



## Medical Devices

# Dynamic closure kit for open abdominal wounds after surgery

A research group of the Andalusian Public Health System, in collaboration with the University of Seville, has developed a dynamic closure kit for open abdominal wounds after surgery in patients where a primary suture of the laparotomy is not possible.



## Description

Currently, there are several problems associated with the closure of wounds produced during abdominal surgery in patients where subsequent laparotomies are needed in order to avoid collections or where the primary closure of the abdominal incision is not recommended. The forced closure of the wound may cause intra-abdominal hypertension as well as lead to Abdominal Compartment Syndrome (ACS), which might cause the death of the patient.

The system ABRA Dynamic Wound Closure is currently used in this field. This system comprises a set of tensioners perpendicularly positioned to the incision which pass completely through the thickness of the patient's abdominal wall. However, this system has a number of disadvantages since it is a highly aggressive technology which originates an important inflammatory response and ulcerations. Additionally, it may cause necrosis of the fascia, hernias and intestinal fistulas as well as ACS. Furthermore, this technique would not be suitable for patients with colostomy according to the literature.

Therefore, there is an unmet medical need of developing a system and method for closing wounds which reduce the risks associated with current technology. Said system should not damage the fascia thereby decreasing the risk of ACS. The present technology offers a method wherein the elastic strips do not pass completely through the abdominal wall of the patient, but only are attached to the skin.

2. It prevents Abdominal Compartment Syndrome since these patients require large fluid intake and have a great tendency to organ involvement due to pressure increase or to the appearance of a third space at the abdominal viscera.
3. Reduces the risk of postoperative ventral hernia.
4. The manipulation of the intestine loops is not required, avoiding the risk of damage in the wall.
5. The attachment means may comprise adjustable connecting means which allow making elastic strips taut during the process of wound closure.
6. This procedure allows a faster wound closure while just leaving laparotomy scar and the superficial wounds that the strips traction may cause.



## Intellectual Property

This technology is protected by patent.



## Aims

We are looking for a partner interested in a license and/or a collaboration agreement to further develop and exploit this innovative technology.



## Advantages

1. The present system enables the closure of wounds without tension or damage of the fascia and, thus, reduces the risk of hernias, incisional hernias and abdominal infection.



## Classification

Area: Medical device