

General Surgeon, Dr B
Nelson Marlborough District Health Board

A Report by the
Health and Disability Commissioner

(Case 16HDC01466)



Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

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Executive summary

1. Following a long history of bowel motility issues, Ms A underwent a laparoscopic end colostomy on 17 Month1.¹ Before completing the surgery, Dr B conducted a visual check to ensure that the correct end of the bowel had been opened.
2. There was no stoma output in the first five days following the operation, and Ms A complained of increasing pain.
3. On 23 Month1, two enemas were administered via the stoma, without notable effect. A further enema was administered on 24 Month1.
4. Dr B went on annual leave from 25 to 29 Month1, during which time Dr C was responsible for Ms A's care. There continued to be no stoma output over this period. A Gastrografin X-ray on 28 Month1 showed Gastrografin in the small bowel but none in the colon (indicative of a bowel obstruction). An attempt to pass a Foley catheter down the stoma for decompression was abandoned when resistance was felt 10cm in. Further Gastrografin was injected on 29 Month1, and it was evident that the contrast was not passing into the proximal small bowel. This led to the conclusion that there was a technical or mechanical problem.
5. Ms A was returned to theatre for a stoma revision. It was discovered at this point that the colon was not able to empty, as the wrong end of the bowel had been used to form the stoma.

Findings

6. The Commissioner was critical that Dr B failed to identify in her visual check that she had used the wrong end of the bowel to form the stoma. He considered that the incorrect formation of the stoma was a significant departure from the normal accepted standard of practice. Accordingly, it was found that Dr B breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).
7. The Commissioner was critical that staff did not respond adequately to Ms A's non-resolving clinical symptoms postoperatively. He considered that the wrong end stoma formation and poor postoperative care were service failures that significantly departed from the standard of care expected of a surgical service. Accordingly, it was found that Nelson Marlborough District Health Board (DHB) breached Right 4(1) of the Code.
8. Adverse comment was made about Nelson Marlborough DHB's failure to conduct a morbidity and mortality process or a sentinel event review into Ms A's care.

¹ Relevant months are referred to as Months 1–4.

14. Ms A's gastrointestinal symptoms were also investigated at two other hospitals. Ms A was also reviewed at a third hospital, and it was expressed that she did not have an eating disorder.
15. Ms A was reviewed by a gastroenterologist who recommended that Ms A undergo a laparoscopic⁸ end colostomy⁹ and then receive biofeedback training to re-train her rectum to empty properly. Another surgeon was consulted, and agreed with the proposed treatment.
16. This report concerns Ms A's surgical management between 17 and 29 Month1.

Laparoscopic end colostomy formation

17. Ms A underwent a laparoscopic end colostomy at the public hospital, in accordance with the gastroenterologist's plan. The procedure was performed by a general surgeon, Dr B, with the assistance of a surgical registrar. Dr B told HDC that she has performed at least 40 of these operations in the last 12 years.
18. Dr B's operation note states:

“Subumbilical incision¹⁰ made, [Hasson] port¹¹ introduced. Two 5mm ports right side of the abdomen. Sigmoid mesentery¹² mobilised a little, it didn't need to be much. Sigmoid colon then brought up into the pre-marked stoma¹³ site in the left iliac fossa.¹⁴ A hole made in the mesentery,¹⁵ bowel divided ... end colostomy then formed ... we looked back into the abdomen and ensured the bowel was sitting well and the omentum¹⁶ was down.”

19. Dr B told HDC that she took steps to check that the correct end of the colon was used to form the stoma during the initial surgery. She said:

“I followed both the proximal and distal limbs of the colon¹⁷ to the abdominal wall. I also checked that there was no twist on the mesentery of the colon. I then delivered the colon through the abdominal wall in the pre-marked site. External to the abdominal compartment I divided the colon and fashioned the colostomy. I then rechecked laparoscopically that the bowel had not twisted, again checking the proximal and distal

⁸ A minimally invasive surgical technique that avoids traditional incision; visualisation is achieved using a fibre-optic instrument.

⁹ Surgical formation of an artificial anus by connecting the colon to an opening in the abdominal wall.

¹⁰ Incision below the navel.

¹¹ A medical device that is made up of an obturator (a device that blocks the opening of an instrument that is being introduced into the body), a cannula (metal tube), and a seal.

¹² A fold of peritoneum that attaches the sigmoid colon to the pelvic wall.

¹³ An artificial opening, especially in the abdominal wall.

¹⁴ Part of the abdomen.

¹⁵ A fold of membrane that attaches the intestine to the abdominal wall.

¹⁶ A membranous double layer of fatty tissue that covers and supports the intestines and organs in the lower abdominal area.

