Ileostomy Site Fascial Closure: A Comparison of Suture Distance During Fascial Closure

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Introduction

Temporary large or small intestine stoma construction is necessary to divert intestinal flow for various indications including distal anastomosis protection, obstruction, inflammation, trauma, or need for cytotoxic treatment.

Stoma reversal is undertaken upon healing to restore intestinal continuity. Potential complications following stoma reversal include ileus, obstruction, anastomotic leak, wound infection, wound dehiscence, and incisional hernia formation.

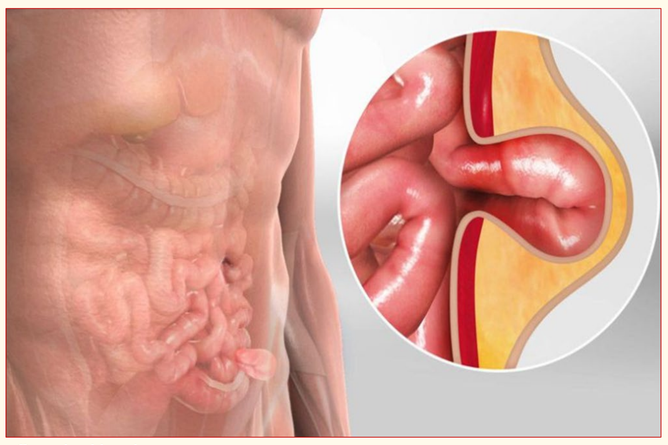
Incisional hernia is a frequent complication of enterostomy closure with an incidence ranging from 0-48%[1,2].

An incisional hernia is defined as any abdominal wall gap with or without bulge in the area of a postoperative scar perceptible or palpable by clinical examination or imaging (European Hernia Society).

At a minimum, incisional hernias are a source of abdominal disfiguration, pain, and discomfort which may negatively impact quality of life.

More severe consequences occur with incarceration and subsequent strangulation of abdominal contents. This feared complication necessitates emergency surgery. Over 300,000 surgeries are performed in the US every year for this reason with an associated cost of more than 3 billion dollars[2].

Prevention of incisional hernia is of the utmost importance, and extreme care must be taken during abdominal wall closure to this end.



Google: Hernia

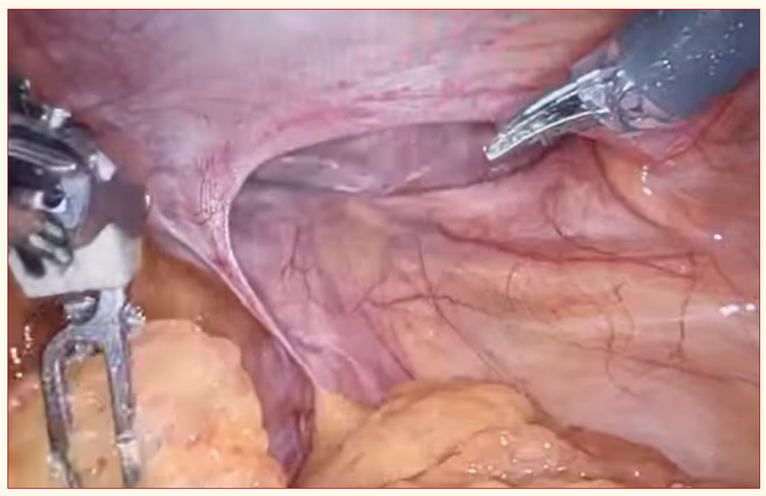


Photo by Zachary Solomon, MD

Aim

To determine the optimal fascial closure for ostomies. We will use the evidence proven to reduce hernia formation in midline fascial closures and adapt this to ostomy closure.

This includes using a running technique with long-lasting monofilament suture (2-0 PDS) material and taking small tissue bites, defined as every 5-8 mm from the wound edge.[3,4,6]

Hypothesis

Our hypothesis is that the small bites group will have a decreased incidence of hernia rates.

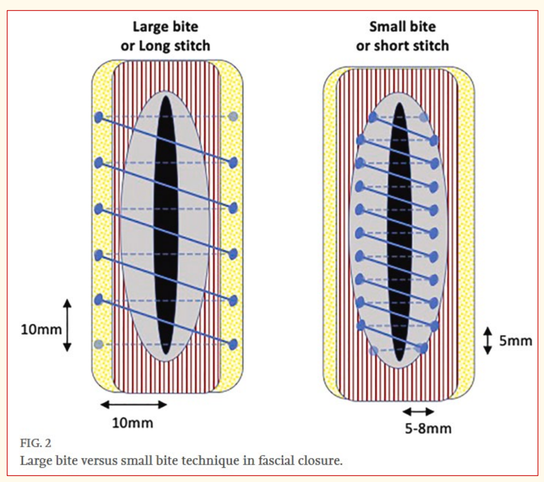
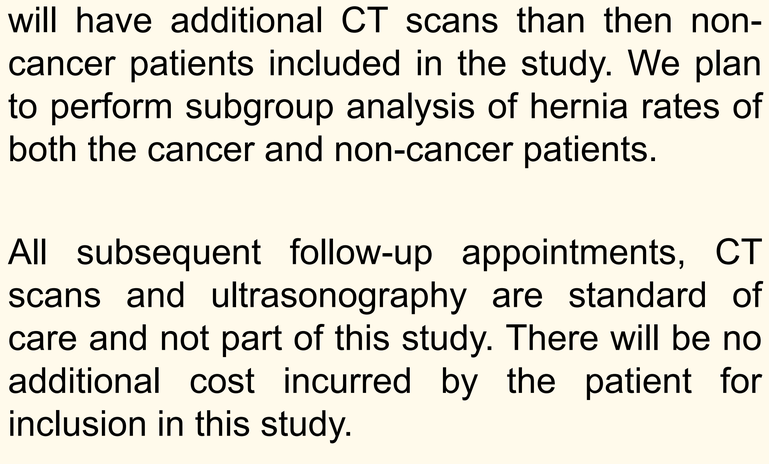


FIG. 2
Large bite versus small bite technique in fascial closure.

Illustration Noah DeAngelo, MD and Ariel Perez, MD

This study was approved by the Trinity Health IRB and is actively collecting data.



Ileostomy pouch Coloplast Canada, Corp.

Methods

This study will be a prospectively collected observational study with a retrospective arm performed on patients undergoing ileostomy closure at Saint Francis Hospital.

- The retrospective arm will include patients collected over a period of six years (July 1, 2020, to June 30, 2026).
- The prospective observational arm will collect data on patients for the next three years and will observe them for up to 2 years post fascial closure.

Beginning July 1, 2026, all surgeons of the Colon & Rectal Surgeons of Greater Hartford surgical group will:

- Use two stands of running 2-0 PDS for fascial closure when performing ostomy reversal.
- All closures will utilize 31 mm needles.
- Fascial closure will take small tissue bites, defined as every 5-8mm from the wound edge.

Cancer patients commonly get CT scans and will have additional CT scans than then non-cancer patients included in the study. We plan to perform subgroup analysis of hernia rates of both the cancer and non-cancer patients.

All subsequent follow-up appointments, CT scans and ultrasonography are standard of care and not part of this study. There will be no additional cost incurred by the patient for inclusion in this study.