RibBridge - Chest Wall Correction Kit

The Invention

Patients that suffer from bone cancer in the ribs or lung cancer that gas spread into the inner portion of the chest, require a resection of the thoracic wall. An artificial device is thus required to reconstruct the chest wall to prevent lung collapse and resume normal breathing. In a rib resection it is vital to also maintain the patient's normal physiology. Chest wall reconstruction can be complicated and surgeons are sometimes limited by the available tools and products on the market. In response to the insufficiency of existing solutions for fractured and replacement ribs, a research team at the University of Malta designed and produced an artificial rib made out of a titanium alloy.

Novelty

The RibBridge offers a natural chest physiology to the patients by giving full range of motion, unlike other products on the market. Moreover, it addresses the following issues associated with artificial implants:

- Lack of fixation strength between the device and the native rib
- Difficulty to manufacture
- Inability to accommodate different defect sizes
- Hindering patients' appearance and comfort

RiBridge was developed by engineers and cardio-thoracic surgeons. The design was generated following extensive research and conceptual modelling including:

- Material section - RiBridge is made up of a titanium alloy
- Durability and reliability testing to withstand the body's environment and forces
- Assessment of medical procedure
- Reduced time of procedure by eliminating need to attach accessories
- Improved safety of procedure by making unit out of a single piece, unlike competing products, preventing loss of parts in the body
- Design for manufacture using a single process

Application Fields

RibBridge is an ideal implant for patients undergoing surgery which involves removal of a portion of the rib for treatment of:

- Lung Cancer
- Chest Wall Cancer
- Rib Cancer
- Chest Wall Defects
- Rib Fracture

IP Status

A European Community Design Application (no. 001420863-0001) was submitted by the University of Malta in 2014, followed by a US design application in March 2015 claiming priority from the corresponding Community design.

Commercial Interest

We are looking for licencees, ideally orthopaedic product manufacturers, to manufacture and sell the product.

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The development was executed at and supported by the University of Malta, sole owner of the rights. The university's IP is managed by its Knowledge Transfer Office. Inquiries shall be submitted to knowledgetransfer@um.edu.mt, or further information may be obtained on +356 2340 3466