¹⁷ The proximal colon includes the cecum (a pouch that connects the small intestine to the colon), the ascending colon (the right side of the colon), and the transverse colon (the part of the colon that goes across the body between the right and left sides of the colon). The distal colon includes the descending colon (the left side of the colon) and the sigmoid colon (the S-shaped section of the colon that connects to the rectum).

limbs of the colon and the colon mesentery. I therefore checked twice that the stoma was not twisted (and noted this) but unfortunately I did not notice my error.”

20. There was no stoma output in the first five days following the operation, and Ms A complained of increasing pain. On 23 Month1, Ms A had two enemas administered via the stoma, but these had no notable effect. General surgeon Dr C, who reviewed Ms A with Dr B during the consultant ward round, stated:

“Had a bowel motion been passed per anum¹⁸ as a result of the enema, it would have alerted us to the wrong end having been attached to the stoma. As nothing was passed per anum we had no inkling at that stage of what the postsurgical anatomy was.”

21. On the morning of 24 Month1, 100ml of serous fluid was passed through the stoma. Ms A was given a dose of lactulose and a further enema was administered. Nasojejun tube¹⁹ feeding was also commenced to address concerns about Ms A’s limited oral intake, but this was stopped as it was not tolerated. In the evening, Ms A vomited twice and reported pain levels of 9/10 and, following the provision of analgesia, 5/10.
22. Dr B said that she did not consider it unusual that there was no stoma output over this time. She explained that Ms A’s symptoms were the same as those Ms A had experienced prior to the operation, and were consistent with Ms A’s motility problem. Dr B noted that a colostomy may not work owing to the proximal colon not functioning properly, and that Ms A’s bowel may have been severely impaired by the Klean-Prep²⁰ Ms A had taken in preparation for the colostomy formation.
23. Dr B was on annual leave from 25 to 29 Month1, during which time Dr C was responsible for Ms A’s care. Dr C told HDC:

“Although there was no official handover of [Ms A’s] care, we both knew [Ms A] well and I was aware of, and familiar with, the procedure that [Dr B] had performed.”

24. There continued to be no stoma output. On 25 Month1, a plan was made to administer Klean-Prep as a continuous infusion down the nasojejun tube until the stoma worked; however, this was stopped within hours of commencement as it was not tolerated. A nasogastric tube was inserted on 26 Month1 but appeared to have little effect. It was removed on 27 Month1 and nasojejun feeding was recommenced for a brief period. The notes throughout this time describe significant abdominal distension,²¹ but other observations were normal.
25. Dr C believed that Ms A’s motility disorder was the cause of her non-functioning stoma, and this belief was reinforced by the Gastrografin X-ray²² ordered on 28 Month1, which showed Gastrografin in the small bowel but none in the colon (indicative of bowel

¹⁸ Through the anus.

¹⁹ A tube that carries food and medication through the nose to the jejunum (part of the small intestine).

²⁰ A bowel cleansing agent.

²¹ Swelling.

²² X-ray of the gastrointestinal tract using Gastrografin as a dye for contrast.

obstruction). The surgical registrar attempted to pass a Foley catheter²³ down the stoma for decompression, but the procedure was abandoned when resistance was felt 10cm in.

26. Dr C stated that usually he would commence investigations for a non-functioning stoma after five days of inactivity, and sooner if the patient's condition worsened; however, Ms A had had repeated admissions with abdominal pain and constipation, and he said that he "would not expect somebody with colonic dysmotility to the extent that they could pass a bowel motion only once every 10–12 days to suddenly show an increased motility pattern following surgery, especially given the morphine [Ms A] was taking".
27. On 29 Month1, further Gastrografin was injected, and it was evident that the contrast was not passing into the proximal small bowel. This led to the conclusion that there was a technical or mechanical problem.

Revision of stoma

28. Ms A was returned to theatre for a stoma revision on 29 Month1. It became apparent during the procedure that the colon was not able to empty as the stoma had been incorrectly fashioned, with the distal end of the sigmoid colon rather than the proximal end being used to form the colostomy.²⁴ The issue was corrected with the afferent end being brought up to use as the stoma.
29. Dr B said that Ms A had a very mobile sigmoid colon, which may have contributed to the error.

Further information

Dr B

30. Dr B stated:

"I am very sorry that the colostomy was incorrectly formed ... I deeply regret that despite the appropriate checks being made, this error occurred. It was a genuine one-off mistake."

31. Dr B told HDC that in the event that she has a similar case, she will ensure that the correct end is used for the stoma by placing the patient in the lithotomy position,²⁵ and she will check the distal stump with insufflation²⁶ through a colonoscope. Dr B said:

"I very much regret the complications [Ms A] suffered as a result of the surgery I performed on 17 [Month1]. I have no hesitation in apologising to [Ms A] for this and the upset and distress this caused her."

Dr C

32. Dr C submitted that the complication arising from the laparoscopic colostomy did not necessarily indicate a deficiency in care on Dr B's part. He stated: "Despite taking care with

²³ A hollow drainage tube.

