

Orthotic Bracing: Why and How

Orthotic braces, or orthoses, are used to provide support to a weakened body part or joint. While many times they are worn for a short period of time, usually after an injury or surgery, some braces are used to address long term or chronic conditions. An example of some common conditions for which long term use of an orthoses may be prescribed by your physician include osteoarthritis, scoliosis, back pain, and drop foot.

Some orthotic braces are used passively, meaning they simply support the injured or weakened body part. A common example of this type of device is an ankle foot orthoses (AFO) that is used to address drop foot, a common symptom after a stroke that results in the loss of the ability to control the ankle joint. The use of an AFO in this situation maintains the correct position of the foot and ankle, allowing the patient to walk without stumbling and potentially falling.

Other orthotic braces offer a more active role in that they not only support the weakened body part, but also provide a counterforce that achieves a desired outcome. A common example of this type of device is a knee orthoses that is due to treat osteoarthritis a common disease that causes pain as a result of bone surfaces contacting each other. Osteoarthritis orthoses are used to separate the bones and reduce pain and inflammation as a result.

Your physician, in consultation with the provider of your orthoses, determined the style and type of orthosis that best meets the need of your individual condition. Depending on the style and complexity of your orthosis, you may have been seen by an orthotist, an allied healthcare provider who is specially trained in the fabrication and fitting or orthotic braces.

Types of Conditions for which Therapy Often Includes "Off the Shelf" Bracing

Off the shelf orthoses are a subset of orthotic treatment that are typically used to treat short term or minor injuries where there is no need for customization in order for the orthosis to meet the needs of the user. These orthoses are typically dispensed by your provider with minimal instruction regarding the care, use, and wearing of the orthosis.

Off the shelf orthoses are commonly used to treat conditions such as foot and ankle sprains, minor shoulder injuries and to provide back support.

While often effective, more significant or chronic conditions usually require the customization of a primarily prefabricated orthosis or custom fabrication of an orthosis designed to meet the extended medical needs of the patient.

The provision of custom fit or fabricated orthoses are usually done by individuals with proper training, education, and expertise, such as a certified orthotist.

Ankle, Foot, and Knee Bracing

Orthoses that are used to treat conditions of the ankle, foot, and/or knee come in many varieties and range from basic, off the shelf, orthoses that are typically made of plastic

and not designed for use by a specific patient, to complex orthoses that are custom fabricated from a model of the patient's limb and used to treat significant injuries or chronic conditions.

Orthoses used to treat both the ankle and the foot are correctly named ankle foot orthoses, or AFOs. These orthoses are constructed of either plastic or leather and metal, and provide support to the foot through the use of a molded or non-molded footplate or orthopedic shoe with an additional segment that extends upwards onto the lower leg. AFOs are often used to provide support to a weakened ankle and foot to allow the patient to walk without a significant limp or abnormal gait pattern.

Knee Orthoses can be made of plastic, metal, or composite materials and are primarily used to provide support to or immobilize the knee joint. Knee orthoses are often used to completely immobilize the knee joint immediately following surgery. This immobilization facilitates healing and maintains the proper position of the knee in order to prevent further injury. Knee orthoses may also be used to address chronic conditions such as osteoarthritis and hyperextension.

Back and Spinal Bracing

Spinal orthoses are used to provide support to the back and spine through immobilization of the spinal region and compression of the soft tissue of the back. Chronic back pain is a major health issue and can be severely debilitating if not properly addressed. Spinal orthoses are usually categorized according to how far up the back they extend. Sacral orthoses only address the lower back area, whereas lumbar sacral orthoses (LSOs) extend from the hips to the middle of the back. For patients requiring significant control of the spinal region, a thoracic lumbar sacral orthosis (TLSO) may be prescribed. TLSOs extend from the hips to the shoulder blades and cover the majority of the back in order to be effective.

Spinal orthoses are fabricated from various materials, from elastic materials such as Lycra or Spandex, to cotton or nylon, all the way to a full plastic "body shell" design. The particular spinal orthosis design that is needed to best address the patient's medical needs will be selected by the physician in consultation with an orthotist or other provider of the orthosis.

Shoe Orthoses

Orthopedic shoes are used to accommodate and address specific deformities of the feet. While orthopedic shoes by themselves are not a covered benefit under the Medicare program, they are eligible for Medicare coverage if they are used as an integral part of an ankle foot orthosis. This type of design is usually constructed of one or more metal bars that attach to an orthopedic shoe using a caliper or stirrup attachment. The orthosis is unable to function without the shoe, therefore the shoe is considered part of the orthosis and therefore eligible for Medicare coverage.

