

ANTI-REFLUX OSTOMY DEVICE

Introduction

An ostomy is a surgically created opening that connects the gastrointestinal or urinary system to the skin. It allows bodily waste to pass through a stoma to the exterior.

A colostomy or an ileostomy may be done as part of treatment for colon, rectum or anus cancer and other intestinal conditions such as IBD. Colorectal cancer is the main reason of this type of procedures accounting for the 80% of all ostomies performed in Spain. It is estimated that 1.5 out of every 1000 Spanish citizens has an ostomy. This number equates to 70,000 people, with over 13,000 new cases every year.

All ostomy surgeries require life-long utility of a pouching system to store body waste. This fact derives in several implications among those people who need to use for their rest of their life these kinds of systems, which may include physical, psychological and economical functional effects.

Currently, the pouching systems can be opened at the bottom of easy emptying or closed and are taken off when they are full, allowing the adhesive skin barrier to stay on the body while the pouch may be taken off, washed out and reused. However, for ileostomies and urostomies, where the stool is more liquid, there is not an efficient solution that can avoid spills, specially when the pouch is to be attached.

Therefore, there is a need for an ostomy device that can provide self-control for stool continence, no need to change the anti-reflux cap every time the stool is removed (reusable) and increase self-esteem for carriers at a low cost and with a painless insertion of the device.

Product

The anti-reflux ostomy device is an anti-reflux device that is placed in patients with ileostomy, ascending colostomy or urostomy. The device is characterized by being a plug that connects to the stoma and does not allow the passage of fecal/urinary material to the outside until the patient connects a collecting bag or aspirate through a syringe, whereby, by positive pressure, the fecal material will be drained. Meanwhile, stool/urine will remain in the intestine/ureter.

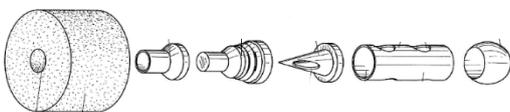


Figure 1. Shows an exploded view of a stoma plug according to at least one of the embodiments of the invention.

State of the invention

This device has a prototype which has to be validated using experimental animals by health experts.

Advantages

- Self-monitoring of fecal continence. Being able to defecate in any bathroom (even public) without fear of possible leaks or stains, as well as not having to carry a bag in which you are constantly pooping.
- It is not necessary to change the anti-reflux cap every time you want to remove it, the feces will simply have to be cleaned on the outside with a bit of paper. The anti-reflux cap will need to be changed once a day (before sleep).
- Increased of self-esteem for carriers, since not being able to control bowel movements or flatulence, makes them have a more limited social life, including a decrease in self-esteem and emotional distress related to stoma and care.
- Economical, it is a plastic material and can be reused among of the day.
- Reusable.
- The insertion of the plug is painless.
- Mildly invasive procedure.
- There is no other similar device on the market or patented.

Protection

European Patent Application on 22 June of 2022 and with application number EP22382591. This technology has been licensed to the company Ownmed Innovation S.L., a company whose owners are the inventors of this technology.

Inventors

Ana Ye Zhang, biomedical engineering student, Dr. Manuel Desco Menéndez, Professor of Radiology, Univ. Carlos III and Head of Experimental Medicine and Surgery, Hospital Gregorio Marañón (Madrid) and Dr. Jesús García-Foncillas, director of the Oncology Institute Jiménez Díaz Foundation University Hospital (Madrid).