²⁴ The proximal end produces the stool and the distal end enables the passage of flatus.

²⁵ Position in which the patient is lying on his or her back with the hips and knees flexed and the thighs apart.

²⁶ The introduction of a flow of gas into a body cavity.

the procedure, a surgeon can encounter a perception error, which could result in a severe complication.”

Nelson Marlborough DHB

33. Nelson Marlborough DHB stated that this event did not undergo a morbidity and mortality review or a sentinel event review.

Responses to provisional opinion

34. Ms A was provided with an opportunity to respond to the “information gathered” section of the provisional opinion. Ms A stated:

“I had to endure many painful and unnecessary procedures over those twelve days as a result of the error made by [Dr B]. I should have been listened to at the time and especially when I explained to them that my pain was worse than any other obstruction I had ever endured. The indications of a mechanical bowel obstruction were more than blatantly obvious and I should never have been subjected to the doubt and lack of action that led to twelve days of unbelievable and incomprehensible pain and suffering.”

35. Dr B, Dr C, and Nelson Marlborough DHB were provided with an opportunity to respond to the provisional opinion.

36. Dr B’s counsel provided HDC with a peer review from Dr D, a general and colorectal surgeon. Dr D stated that usual practice would be to identify the orientation carefully before bringing the bowel to the surface, and then to recheck it by tracing the loop of bowel to be sure that it can be traced proximally. Dr D said that while additional checks are available, in practice they are rarely used, now that laparoscopic visualisation is available. He regarded the wrong end stoma formation as an unfortunate technical error, and estimated that the error rate would be approximately 0.5%. He stated:

“[Dr B], or even a fully subspecialised colorectal surgeon, would not carry out enough procedures in their life time to get an accurate figure as the event rate is very low. [Dr B] points out that this is her only case. Therefore there is no evidence that [Dr B’s] error rate is outside accepted practice.”

37. Dr D also observed that Dr B was assisted by a registrar in general surgery, who would most likely have commented had there been an obvious error.

38. Dr B’s counsel submitted that the wrong end stoma formation was “a rare, technical error, an unavoidable part of surgical practice — not a failure to take reasonable care in the circumstances”.

39. With regard to Ms A’s postoperative care, Dr D did not consider there to have been a departure from expected practice. He commented:

“In my opinion, in a case of ‘colonic inertia’, and when the patient had a history of her colon not moving for many days it could be expected that it is possible that the colon

may not move for 7–10 days. With no expectation of a technical error, the choices taken to move the bowel were reasonable.”

40. Dr D stated that the only definitive investigation would have been a CT scan, for which there is a higher threshold in a young patient, given the radiation dose. He noted that the Gastrografin study was still not definitive, which possibly supports that complexity of the configuration of the colon led to Dr B’s technical error. He also noted that previously Ms A had had severe abdominal pain with the ingestion of small amounts orally.
41. Nelson Marlborough DHB stated:

“We acknowledge that the outcome of the surgery was an event that should never happen. Unfortunately the nature of medical practice, the variability of human anatomy and difficulties with laparoscopic procedures means that this sort of event does happen, albeit with a very low frequency. All surgeons who do this procedure start by thinking carefully about strategies to avoid forming a stoma with the wrong end. Wrong end stoma continue to be formed.”
42. Nelson Marlborough DHB acknowledged that there are tests that can completely remove the risk of wrong end stoma formation, but said that many surgeons do not utilise these checks.

Opinion: Dr B — breach

43. Ms A experienced increasing pain and abdominal distension following her colostomy, and the stoma failed to function. On 29 Month1, Ms A underwent a stoma revision. It was then discovered that the wrong end of the bowel had been used to form the stoma.
44. Expert advice on this case was obtained from Dr Mark Sanders, a general surgeon. Dr Sanders advised that wrong end stoma formation is a rare occurrence, and the frequency would likely be less than 1%. He said that certain factors in this case would have increased the potential for a wrong end stoma formation — the operation note suggests that the sigmoid colon had more laxity to it than usual (making twisting more likely), and it was a laparoscopic procedure rather than open surgery.
45. Before completing the surgery, Dr B conducted a visual check to ensure that the correct end of the bowel had been opened, but was unable to identify the error. Dr Sanders stated that a visual check can be supplemented by installing air or fluid up the anus or by performing a flexible sigmoidoscopy.²⁷ However, Dr Sanders also advised that “[m]ost surgeons would just employ a visual check to determine which end is which” and “no specific difficulties with orientation were mentioned in the operation notes that might have precipitated further checks”.

²⁷ Use of an endoscope designed to be passed through the anus in order to permit inspection, diagnosis, treatment, and photography, especially of the sigmoid colon.

