

AFO (Ankle Foot Orthosis) –Thermoplastic

Description of Orthosis:

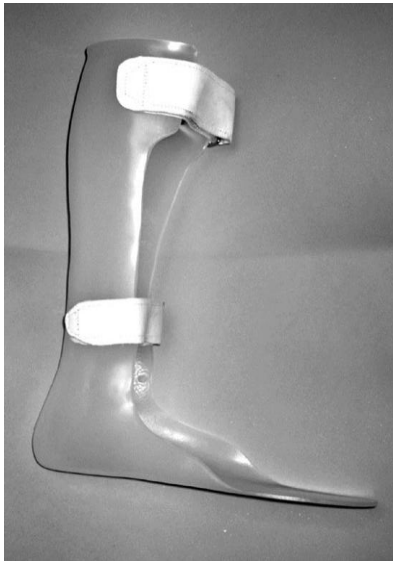
The acronym “AFO” is a term that describes a medical grade brace that is typically used for walking purposes. The acronym “AFO” is short for Ankle Foot Orthosis. An AFO is a device that supports an individual’s ankle and foot. It typically extends from below the knee down to and including the foot. This medical grade support is used to help control instabilities in the lower limb. It supports a person’s ankle and foot by maintaining proper alignment and through the use of control motion. A thermoplastic AFO is usually a custom fabricated, molded plastic device. It is designed to enclose the back of the calf and bottom of the foot, generally speaking. It can be fabricated with or without ankle motion. It is best to use your new AFO inside of a shoe whenever your foot is on the ground.

A thermoplastic AFO is generally for patients that suffer from a neurological or orthopedic conditions. Some examples include :

- 1.) CVA (Stroke)
- 2.) MS (Multiple Sclerosis)
- 3.) CP (Cerebral Palsy)
- 4.) Traumatic Brain Injury
- 5.) ALS (Amyotrophic Lateral Sclerosis)
- 6.) Foot Drop due to a common peroneal nerve lesion
- 7.) Foot Drop due to unknown origin

In each of these aforementioned cases, the Ankle Foot Orthosis (AFO) will help to maintain the affected joints in proper alignment during ambulation and activities of daily living. Its goals are to help a person walk better when they suffer from weakness, muscle imbalance, or dysfunction in the lower extremity. In other words, the foot will not be allowed to drag, nor will the ankle be allowed to roll when this orthosis is applied. Indirect support of the knee is another favorable outcome of AFOs, as the knee is less likely to buckle or hyperextend due to motion control at the ankle.

When a person suffers from common orthopedic conditions, an AFO can also be of use. Through the use of motion control and support, a person will be more able heal appropriately. Common conditions such as examples of common orthopedic conditions would be fractures, severe sprains, and arthritis. Patients who have pain in the foot and ankle area due to trauma or other reasons may benefit from an AFO because it immobilizes that part of the body, permitting it to heal, and thus reduces pain associated with movement.



Plastic AFO



Plastic AFO with Articulated Ankle

Application:

1. Apply a cotton stockinet or a long, thin cotton sock to the leg and foot. It is important to apply a sock first because it helps to wick away moisture. (figure 1)
2. Loosen closure straps on the sides of the AFO so that the leg and foot can be applied to the brace easily.

3. Slide the AFO into position. This is done correctly when the heel is well seated inside of the AFO. Slide the heel all the way down and back into the AFO and make sure foot is flat as well.



(Figure 1)

4. It is best to make sure the brace is snug for the patient and this is accomplished by pulling the tension straps to a comfortable but snug position. You, or your orthotist can mark the straps in order to find a consistent measure of tension every time the brace is applied. (figure 2)
5. The AFO needs to be inside of a shoe whenever the foot is on the ground. When putting the brace inside of a shoe, you may need to open the shoe more wide or use a shoe horn to help make the AFO slide in more easily. (figure 3)
6. Special shoes for AFOS are not usually necessary, however you can obtain new ones if you wish. If you are going to buy new shoes, it is best to bring the AFO with you to the shoe store to have during the fitting process.
7. It is sometimes helpful to remove the insole that came with the shoe. These are typically 1/8" thick and the space that can be provided, after the insole is removed can make a difference for some patients. Shoes with a wider toe box or those that have velcro closures are often times easier to apply over an AFO. (figure 4)



Figure 2



Figure 3



Figure 4



Figure 5

Wearing Schedule:

The first day that you are provided with your AFO, you can start by wearing it in one hour intervals. After the first hour, it is important to remove the brace and check the skin for any irritations. This is especially important for individuals that have neuropathy. If some small, light red marks are in existence, then keep track of their progress. They should go away within 20-30 minutes.



Slight redness is not unusual over a patient's instep or perhaps under the ball of the foot. If the red marks mentioned do not go away, or if you notice irritations such as bruising or blistering then it is important to contact your orthotist right away. It is important that you **do not put the brace back on** in this scenario. Call right away to your orthotist and set up a follow up appointment.

If the skin is ok, with respect to the AFO, then wait 1 hour and reapply the brace. Each time you should check the skin and continue in this fashion until you are more comfortable with the fit and function of the AFO. The following day, you may increase the wearing time to 2 hour intervals. Again, monitoring your skin with respect to the AFO is always important.

*If your physician indicates that they want you to wear it with a quicker break in schedule, then follow their instructions. Monitoring the skin is still important under these conditions.

Cleaning and Maintenance:

It is best to clean your AFO on a regular basis. You can clean the AFO by spraying the inside with rubbing alcohol and wiping it dry. This way you can help to remove any body oils or residue that may accumulate. You may also wipe the AFO clean by using a damp towel with an anti-bacterial soap or anti-bacterial, moist towelettes.

You can also clean the stockinet (or sock) in cold water and line dry it. It is important to not immerse the AFO in water. While the plastic itself may not be compromised, the straps and metal fasteners that come with the brace may be harmed. Moreover, it is important to keep the AFO away from heat sources that can ruin the plastic's shape and strength. You will also benefit from keeping the velcro straps free from things such as lint or hair. Over time the straps might wear out and sometimes they need to be replaced. If this is the case then contact your orthotist for assistance.

Tips and Problem Solving:

Changing the heel height of the shoes that you use in conjunction with an AFO can alter the function of the device. This means that your stability levels can be altered if you begin using the brace with higher heeled shoes.



If you have any questions or concerns, or if you notice skin irritations due to the brace it is best to call your orthotist for assistance.