Medicare will also cover therapeutic shoes that are used as part of the course of treatment for diabetic patients. These shoes must be constructed of specific materials

and in a certain way in order to be eligible for coverage. More information regarding Medicare coverage of diabetic shoes may be available through your physician or podiatrist.

Sports Bracing

Orthoses that are specifically designed for treating or preventing sports injuries are a unique subset of braces. These orthoses are typically designed to be lightweight and offer the maximum amount of protection with the least amount of hindrance to the athlete.

Sports braces are often used to prevent injury as opposed to treating an injury. Watch closely at any professional football game on television and you will see that most of the players on “the line” are wearing knee orthoses. These sports braces are designed to prevent hyperextension of the knees during the grueling collisions these athletes experience on every play.

Sports braces are also used to address injuries once they occur. Common sports injuries include separated shoulders, broken collar bones, and ligament sprains and tears. Sports braces are very effective in treating these injuries and are often a useful alternative to painful and costly surgery.

Sports braces are often prescribed by physicians with specific experience in what is commonly known as sports medicine. These physicians often work with orthotists to ensure the proper provision of the correct orthosis to meet the athlete’s specific needs.

Common Wrist, Ankle, Elbow, and Knee Braces, for Use at Consumer Discretion

Any pharmacy that you may walk into contains an aisle that is full of elastic style braces that you may purchase as a retail transaction. While these supports offer limited functionality, they are not defined as orthoses and should be used at your own discretion.

In order for an orthosis to provide proper support of a weakened joint or body member it must exhibit some level of rigidity. Elastic braces that are typically sold at retail provide compression, and may be useful in the treatment of very minor injuries such as strains or muscle pulls. Without inherent rigidity however, they cannot provide the appropriate counter force required to truly support the body joint or part that is injured.

Braces that are purchased without consultation with your physician or orthotist may not address your medical needs and can often lead to additional injury or pain.

The Doctor’s Prescription for your Brace

While it is not uncommon for your physician to provide you with your orthosis directly, in most cases your physician will provide you with a prescription for an orthosis and a referral to an orthotist or other healthcare provider to complete the fit and/or fabrication of your orthosis. The physician should communicate his or her desires for the type, style, and design of the orthosis that best suits your medical condition and needs.

As the recipient of the orthosis, your involvement in this process is crucial towards obtaining a positive outcome. Do not be afraid to ask questions regarding your orthosis and how it will be used to improve your condition.

Advertisements for “Customized Bracing” and Common Misconceptions

There are countless television programs that usually come on late at night that advertise various products and services. While some of these programs offer quality products at reasonable prices, the fit and delivery of a medical item, such as an orthosis, is not well suited for an infomercial environment. An orthosis should be prescribed by a physician who has an existing relationship with a patient and fit by an individual who possesses appropriate training to ensure that there is no potential harm to the patient. Television programs that ask questions like “do you have knee or back pain” and offer a toll free number to call with a guarantee of quick delivery and setup “in your home” may not have the best interest of the patient in mind and should be considered with caution.

A better alternative if you are experiencing pain or discomfort is to consult your physician and discuss if an orthosis may be an effective course of treatment for your specific needs.

Your Brace and Your Health Insurance

Most insurance plans, whether private or public, provide coverage for orthoses. Traditional Medicare covers orthoses with a 20% patient coinsurance. For patients who have Medicare and a Medicare supplement policy, their orthosis may be covered with little or no out of pocket cost.

The provider of your orthosis should provide you with a complete estimate of the cost of the orthosis, including any patient responsibility, prior to delivery of the orthosis. If this cost estimate is not offered, ask for it. It is not an unreasonable request and providers who are not willing to provide a cost estimate should be used with caution.

The Good News: In Addition to Improving Your Life, Mobility and Healing, Orthotic Bracing Actually Reduces Total Health Care Expenses for Patients and Payers

A current area of focus on the delivery of healthcare in the United States is the use of cost effective delivery models that reduce the overall cost of healthcare to both patients and insurers. Recent studies on the cost effectiveness of orthoses have shown promising results. Studies show that the use of an orthosis actually reduces the overall cost of healthcare as a result of increased patient mobility and a reduction in related health issues. Additional studies are currently underway to further quantify actual cost savings in healthcare expenses for patients who receive an orthosis as opposed to those who do not.

