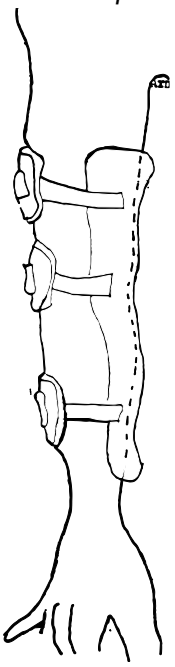
Look for reddened areas after removing the splint. If an area returns to normal color within 10 to 15 minutes, you may continue to wear your splint. If the area remains reddened longer than 10 to 15 minutes, discontinue wearing your splint and notify your therapist or nurse of the problem.

Instructions for Wearing Elbow Extension Splints

Purpose of the Splint / Cast

To provide passive stretch to the elbow flexors and prevent further contractures of the elbow.

Elbow Extension Splint



You and the person assisting you should know:

- The reason for the splint / cast.
- How to apply the splint / cast.
- Skin precautions.
- Wearing time and schedule.
- How to care for the splint / cast.

Application of the Splint / Cast

With the palm up, place splint on top of the arm and forearm to stretch and maintain the elbow straight. The top of the splint is positioned several inches below the armpit and the bottom of the splint is located two to three inches above the wrist. The top and bottom straps should be loose enough to allow one finger to slip under them. The middle strap should be tight enough to maintain the elbow straight, and the padded part of the strap should be positioned in the elbow.

- Most serial casts are kept on for three to five days then removed.
- Your therapist will bi-valve (cut the cast in half) and apply Velcro ® straps to position correctly.
- More than one splint may be made.

Wearing Schedule

The splint should be worn _____hours at a time throughout the day with passive range of motion performed when the splint is removed.

Your therapist may take a picture of your arm in the splint and attach a set-up instruction sheet.

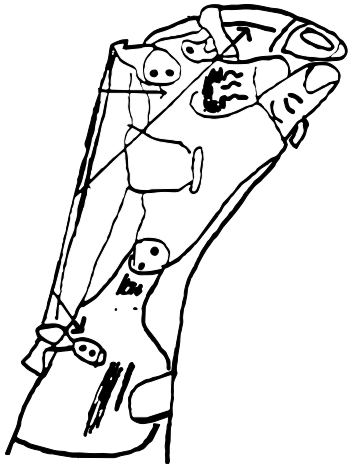
Wrist-Driven Flexor Hinge Splints

Purpose of Splints

This splint provides grasp through a linkage system whereby some joints of the hand are stabilized, and others are allowed to move. A person lifts his or her wrist in extension, and the splint allows the fingers to close, providing grasp. By allowing gravity to drop the wrist into flexion, the fingers open, allowing the person to release an object. The amount of motion required to

do this and the amount of space of the hand opens depends upon the length of the tenodesis bar.

Flexor Hinge Splint



Identification of Parts

1. **Palmar piece** – This piece serves to position the thumb to allow grasp. It also serves to support the arches of the palm.
2. **Forearm piece** – This piece serves to stablize the splint and allows wrist action. It also holds the adjustment device of the tenodesis bar.
3. **Finger piece** – This metal piece transmits motion to the index and middle fingers causing them to flex and meet the thumb.
4. **Tenodesis bar** – This notched metal bar allows the size of grasp and the effort needed to maintain it to be adjusted as needed.

Wearing the Splint

1. Open all straps.
2. Slide the hand piece over the top of your hand, placing the thumb into position and stretching the palmar portion of the splint around hand.
3. Push the palmar piece down firmly in the web space between thumb and first finger.
4. Fit forearm section and tighten forearm strap, then hand strap.
5. Check fingers for proper placement and secure the finger strap or straps.

To Remove Splint

1. Loosen all straps with your teeth or other hand.
2. Remove forearm piece.
3. Stretch out the hand piece so that the splint will drop off, or just shake your hand out of the splint.

Adjusting the Tenodesis Bar

Use the pressure of your hand to press the button, which releases the locking mechanism. By lifting your wrist and making the rod shorter, your grasp will be suited to larger objects. By dropping your wrist and making the rod longer, you

will require less wrist movement and will have a more powerful grasp on small objects.

Skin Precautions

While building wearing tolerance, **you are responsible** for removing the splint **every half hour** to check for pressure areas. **Always** check your skin after removing the splint. Wearing time may increase to several hours. If reddened areas do not disappear in 10 to 15 minutes, discontinue wearing the splint, and contact your therapist or nurse so that adjustments can be made.

Maintenance

Splints should be cleaned periodically. Warm, soapy water can be used to clean the plastic palmar piece. Metal parts can be cleaned with window cleaner or a weak ammonia solution. Dry all parts thoroughly.

Instructions for Overhead Suspension Arm Slings

Purpose of Slings

Using the overhead sling allows a person to use weak muscles by eliminating the force of gravity. The sling supports the arm in a functional position and is used to assist the individual in performing activities such as eating, writing, typing, painting or driving a power wheelchair.

Identification of Parts

Overhead Suspension Rod – Serves as the base for the suspension sling. Can be adjusted to change position of the arm in space (1).

Suspension Spring – Hangs from the overhead rod by a small leather loop and supports the balancing rod (2).

Balancing Rod – Controls the position of the hand in relation to the elbow (3).

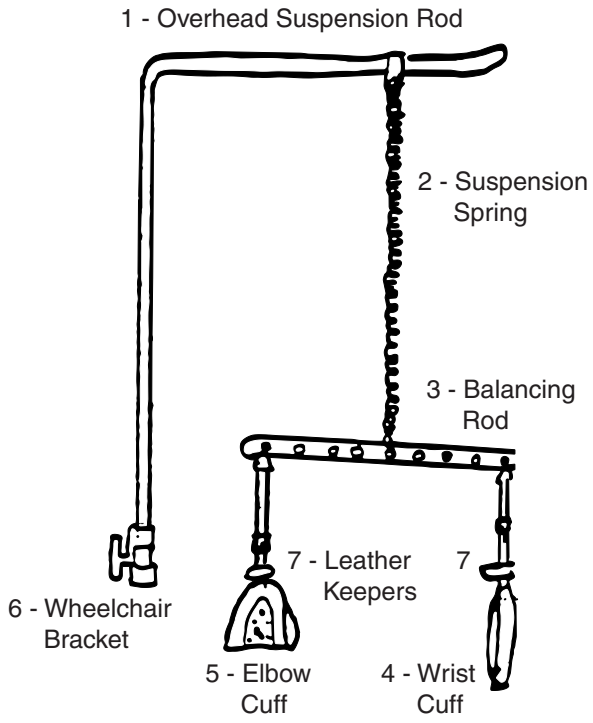
Wrist Cuff – Supports the lower arm at the wrist or palm (4).

Elbow Cuff – Supports the upper arm (5).

Wheelchair Bracket – Attaches the overhead rod to the wheelchair (6).

Leather Keepers – These hold the straps in place. One on the elbow cuff, one on the wrist cuff (7).

Overhead Suspension Arm Sling



Set Up of Sling

1. The wheelchair bracket will be installed at the proper position on the wheelchair by an occupational therapist.
2. The long, straight end of the overhead rod should be placed into the wheelchair bracket. The overhead rod should be parallel with the arms of the wheelchair. Secure the rod in place by tightening the knob on the back of the bracket.
3. Slide the suspension spring onto the upper portion of the overhead rod by slipping the small leather loop over the rod.
4. Slip the elbow cuff over the forearm and pull at or above the elbow. Slide the leather keeper down to hold the cuff firmly in place.
5. Slide the wrist cuff over the hand and position it on the wrist or palm as directed by the therapist. Slide the leather keeper down to hold the cuff firmly in place.
6. A dorsal wrist splint may be applied to better support the wrist during flexion tasks.

