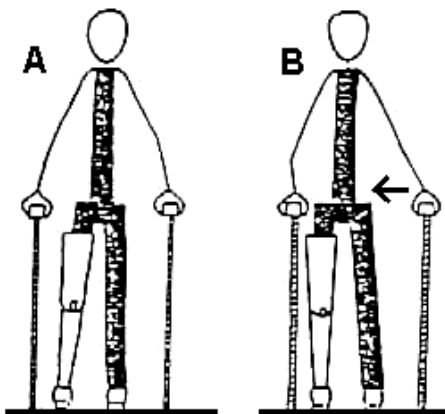




## Early Gait Training of the Person with a Lower Extremity Amputation

### Lateral weight transfer



1. Stand between the parallel bars with feet 2-4 inches apart (A).

2. Shift weight laterally from the sound leg to the prosthesis (B).

3. Shift weight by moving the hips rather than the shoulders.

4. Keep the shoulders and pelvis level, and don't bend the sound knee.

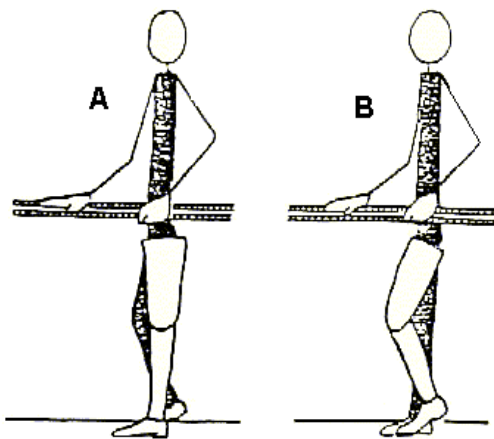
5. Do not allow the trunk to sidebend, particularly toward the prosthetic side.

6. Practice shifting weight forward, backward, and diagonally in the same manner.

7. When the person becomes more comfortable, he or she can let go with the hand on the sound side. (This forces the person to accept weight on the prosthesis, and activates the residual limb's hip abductor muscles.) Progress to letting go of both hands.



## Alternate knee bending

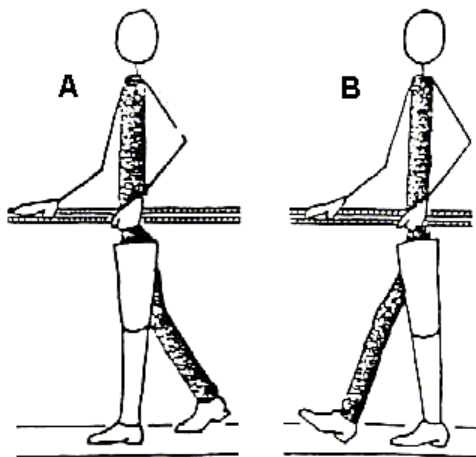


1. Stand between the parallel bars with feet 2-4 inches apart.

2. Alternately bend the normal (A) and the prosthetic (B) knee just enough to raise the heel from the floor. This teaches the amputee how to "break" the prosthetic knee. Maintain toe contact with floor. Bend either knee with combination of forward pelvic rotation and hip flexion.

3. Reciprocally flex and extend the knees, starting with the sound knee.

## Sound limb stepping



1. Stand between parallel bars with weight on the prosthesis.

2. Keeping the prosthesis "planted" on that spot, rhythmically step forward and back with the sound leg, repeating the sequence from heel rise (A) to heel strike (B).

3. The pelvis' sound side should rotate forward. Therapists can facilitate with a quick stretch, progressing to resistance techniques.

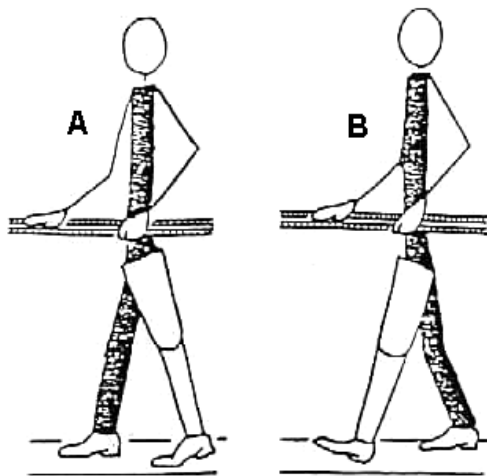
4. The normal foot should pass close to the prosthetic foot to facilitate transfer of body weight over the prosthesis.

