Using Inner Boots

for Orthotic Treatment of the Lower Extremities

Inner boots allow a passive-mechanical support of the foot and a circular pressure distribution, which help the orthosis perform its function and prevent pressure points caused by the edges of an orthosis.
In the case of a flaccid paralysis, inner boots help support the foot extensively and hold it in a position that is close to a physiological one in order to correct the anatomical axes of the foot.
In the case of spasticity, the foot is held mechanically in the respective physiological position of the patient, generally under tension with straps or laces. Furthermore, it is possible to provide relaxation through passive-mechanical support of the spastic foot by integrating pads.
Inner boots are generally produced with semi-stiff polypropylene (see picture), leather or similar materials. They provide the patient with sufficient stability as well as a low degree of flexibility of the foot joints.

Advantages and Disadvantages

+ joint axes are held passive-mechanically in a physiological position;
+ extensive pressure distribution;
+ general, positive effect on the joint chain (the adjustment of the foot results in a more upright position of the patient).

- restricted range of motion due to the circular, tight frame;
- a common, strong pressure on the dorsum of the foot (laces/straps) in the case of spasticity;
- poor blood circulation due to the circular frame;
- interference with the muscle activity;
- adaptation to growth very difficult due to the circular frame.

Conclusion

All foot deformities that are passively correctable and to a certain degree structurally contract can, in addition to orthoses, be treated with inner boots.
In general, there is no reason against the use of inner boots with orthoses of the lower extremities, but a distinction between the two medical appliances should be made. When correctly produced, inner boots can serve as a medical appliance in bringing the anatomical conditions into a starting position that is closer to a physiological one before producing the orthosis. Therefore, an inner boot should be viewed as a medical appliance of its own, which should be produced before starting the treatment with an orthosis. After the fitting of the inner boot, a cast with the inner boot can be produced for the respective orthosis using a carbon fibre technique. Subsequently, the carbon fibre orthosis can be produced following our usual production procedures.

AFO with NEURO SWING system ankle joint and inner boot made of semi-stiff polypropylene

PR9017-GB-07/2017

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