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Safety Scalpel for Removal of Gastrostomy Tubes

Tech ID: 32700 / UC Case 2021-621-0

ABSTRACT

A researcher at the University of California, Davis has developed a safety scalpel for mitigating the challenges associated with the removal of certain types of percutaneous implants, such as gastrostomy tubes having difficult to reduce anchoring elements.

FULL DESCRIPTION

A percutaneous implant is an object foreign to the body that is placed through the skin and other tissue to create a permanent or semi-permanent pathway or port through the skin into the body. An example of a percutaneous implant is a gastrostomy tube, which typically has an anchoring element that is positioned within the stomach to prevent inadvertent removal. The anchoring element may be comprised of an inflatable balloon, a reducible flange, a pigtail or loop mechanism, or a difficult to reduce radially extending flange.

A difficult to reduce anchoring element can present challenges when the time comes for tube removal. A conventional method for removal, traction per the IFU, is associated with tearing along the stoma tract, pain, bleeding, and site infection. Accordingly, there is a need for improved tools and methods for removing gastrostomy tubes and other types of percutaneous implants. An alternate method of removing a gastrostomy tube, often referred to as the "cut and push" method, involves severing a portion of the gastrostomy tube outside of the body and pushing a remainder of the gastrostomy tube into the stomach, in the hopes that this portion of the gastrostomy tube, which includes the anchoring element, passes naturally through the patient's gastrointestinal (GI) tract. This method involves a risk that the gastrostomy tube does not pass naturally and creates an obstruction in and/or perforates the GI tract and/or has other undesirable effects.

In response to this need, a researcher at the University of California, Davis has developed a novel device that mitigates the aforementioned challenges, especially with respect to the removal of mushroom-type gastrostomy tubes. In particular, the device allows for safe fractionation of the tube without embolization of the fractionated pieces. The device is configured in such a way that permits blade(s) to cut the tube without injuring adjacent tissue. Either sharp or blunt (i.e., with an alternate method of energy delivery) blades may be used. The device may also be used in conjunction with a guidewire for passage of the device into a stoma tract.

APPLICATIONS

- ▶ Removal of percutaneous implants such as mushroom-type gastrostomy tubes.

FEATURES/BENEFITS

- ▶ Reduced incidence of complications (e.g., bleeding, tissue trauma) associated with gastrostomy tube removal.
- ▶ Reduced procedure time for gastrostomy tube removal.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2022/271894	12/29/2022	2021-621

Patent Pending

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OTHER INFORMATION

KEYWORDS

medical device, safety
scalpel, implant,
percutaneous,
gastrostomy, surgery

CATEGORIZED AS

- ▶ **Medical**
 - ▶ Devices
 - ▶ Other

RELATED CASES

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