**CAUTION:** Therapists should warn the person that some prosthetic knees are unstable when the sound limb is behind the prosthetic limb.



### Prosthetic limb stepping

One may advance the prosthesis with unnatural pelvic substitutions unless he or she learns early to use a combination of forward pelvic rotation and hip flexion. The therapist can facilitate pelvic rotation with manual cues. Often, the person can attain the appropriate motion by practicing the following:



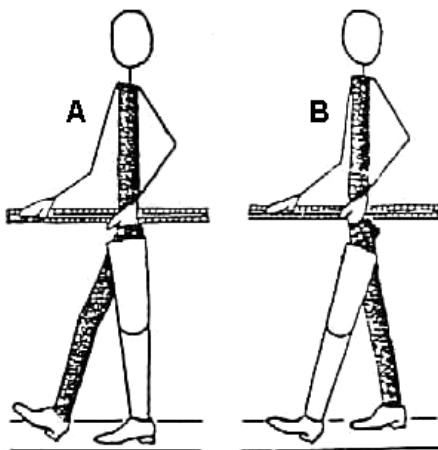
1. Stand between the parallel bars or at a stable surface like a kitchen counter, bearing weight on the sound leg (A).

2. Choose a target on the floor in front of the prosthetic toe. The target can be marked with tape.

3. Quickly swing the prosthesis forward, planting the heel on the target (B).

4. Move the prosthetic limb back so that it is behind the sound limb and repeat. Practice quick steps of different distances, and to different angles medially and laterally.

### Combined stepping



1. Stand between parallel bars.

2. Keeping the prosthetic foot in place, step forward and back three times with the sound leg.

3. On the third step, step forward with the prosthesis.

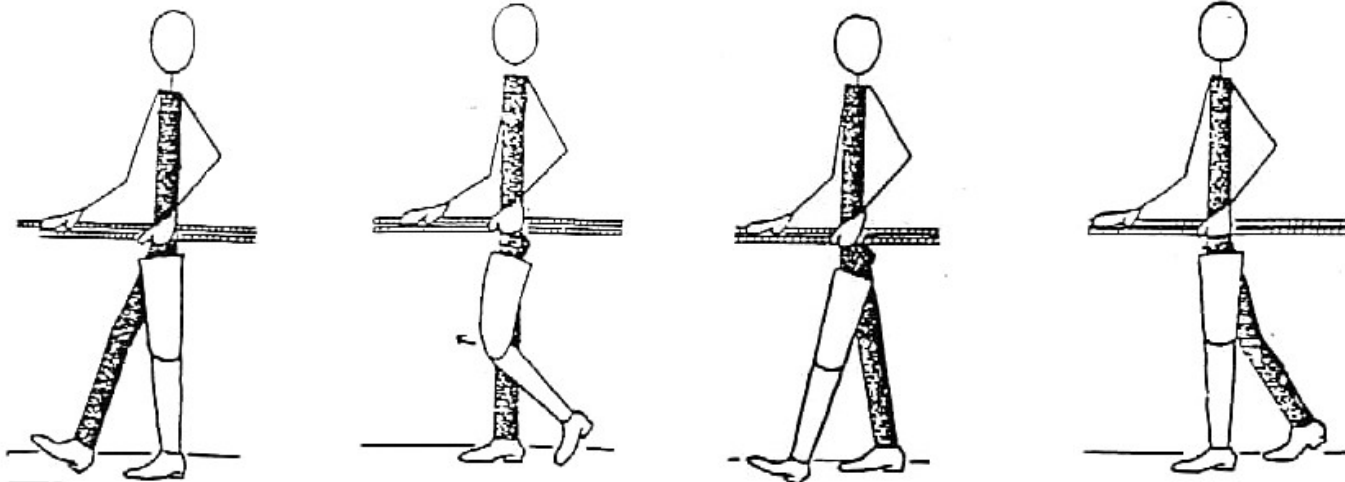
4. Keeping the sound foot "planted", step forward and back three times with the prosthesis.

