

# Distant stoma chyme reinstallation—the first use of The Insides Channel

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This case report is of a 72-year-old patient (patient T) who is the first patient to receive reinstallation of chyme from one stoma to a second, distant stoma using The Insides® Channel device.<sup>1</sup> Patient T had an elective open repair of an abdominal aortic aneurysm (AAA) resulting in a distal emboli shower with patchy visceral organ necrosis. Following an emergency laparotomy and resection of segmental bowel, patient T was recovered to the intensive care unit (ICU) with three stomas, including a high-output ileostomy, and unused remnant colon with proximal and distal ends brought out as distinct colostomies. The Insides® Channel allowed for chyme reinstallation and use of the defunctioned colon. Utilising as much bowel as possible aided in nutrition and integrity of the remaining bowel, allowing for a successful operation when their ileostomy and ascending colon were subsequently rejoined.

## History

Patient T had a pre-operative computed tomography aortogram (CT-A) showing a 57mm juxtarenal aneurysm with crowded visceral vessels proximally. An open repair via retroperitoneal approach with supraceliac clamping was therefore proposed. The operation occurred

without incident and the patient was admitted to the ICU post-operatively for routine monitoring. Over the following 36 hours the patient failed to thrive and blood tests showed an ongoing metabolic acidosis. A repeat CT-A showed occlusion of the celiac trunk, ileocolic artery and a right renal infarct. Given the CT findings and clinical concern, the patient was returned to theatre for an exploratory laparotomy. Patient T was found to have a gangrenous gallbladder, terminal ileum, ascending colon and sigmoid colon. A cholecystectomy, ileocolic resection along with a left-sided resection of distal descending colon to proximal rectum were performed. The operation note reports the resected length of terminal ileum measured 120cm, but does not specify the length of resected colon. The patient then had three distinct stomas fashioned: an end ileostomy in the right lower quadrant, a venting colostomy for the ascending colon in the right upper quadrant and an end colostomy for the descending colon in the left upper quadrant. Instability of the patient and short mesenteries meant the terminal ileum and ascending colon were not able to be anastomosed at the time or brought out as a double barrel stoma. A Mikulicz drain was inserted to limit the chance of a pelvic collection developing, and 24Fr drains were placed in each paracolic

**Figure 1:** The Insides® Channel on a demonstration patient.



gutter. A gastrostomy was also inserted to facilitate enteral feeding. The patient then returned to ICU for ongoing care.

Patient T made slow but steady progress in the ICU. High ileostomy outputs were persistently recorded despite standard medical therapies to reduce output: omeprazole, loperamide and St Mark's solution. The Insides® Company was then approached to enable reinstallation of chyme from the ileostomy to the ascending colon stoma after responding to feedback from clinicians and developing a system for this purpose (see Figure 1).<sup>2</sup>

This is the first case of distant ostomy reinstallation using The Insides® Channel, designed and supplied by The Insides® Company in New Zealand. Reinstallation first started with The Insides® System, which used a patient-managed device to refeed stoma contents, either from a loop or double barrel stoma, into a distal lumen of a stoma or fistula at the same site. Here, refeeding occurred within the same ostomy appliance. The Insides® Channel is an extension of this. Accessories allow for separate stoma bags to be connected and facilitate chyme transfer and reinstallation from one ostomy to another. Analysis of data from The Insides® Company's clinical registry of high-output stoma and fistula patients receiving chyme reinfusion therapy over the past 3 years indicates that the total cost of care for a patient with a separated stoma (requiring both The Insides® System and The Insides® Channel) is approximately NZ\$204,000 over an 8-month period. In contrast, the cost for patients receiving the standard of care (i.e., prolonged

hospitalisation and ongoing parenteral nutrition) is estimated at NZ\$531,000 over the same period, resulting in a cost saving of approximately \$327,000 per patient.<sup>3</sup>

The Insides® Channel system was first used on patient T on 9 May 2025 (see Figure 2). This, in essence, allows for gastrointestinal continuity outside of the abdominal cavity. The ileostomy and ascending colon stomas were connected via the Insides® Channel tubing and pumps, which transferred chyme from the ileostomy bag to the ascending colon bag, and reinstallation of the chyme into the ascending colon. The descending colon stoma was then able to be used as an end colostomy. Prior to reinstallation, ileostomy outputs had been up to 2,600ml/day. Following reinstallation, colostomy outputs were consistently <1,000ml/day (with the addition of loperamide) and the patient was no longer reliant on parenteral nutrition or intravenous hydration. Patient T remained an inpatient over this time to recover from their two surgeries and regain sufficient nutrition to undergo a third operation. They also required regular nursing care as they were unable to manage The Insides® Channel device independently.

Eleven weeks after their emergency laparotomy, and 6 weeks after having The Insides® Channel installed, patient T returned to theatre to have their ileostomy and ascending colon stomas joined. The colorectal surgeon at the time made a point of noting how good the quality and structure of the colon was. The aim of this operation was to leave patient T with an end colostomy that they could manage independently

**Figure 2:** The Insides® Channel applied to the first patient, with arrows showing the direction of chyme transfer.



and be discharged home with. Post-operatively, patient T experienced difficulties with high end colostomy stoma outputs for 3 weeks, with an average 24-hour output of 1,700ml despite high doses of loperamide and codeine. After 3 weeks the stoma outputs decreased to be consistently less than 1,000ml/day. Patient T remains an inpatient despite the acceptable stoma outputs because of anorexia, nausea and vomiting, which has subsequently caused a reliance on parenteral nutrition. The exact cause of this is unknown as blood tests and imaging have been clear. There is a proposal, currently, for them to remain an inpatient and have their descending colon rejoined to their remaining rectum in an effort to maximise the available colon for water reabsorption. This would need to happen at least 2 months following the previous operation and would significantly increase the length and cost of their admission; however, it is being considered as it is hoped it would improve their bowel function

and quality of life.

## Conclusion

The Insides® Channel is considered instrumental in helping patient T recover from their second operation, which required the resection of their gangrenous gallbladder, terminal ileum, ascending colon and sigmoid colon. It enabled the use of their remnant colon, which significantly reduced their stoma outputs post-operatively (see Figure 3). Using the colon also meant it was of good quality when it came time to rejoin their ileostomy and ascending colon stomas, allowing for a successful and uncomplicated procedure. Prior to this operation, the hope had been that patient T would be able to be discharged with a well-functioning end colostomy. Unfortunately, the initial issues with their high stoma outputs and current issues with nutrition have meant they remain an inpatient.

**Figure 3:** The Insides® Channel device.

### How The Insides® Channel Works



Assemble The Insides® Channel



Transfer Chyme



Reinfuse Chyme using  
The Insides® System

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**COMPETING INTERESTS**

Information regarding The Insides® Channel device supplied by The Insides® Company.

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<https://nzmj.org.nz/journal/vol-138-no-1623/distant-stoma-chyme-reinstallation-the-first-use-of-the-insides-channel>

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3. The Insides® Company. Clinical registry. Available from The Insides® Company; 2025 [cited 2025 Jul 16].