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Instructions for an Above Knee Prosthesis:

- The following is a basic guide from UNC Hospitals Department of Prosthetics and Orthotics to help you with your prosthesis. This is not a comprehensive guide and should not be used as a substitute for the instructions of your prosthetist or physician.
- An above knee prosthesis will allow you to get back on your feet, but requires determination and hard work. When you come in for an appointment, always have a pair of sturdy shoes (lace-up or Velcro closure are best) and shorts that are loose-fitting at the legs.
- At first, it is difficult to walk with an above knee prosthesis. You have to re-learn to walk in a different way than you ever have done before- by controlling the knee with the muscles on the back of your thigh instead of the ones on the front of your thigh. Your brain will re-learn this new way of walking, but it takes some practice. Physical therapy will help you to learn to use the prosthesis during “gait training.” The P.T. appointments should ideally start right after you bring your new prosthesis home. You will need a prescription from your doctor for physical therapy. You can see a therapist locally near your home, or here at UNC Hospitals. Make sure that the therapist you are seeing has some experience with gait training with a prosthesis.
- The socket should feel snug and supportive. You should feel the bone that you sit on resting on the back of the socket. This will feel a little uncomfortable at first, but should not be painful. This bone will toughen up while walking with the prosthesis. If you feel pain, let us know so that we can fix the problem. Be sure that the socket is not twisted inwards or outwards, as this can cause pain.
- There are several ways for an above knee prosthesis to be held on, or “suspended.” Suspension can be via a TES belt (neoprene waist belt), hip joint and waist belt, gel liner with a shuttle lock, gel liner with lanyard (strap), gel liner with suction (seal-in) or suction. The type of suspension that is best for you depends on a lot of factors, and may change over time. Sometimes, more than one means of suspension is used for one prosthesis.
- Suction suspension is an excellent way to connect the prosthesis to you. If your prosthesis uses suction suspension, you will put on (don) the socket by pulling in with a pull sock or using lotion (“wet fit”). The socket must be exactly the right size for your limb. If you gain weight or your limb swells, soft tissue may come out of the top of the socket and cause an adductor roll. If this problem persists, a new bigger socket must be made. If you lose weight or your limb shrinks, you will lose suction. Partial loss of suction causes a rude sound, and the potential for the prosthesis to fall off. The socket can be padded to some extent, but if it is much too big a new one must be made. Never try to walk without the prosthesis fully donned and on securely.
- Suspension via TES belt, hip joint and waist belt, gel liner with shuttle lock or lanyard, and seal-in gel liner is more forgiving for volume change. At first, socket fit should be snug. As you walk,

the swelling and fluid in your limb will be pushed up out of your limb and the socket will become looser. The socket will feel less comfortable when this happens, and you may be able to move your leg around inside the socket. To take up space when this happens, you will put on a prosthetic sock. If you are using a gel liner, socks are put on over the gel liner. Socks come in different thicknesses- 2 ply, 3 ply, and 5 ply. If your prosthesis uses a shuttle lock, make sure all of the sock fabric is out of the way of the pin so that material doesn't get stuck in the lock. Socks can be layered for desired thickness. Try to use the thickest sock available- for example, instead of using five 2-ply socks, use two 5-ply socks to get 10 ply worth of thickness. Your limb will shrink as you walk during the day, so you should keep a few socks in your pocket or purse to put on during the day as needed. If the prosthesis is too tight and won't go on in the morning, you can put on a shrinker for a couple of hours to reduce swelling. It is a good idea to wear a shrinker when not wearing your prosthesis, especially if you have a problem with edema (swelling) in general.

