

Royal Melbourne Hospital Double Barrel Ileostomy

This is a case study written by Stomal Therapist, Clinical Nurse Consultant, Elizabeth Edebohls from Royal Melbourne Hospital in Melbourne, Australia, about their first experience of using The Insides™ System. This case study will outline Sam's* history, introduction to, and set-up of, The Insides™ System, and how Sam has progressed.

History

Sam* is a 32-year-old male with Idiopathic Hypereosinophilic Syndrome and a double barrel ileostomy. He lives with his wife & two young children. Sam was first diagnosed with Idiopathic Hypereosinophilic Syndrome in 2018 when he was being treated for an episode of diarrhoea whilst in India. In 2019, while still in India, Sam developed bowel ischaemia and required a laparotomy with small bowel resection. This surgery left Sam with approximately 1 metre of small bowel remaining. He developed an enterocutaneous fistula from this surgery, however, this fistula has since healed. Since this initial surgery, Sam has experienced many flare ups, presenting as episodes of colitis with eosinophilia. These presentations were generally treated with methylprednisolone, followed with twice daily 8mg Dexamethasone that resolved the flare.

- 21/4/21 – We first met Sam when he was transferred from another hospital to Royal Melbourne Hospital because he required a higher acuity of care and specialty surgery. Sam was deteriorating quickly so a computed tomography scan (CT) was ordered that demonstrated four quadrant peritonitis resulting from a bowel perforation and intra-abdominal collection. He was initially managed conservatively with antibiotics & Acyclovir, yet he deteriorated further and underwent two laparotomies
- 26/4/21 – Exploratory Laparotomy, washout of collections, t-tube enterostomy & abdominal VAC. A controlled enterocutaneous fistula was created in the SB loop using t-tube and Sam was transferred to ICU for 4 days
- 29/4/21 – Relook Laparotomy with extensive adhesiolysis, small bowel resection, abdominal closure and double-barrelled ileostomy. This left Sam with 80cm of small bowel, 40cm proximal to the stoma and 40cm distal from the stoma. His ileocaecal valve and all his large bowel remain intact.

Introduction to The Insides™ System

As stomal therapists, we became involved in Sam's journey following his second surgery. Sam's surgeon David Read informed us that the reason for the double-barrelled ileostomy was to facilitate refeeding via the distal lumen. David was keen to trial a new device developed to facilitate automated chyme refeeding, called The Insides™ System. The Insides™ System allows for refeeding of chyme without the historical process of removing the effluent from the pouch and syringing it back down the distal limb via a gastrostomy tube. While we waited for approval to use the device, we were put into contact with Garth, William & Emma from The Insides Company so we could learn how this new system worked. Fortunately, Garth & William happened to be in Melbourne for a conference and were able to come to the hospital to demonstrate how the device worked. This not only gave the Stoma Team a chance to learn, but also the ward nurses, nutrition nurses, dieticians and educators who would be caring for Sam.

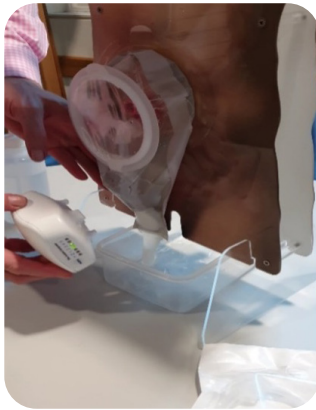


Figure 1

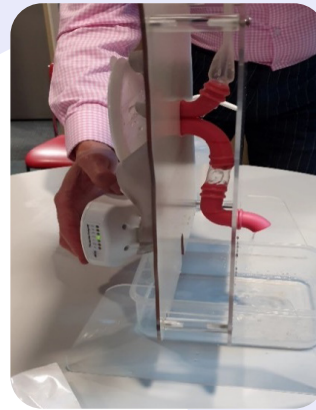


Figure 2

Figure 1 and 2: Demonstration of The Insides™ System at conference

Journey

From diagnosis until his last surgery in 2021, Sam's weight dropped from 90 kg to 65 kg so it was time to start his rehabilitation and increase the length of intestine available for absorption of nutrients and fluid. Due to Sam's short gut, he would be requiring ongoing parenteral nutrition to prevent malnutrition, but the addition of chyme refeeding would supplement his nutrient and fluid absorption. Sam transitioned to learning home parenteral nutrition (HPN) while awaiting approval of The Insides™ System.

On June 7th, we received approval to use The Insides™ System from the hospital. The tube was inserted by the surgeon and we started teaching Sam how to use the pump to refeed his stoma output. Sam's stoma output had been between 2.5–4L/day and he was using a high output stoma appliance attached to a fistula bag. To control his output, he was on Loperamide 16mg QID, Codeine & Octreotide 200mcg TDS. For ease, he was transitioned to a monthly injection of Lantreotide 60mg to reduce the amount and frequency of medication he was taking.

Advantages of The Insides™ System.

- It's simple to use. Sam was very quick to pick up on how the system works, and within 2 days was pumping independently
- The driver and process of pumping chyme is external to the stoma appliance, therefore decreasing the risk of cross contamination between his chyme and the aseptic procedure of managing his HPN. This helped reduce the anxiety levels of the Nutrition nurses too!
- With it being a closed system, patients are more likely to be compliant in its use
- Refeeding was helping to keep Sam's hydration levels controlled, allowing for more fluid absorption in his large bowel, even though he wasn't pumping large amounts
- Refeeding also kept the remainder of his bowel healthy and rehabilitated, increasing the possibility for reversal

Sam was passing formed stool by the 13th of June and has continued to do so roughly every second day. Sam was discharged home on the 16th of June, nine days after starting The Insides™ System and to date, has required no readmissions to hospital for dehydration, infection, or unrelated

causes. He is reviewed by the nutrition team monthly who order and review his bloods and give him his Lantreotide injection. Sam has been putting on weight.

The stoma team also review him monthly along with the surgical team. We replace his gastrostomy tube and top up with the Insides pumps that he requires. We assess his stoma, how he is managing the refeeding including frequency & amount of time it takes him to pump. Currently he is managing up to three times a day. The first pump of the day is more successful as he finds his output is much thinner, after that, his output becomes thicker due to eating and medication and he isn't able to pump as much. It is thought that once we have access to the tube designed by The Insides Company, this will be less of an issue as it is a wider bore than the gastrostomy tubes being used currently.

As a result of Sam's positive weight gain from refeeding his chyme, he has started to get excited about reversal of his stoma!



Figure 3



Figure 4

Figure 3 and 4: The gastrostomy tube is placed in the distal limb of the stoma and the pump is attached



Figure 5

Figure 5: The gastrostomy tube is placed in the stoma pouch



Figure 6

Figure 6: Chyme drains into the stoma pouch from the proximal limb



Figure 7

Figure 7: The driver is attached magnetically to the pump and pumps the chyme into the distal limb of the ileostomy

Patient Testimonial Disclaimer

Individual results may vary, testimonials are not claimed to represent typical results. All testimonials are received from real patients via text, verbally or video submission, and may not reflect the typical patient's experience, nor intended to represent or guarantee that anyone will achieve the same or similar clinical results. Each patient's condition is unique to their physiology and health status. Thus, the testimonials shared by The Insides™ Company may not reflect the typical patients' experience. However, these results are meant as a showcase of what these patients have achieved.

*Aliases used to protect privacy

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