46. Notwithstanding the above, Dr Sanders considers that the formation of a wrong end stoma is a significant departure from the normal accepted standard of practice. He advised that it is not reasonable to accept a complication rate of 1%, as “in this type of surgery avoiding this complication completely is attainable”. Dr D agreed that this is a rare error, and estimated an incidence of approximately 0.5%. He stated:

“[Dr B], or even a fully subspecialised colorectal surgeon, would not carry out enough procedures in their life time to get an accurate figure as the event rate is very low. [Dr B] points out that this is her only case. Therefore there is no evidence that [Dr B’s] error rate is outside accepted practice.”

47. In conducting a visual check, Dr B followed the process that would be expected of a surgeon performing a colostomy. However, I am critical that Dr B did not identify in her visual check that she had used the wrong end of the bowel to form the stoma. I note Dr D’s comments above relating to Dr B’s error rate for this procedure. I do not consider a surgeon’s general error rate to be determinative in assessing whether the standard of care was delivered on a particular occasion. I agree with my expert advisor that the incorrect formation of the colostomy constitutes a significant departure from the normal accepted standard of practice. I find that Dr B did not provide services to Ms A with reasonable care and skill and breached Right 4(1) of the Code of Health and Disability Services Consumers’ Rights (the Code).²⁸
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Opinion: Dr C — adverse comment

48. Ms A underwent a laparoscopic end colostomy on 17 Month1. There was no stoma output in the days following the operation, and Ms A experienced increasing pain and abdominal distension. In addition, from 24 Month1, Ms A began to have vomiting episodes. Dr B, the surgeon who performed the colostomy, was on leave from 25 to 29 Month1. Over this period, Dr C was responsible for overseeing Ms A’s care.
49. On 28 Month1 (11 days post-operation), Dr C ordered a Gastrografin X-ray to investigate the cause of the non-functioning stoma. Following a further Gastrografin study on 29 Month1, Ms A was returned to theatre for a stoma revision. It was then discovered that the wrong end of the bowel had been used to form the stoma.
50. Dr C stated that although he would normally institute investigations after five days of the stoma not being active, he “would not expect somebody with colonic dysmotility to the extent that they could pass a bowel motion only once every 10–12 days to suddenly show an increased motility pattern following surgery, especially given the morphine [Ms A] was taking”.

²⁸ Right 4(1) of the Code states: “Every consumer has the right to have services provided with reasonable care and skill.”

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51. Dr Sanders noted that Ms A had a complex history of bowel dysmotility, and that a longer than usual timeframe would be expected for the bowel to begin functioning in this case. However, he considered that either simple plain imaging or a contrast study down the stoma should have been undertaken slightly earlier, in light of Ms A's significant pain, abdominal distension, lack of response to large doses of laxatives, vomiting, and nutritional compromise. Dr Sanders considered the delay in investigating the non-functioning of the stoma to be a moderate departure from accepted standards.
52. I acknowledge that the lack of bowel activity in the early postoperative period would not necessarily have raised concerns about a mechanical obstruction, for the reasons outlined by Dr C. However, I am persuaded by Dr Sanders' advice that Ms A's ongoing discomfort ought to have prompted earlier investigation.
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Opinion: Nelson Marlborough District Health Board — breach

Wrong end stoma formation and postoperative care

53. Following a long history of bowel motility issues, Ms A attended the public hospital for a colostomy. There was no stoma output postoperatively and Ms A experienced significant pain, abdominal distension, vomiting, and nutritional compromise. Twelve days after the initial operation, Ms A was returned to theatre, and it was discovered that the stoma had been fashioned using the incorrect end of the bowel.

54. Dr Sanders advised:

“The formation of a wrong end stoma constitutes a severe/significant departure from the normal accepted standard of practice ... [A]n event such as this should be considered extremely rare as it is always potentially avoidable.”

55. Dr Sanders commented:

“When no action [through the stoma had] occurred on day 5 and despite the fact that enemas down the stoma were not producing any output, further action should have been prompted from this time around. Of note is that the patient was getting ongoing abdominal pains and distension particularly when the nasojejunal tube was used at any attempt at feeding. As such it had to be stopped again and Klean-Prep (a very strong laxative) was prescribed as being given on 25 [Month1] via the nasojejunal tube, again with no output. This should have prompted earlier investigations as to a likely mechanical cause for the stoma non-function rather than the presumed continued thoughts that this was all a motility related delay to function.

...

The ongoing nutritional compromise that the inability to feed nasojejunally created and the very limited oral intake that was documented on several occasions, should also have prompted an earlier investigation for a possible mechanical cause, and possibly even consideration for intravenous nutrition to be given at an earlier stage.

... On most days in the whole of the post-operative period abdominal distension is mentioned on a likely increasing level together with vomiting and abdominal pain, probably to a degree that you would not expect with a motility related degree of bowel distension.

These, together with the lack of action with Klean-Prep and the ongoing nutritional compromise, should have precipitated actions earlier.

