

KAFO (Knee-Ankle-Foot Orthosis)

General Description:

The term KAFO is an acronym that stands for Knee-Ankle-Foot Orthosis and describes the part of the body that this device encompasses. This device extends from the thigh to the foot and is generally used to control instabilities in the lower limb by maintaining alignment and controlling motion. Instabilities can be either due to skeletal problems: broken bones, arthritic joints, bowleg, knock-knee, knee hyperextension or muscular weakness and paralysis. With this in mind, the indications for the use of a KAFO are many and varied and any one particular design is specific to the needs of the person it is made for.

There are two very general categories of KAFOs: Metal designs (See Figure 1) and plastic and metal designs (See Figures 2 and 3). The metal design consists of a metal structure shaped to the limb and upholstered with leather at the points where the device makes contact with a person's body. This is the more traditional of the two designs. The plastic and metal design is the one most frequently encountered today and is usually a plastic device custom molded to the person's body with metal components in key structural areas only. The reason for the increased use of the plastic and metal design is that it is lighter in weight and is considered to be more cosmetic.

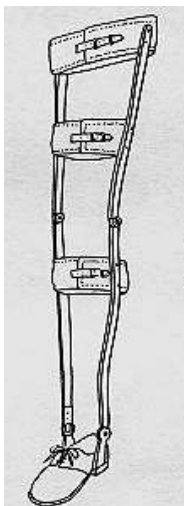


Figure 1



Figure 2



Figure 3

Some KAFOs may have drop locks at the knee joint (See Figure 4). A drop lock allows the knee to be kept in extension or straight while walking (See Figure 5), and the joints

can be unlocked for sitting (See Figure 6). Drop locks would be used for someone with severe knee instability.



Figure 4



Figure 5



Figure 6

Application:

Since there are many different reasons to use a KAFO, there are many different designs. Each design has its own special features and its own specific way to be put on properly. The orthotist providing the device will instruct the patient on the proper way to put the KAFO on at the fitting to make best use of the design features of the device.

The following instructions are for putting on a basic plastic KAFO with metal uprights:

1. While sitting, position the thigh and the leg inside the KAFO (See Figure 4).
2. Position the heel completely back into the plastic of the KAFO (See Figure 5).
3. Secure the Velcro strap across the instep (See Figure 6).
4. Continue fastening the Velcro straps up the leg and the thigh (See Figure 7). The foot can then be inserted into the shoe. If necessary, the insole of the shoe can be removed to allow for more room for the foot portion of the KAFO.



Figure 4



Figure 5



Figure 6



Figure 7

Wearing Schedule:

On the first day you receive the brace, begin by wearing for only 1 hour. After 1 hour, remove the brace and check your skin for red marks. Some small, light red marks may be noticed on the skin that should go away in 20 to 30 minutes after removing the brace. Slight redness is common over the instep and under the ball of the foot. If the red marks do not go away in 20 to 30 minutes or if you notice any scratching, bruising, or blistering, **do not put the brace back on**. Call immediately to schedule an appointment with your orthotist.

If the skin is ok, wait at least 1 hour and then put the brace back on for 1 hour at a time for the rest of the first day, checking the skin after each hour.

On the second day, put the brace on for 2 hours. After 2 hours, remove the brace and check the skin. If the skin is ok, put the brace back on for 2 hours at a time for the rest of the day, checking the skin after every 2 hours. If your skin is ok, gradually increase wearing time by 1 hour each day, checking the skin after each wearing time.

Cleaning and Maintenance:

The best way to clean a KAFO is to spray the inside with rubbing alcohol and wipe dry to remove body oils and residue. It can also be cleaned by wiping it out with a damp towel and anti-bacterial soap or anti-bacterial moist towelettes.

Do not immerse the KAFO in water, as this will harm the instep strap and metal fasteners. Keep the KAFO away from excessive heat to prevent damage to the plastic.

Tips and Problem Solving:

- KAFOs should always be worn with socks and shoes and also some type of fabric over the leg to serve as an interface between the leg and KAFO to improve comfort and wick perspiration.
- The best type of shoe to use is a basic gym shoe with the laces or Velcro extending well down the front of the shoe. This provides adjustability and allows the shoe to accommodate the added dimension of the device in the shoe without having an excessively large shoe on the opposite foot. Gym shoes help to encompass the foot and to secure the KAFO. Dress shoes and sandals are not recommended for these reasons.
- If you notice red marks, bruises, or blisters on your skin, discontinue wearing the brace and call your orthotist to schedule an appointment.
- If there are any problems or questions, please contact the orthotist.