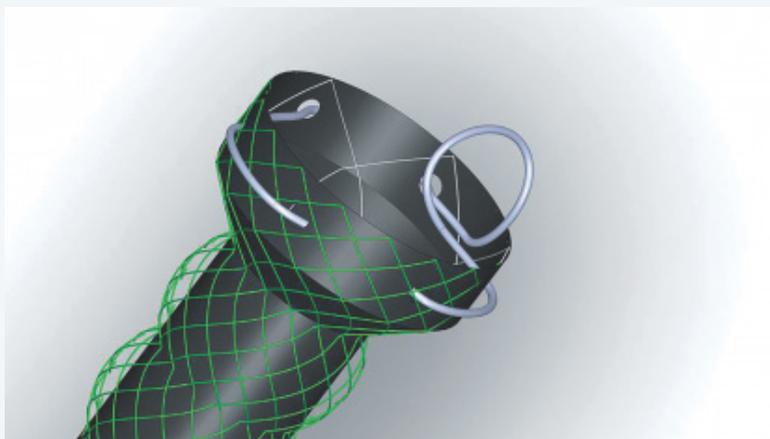


The French solution to treat obesity without surgery arises from a partnership Carnot

Start-up Horuscare considers clinical trials of alternative innovative solution to bariatric surgery for 2017 agenda.

Supporting Innovation

Slowing passage into the bloodstream of essential nutrients so as to facilitate significant weight loss! Such is the tenet of Horuscare's 'Reborn' medical device. A 60-cm titanium / silicone tube that is inserted into the duodenum during an endoscopic by high channel non-surgical procedure. Once the tube is in place, the outer membrane prevent fats and sugar from quickly seeping into the bloodstream. The system effectiveness in particular lies in its capacity to seal off the supply of nutrients, at the same time assess organic stability.



The client needs

Horuscare was born out of the conviction of Jean-Michel Verd, the founder of the company, that existing obesity treatment approaches needed to be re-thought. Both mechanical and medical expertises have been necessary to determine the relevant technical base to guarantee stability and reliability of the system after implementation. The first step required formalising a set of constraints in accordance with very strict specifications imposing that no hook cause wounds or infections. The device placement was however recognised essential to avert migration and subsequent intestinal obstruction due to contractions. In view of such procedure, long-term simulator testing was performed to allow validation of the 60-cm tube length hypothesis based on the original anatomical shape of the intestine (anchoring the final 3D-position of the ligament of Treitz at 180 degrees)

Partnership

Assistance has been provided as needed to Horuscare by **CETIM Carnot Institute** at Saint-Étienne for the development of the medical device. After specifications were completed several alternatives assessments have been devised. Hence stent- which is already used in cardiology - as the chosen solution. The waterproof membrane structure is supported by the stent which is held in position without hooks. Consequently, the device and unique test bench were jointly developed by CETIM and Horuscare. Such bench is used by both Radwan Kassir, MD. at Saint-Étienne University College Hospital, and Horuscare to determine the proof-of-concept in vitro study with a prototype. Beyond the patenting, Horuscare is presently involved with animal-based (in vivo) testings, at the same time seeking adequate funding of clinical trials applied to the human body. This innovation enriches the offer of not surgical therapy and aims at a multi-million euro mainly export market.