- If your prosthesis uses a shuttle lock, metal or plastic pins will be loc-tited and tightened into the liners. If these ever come loose, please don't use the loose one until we can loc-tite and tighten it again. This is rare, but a loose pin can cause the prosthesis to not be secure. You should not wear a gel liner with pin without the prosthesis, because if you were to fall on the pin it could hurt your limb. Once you hear one click of the pin engaging into the lock, it is safe to walk. As you walk and settle into the socket, you will hear a few more clicks. This is a one-way lock and is designed to only release when the button on the side of the socket is pushed and held. If the socket is too loose when you put it on, you will hear several clicks in rapid succession. This means that you need to put on a sock.
- A gel liner is put on by turning it inside out, flattening the end and then rolling it up on your limb. There should be no wrinkles or air pockets between the liner and your skin. The liner should be cleaned every night by turning it inside out, putting it into the sink and hand-washing it with soap and water. Rinse it very well, turn it right side out and let it air dry overnight. A clean liner should be put on every day, or an itchy red rash may develop on your limb. If you have two gel liners, they should be alternated daily to make them last longer. Gel liners will need to be replaced when they wear out.
- If you are using seal-in or suction suspension, be sure that your leg is fully in the socket before screwing in the valve. Feel with your finger to be sure that there is no space in the bottom of the socket, and then you can screw the valve in place. Push down with your limb in the socket and hold the button on the valve to bleed out any air in the socket before you begin walking. This will allow for better suction. The rubber membrane on a seal-in liner works best when it is sprayed with rubbing alcohol before donning the prosthesis. A small spray bottle filled with rubbing alcohol works well for this purpose. Once the membrane is broken in, usually within a few weeks, this is no longer necessary.
- Your limb will change shape over time. This is a normal process. You will probably notice that your limb will begin more round and swollen when you first start using your prosthesis. As you walk, the swelling is pushed up and out, and the end of your limb will shrink. Also, the muscles in your limb will atrophy some over time. Your limb may appear to be smaller and more

tapered. For this reason, a replacement socket is often needed within the first few months to a year to appropriately fit your limb.

- You will need to look for any redness on your skin or skin breakdown from walking in the prosthesis. If redness, blistering or a sore develops, call us immediately and stop using your prosthesis until the sore place heals and we can solve the prosthetic problem. You may need to see your doctor to evaluate a wound. The most common cause of this is change in limb shape.
- You should wear sturdy lace-up or Velcro closure shoes with a standard heel height. If you wear shoes with a different heel height, it will throw you forwards or backwards and may cause you to fall.
- There are a lot of prosthetic knees and feet to choose from. Your prosthetist will help choose the most appropriate knee and foot for you based on your functional level, goals and needs. Be sure to have a good discussion with your prosthetist about your goals and needs.
- Prosthetic socks do not require a prescription, though some insurance companies limit the number of socks covered per year. All other prosthetic supplies, including socket changes, shrinkers, TES belts, gel liners, feet and knees require a prescription from your doctor. Prescriptions can be faxed to our office if that is more convenient. You should check with your insurance company to see the details of your prosthetic coverage so that you don't get any surprise bills.
- When we deliver the prosthesis, we will have loc-tited and torque the appropriate fittings. Please do not make your own adjustments, as the fittings may not be safely tightened afterward. Also, inappropriate alignment changes can make you fall or walk inefficiently. Please do not grind, cut or otherwise alter your socket. If you need an adjustment, let us do it for you.
- Typically, you will be given an appointment for follow-up about 2 weeks after you get your prosthesis. At that point, we will make any necessary adjustments to your prosthesis. You should certainly come back sooner if any problems develop before then.
- A cosmetic/protective cover may be added when the initial adjustments are completed. Once the initial fitting is complete, we will want to see you for any adjustments or repairs, and at least once every six months to a year.
- A Prosthesis is made of mechanical parts. As with anything mechanical, it is possible for these parts to wear out or become loose and fail. If you notice that your prosthesis is making a funny sound or "walks" differently, please stop using it immediately and bring it in to be evaluated. You should never walk on a loose or broken prosthesis.

This information is not comprehensive, but intended to give you some basic instructions. If you have questions, please make an appointment to see us or call us.

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