Adjustments

1. Moving the rod up or down in the wheelchair bracket may affect the individual's ability to perform different activities. For example, writing may require that the arm be an inch or two above the tabletop, while eating may require that the arm be positioned several inches higher. Trial and error is necessary to find the best position. Mark on the rod once the position is found.
2. These position adjustments can be made to the wrist cuff or elbow cuff to enhance proper positioning. If the elbow is too low, it can be adjusted by moving the hook into the balancing rod so it is one hole closer to the elbow. Repeat, if needed. If the hand is too low, move the hook one hole at a time closer to the hand. Finer adjustments can be made by rebuckling the leather straps on the wrist cuff or elbow cuff in higher or lower holes.
3. For some activities, the overhead rod may need to be moved so that it is not parallel to the arm of the wheelchair. Your occupational therapist will instruct you in how and when to make these adjustments.

Instructions for Mobile Arm Supports (MAS)

Also called Ball Bearing Feeders (BBF) or Balanced Forearm Orthosis (BFO).

Purpose of MAS

To provide support for the arm and assist with shoulder and elbow motions to increase independence in activities of daily living, recreational and vocational activities.

Identification of Parts

Bracket Assembly – Attaches to the back rod of the wheelchair and supports the proximal swivel arm (1).

Proximal Swivel Arm – Attaches the bracket assembly to support the distal swivel arm (2).

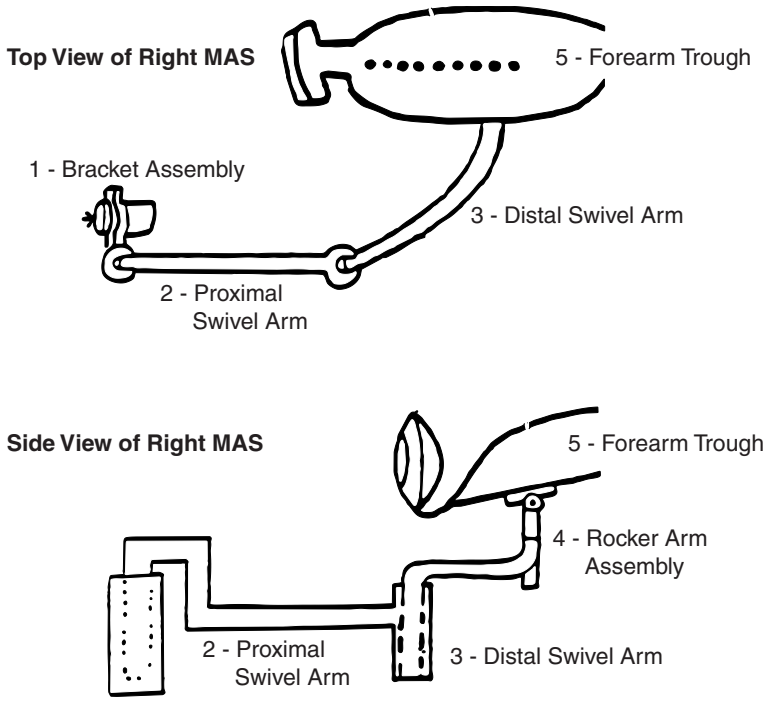
Distal Swivel Arm – Attaches into the proximal swivel arm to support the rocker arm assembly and trough (3).

Rocker Arm Assembly – Attaches to the forearm trough and inserts into the pivot tube of the distal swivel arm. Provides a series of adjustments to assist the up or down motion (4).

Forearm Trough – Supports the forearm and provides stable elbow support (5).

Note: Left and right parts cannot be interchanged.

Mobile Arm Support



Set Up of Mobile Arm Support

1. Make sure you are sitting up straight in the wheelchair.
2. If hand splints are needed, put them on first. Make sure the wrists are properly supported.
3. Set up the appropriate working surface, either lapboard or proper table height.
4. Assemble parts in order of numbers listed previously. Bracket assembly should be left on the back of the wheelchair once set up by the therapist. Rocker arm assembly should be left attached to the trough.
5. Check to be sure the bracket is tight on the wheelchair and that proximal swivel arm is all the way down in the bracket. All MAS arms and joints should be moving freely.
6. After checking all the parts, your arm should be properly positioned.
7. Set up any additional devices such as feeding equipment.

Adjustments

Before using a MAS, you should be evaluated by the occupational therapist who will do the original set up of the parts and make necessary adjustments to ensure maximum function.

Additional adjustment of the MAS is sometimes needed due to changes in strength, range of motion or other factors. These adjustments should be made by the occupational therapist. If problems arise with the equipment, or if adjustments need to be made, contact your therapist or the Spinal Cord Injury Follow-Up Clinic.

Metal Short Leg Brace (Ankle Foot Orthosis)

Care of Skin

- Skin check should be done in the AM before wearing, also, at night when brace, shoe and sock are removed.
- Check for excessive redness, especially in the areas of
  - Calf band
  - Top of the foot (Shoe laces may be too tight.)
  - Toes (Shoes may be too tight or toes may be curling under.)
- If redness does not disappear within 15 minutes, or if skin breakdown occurs, do not wear your brace until consulting a therapist, doctor or the Spinal Cord Injury Follow-Up Clinic.
- Use a mirror to inspect areas that are difficult to see (e.g. bottom of foot).

Fit and Alignment

- Socks (preferably cotton) or stockings should always be worn between the brace and skin to absorb perspiration and prevent skin problems.
- The metal uprights should follow the contour of the legs closely but not touch the skin.
- There should be no pinching behind the knee when you are sitting.

Cleaning

- Leather bands should be cleaned with saddle soap both inside and outside weekly. After the soapy lather has dried, wipe off with a dry cloth.

- Do not use dry cleaning fluids or other cleaners because they dry out the leather and may lead to deterioration.
- Always clean your brace at night to allow it to dry before using it again.
- Metal uprights should be wiped daily with a soft lint-free cloth to prevent rusting.
- If rust is present, clean with plain steel wool and use a protective coating such as Simonize ® or a liquid wax.

Maintenance

- Check your shoes for excessive wear of the soles or heels. This could change the alignment of your brace and affect your balance.
- Laces that are too long could cause you to fall.
- Your shoes will last longer if regularly shined with a good shoe polish; use saddle soap occasionally to prevent drying or cracking.
- All brace joints should be lubricated at least once per month with a spray silicone. **Do not** use oil as it can stain clothing and clog joints.
- Velcro ® straps need to be replaced periodically by your orthotist (a person who makes and fits braces).

Other

Name of Orthotist: _____

Address: _____

_____

Telephone: _____

Plastic MAFO (Molded Ankle / Foot Orthosis)

Care of Skin

- Skin checks should be done in the AM before wearing brace, also, at night (or immediately following brace removal) when brace, shoe and sock are removed.
- Look for excessive redness, especially in the areas of:
  - Calf band
  - Around ankle
  - On top of foot (Shoe laces may be too tight.)

  - Toes (Shoe may be too tight or toes may be curling under.)
  - Ball of foot where MAFO ends
  - Along the boarders of the brace
- If redness does not disappear within 10 - 15 minutes or if skin breakdown occurs, do not wear your brace until consulting a therapist, doctor or the Spinal Cord Injury Follow-Up Clinic.
- Use a mirror to inspect areas difficult to see (e.g., bottom of the foot).

Fit and Alignment

- Your MAFO is a custom-made plastic brace.
  - Adjustment should be made by your orthotist **only**.
- Your MAFO should fit closely to your skin without gapping, but should not rub against bony prominences or cause excessive redness anywhere.
- Thin socks (preferably cotton) or stockings should always be worn between the brace and skin to absorb perspiration and prevent skin problems.
- Significant weight gain or loss or periodic swelling could affect the proper fit of your MAFO.