I feel that this is a moderate departure from the accepted standard of care and most people would have instituted investigations earlier.”

56. Dr Sanders also commented:

“[Dr B] was away from Day 7 [post-operation] and was obviously not in a situation herself to be able to instigate earlier investigations however it still remains within the relevant department of the Nelson Marlborough DHB to continue to care for patients appropriately when one member of the team is away.”

57. I accept this advice.

58. District health boards are responsible for the operation of the clinical services they provide, and can be held responsible for any failures in the provision of those services. In my view, the surgical error and suboptimal postoperative care are service failures that are directly attributable to Nelson Marlborough DHB as the service operator.

59. This patient entered the hospital for a stoma procedure. The procedure resulted in a wrong end colostomy formation — a very rare error and a significant departure from the accepted standard of care. The patient was then poorly managed postoperatively. Despite some features that may have allayed concern when progress was slow, as set out above, over several days the patient had displayed non-resolving clinical symptoms to the point where critical analysis ought to have precipitated action but did not. This unfortunate combination of service failures is a significant departure from the standard of care expected of a surgical service. Accordingly, I find that Nelson Marlborough DHB breached of Right 4(1) of the Code.

Sentinel event review

60. I note Nelson Marlborough DHB’s advice that this event was not the subject of review in either a morbidity and mortality process or a sentinel event review. This is in itself suboptimal. I expect providers to review adverse events.

Recommendations

61. I recommend that Dr B provide Ms A with a formal written apology for the suboptimal care identified in this report. The apology is to be sent to HDC, for forwarding, within three weeks of the date of this report.

62. I recommend that Dr C provide Ms A with a formal written apology for failing to investigate the cause of her non-functioning stoma in a more timely fashion. The apology is to be sent to HDC, for forwarding, within three weeks of the date of this report.
 63. I recommend that Nelson Marlborough DHB:
 - a) Undertake an audit of compliance of Health Quality & Safety Commission requirements for notification and reporting of adverse events for the three years ending 30 June 2018. This is to be provided to HDC within four months of the date of this report.
 - b) Provide Ms A with a formal written apology for its breach of the Code. The apology is to be sent to HDC, for forwarding, within three weeks of the date of this report.
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Follow-up actions

64. A copy of this report with details identifying the parties removed, except the expert who advised on this case and Nelson Marlborough DHB, will be sent to the Medical Council of New Zealand and the Royal Australasian College of Surgeons, and they will be advised of Dr B's name.
65. A copy of this report with details identifying the parties removed, except the expert who advised on this case and Nelson Marlborough DHB, will be sent to the Health Quality & Safety Commission, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from a general surgeon, Dr Mark Sanders:

“I have been requested by the commissioner to provide an expert opinion on case number C16HDC01466. I have read and agreed to follow the commissioner’s guidelines for independent advisors.

Professional Credentials of ‘Expert Advisor’ relevant to this report

My name is Mark Nathan Sanders and I am a vocationally registered consultant general surgeon employed by Northland District Health Board.

I hold an MBBS from the University of Newcastle upon Tyne, U.K., awarded in 1988. I hold a fellowship of the Royal College of Surgeons of London, England, and a fellowship of the Royal College of Surgeons of Edinburgh both gained by examination in 1993. I also hold a fellowship of the Royal Australasian College of Surgeons gained by examination in 2001. Following fellowship training I was appointed a consultant senior lecturer at the University of Bristol and the Bristol Royal Infirmary in the U.K. Since 2002 I have worked as a consultant general surgeon based at Whangarei Area Hospital. Since 2007 I have also worked in private practice at Kensington Hospital, Whangarei. My practice in Whangarei encompasses a wide range of general surgical conditions in this provincial hospital setting. I have previously been Head of the Dept of Surgery. I have held various training and committee positions for the Royal Australasian College of Surgeons and I am currently an Examiner for the final fellowship in General Surgery.

CONFLICT OF INTEREST IN THIS CASE

I have no conflicts of interest in this case.

SYNOPSIS OF THE CASE

[Ms A] had a long history of severe constipation and bowel dysfunction with extensive work up, and after input from many agencies and specialities, a colostomy had been advised. On 17 [Month1] she underwent an elective laparoscopic end colostomy formation, undertaken by [Dr B] at [the public hospital]. Following this operation the patient’s stoma never started to work and the patient had ongoing significant abdominal distension, vomiting and nutritional concerns. This led to her eventually having a variety of radiological investigations which seemed to point to a mechanical obstruction and she was taken back to theatre on 29 [Month1] where it became apparent that the incorrect end of the loop of sigmoid colon had been fashioned into the end stoma. This was identified and corrected forming the normal end colostomy with the afferent limb. Post operatively the patient’s stoma started to work but they had ongoing issues with the distension and nutritional concerns.

