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Title

I.N.E.S.S Innovative Edge Silicone System

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None

Summary

I.N.E.S.S : How to manufacture a device combining rigidity, light weight, flexibility and technicity.

Introduction/ basics

O&P technicians are always searching the best device to give their patient back autonomy and mobility combined with comfort and low energy consumption. As you know, many techniques exist nowadays to offer the best possible solution for Socket technology for our patients. We believe flexible sockets are the way to go. And more specifically combining silicones and carbons to achieve the best of the 2 worlds and therefore obtain rigidity, light weight, flexibility, and technicity. But how can we combine them to be weight, time and cost efficient?

Material method; implementation/ process

In Trinytec, after 8 years of research, we have developed a new technique to combine materials known as “not combinable”. By creating a technical frame with carbon or even other composite materials (such as Bamboo, Basalt, Aramid etc...) and combining it edge to edge with our special silicones we can create a device with the exact rigidity or flexibility we need in each specific area. The technology is patented and the idea behind it is to be able to put HTV silicone where we need it, RTV silicone where we need it, and different types of composite materials where we need them.

This elaborate technique allows to overcome some of the weight related problems we all encountered before with silicone use. With I.N.E.S.S we can now manufacture:

- AFOs/KAFOs
- Socket edges to better esthetics and protection of clothing and liners
- Sockets weighing under 600g

- Body jackets with silicone edges, zips, straps, or inflatable pockets

Results

Mastering this technique and the use of different materials allow us to be freed from their constraints and open the doors of our imagination.

Manufacturing technical, flexible, and very light medical devices becomes a piece of cake for O&P technicians.

45 patients have been testing this new technology.

Our experience confirms we can answer any specific need.

- Tibial sockets: 60% with silicone edges, 40% with partial or total silicone cover
- Femoral Sockets: 70% integral internal silicone to favor comfort and flexibility. 30% with distal insertion and distal edge in silicone to favor dynamism and low weight.
- Orthosis: AFOs with silicone edges
- Body Jackets: under development

Discussion/ conclusion; conclusion for the practice

Many different types of systems are being presented to bring more comfort to our patients. We are all in search of new techniques and ways to achieve better results and innovative solutions for them. Our creativity has no limits apart from financial reimbursement. I.N.E.S.S.

This system uses materials and techniques O&P know and master but combining them in such a way that it becomes easy for them, and the result is undeniable.

References

The socket has been tested with 45 patients, and the project has been developed since 2013.

I.N.E.S.S patients cant go back to their previous sockets because their comfort and technical properties have never been better.

Image: INESS 1_275.png

Image: INESS 2_276.png

Image: INESS 3_277.png

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