5. On the third step, complete the step by coming forward with the sound foot.

6. Repeat the sequence.



## Forward walking within the parallel bars



**1. Step first with the sound limb. Extend and stabilize the prosthetic knee by extending the hip. Initiate swing by rotating sound side pelvis forward. Monitor lateral trunk lean.**

**2. Gradually shift body weight from the prosthetic to the sound limb.**

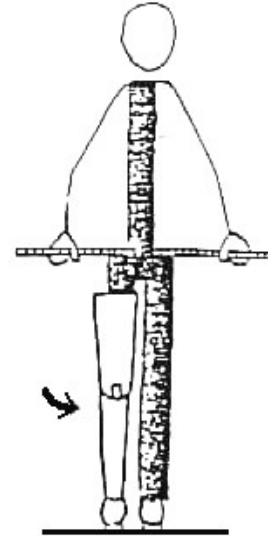
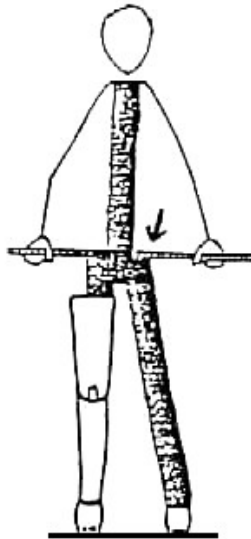
**3. When the sound limb contacts the floor, begin to rotate the pelvis forward on the prosthetic side and flex the hip. This initiate swing of the prosthetic limb.**

**4. Make heel contact just when the prosthetic knee extends fully, placing the prosthetic heel ahead of the toe of the sound foot.**

**5. Upon contact of the prosthetic heel, press the residual limb backward against the socket's posterior wall; hip extension maintains the prosthetic knee in full extension and prevents instability. Gradually shift body weight to the prosthesis.**



## Sidestepping



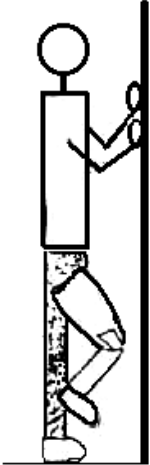
**1. Sidestepping develops stability during stance because it activates the hip abductors at a length and speed typical of walking. To sidestep toward the sound side, one balances on the prosthesis while holding it in adduction.**

**2. As the person steps sideways, abducting the sound limb, the therapist can apply downward force on the pelvis (arrow) to resist and strengthen the hip abductors on the opposite (prosthetic) side.**

**3. The person then shifts body weight to the sound limb and adducts the prosthesis to place the prosthetic foot next to the sound foot.**

**4. The person repeats the sequence as the therapists monitor lateral trunk lean.**

**5. Therapists and patients can adapt this sequence for sidestepping toward the prosthetic limb, and learning how better to control stance on the sound limb.**



**Cross-over walking permits simultaneous facilitation of stance side abductors and forward pelvic rotation of the swing side. Begin by balancing on the sound limb. Step sideways, moving the prosthesis in front of the sound limb by simultaneously rotating the pelvis forward on the prosthetic side and adducting the prosthesis.**

**The therapist can manually guide the swinging prosthetic limb through the requisite forward pelvic rotation. Because the patient must stand erect, without trunk or hip flexion, the exercise is best performed against a wall with the patient's hands placed at shoulder height.**

## Cross-over walking



**Pedorthic Devices**  
**Therapeutic Shoes, Shoe Modifications and Foot Orthoses**

Pedorthic devices include therapeutic shoes, shoe modifications and foot orthosis. A skilled practitioner has prepared your footwear in accordance with your physician's instructions. A break-in period is necessary.

It may take as long as three weeks to become accustomed to your new Pedorthic device.

