

### Cosmetic cover for transtibial prosthesis



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**Sector:** Biomedical

**Challenge:** Design and manufacture of a cosmetic cover for a transtibial prosthesis for a fencing player.

**Solution:** Design and manufacture of a personalized cosmetic cover for a 2 mm transtibial prosthesis. thick, 300 gr. weight and coupled by neodymium magnets.

#### CHALLENGE

Optimus 3D has designed and manufactured a cosmetic cover for a transtibial prosthesis for the Basque fencer Manuel Quesada, who recently competed in the Warsaw World Championship in the 'Sable' and 'Sword' modalities.



The Basque fencer Manuel Quesada participated in the Fencing World Cup in Warsaw in 'Sable' and 'Espada'.

#### SOLUTION

The design process consisted of digitizing the healthy anatomy by means of an optical 3D scanner in order to obtain its symmetry and model a sleeve adapted to the needs of the patient. The manufacture was carried out in additive technology (PA12 powder sintering in HP-MultiJetFusion machine).



The transtibial prosthesis cosmetic sleeve was tailored to the fencing fencer.

#### ADVANTAGES

The mechanical properties of the PA12 material used, (hardness and toughness), give the product a great capacity to absorb shocks and falls.