Cleaning

- Your brace should be wiped daily with a slightly damp cloth (a mild soap may be used).
- Dry with a soft cloth; never get the Velcro ® strap wet as this will damage its adhesive quality.
- Always clean your brace at night to allow your brace to dry totally before using it again.
- **Never** dry your brace with a hairdryer, and **never** place your brace on the heater as this will cause your brace to change shape.

Maintenance

- The Velcro ® strap will need to be replaced periodically by your orthotist.

- Check your shoes for excessive wear of soles or heels. This could change the alignment of your brace and affect your balance.
- Long shoe laces could cause you to fall.
- Your shoes will last longer if regularly shined with a good shoe polish. Use saddle soap occasionally to prevent drying or cracking.
- Contact your orthotist immediately if any cracks or problems develop.

Other

Name of Orthotist: _____

Address: _____

_____

Telephone: _____

Scott-Craig Braces

Care of Skin

- Skin check should be done in the AM before wearing brace and at night (or immediately following brace removal) when braces, clothes, shoes and socks are removed.
- Look for excessive redness, especially in areas of:
  - Shin band
  - Feet
  - Thigh band
  - Groin area
- If redness does not disappear within 15 minutes, or if skin breakdown occurs, do not wear your braces until consulting with a therapist, doctor or the Spinal Cord Injury Follow-Up Clinic.
- Use a mirror to inspect areas difficult to see (e.g., bottom of the feet, thigh and buttocks).
- Socks (preferably cotton) or stockings should always be worn between the braces and skin to absorb perspiration and help prevent skin problems.

Alignment

- The braces should stand balanced on their own when placed on a level surface.
- The uprights should follow the contour of the legs closely but not cause pressure on the skin.
- Significant weight gain or loss, skin surgery or periodic swelling could affect the proper fit of your Scott-Craig braces.
- The toes of the shoe soles should be slightly rounded upward.
- All four uprights should be parallel when viewing the braces from the side.
- When viewing the braces from behind, both uprights should have the same contour from top to bottom.
- If you keep falling forward and backward when balancing without support, a slight adjustment may be needed at the ankle joint (especially if the screws become loose in the channels).
- Consult with your orthotist or PT for changes.

Importance of Range of Motion (ROM) for Proper Fit of Braces

- Keeping your legs stretched (hip, knees, ankles, and toes) will help maintain the balance and fit of the braces.
- If toes become curled downward (tight into flexion), hammer toes may result along with sores on your feet.
- If ankles become tight (drop down), your heels may keep popping out of your shoes.
- If knees become tight into flexion, you may have trouble locking your brace, and keeping your shoes on (heels may pop out of shoe).
- If hips become tight into flexion, you may have difficulty balancing.
- If spasticity increases or decreases, it may interfere with balancing.

Cleaning

- Leather bands should be cleaned weekly with saddle soap, both inside and outside.

- Use a small sponge for application.
- After the soapy lather has dried, wipe off with a dry cloth.
- Do not use dry cleaning fluids or other cleaners because they dry out the leather and may lead to deterioration.
- Always clean your braces at night to allow them to totally dry before wearing again.
- Uprights should be wiped daily with a soft, lint-free cloth to prevent rusting.
- If rust has already begun, clean with fine steel wool and use a protective coating such as Simonize ® or any liquid wax.
- Never use an abrasive cleanser or Brillo ®.
- All brace joints should be lubricated monthly with a spray silicone. Oil should not be used since it has a tendency to stain clothing and clog joints.
- Clean any lint or dirt from all joints with a dry toothbrush before applying any silicone.

Maintenance

- Check your shoes for excessive wear of the soles or heels. This could change the alignment of your braces and affect your balance.
- Shoe laces that are too long could cause you to fall.
- The Velcro ® strap needs to be replaced periodically by your orthotist.
- Ankle screws should **not** be removed for cleaning or maintenance; this should be done **only** by your therapist or an orthotist. The screws should be checked for looseness as needed.
- Your shoes will last longer if shined regularly with a good shoe polish; use saddle soap occasionally to prevent drying or cracking.

Other

Name of Orthotist: _____

Address: _____

_____

Telephone: _____

Mouthsticks

- A mouthstick is an apparatus controlled with the mouth to assist with task performance when upper-extremity function is limited or absent. Facial and neck musculature and range of motion should be intact in order to properly control the mouthstick. Good motivation is important for success.
- Appropriate diagnoses include: C_1-C_4 tetraplegia, severe rheumatoid arthritis and multiple sclerosis.
- Proper body positioning, intact facial and neck range of motion and strength and dentition (natural teeth) / mouth support are the physical requirements for mouthstick use.
- One must consider the weight, length and the stick's *dentition* (oral piece) when choosing the appropriate mouthstick.
- Uses include:
  - Work / school (usually sturdier mouthsticks are appropriate)
  - Environmental Control Unit operation (more simple mouthsticks)
  - Communication
  - Leisure
  - Community
- Parts: Sleeves (mouthpiece), Shaft and Distal End
- There are two types of mouthsticks:
  - Static – These have no moveable parts
  - Dynamic – These have moveable parts
    a. Telescoping
    b. Variable length
    c. Pinching (Able to grab objects in end)
    d. Changeable Tips (Different rubber ends)

Docking Systems

- A docking system is any device that will hold the mouthstick and mouthstick tips when they are not in use.
- In order to set-up a docking system, you must consider the following:

- Head and neck strength, range of motion, control .
- Does the docking system interfere with your visual field or functional use of the mouthstick?
- How often will you need to access the mouthstick?

Hygiene / Cleaning (Performed Daily)

1. Wipe thoroughly with a quick wipe.
2. Rinse completely with warm water.
3. Let the mouthpiece air dry.

OR

1. Clean the mouth piece with soap and water.
2. Rinse well.
3. Dry with a paper towel.
4. Wrap a baggie over mouthpiece.

Types of Mouthsticks

Bendable Pageturner / Typing Wand – Firm hand pressure is all that is required to bend and reposition the wand for personalized applications. A shielded adapter covers the distal third of the wand where bends most frequently occur. Sleeves are made of thermoplastic rubber. Weighs one ounce. Wand is 16” in length. Replacement sleeves and caps included.

Clamp-On Mouth Stick – Firmly holds a pencil, pen, paintbrush or chalk. Mouth controls writing. Clamp adjusts from 1/4" to 1/2". Weighs 1 1/2 ounces.

Telescopic Page Turner / Typing Wand – This mouthstick has a variable length that makes it ideal for numerous functions. Adjusts from 12" to 19" by loosening the cap screw. Sleeves are made of thermoplastic rubber with a slight downward angle for comfortable use. Weighs one ounce. Replacement sleeves and caps included.

Vacuum Wand – This mouthstick has two interchangeable ends. It includes one each of 5/8" and 1" diameter rubber ends. Turns book or magazine pages. Made of plastic and aluminum. Mouthstick can also be used to pick up lightweight objects. Cut the 18" shaft to adjust the length.

Vertical Pincher Mouthstick – Inserts paper into a typewriter or printer. Tongue controls pincher. Replaceable

rubber band increases tension to lift heavier objects. Weighs 1 1/2 ounces. Available in 16" and 18".

Wand Mouthstick – A typing stick and page turner. Weighs one ounce. Shaft does not bend. Available in 14", 16", 18", 20".

Electronic Aids to Daily Living

There are several different electonic aids available to control house appliances and lights.

They range in price according to the amount and kind of devices you want to control and how you are going to access them.

EADL allow you to control electronic doors and windows, fireplaces, hospital beds, call bells, TVs, VCRs, radios, fans and computers.