**Suggested wearing schedule:**

Day 1	1 hour
Day 2	2 hours
Day 3	3 hours

Continue adding one hour each day until you have reached a full day. During the initial break-in period, remove your Pedorthic device three or four times a day to examine your feet. (This is particularly important for diabetic patients. If you are unable to examine your own feet, get someone to help you.) Check for swelling, redness, or rise in temperature. If you find anything out of the ordinary, discontinue use immediately and call **Presque Isle Medical Technologies**.

Your Pedorthic device may require periodic maintenance, which may include repair of normal wear-and-tear as well as updating your device to keep up with your requirements.

Shoes should be examined daily before wearing any foreign material either inside the shoe or stuck to the sole. They should be periodically waxed to maintain water repellence.

Foot orthotics may be cleaned with rubbing alcohol or with a damp cloth containing a mild detergent.

Please call **Presque Isle Medical Technologies** if a follow-up appointment is necessary.



### U.C.B.L. Orthosis

#### Patient Instructions

You have just received your new U.C.B.L. It has been designed and fabricated to support your foot.

Please follow these instructions carefully:

#### Applying the U.C.B.L.

1. Select a thin fitting & wrinkle free sock.
2. Select a lace up shoe. We recommend walking shoes or sneakers with removable insoles.
3. Place the U.C.B.L. in your shoe at the heel.

#### Use & Care Information

1. Check your skin frequently. Should any red spots, rash, or other skin irritation appear, discontinue use and contact **Presque Isle Medical Technologies**.
2. Clean your U.C.B.L. regularly. Wash all surfaces with a mild soap or rubbing alcohol.

#### Wearing Schedule

Follow this schedule to achieve the best outcome.

##### **Wearing Time**

Day 1	1 hour intervals
Day 2	2 hour intervals
Day 3	3 hour intervals

Add one hour to your wearing time each day until you have reached a full day.

#### Follow up

Your U.C.B.L. may be re-checked 1 - 2 weeks after your first fitting. These arrangements should be made at your first fitting. If you have any questions or concerns, please call **Presque Isle Medical Technologies**.



### S.M.O. Orthosis

#### Patient Instructions

You have just received your new S.M.O. It has been designed and fabricated to support your foot.

Please follow these instructions carefully:

#### Applying the U.C.B.L.

1. Select a thin fitting & wrinkle free sock.
2. Select a lace up shoe. We recommend walking shoes or sneakers with removable insoles.
3. Place the S.M.O. in your shoe at the heel.

#### Use & Care Information

1. Check your skin frequently. Should any red spots, rash, or other skin irritation appear, discontinue use and contact **Presque Isle Medical Technologies**.
2. Clean your S.M.O. regularly. Wash all surfaces with a mild soap or rubbing alcohol.

#### Wearing Schedule

Follow this schedule to achieve the best outcome.

##### **Wearing Time**

Day 1	1 hour intervals
Day 2	2 hour intervals
Day 3	3 hour intervals

Add one hour to your wearing time each day until you have reached a full day.

#### Follow up

Your S.M.O. may be re-checked 1 - 2 weeks after your first fitting. These arrangements should be made at your first fitting. If you have any questions or concerns, please call **Presque Isle Medical Technologies**.



## Custom Knee Orthosis

### Patient Instructions

Your knee brace was designed to protect and support your knee. Proper fit, maintenance, and correct use are required to obtain the desired results. No brace can provide absolute protection.

The following suggestions will help maximize comfort and bracing performance:

1. Wear brace only as instructed. Be sure you understand how to correctly apply this device.
2. If slippage is noted, remove brace, check positioning, and re-apply correctly.
3. Salt water or perspiration should be removed and rinsed off immediately with clean, fresh water.
4. Lubricate hinges as directed.
5. Frayed or torn straps, loose hinges, or worn hardware should be addressed. Please call **Presque Isle Medical Technologies**. A follow-up appointment may be necessary.



