

## PRESS RELEASE

# A new device for hernia prevention in ostomised patients

- *Tekniker is collaborating with the Foundation for Biomedical Research of 12 de Octubre Hospital to design a solution*
- *The technology centre has designed, manufactured and assembled the product that is currently in the patent application phase*

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**[Eibar, 5 May 2020]** - Although there are no official records, it has been estimated in **Libro Blanco de la Ostomía<sup>1</sup>**, the White Paper on Ostomies, that there are approximately 70,000 ostomised patients in Spain. These are people who, due to pathologies such as colorectal cancer, have been operated on to place an external pouch that collects urine and faeces through a tube. Ostomies reduce quality of life significantly as patients require specialised care and because lesions could arise in the form of parastomal hernias involving the abdomen and the area where the incision has been made.

In Spain, 16,000 new ostomised patients are reported every year. Most of these ostomies, approximately 60%, are temporary, whilst the remaining 40% will be definitive. Of the nearly 70,000 ostomised patients, it has been estimated that about 55% have undergone a colostomy (colon), 35% an ileostomy (ileum) and the other 10% a urostomy (urinary system). Colorectal cancer is the pathology that most frequently requires an ostomy.

Nowadays, the solution used to allow ostomised patients to wear their ostomy pouch attached to the abdomen consists in a component adhered to the skin that surrounds the orifice together plus a band sash to keep the pouch in place. This solution, however, is not optimum as parastomal hernias can still be found in 50% of the patients and 10-15% of these cases must be repaired surgically.

## Anatomical fixation band

In order to improve quality of life for ostomised patients and prevent the onset of these lesions, [Tekniker](#), member of the Basque Research and Technology Alliance (BRTA), is currently collaborating with [Foundation for Biomedical Research of 12 de Octubre Hospital](#) in Madrid to design an ostomy fixation device for the prevention of parastomal hernias. This solution comprises a base that is placed on the abdomen on both sides of the stoma or incision and an easy-to-use anatomically shaped protective shield. The design is currently in the patent application stage. A fixation band is also provided to accommodate the device snugly to the area where the stoma is located.

More specifically, Tekniker has made several proposals aimed at redesigning and optimising the product based on its expertise with regard to designing, developing and manufacturing precision equipment. Functional and biocompatible materials are used, moreover, to manufacture the components. All parts are made according to product economy and profitability parameters and are fully ready for industrialisation at a later stage.

In stage one, the technology centre analysed the functions to be performed by the device as well as product ergonomics, the use of different materials and the extent to which its parts can be scaled for industrial production purposes.

## Validation and testing

It was in stage two of this process, when the focus shifted towards selecting the most suitable materials, designing all the details and establishing the most adequate production resources required for manufacturing. Tekniker has assembled the prototypes for the validation that is to be carried out by the Foundation for Biomedical Research of 12 de Octubre Hospital.

An industrial feasibility report will be released in the final stage which, based on the number of units to be manufactured, will provide guidance on how to select optimum industrial processes and potential suppliers.

<sup>1</sup>All data supplied by [Libro Blanco de la Ostomía](#), the White Papers on Ostomies.

## Concerning Tekniker

With nearly 40 years of experience in the field of applied research and knowledge transfer, Tekniker has achieved a high degree of specialisation in four major areas (Advanced manufacturing, surface engineering, product engineering and ICTs) and can now make available its cutting-edge technology to customers to meet their needs. The technology centre is a member of the Basque Research and Technology Alliance (BRTA).

### Further information:

**GUK** ► Javier Urtasun

urtasun@guk.es | Tel. (34) 637 273 728