EADL can be activated by moving any body part: Breathing (sip n puff) or phonation-voice activation / recognition.

Most aids are designed using existing wiring (house or direct wiring). Some devices can be transmitted by infrared (remote controls), ultra sound (soundwaves) or radio frequency.

Computer access will be evaluated also if word processing capability is needed. You will be able to access X-10 features via software on your computer to operate appliances. There are several voice recognition and hands-free software programs on the market. Your occupational therapist will assess your ability access a computer and use the programs.

Magee Rehabilitation Hospital has an assistive technology lab with many Electronic Aids for Daily Living for your use and trial. Magee is also a member of PIAT (Pennsylvania Initiative for Assistive Technology).

Wheelchair Cushions

Wheelchair cushions cannot perform a weight shift for you or prevent skin breakdown. Shifting your weight is the only way to allow blood to flow into an area you have been sitting on for some time.

Wheelchair cushions are prescribed to:

- Increase your height from floor (gives your legs more room).
- Distribute weight more evenly over buttocks and thighs.
- Allow problem areas to have pressure relief by the use of specially designed or adapted cushions.
- Improve sitting posture.

- Improve sitting balance.
- Improve comfort.

Your rehabilitation team will take all these factors into account before prescribing a specific cushion to meet your needs.

Your therapist will give you specific information on the cushion prescribed for you and instruct you in its care.

General Care and Maintenance Tips

1. If you are using a vinyl- or Naugahyde ®-covered or rubber cushion, it should be cleaned with mild soap and water at least once a week. Dry thoroughly before using again.
2. If using a foam cushion, it should be flipped to help prevent the material from "bottoming out."
3. If you are using an air filled cushion, check the air pressure daily. Refer to manufacturer guidelines.
4. Some gel cushions should be kneaded daily so all gel is positioned in the appropriate area. You should refer to the owner's manual for specific maintenance and cleaning instructions.

Seat Boards

A solid board may be needed with your cushion for a variety of reasons:

- To create a level, stable base of support for your pelvis and hips.
- To help equalize pressure distribution over your buttocks and thighs.
- To minimize internal rotation of the legs and prevent your knees from knocking together when you sit.
- To improve posture.
- To increase your height from the floor (gives your legs more room).

Your therapists will evaluate your need for a seat board before ordering one for you.

Seat boards do not substitute or eliminate the need for weight shifts.

Name: _____

About Your Wheelchair

Manufacturer and Model: _____

Serial Number: _____

Style and Accessories: _____

Wheelchair

Purchased:_____ Rented: _____

Date:_____

Vendor: _____

Telephone Number:_____

Cushion

Type:_____

Vendor: _____

Telephone Number:_____

Any major repairs on your wheelchair should be taken care of as soon as possible. Please contact the vendor listed above (or any other authorized vendor to do service on your brand of chair) to arrange for the repair and a rental chair while yours is being fixed.

Types of Manual Wheelchairs

There are many types of manual wheelchairs available, with different features. Several factors go into determining the best type of chair for you. You and your treatment team should consider the following when choosing a wheelchair:

- How easy is the chair to propel?
- How is the chair transported (can it fit in a car, does it fold, etc.)?
- How wide are the doorways in your home?
- How long will you use the chair?

Folding Frame Chairs: This type of wheelchair has a cross or "X" brace that allows the chair to fold from the middle. These are easier to place in a car. They are heavier and less efficient than rigid (non-folding) chairs. They also have swing away footrests that allow you to place your feet on the floor when getting in and out of the chair.

Rigid Frame Chairs: This type of wheelchair has a box type frame that does not fold. The back will fold down and the rear wheels come off, but the frame itself does not fold. This type of chair requires more space to transport and is harder to get in a car. The advantages of this frame are better durability, lighter weight, easier propulsion and maneuverability. This type of frame typically has non-removable footrests.

Tilt-In-Space Chairs: This type of wheelchair allows someone to place you in a tilted position for a weight shift if you are unable to shift your weight on your own, or if you are having difficulty sitting upright. The entire seat frame tilts as one unit, which allows you to be tilted without changing your position in the chair. These chairs are large and do not fold, which means they cannot be transported in small cars.

Reclining Chairs: This type of wheelchair allows the back to be lowered, placing you in a reclined position for a weight shift, or if you are having difficulty sitting upright. The back angle can be moved up gradually as you are able to tolerate sitting up more. Changing the back angle does affect your positioning in the chair and can cause you to slide. These chairs are large and cannot be transported in small cars.

The Care and Maintenance of Your Manual Wheelchair

Your chair will provide safer and longer service if given proper care. The following tips are for cleaning and maintaining your wheelchair. The more active you are, the more frequently you will have to perform routine maintenance and cleaning. Refer to your owner's manual for specific instructions.

A chair is like a car — it needs attention or it will require costly repairs or early replacement.

Cleaning

- All chairs should be cleaned completely at least every three months.
- No wheelchair should be taken in the sand.
- If you have been out in rain or snow, wipe the chair off immediately.

Equipment Needed

- Rag and paper towels
- Spoke wrench
- Mild, soapy water

- Adjustable wrench
- Plain, fine, steel wool (not Brillo ® pad)
- Phillips head screwdriver
- Light oil (like 3 in 1 ®)
- Truck or bicycle tire gauge
- Silicone spray
- Hand pump
- Toothbrush or other small brush
- Liquid wax (optional)

Cleaning the Chair (Chrome and Upholstery)

1. Sit on the floor with your chair tipped back so it rests on the push handles. Chairs should be partially folded.
2. Use the soapy water to wash everything.
    - Squeeze out the rag so it is only damp.
    - Begin cleaning each section at the top and work downward.
    - When you finish one side, turn the chair a quarter turn and do the next area and so on.
3. Use dry steel wool on the rusty spots.
4. Check for small tears in upholstery and repair with upholstery (or strong cloth) tape.
5. Liquid wax may be used on chrome, if desired.

Note: Make sure you remove the armrests and use steel wool to clean off the posts, slots and holders (front and back for the armrests). Do **not** use water on the slots or armrests. Silicone spray may be used if they stick.

Minor Repairs and Adjustments

Wheels

Tire Pressure: Check with the tire gauge. The correct pounds per square inch is printed on the side of the tire.

Over-inflated tires may lead to blowouts while under-inflated tires cause more wear and make pushing more difficult. Do not propel the chair with a flat tire unless it is an emergency. This will ruin the tire rim.

Spokes: A loose spoke can be detected by spinning the wheel and strumming the spokes. Tighten loose spokes with the spoke wrench. Replace lost or broken spokes.

Tire Treads: Worn tires should be replaced. The proper tire number and size is printed on the side of the tire.

Valve Stem: Remove the cap and check to see if air is leaking around the valve. Use a forked metal cap (obtainable at a bicycle store) to tighten the stem.

Handrims:

- Make sure no rough edges are present. Smooth with steel wool.
- Tighten screws that hold the handrims to the large wheel.
- If you have lugs or plastic handrims, make sure they are not damaged. Replace when needed.

Alignment of Wheels:

- Spin wheels, checking to see if casters or large wheels wobble.
- If casters wobble, check to see if the bolts on either side of the axle are secure. If wobbling remains, check the bolt under the hub cap (located on top of the caster mounting). Adjusting this bolt may eliminate the problem.
- The large wheels should be secured tightly by the axle bolt. Tighten enough to allow the wheel to spin freely.
- Bearings on the wheels should be lubricated once a year by the dealer. **Note:** You can do this yourself by following the instructions manual. **Do not use oil**.

