

Bledsoe Brace Systems Educational Series CP030011 B

IS THE ULTIMATE ANKLE BRACE WORTH THE EXTRA MONEY?

Bledsoe Brace Systems recently introduced a new functional ankle brace that is very thin but unbelievably supportive. It is a double upright hinged off-the-shelf adjustable AFO with a rigid stirrup and foot plate that attaches to the shoe (with a hook and loop fastener) to permit the shoe to control the foot while the upright arms control the lower leg. The Bledsoe Ultimate ankle brace may actually be capable of preventing an ankle sprain, but its biggest role is treating first, second, and third degree acute and chronic ankle sprains. It should not be coded for insurance as a multi-ligamentous ankle support. It is more appropriately termed a double upright hinged AFO with a rigid stirrup that attaches to the shoe! In other words, it is classified as a functional ankle brace not a support!

Unlike ankle supports, the Bledsoe Ultimate ankle brace is manufactured from a formed aerospace-aluminum super alloy shell. It is 10-15 times stronger in construction than most ankle supports. It features compression-molded padding that is very comfortable. The brace attaches to the shoe beneath the innersole using hook and loop fastener material. It can be fitted to the shoe in less than five minutes. The most effective device that we currently have for controlling a foot is a shoe. Therefore, it is best to permit the shoe to control the foot, then to allow the brace to control the lower leg so that the ankle is adequately contained. This brace is not so stiff as to completely prevent ankle motion. In fact, plantarflexion and dorsiflexion are not inhibited. Inversion and eversion is also possible up to a limit. The brace is very springy and strong. As the ankle begins to reach the normal limits of inversion and eversion, the force rises very rapidly preventing the ankle from going too far.

The Bledsoe Ultimate ankle brace also performs three other very important functions. The first function is to cause an increase in proprioception. The stiffness of the device gives the patient increased information about the position of the foot and ankle. The second function is to decrease the time required to perceive the force. As the ankle tries to invert, the leg runs into the brace causing the force to rise very rapidly. This feeling of pressure is perceived earlier than the ligaments of the ankle

would normally perceive excess strain. This opens the front-end of the reflex reaction window. The third function is to slow the rate at which abnormal movement occurs. The strength and stiffness of the Bledsoe Ultimate ankle brace slows down the rate of ankle inversion and eversion movement. This opens the back end of the reflex reaction window. In a recent study by Rose Musculoskeletal Research Laboratory (Denver, CO), the time required for a patient to step down on a platform and reach 30° of ankle movement was measured both with and without a Bledsoe Ultimate ankle brace. The patients did not know how far the platform would permit the foot to move or whether the platform would move in inversion or eversion. Without an ankle brace, the ankle required about 150 milliseconds to reach 30°. This is not sufficient time for the mechanoreceptor nerves in the ligaments to sense the force, cause a reflex reaction, and for the muscles to reach peak torque. In other words, if the patients had been allowed to invert or evert completely, their ankle would have been sprained. With the Bledsoe Ultimate ankle brace in position, the patients required about 300 milliseconds to reach the same 30° of motion. This is sufficient time to sense the force, cause the muscles to react, and reach peak torque to control the movement. The brace, therefore, allows the patient's muscles to react in time to save the ligaments.

The Bledsoe Ultimate ankle brace is more expensive than other supports/braces on the market because it fulfills a functional role that no other ankle support or brace has ever achieved. It can act as a comfortable acute-care device, then play the role of a functional ankle brace for early motion therapy followed by early return to sports activity, and finally act as a prophylactic brace to help prevent further ankle sprains. It can also be utilized as a functional brace to replace ankle taping, and to treat chronically unstable ankles on patients that are performing high-level sports activity. Considering the cost to treat an ankle injury, as well as the lost time from work or activities, is it worth the few extra dollars to be certain that the patient has no further ankle problems? Ask the patients!

**There is a difference!
The difference is in the details!**