### Plastic Ankle Foot Orthosis – AFO or Knee Ankle Foot Orthosis - KAFO

#### Patient Instructions

Your new brace was designed to support and protect. No brace can provide absolute protection. Proper fit and maintenance are critical to achieve desired function. The following suggestions will help maximize comfort and brace performance:

1. Always wear a clean dry sock under the brace.
2. Wear a well-fitting shoe or sneaker with removable insoles.
3. Changing to different shoes **MAY** affect brace function and fit.
4. Keep the brace clean by wiping with a damp cloth and mild detergent, or rubbing alcohol.
5. It is important to keep a close eye on skin conditions.  
Inspect foot, ankle, and all bony areas on leg for pressure areas.  
Check for redness: any redness should disappear within 15 - 20 minutes.  
If not, please contact **Presque Isle Medical Technologies**.
6. Frayed or torn straps should be repaired.
7. All mechanical hinges, pivots, and locking mechanisms may require occasional maintenance by **Presque Isle Medical Technologies**.

#### Suggested initial wearing schedule

Day 1	1 hour
Day2	2 hours
Day3	3 hours

Add 1 hour to your wearing time each day until you have reached a full day.



**Metal Ankle Foot Orthosis - AFO**  
**or**  
**Knee Ankle Foot Orthosis - KAFO**

Patient Instructions

Wear the orthosis for one-hour intervals the first day. It should then be removed for approximately 20 - 30 minutes. The skin should be checked very carefully for any redness or marks. If any are found, they should go away within 15 - 20 minutes. The orthosis may then be reapplied. Over the next few days, the wearing time should be gradually increased. If no further problems arise, the orthosis may be worn full time. Monitoring of the skin is recommended.

**PLEASE NOTE:**

**If the redness persists beyond 20 minutes, discontinue usage and contact Presque Isle Medical Technologies.**

**The orthosis may need to be re-adjusted or re-applied on the patient during the course of the day.**

**Do not hesitate to call Presque Isle Medical Technologies for help with adjustments or with any questions you may have.**



### **Hip Abduction Orthosis**

#### Use & Care Information

1. There may be some pressure over the hip area initially. This pressure should decrease after the sutures or staples are removed. Notify **Presque Isle Medical Technologies** if this slight pressure does not decrease. Notify your physician if there is an increase in drainage from the incision.
2. The pads inside the waist and thigh sections can be removed by gently pulling them loose from the Velcro inside. They can be hand washed with mild detergent. Be sure to rinse these liners thoroughly before air-drying. The plastic portion of the orthosis can be washed with mild soap and water or rubbing alcohol.
3. The joint and screws on your orthosis are already set with the correct motion stops. **Please do not attempt to alter this yourself.**
4. Use any ambulation aids such as a walker, crutches, or canes as directed by your physician.
5. Follow the weight bearing guidelines, activity allowances, and restrictions ordered by your physician.
6. If you have any questions or concerns, please call **Presque Isle Medical Technologies**.



### Spinal Orthosis Patient Instructions

You have been fit with a highly supportive back brace. It is designed to reduce range of motion. Proper use and wear are required to obtain the desired result. This brace can not provide absolute protection. The following will help maximize brace comfort and function:

1. Wear brace as directed by physician.
2. Brace should be applied before getting out of bed unless instructed otherwise.
3. Weight changes will affect brace fit. Call **Presque Isle Medical Technologies** to schedule a brace check/adjustment.
4. Always wear an undershirt or garment to help protect skin.
5. Keep brace clean by wiping with a damp sponge or rubbing alcohol.
6. Spinal braces are most comfortable and effective when worn snugly.  
This will help reduce slippage and rubbing.
7. Fasten the straps near bottom first, then work towards the top.
8. Re-tighten straps throughout the day to maintain proper snugness.
9. Frayed or torn straps, loose padding, or worn hardware should be repaired immediately.
10. **DO NOT OPERATE ANY MOTOR VEHICLE.** Spinal braces restrict your mobility, vision, and reaction times.
11. Please call **Presque Isle Medical Technologies** if pressure areas on your skin do not return to normal color  
within 15 -20 minutes of removal of brace. Prolonged usage will cause darkening of the skin over maximum pressure areas. (Waist)



### Orthosis Care and Use Guide

An orthosis is a bio-mechanical device that may be used to improve walking, offer protection, prevent deformity, control motion or decrease weight on a limb.