A readmission then occurred between 21–25 [Month2] with what was thought to be constipation and a further readmission from 26–28 [Month2] this time with a very high stoma output.

Between 2 [Month3] and 20 [Month3] there was an admission to allow in-patient assessment of stoma function and, during that time, after a consultation with [another surgeon], the decision was made that [Ms A] might be better served with an end ileostomy and to have her colostomy reversed. Prior to this planned procedure she was re-admitted acutely with further high stoma output. She was kept in until the planned reversal colostomy and formation ileostomy on 4 [Month4]. The combined procedure was undertaken by [Dr B] and [Dr C]. Following this [Ms A] had a difficult post-operative period with significant nutritional concerns, ongoing abdominal pain and distension. A decision was made to transfer the patient to [another hospital] for further, particularly nutritional, management.

I have specifically been asked to provide an opinion on:

1. The incidence of incorrect end colostomy formation during laparoscopic procedures.
2. Whether, based on [Ms A's] post-operative symptoms following her surgery on 17 [Month1], imaging should have been considered earlier.
3. Whether [Ms A] was provided with an appropriate standard of care following her operation on 17 [Month1], 29 [Month1], and 4 [Month4].
4. Any other matters in this case that warrant comment.

EVIDENCE TO SUPPORT CONCLUSION

I have been furnished with information from the Commissioner's office which includes:

- The initial complaint from [Ms A] and response from [Dr B], [Dr C], and [a gastroenterologist].
- The clinical notes from Nelson Marlborough DHB supplemented by further information I had requested via the HDC which I felt was going to be of relevance.

TIMELINE OF EVENTS

It is certainly worth noting that the decision to undertake a colostomy for the patient was only decided on after extensive investigations and assessment by numerous specialities. The patient had a long history of bowel dysmotility problems together with other likely related and unrelated health issues.

17 [Month1]

The patient was admitted for an elective laparoscopic formation of an end colostomy which was undertaken by [Dr B]. The following day a healthy stoma was described and dietitian assessment was continued and the patient had a nasojejunal tube insitu. No stoma output was documented in the first 24 hours.

19 [Month1]

The abdomen was described as being distended but soft and again no stoma output. Oral intake was commenced under dietitian supervision.

20 [Month1]

Again no stoma output noted. Pain was documented as being 0–4 out of 10 and the patient had ongoing analgesic requirements.

21 [Month1]

The abdomen was described as being NAD (no abnormality detected) on the ward round. Pain was 6/10 during the day and again no stoma output. The patient was nauseated and finding her diet difficult.

22 [Month1]

Increased bloating was documented — again no stoma output. Digital examination of the stoma was undertaken and no abnormality documented. The patient continued with very limited diet and ongoing nausea. The nasojejun tube remained spigotted/closed off. In the afternoon the abdomen was noted to be distended.

23 [Month1]

An enema was tried down the stoma which was a MICROLAX initially and repeated with a Fleet enema but both these having no notable action.

24 [Month1]

Bowels opened into stoma — ‘liquid’ was mentioned on the ward round but no volumes documented. The patient remained nauseated with minimal diet and ongoing nutritional concerns. Limited oral intake and consideration was mentioned to use the nasojejun tube for top-up. The patient had some time away from the ward but on return again the stoma was documented as having no output and the abdomen was distended with ‘gripey’ abdominal pain. A further enema down the stoma using a catheter failed to produce anything significant. The nasojejun feeding had started but had to be stopped as it wasn’t being tolerated. Late in the evening increased abdominal distension with pain of 9/10 and vomiting was described despite the nasojejun feeding having stopped. The patient had active bowel sounds documented and essentially a normal set of bloods.

25 [Month1]

Ongoing pain and vomiting and no output into the stoma. Klean-Prep® (a strong laxative) was to be given as a continuous infusion down the nasojejun tube with a plan to continue it until the ‘stoma worked’ although it is documented that this was stopped as the patient wasn’t able to tolerate the volume.

26 [Month1]

Abdomen still remains distended and no stoma output. It was decided then that a nasogastric tube would be placed alongside the nasojejun tube draining 430ml by early afternoon.

27 [Month1]

Abdomen described as being massively distended but as there had been nothing more up the nasogastric tube a decision was made to remove this and restart the nasojejun tube and oral feeding, however it seems like this caused increased pain.

28 [Month1]

Gastrografin®, an x-ray contrast material, was given enterally. This did not go all the way around the large bowel which was described as being very distended. Clinically the abdomen remained distended and tight and a catheter was unable to be passed through the stoma in an attempt to decompress it.

29 [Month1]

A further attempt at a Foley catheter got 20cm into the stoma but did not decompress things significantly and a Gastrografin x-ray study was undertaken with dye being put down the stoma this time. This describes slow passage of contrast towards a dilated descending colon although no site of obstruction was identified. They felt that the passage of contrast was slower and more painful than usual and with the lower extent of the contrast going down towards the sacrum. The feeling was that this was a mechanical obstruction.