Brakes, Caster Locks and Grade Aides:

- Remove all dirt from caster and caster housing.
- Oil the pivot points on the brakes with one or two drops of oil; remove excess oil with a soft, dry cloth.
- To adjust brakes:
    1. Loosen the lock bracket and place the brake in the “on” position.
    2. Slide the entire assembly until the brake touches the wheel. Then, tighten the bracket bolts.

- Worn or damaged brakes and rubber handles should be replaced.
- Caster locks should operate freely and adequately hold the caster in position. The pin should drop fully into the plate as well as retract fully. If the mounting is not level, the pin will either not fit into the place hole fully or it will not retract fully. Adjust as necessary.
- Grade aides should operate freely and adequately hold the tire from rolling backwards when being used. They can be easily adjusted with a wrench and a screwdriver.

Footrests

Heel Loops: Make sure bolts are tight. Replace worn or torn webbing.

Length: Footrests should be adjusted so that hips and knees are level when sitting in chair. The bolt or button to change the length is located under the footplate or along the side of the strut of the legrest.

Note: Removing, adding or replacing a cushion or seatboard will affect the length of footrests.

Footrest Releases: These should operate smoothly and remain closed when legrests are in place. Check for dirt or rust.

Armrests

Screws: Tighten all screws on clothing guard and pads.

Alignment: Clothing guard should be on the outside, facing the wheel. If the armrests are still difficult to replace after cleaning, they may need re-alignment.

Body Frame

Screws: Tighten all screws on the seat and back between the upholstery and frame.

Upholstery: If back upholstery is stretched out, it should be replaced at the same time the seat upholstery is replaced.

Hand Grips: These must be firmly attached to prevent accidents when being pushed on ramps, hills or curbs.

Note: If loose, use a product such as 3M Scotch Grip ® Industrial Adhesive No. 847 or equivalent glue.

Folding: Chair should fold easily. The bolt on the "X" brace should move freely back and forth. If this is too tight, the chair

will not fold. One or two drops of oil on the bolt will help to keep the “X” brace moving freely. Wipe off excess oil.

Major Repairs

Upholstery replacement should be done as necessary.

Wheel bearings need lubrication approximately every 12 months. This should be done by dealer or knowledgeable mechanic.

> **Note:** Most wheelchair manufacturers recommend that once every 12 months the wheelchair be serviced and cleaned by a vendor. The vendor will provide proper and prompt service and should supply a rental wheelchair for your use while your chair is in the shop.

For more detailed instructions on repair, refer to the service manual provided by the manufacturer of your wheelchair.

Manual Wheelchair Maintenance Checklist

	Weekly	Monthly	6 Months	1 Year
Clean upholstery and cushion	●			
Wheels				
a. Tire pressure and valve stem	●			
b. Spokes	●			
c. Treads		●		
d. Handrims and lugs	●			
e. Brakes and caster locks			●	
f. Alignment			●	
g. Bearings				●
Footrests				
a . Bolts		●		
b. Cam release		●		
Arm rests				
a. Screws		●		
b. Alignment	●			
Body frame				
a. Screws		●		
b. Handgrips	●			
c. Center “X” bolt		●		
d. Upholstery	●			
Cushion	●			

Wheelchairs of active individuals may require more frequent maintenance.

Note: If the manual wheelchair is not being used on a daily basis, items listed under "weekly" may be performed monthly.

Trouble Shooting for Manual Wheelchair

Problem	Solution
Foot plate drops or turns in	• Tighten the bolt located on either side or on the bottom of the foot plate.
Caster wheels wobble	• Tighten the nut under the dust cover on top of the caster; tighten so the wheel spins freely. You may also need anti-flutter stem bearings for your caster assembly.
Brakes don't hold	• Check tire pressure if you have pneumatic (air-filled) tires. • Loosen the bolts on the back of brake assembly and slide the brake unit back toward the wheel until the arm on the assembly is about one quarter of an inch away from the wheel, then tighten bolts.
Rear wheel is loose	• Remove the dust cover from the rear wheel. Loosen the nut on the inside of the wheelchair frame. Tighten the bolt. Place your hand on the outside part of the frame, so the wheel spins freely. Tighten the bolt while holding the nut.
Tire inner tube has a hole in it	• Remove the tire from the rim; pull the tube out. Fix or replace. Check inside the tire to see if a sharp object or spokes are putting holes in the tire. Then replace the tire on the rim.
Chair pulls to the left or right	• Make sure the rear wheel spins freely. If one wheel is tighter than the other, adjust it so they will be the same. • Fold the chair up; then open it again. • Check to see if the casters are moving and spinning freely. • Make sure the brakes are not rubbing when they are unlocked. Make sure the arm rests are not rubbing the tires. • If you have pneumatic (air-filled) tires, check to see if one is flat.
Chair doesn't fold	• Check the center "X" bolt on the frame to make sure it is loose enough. • Check to see if the plastic slide guards at back of the seat are cracked or missing. • Frame of the chair may be bent and will need to be repaired.

Power Wheelchairs

A power wheelchair will provided you with a means of independent mobility. This chair can be operated with any functioning body part: arms, chin, tongue, elbow, foot, breath, head, etc.

This chair may have a power pressure relief mechanism also. This will allow you to do your own weight shifts every 30 minutes to decrease chances of acquiring skin breakdown. Some wheelchairs can fold for the ease of transportation while others require the use of a van lift.

There are power wheelchairs on loan from different manufacturers / vendors that you will have the opportunity to try for approximately three days each until you and your rehab team decide on the wheelchair that best meets your needs.

These chairs operate on U-1, 22NF or 24NF gel batteries. These batteries are maintenance free.

You and your family will be instructed in the care and maintenance of the charging process for the wheelchair battery.

A trial process of all appropriate power wheelchairs begins to determine the safest and most effective means of mobility. A prescription will be written once you have chosen the power wheelchair. The length of time you receive your permanent equipment will vary from eight weeks to six months depending on your insurance and the type of wheelchair you order. Manufacturers and vendors will need six to eight weeks to put together the wheelchair after the order is received.

General Scooter and Power Wheelchair Maintenance and Precautions

Batteries

Most power wheelchairs now use gel batteries that do not require maintenance.

Charging: You can charge your battery every other night or two depending on how much the wheelchair is used. A fully automatic battery charger will not overcharge your battery. Plug the charger cord into the chair first, then into the wall outlet. When finished, first unplug from the wall outlet, then from the chair.

The cover of the battery case should be kept on at all times.

Charger

There are two basic types of battery chargers for motorized wheelchairs: a fully automatic battery charger that shuts off automatically and a standard battery charger that does not automatically shut itself off. These two chargers operate very

differently. Follow the directions that come with the battery charger.

Most power wheelchairs have a battery level indicator on the joystick to inform you of how much energy is left in your battery.

If the charger indicator shows zero (0) after being connected, there is a chance that the charger itself is defective or there may be a loose connection between the charger and the battery. If the cord is intact, try another wall outlet. If the charger still does not function, have a mechanic test the charger by connecting it to a 12-volt car battery. A defective charger should be returned to the manufacturer or vendor for repair.

General Maintenance

Upholstery should be cleaned weekly with a mild soap.

The joystick dust cover (the rubber sleeve surrounding the control stick) should be checked periodically for cracks and tears. A torn or missing dust cover will allow dust, dirt, or water into the joystick connections and cause a malfunction.

Most wires on the power wheelchair are safely covered. The connecting wires must be secured in such a way as to prevent them from becoming tangled in wheels, clutches, brakes or dragging on the ground. Check the arrangement of wires often.

Adequate tire pressure for pneumatic (air-filled) tires should be maintained. Optimum pressure is indicated on the side of the tires. Tires with solid inserts are maintenance free.

The frame should be cleaned and polished at least three times a year.