Your orthosis is custom-made to your doctor's prescription and specifications and may provide any number of the functions mentioned above.

#### **What to wear with your brace**

- Always wear a cotton interface between the orthosis and your skin. For **AFOs** (ankle braces) this should be in the form of a sweat sock, for **knee braces** - a cotton knee sleeve, for **body jackets** - a cotton T-shirt, and for arm braces - a cotton undersleeve.
- Any orthosis that encompasses the foot **MUST** have a proper fitting shoe to be worn at all times with the brace. This is so you do not get hurt and/or your brace does not get damaged.

#### **Helpful skincare advice**

- When you remove your orthosis, examine your skin carefully.
- You may see large pink areas on your body. This is normal. They will fade 15-20 minutes after the brace is removed.
- Wash daily with mild soap and water.
- Dry your skin thoroughly with a towel.

#### **Maintenance tips**

- Wipe your orthosis once a week with a cloth and cool water and mild soap to minimize the chance of skin irritation. Bacteria may build up on your brace.
- Dry your brace thoroughly with a towel before putting it on.
- Do not place your brace near high heat. This could change the shape and fit of your orthosis.
- Clean the Velcro straps with a toothbrush, as necessary.

#### **When to contact the Orthotist**

- If skin problems arise (excessive redness, edge pressure pain, or blisters).
- If you gain (or lose) 10 lbs. or more.
- If the rivets loosen, or break.
- If the joints loosen or break.
- If the straps or buckles break.
- If the Velcro stops sticking.
- Before seeing the Orthotist for adjustments, be sure to have worn your brace for at least 30 minutes, if possible. This will allow the Orthotist to see the skin response and reaction to the pressure from the brace.

**Not sure? Please feel free to call Presque Isle Medical Technologies and ask to speak to the Orthotist for clarification of your questions.**



### Prosthesis Care and Use Guide

#### **Care of the Residual Limb:**

You will be provided with a wearing schedule for your prosthesis. Be sure to examine your residual limb, daily, for areas of redness, irritation, or swelling. If these conditions persist, contact your prosthetist immediately. Your prosthesis should not cause redness that lasts for more than ten minutes.

Cleanse the residual limb, daily, with a mild soap and water. Thoroughly rinse and dry. Do not soak, as this can make the skin tender. The preferred time to cleanse your residual limb is in the evening. If cleansed in the morning, be sure to dry, completely, before putting on your prosthesis.

Generally, lotions or creams are acceptable for use at night, but are not recommended for use in the morning prior to putting on your prosthesis. Never use lotion with silicone (gel) liners. A&D ointment may be used, if needed. Always check with your prosthetist on applying any product(s). Finally, do not shave your residual limb as this can often cause irritation of the hair follicles.

#### **Shrinker:**

When you are not wearing your prosthesis, you should be wearing your shrinker as instructed. This will help reduce limb volume fluctuations that can cause fitting problems. The shrinker should be pulled on so that there is no gapping at the end, no wrinkling, and no bunching at the top which could restrict blood flow. Also, keep the shrinker pulled above your knee. You will have to keep adjusting your shrinker throughout the day as it will tend to shift, and slip, eventually working its way off your residual limb.

Launder your shrinker using a mild soap and hang to dry. You should have two shrinkers so one is available while laundering the other. If your shrinker is not worn properly, problems can occur and cause problems in fitting your prosthesis. Make sure you contact your prosthetist if you have questions regarding how to wear your shrinker.

#### **Socks:**

It is extremely important that you learn to wear the appropriate sock ply(s). You will be instructed by your prosthetist as to how to make this determination. Wearing the wrong ply(s) of socks can lead to skin irritation and/or possible skin breakdown. Socks should be changed on a daily basis and laundered following directions on the package (different suppliers may have different care requirements). Your socks should fit snugly and be wrinkle-free. Any seams in the sock should be placed over soft tissue rather than bony areas.