Based on this the plan was to return the patient to theatre for correction.

Operation

On 29 [Month1] the patient was to have a laparoscopy but, due to the gross bowel distension, was converted to a laparotomy where the findings were that the efferent, the downstream end of the loop of sigmoid colon which had been chosen to form the colostomy, had been inadvertently brought up and the colon's afferent, upstream end, had been stapled off. This meant that the colon was obviously not going to be able to empty. This was identified and corrected with the afferent end being brought up to use as the stoma in the usual way.

The following day the stoma was noted already to be working with faecal matter, fluid and flatus. Oral intake was recommenced as directed by the dietitians. Subsequently this was supplemented by further nasojejunal feeding and the abdomen was described on 31 [Month1] as being slightly distended.

01 [Month2]

The abdomen was again described as being distended with increasing pain. Nutritional concerns were still present and it was elected that the patient should have a PICC line inserted and intravenous — TPN nutrition — was to be started. CT scan of the abdomen was undertaken which described no small or large bowel distension and just a small pocket of free gas and fluid which was likely to be expected at that stage post operatively.

The patient continued with some limited oral intake and TPN.

03 [Month2]

On the ward round at 0830 an acute onset of abdominal pain and distension and a periumbilical 'lump' was described in the notes. Review 45 minutes later described the patient as being more settled and the plan was to restart the enteral feeding that had been stopped.

04 [Month2]

A distended abdomen with pain around the umbilical area was again described but no specific mass mentioned on the ward round notes. A repeat CT scan was undertaken, it would seem to investigate this possibility of an abdominal wall mass. This mentioned colonic wall thickening especially in the transverse and descending colon and some possible thickening of the terminal ileum. This was described as being consistent with colitis, inflammation of the colon, which can be due to a variety of causes. A reduced stoma output was mentioned. The patient was not tolerating nasojejunal feeding and only limited oral input, therefore TPN was being continued.

05 [Month2]

Nothing described as going into the stoma bag and the patient remained bloated.

06 [Month2]

The patient had a colonoscopy via the stoma and a flexible sigmoidoscopy up the short rectal stump. The colon was described as being non-distended. Bowel motion was present. It was felt therefore there was likely to be no mechanical large bowel obstruction.

07 [Month2]

The patient started Movicol in an attempt to restart the bowel function and by the following day the bowels had started to work.

09 [Month2]

TPN was continuing but oral intake had been recommenced and the nasojejunal feeds were reduced. From there until 12 [Month2] it would appear that there was an improvement and the patient was allowed on leave but returned on 13 [Month2] with very watery stools and minimal oral intake. Concern was raised as to whether there would be a C.I.Diff bowel infection but subsequently this was ruled out on testing. By 15 [Month2] the stools had firmed up. Nasojejunal feeding was much better tolerated with oral supplementation and the patient was discharged on 16 [Month2].

23 [Month2]

A readmission with 'pebbles' of bowel motion and pain is recorded. It would appear this was felt to be constipation and the patient was treated with laxatives and able to be discharged on 25 [Month2] 'feeling better' and with looser bowel motions.

26 [Month2]

A further readmission is noted with high stoma outputs and dehydration. The patient was rehydrated and the stoma output settled. There was an opportunity at that time for dietitian review and the patient was able to be discharged on 28 [Month2].

Between 2 [Month3] and 20 [Month3] there is a discharge summary in the notes which indicates that the patient was admitted during this period and it would seem that this was for a period of direct observation in an inpatient setting of the stoma function. During this time family meetings had been undertaken and there had been a discussion with [another surgeon] regarding further management, and at this stage the decision to proceed with an ileostomy and closure of the colostomy was made.

22 [Month3]

The patient was readmitted with high stoma output and abdominal pain. The patient was kept in from this admission to the time of the subsequent ileostomy formation. During this time stoma output was fluctuating from high through to no output on occasions. This very irregular pattern of stoma function is worth noting as it was, and remained, a fairly constant feature whichever stoma was in fact in place.

4 [Month4]

The patient had her planned laparotomy with adhesiolysis, appendicectomy, closure of loop colostomy and formation of an end ileostomy. This was done by [Dr B] and [Dr C]. The operation note indicates that there were no obvious intraoperative complications and orientation of the stoma was checked and a standard stoma trephine was made.

Post operatively dietitian input was commenced in the early post-operative period. The patient was established on an 'enhanced recovery after surgery' pathway.

9 [Month4]

Stoma output was documented as being liquid on the ward round notes. The patient still had abdominal pain and distension. Plain abdominal x-ray describes no dilated bowel however. The patient was having limited oral intake.