Maintenance Schedule for Scooters and Power Wheelchairs

Mechanical Inspection

Weekly:	Tire pressure (if you have air tires) Wheel locks (if using a power wheelchair) Clean the upholstery
Quarterly:	Clean the base (where the tires are) Wheels and casters
Yearly:	Overall inspection

Electronic Inspection

Daily:	Charge battery as indicated by usage
Quarterly:	Check wires for fraying (wear and tear)

Semi-Annual: Motors

Yearly: Battery integrity

All power wheelchairs should have a yearly check out with their identified vendor.

Trouble Shooting for Scooters and Power Wheelchairs

Problem	Solution
You hear the motor but the chair doesn't move	• Are the brakes on? • Are the clutches off? • Are the drive belts slipping or broken? (if belt-driven) • Is the battery too weak?
No motor sounds; chair is "dead"	• Is the on / off switch off? • Are any plugs disconnected? • Is one drive belt broken or slipping? (if belt-driven) • Did you reset the circuit? (with scooters) • Is the chair tilted too much and in "drive lockout"?
The motor sounds, but the chair moves in circles	• Is the brake on? • Is one clutch disengaged? • Is one drive belt broken or slipping? (if belt driven) • Is motor broken? • Motor imbalance?
Motor sounds, but chair is uncontrollable	• Turn off power immediately. • Move the joystick in all directions to free up the stick. • Call for repairs. • Do a battery check.
Chair does not charge	• Is the charger unplugged from the wall? • Are any connections between the battery and the charger loose? • Have batteries been checked for the proper battery level (batteries may be too low to charge).

Magee has a Spinal Cord Injury Follow-Up Clinic that also can help you to solve a problem or call your vendor.

Rules of the Road for Scooters and Power Wheelchairs

- Drive to the right in corridors and outside.
- Do not try to go through narrow passage such as a doorway at the same time as another wheelchair is passing through.
- Manual wheelchair users and ambulatory persons have the right of way.
- Slow down when entering and exiting doorways and corridors, and when turning corners.
- No tailgating.
- Reduce speed in congested areas.
- Do not park in front of doorways or in the middle of a corridor.
- Always check behind the wheelchair before backing up.
- Move into a clear area to perform a tilt back pressure relief.

Ramps

A ramp is necessary to accommodate any changes in height from one surface to another for the person in a wheelchair. Ramp construction must follow strict guidelines for a person with tetraplegia and paraplegia to be able to use it independently. Some stronger individuals may be able to propel their wheelchair up a steeper incline. The incline of the ramp should not exceed one foot of length for every one inch of height. A steeper incline of eight inches of length for every one inch of height may have to be used depending on the available space.

How to Measure for a Ramp

1. Measure the total height from the ground to the doorsill.

Note: Be sure to note if the ground slopes. Add the additional height measurement to your total measurement.

2. Convert the height measurement to inches.
3. If the height is 15" or less, one long ramp can be used; if the height is greater than 15", the ramp may have to be split into two sections with a level three to five foot area between each inclined section.
4. If a very long ramp is impractical, it may be necessary to look for other alternatives to gain access to the building.

An option may be a wheelchair lift or modifying another entrance.

Recommendations

- There should be a level surface at the bottom of the ramp — a minimum of 5' long.
- There should be a level platform at the top of the ramp — a minimum of 5' square.
- There should be a railing along both sides of the ramp at a height of 28" above the ramp. The railings can be made of wood, wrought iron or stainless steel.
- There should be a 3" to 4" lip on each side of the ramp to prevent the wheels of the wheelchair from sliding off the ramp.
- Concrete should be used for a permanent ramp. A temporary ramp can be made out of plywood.
- The ramp should have a non-skid surface and be waterproof. Safety Walk ® strips of sandpaper or non-skid paint may be used.
- Ideally, the ramp should have an overhead covering for protection from rain or snow.
- If the area for ramp construction is limited, the ramp can be divided and constructed at right angles or doubled back on itself to conserve space (see diagrams). A minimum 5' x 5' level platform must be used at each turn.
- Minimum recommended width of the ramp is 3 feet; however, the actual width of the ramp depends on the width of the wheelchair.

Materials Needed to Construct a Plywood Ramp

- 3/4" exterior All Clear ® fir, marine or pressure treated plywood for sides of the ramp or sides of the platform(s).
- 1/2" exterior All Clear ® fir, marine or pressure treated plywood for the top of the ramp or the platform(s).
- 2" x 4" for the rails and ribs.
- 1" x 3" wood strips for the lips.
- Exterior Spar ® varnish, non-skid paint and non-skid surface materials.

- Nails and bolts.

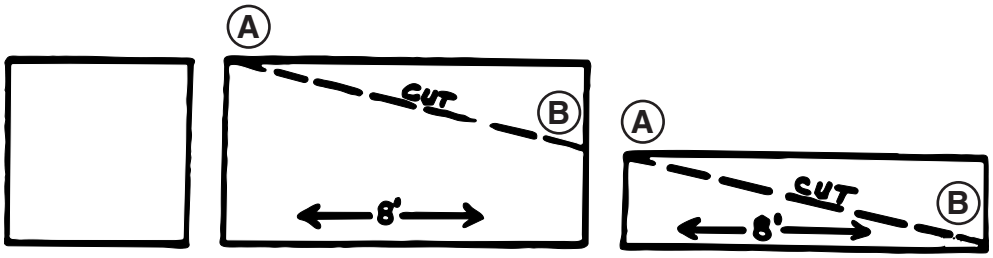
How to Construct a Plywood Ramp

Construct the ramp in two sections: The platform to cover the stairs and the ramp section. If the ramp will be longer than 8', it should be constructed in 8' sections for ease in transporting and assembling on the site.

Measuring and cutting the sides of the ramp.

1. Cut the first side section of the ramp 8' long and the desired height (e.g., 8' x 24").

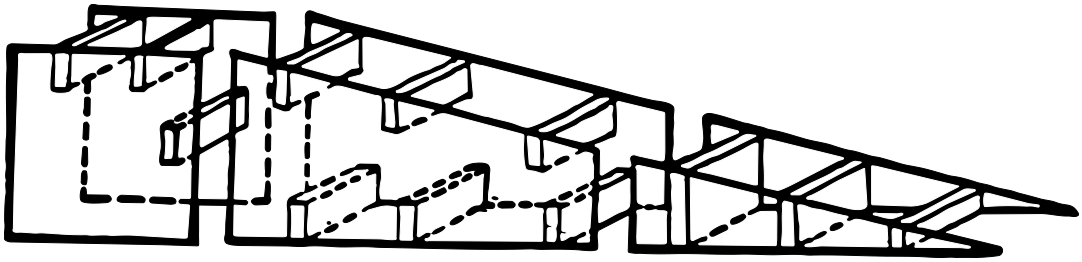
Measuring and Cutting the Sides of the Ramp (Figure 1)



2. Cut the second side section of the ramp 8' long and one-half the height of the previous side (e.g., 8' x 12").
3. Place the two side sections of the ramp together and nail them as in Figure 1.
4. Draw a diagonal line starting at the highest point (A) on the side section to the lowest point (B) on the side section. Cut along the diagonal line to make the incline for the ramp.
5. Make two complete sides for the ramp.

6. Brace the sides together with 2" x 4" strips, the same width as the top of the ramp. Six braces should be used for each 8' side section.