#### **Liners:**

If you wear a silicone (gel) liner, it is very important that you follow the wearing schedule given to you. Initially, your residual limb will need to be conditioned to wearing a silicone liner. The care of the liners vary depending on the manufacturer. Customarily, the silicone liner should be cleansed daily with a mild soap and water and rinsed completely. Soap residue can cause skin irritation. If a rash appears, you may not be washing or rinsing the liner thoroughly. Your residual limb may tend to perspire more with a silicone liner. This is normal and, usually, will lessen over time. Regularly inspect attachment points for signs of wear and tear and contact your prosthetist if the attachment looks worn. While wearing a silicone liner, wear it fully above the knee and make certain there is no gapping between the end of the liner and your residual limb.

#### **Care of the Prosthesis:**

A prosthesis is a mechanical device and, as such, requires regular maintenance and care. If you notice anything unusual (visual, audible, mechanical, or functional) it should be immediately inspected by the prosthetist. Your prosthesis should be inspected every six months by the prosthetist to ensure proper fit and function. Do not attempt to adjust screws or other parts of the prosthesis yourself. It is important that you follow up with your prosthetist, even if you are not experiencing problems.

You may clean the inside of the socket with a damp cloth. If there is a mechanical lock inside the prosthesis, make sure that water does not get down inside the prosthesis. The outside of the socket can be cleaned in a similar fashion. Cosmetic stockings can be cleaned in the same manner as your stump socks. If there is cosmetic skin covering the prosthesis, it may be cleaned with a mild soap and water.

#### **Purchasing Necessary Supplies and Products:**

Most patients need to keep a few items on hand, such as: Socks, Liners, Shrinkers, Ampu Talc, or Sheaths. You can make an appointment with a practitioner if you are unsure of what you need, or, you can call and place an order by phone.

**If you have any questions, problems, or concerns, do not hesitate to call. Patient care is what we do best. We appreciate your patronage.**



### Patient Instructions Prosthetics

Proper fit, maintenance, and use are critical to provide desired function of your new prosthesis. The following suggestions will help maximize comfort and performance. Frequent follow-up is required to maintain desired function.

The components and supplies have been carefully chosen, assembled, adjusted, and secured according to manufacturers' exact specifications and should never be changed by anyone except a qualified practitioner.

**Please call as soon as you notice a problem.**

#### **Use and Care of New Prosthesis:**

- If your prosthesis uses a silicone or gel liner, please see the separate instructions regarding daily hygiene and donning/doffing the liner correctly. This will ensure longevity of the liner and maintain viability of your residual limb.
- Do not wear your prosthesis to bed. Put it on when you get up in the morning and take it off before napping or retiring for the night.
- Be prepared to change the amount and/or ply of your prosthetic socks as the volume of your residual limb changes. This may occur once in a while, once a week or even a number of times in one day. You will need to add or subtract socks as your residual limb swells or contracts.
- Notify your prosthetist immediately of any significant changes in weight and/or activity levels.
- You will lose fit in your prosthetic socket as your residual limb changes. This is normal and we will be able to adjust your prosthesis to accommodate these anatomical changes.
- In the event of a hard fall, CONTACT US IMMEDIATELY to allow us to inspect your prosthesis for hidden damage and to prevent the possibility of further damage to the prosthesis and most important, injury to you.
- If you are wearing a locking prosthesis – if the lock fails – DO NOT PANIC! It may only have a trapped loose tread from your prosthetic sock, which can be remedied. Call the office for an immediate appointment.

#### **Suggested initial wearing schedule:**

The first day you wear your prosthesis home, remove it every 1 to 1 ½ HOURS. Look carefully at your residual limb. If there are any red spots which disappear in five to ten minutes, do not worry. Your skin is simply reacting to new pressure and weight bearing spots. If, however, the red area does NOT disappear in five to ten minutes, PLEASE CALL THE OFFICE. We will schedule a prompt appointment to relieve this area so that it does not become a blister or sore.

**Special Instructions:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_