Bracing the Sides of the Ramp (Figure 2)



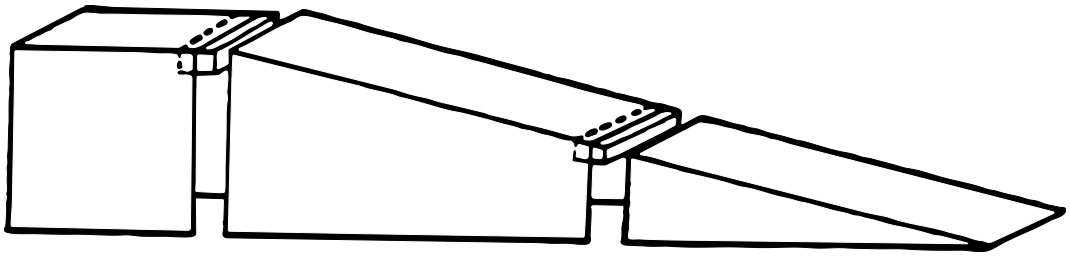
Measuring and cutting the platform.

1. Cut three sides for the platform to cover the steps and nail them together.
2. Brace the sides together with 2" x 4" strips — the same width as the top of the ramp. Two braces should be used for the platform.

Top surface for ramp and platform.

1. Cut the top surface to cover the ramp and platform. Nail the top surfaces to the side sections of the ramp and platform.
2. Nail a 2" x 4" plank 1/2" from the edge of the underside of the top platform section (making a lip). The first section of the ramp will fit over the lip of the platform.

Construction of Lip (Figure 3)

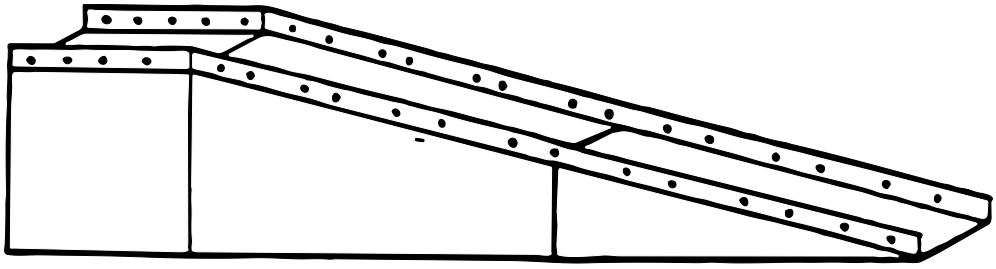


3. Each 8' section of the ramp should have a 2" x 4" plank on the underside.

Curbs or bumpers on the ramp.

1. Cut a 1" x 3" x 8' wood strip making a 3" high curb, and nail it to the side of the ramp.

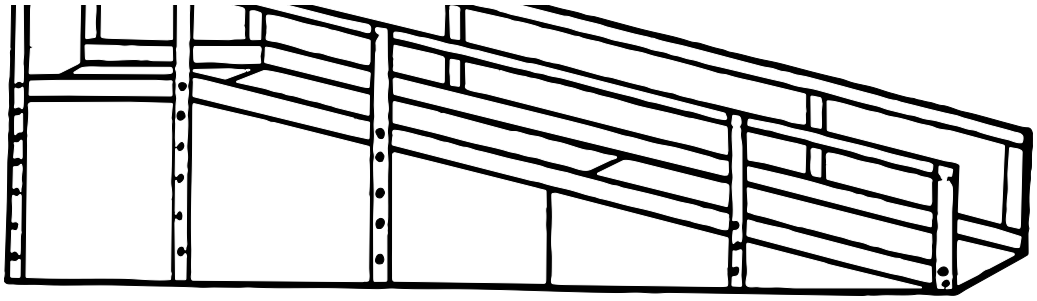
Construction of Curb (Figure 4)



Handrail

1. Make the handrail and handrail supports from 2" x 4" planks. Bolt them to the platform and ramp. The handrail should be 28" high.

Construction of Handrail



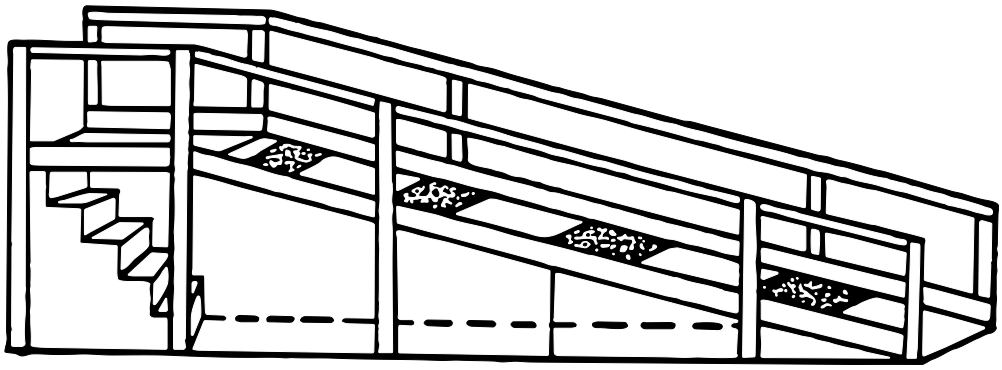
(Figure 5)

Finishing

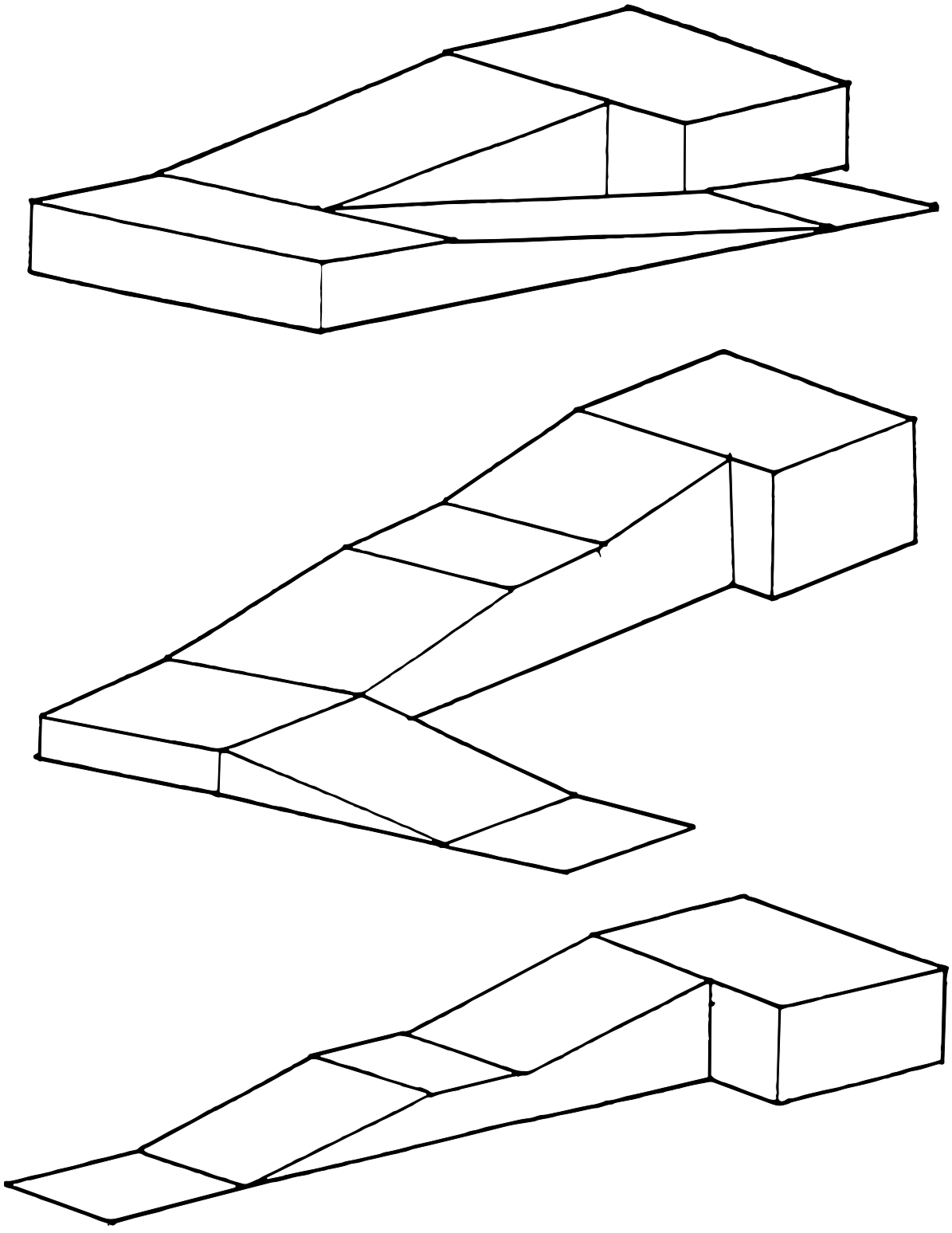
1. Paint the sides and handrails with exterior Spar ® varnish.

2. Paint top surface of the ramp and platform with non-skid paint. After the paint has dried, apply non-skid Safety Walk Strips ®.

Finishing of Ramp (Figure 6)



Examples of Ramps



Chair Lift and Wheelchair Lifts

This equipment may be recommended as the result of a home visit consultation. This equipment is very expensive and many homes are not designed to accommodate it. If you have any questions about stair glides or wheelchair lifts, consult with your occupational or physical therapist.

Chair Lift

A chair lift is commonly referred to as a *stairglide*. It is electrically driven. You must be able to transfer from your wheelchair to the seat of the stairglide. There is very little trunk support, but stairglides come with seatbelts. The stairway must be at least 28 inches wide to accommodate a chair lift. These are for indoor use only.

There are basically two types of stairglides. The simpler, less expensive type transports the passenger facing backward up the stairs. This type is useful only on straight stairways and only where there is adequate transfer room at the top and bottom of the stairs.

The second, more expensive type transports the passenger sideways. This type may be custom designed to fit unusual stairways.

Please note that someone will need to lift your wheelchair to the other end of the staircase so it is available for you to transfer back into.

Wheelchair Lifts

Stairway Wheelchair Lift

A wheelchair lift transports you and your wheelchair up a flight of steps. The stairway must be at least 36 inches wide and there must be at least six feet of space at the top and bottom of the stairway to accommodate the loading platform. Many units fold against the wall when not in use. These are electrically powered and often require special wiring. Indoor and outdoor models are available, but there are different specifications and requirements for each.

Vertical Wheelchair Lift

This type of lift is often referred to as a *porch lift*. It resembles an unenclosed elevator. In some cases when outdoor ramping is not feasible, a vertical lift might be recommended. To be effective, this type of lift would raise

the wheelchair from ground level to the level of the interior first floor of the house. Usually, additional construction is required.

For example, a wooden platform might be constructed over existing concrete steps to provide access from the lift into the house.

As with all equipment, insurance coverage for chair lifts and wheelchair lifts may vary and must be handled on an individual basis. Your therapists and case manager can assist you with identifying the specifics of your coverage.

If it has been determined that you require and have the financial coverage for this type of equipment, your occupational or physical therapist will discuss models, manufacturers and vendors with you. This equipment requires that the vendor come to your home and evaluate for an estimate.

Bathroom Equipment

You may require the use of bathroom equipment for toileting and bathing. Some basic bathroom equipment will be discussed here. Your specific needs will be determined by your occupational therapist.

- **Commode** – Can be used bedside or over a standard toilet.
- **Raised toilet seat** – Raises the height of a toilet seat.
- **Tub seat or shower chair / stool** – Used in tub or shower stall.
- **Tub transfer bench** – Extends outside the tub for use with bathing.
- **Rehab shower / commode chair (Roll-in shower chair)** – For use in a shower stall.
- **Grab bars**

Glossary

ADL (Activities of Daily Living)	The things we normally do in daily living including any daily activity we perform for self-care (such as feeding ourselves, bathing, dressing, grooming), work, homemaking and leisure.
Cast	A protective shell of plaster and bandage molded to protect a broken or fractured limb as it heals.
Contractures	Shortening of the skeletal muscle usually results in the inability of the joints to move fully. Contractures restrict the range of motion (ROM) of a joint.
EADL (Electronic Aids for Daily Living)	Electronic devices that assist you to perform activities of daily living. EADL's allow you to control doors and windows, shades, fireplaces, hospital beds, call bells, TVs, VCRs, radios, fans and computers. EADL can be activated by moving any body part, or by respiration (breathing), sip n puff or phonation-voice activation / recognition.
Edema	The swelling of soft tissues as a result of excess water accumulation.
MAFO	Molded Ankle Foot Orthosis.
Orthosis	A device that is worn to correct or prevent joint deformity, provide support for ambulation, lesson weight bearing force or assist movement.
ROM (Range of Motion)	The range through which a joint can be moved, usually its range of flexion and extension.
RSCICDV	Regional Spinal Cord Injury Center of the Delaware Valley (Thomas Jefferson University Hospital and Magee Rehabilitation Hospital).
Serial Cast	A type of cast used to improve range of motion in a joint.
Spasticity	A state of increased tone of a muscle (and an increase in the deep tendon reflexes).
Splint	A device for the immobilization or support of a joint or limb.
Weight Shift	The process of reliving pressure on bony prominences.

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Websites

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- Invacare.com
- Pridemobility.com
- Permobil.com
- Abledata.com
- Nanopac.com

Comments and Feedback

The staff of the center has recently spent a lot of time and effort in revising this manual. However, we realize that those who are actively reading and using the manual can improve it. As a part of our program of continuous quality improvement, we ask you to help guide our efforts to improve the manual.

In the next section of the chapter are two forms. The first form is an overview by chapter that seeks to identify those areas of the manual that could benefit the most from additional work. We also seek to identify any major areas of concern that have not been addressed.

The second section is a more focused questionnaire that has as its goal the specific items that should be targeted. For example, should an item be added to the glossary or the definition changed. Should a drug be added to the discussion of bowel programs?

The more specific the comments are the more likely that we will be able to make the improvements that form the basis of your idea. By communicating with the Regional Spinal Cord Injury Center of the Delaware Valley, however, users grant us permissionto use any information, suggestions, ideas, drawings or concents communicated for any purpose we choose, commercial, public or otherwise, without compensation or acknowledgement whatsoever.

Thank you for taking the time to assist us in improving this manual.

Sincerely,

SCI Manual Committee

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Feedback Form

Rate each chapter by placing an "X" on the scale underneath the term that best captures your opinion. Using the next page, provide specific comments regarding your ratings. Feel free to make copies of the next page.

	No Opinion	Fair	Satisfactory	Good	Excellent
Credits / Front Matter					
Table of Contents					
Introduction					
Spinal Cord Injury					
Bladder					
Bowel					
Respiratory					
Respiratory Dependent					
Skin					
Cardiovascular					
Nutrition					
Activities of Daily Living					
Equipment					
Mobility					
Psychology					
Vocational Services					
Recreational Therapy / Resource Guide					
Travel and Transportation					
Sexuality					
Spinal Cord Injury Follow-Up Care System					
Master Glossary					

Suggestions and Comments

Chapter: _____

Page(s): _____

Comments: _____

_____

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Any terms that need to be added to the glossary? How would you define the terms?

Any section or paragraph that was not clear?

Any drawing or sketch that would help to illustrate the material being covered?

Any additional topic that should be covered?

Any questions you have that you feel should have been answered by the manual?

What is the question?

What is the suggested answer?

Any references that should be added? Any other resources that should be mentioned?

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