10 [Month4]

Scant stomal output was documented. Digital examination of the stoma was undertaken, no doubt to check that it was not too tight. CT scan was undertaken at this stage which describes mild dilation of the small bowel to stoma level. As oral intake was still limited, intravenous TPN nutrition was commenced.

11 [Month4]

Further stomal examination with the finger was undertaken using what seems to be appropriate analgesia although the patient is documented as still finding this very tender. A catheter was placed into the stoma recovering some fluid. Due to the ongoing distension a nasogastric tube was placed. The abdomen was described as being tight. The patient also was noted as being pyrexial although had a normal white cell count.

12 [Month4]

The patient's temperature had come down but the abdomen remained distended with no stomal output. The situation was further discussed with [another surgeon]. A nasogastric tube remained insitu and TPN was running.

14 [Month4]

The patient had some central line issues which were addressed with a new line. Moderate stoma output had been documented.

16 [Month4]

Minimal stomal output noted and the patient's abdomen remained distended. It appears this is the first time there was a discussion with [another hospital] regarding transfer for 'further assessment, particularly nutrition'.

17 [Month4]

In view of the ongoing stomal dysfunction and potential concern that there was a stenosis/narrowing at the exit of the ileostomy through the abdominal wall, examination under anaesthetic was undertaken with a finger stretch dilation of the ileostomy and an enteroscopy down the stoma.

18 [Month4]

More stomal output documented. From a nutritional point of view the patient was still on TPN with very limited oral intake. Arrangements were made and the patient accepted for transfer to [another hospital]. This was undertaken on 19 [Month4].

SPECIFIC ISSUES

The incidence of incorrect end colostomy formation during laparoscopic procedures.

In conducting a literature search to try and get an idea of ‘wrong end’ colostomy formation, no absolute incidence was able to be determined. However a number of papers^{1,2} commented that this would be a rare occurrence. One study¹ reported 8 events over a ten year period in Pennsylvania. The possibility of this occurring was mentioned in other papers on the subject^{3,4} including its formation during laparoscopic surgery. My feeling would be that this would be a less than 1% frequency event. Its formation during laparoscopic stoma formation does however appear to be higher than in open surgery.

There are scenarios where confusion increases regarding which end of the loop of bowel should be opened. This may occur when there is a long and floppy loop that has the potential to become twisted when bringing it up onto the abdominal wall, particularly when it is done laparoscopically. In the patient’s operation note from the laparoscopic formation of the colostomy, it does talk about the fact that the sigmoid colon only needed to be mobilised a little, indicating that it probably had a little bit more than the usual laxity to it however no other particular comments were made in either the written or the typed operation notes as to any other difficulty being encountered. It is commented that they looked back into the abdomen to make sure that the bowel was ‘sitting well’ and ‘a final check after formation’ was undertaken, yet obviously the incorrect limb was not identified at this time.

There are various techniques that can be employed to ensure that the distal end of the bowel has not been inadvertently opened (air or fluid installation up per anus to check it does not come out of the stoma, flexible sigmoidoscopy on table) can be employed. None were undertaken in this case however most surgeons would not necessarily employ these techniques unless there were concerns, rather just directly visualising the bowel to check, as was done. Despite the visual check, obviously the wrong end had been matured.

The formation of a wrong end colostomy would therefore have to be considered a significant departure from the accepted standard of care but appears to have been a genuine mistake that was just not recognised at the time of surgery despite attempts to check the orientation.

Whether, based on [Ms A's] post-operative symptoms following her surgery on 17 [Month1], imaging should have been considered earlier.

A stoma may not function for a few days following surgery however some degree of bowel function, be that the passage of flatus or stool, or the return of bowel sounds, particularly if the stoma has been undertaken laparoscopically, would normally start to return 36–72 hours later.

This case however has several mitigating circumstances which would mean that a more prolonged time to return of bowel function would have been expected. The patient had long standing bowel issues of which some were highly likely to be motility related. There was a long history of chronic constipation, which as a specific mechanical or motility cause at the anorectal region had been largely ruled out, would make it more likely that there was going to be a significant degree of overall colonic inertia. Opiate analgesia had been used. The patient also had, according to the typed operation note, 26 litres of Klean-Prep prior to the surgery to get her bowels moving and this may well have left her colon pretty empty, such that this may have been another reason for potential delay to stool formation via the stoma.

It was therefore not unexpected by the teams looking after the patient that nothing was produced via the stoma in the early or even medium term post-operative period.

A paper of relevance to this that was found on literature review was 'Incorrect End Colostomy Formation Using the Distal Bowel Limb' Pennsylvania Patient Safety Advisory 2006 September; 13 (3): 118–121 (reference 1). Of the 5 cases that were detailed and which had wrong end colostomies, three had a time period of 7 days or less between the initial operation and subsequent surgical revision, 1 had this interval between 10 and 14 days and the final patient had his revision procedure undertaken > 14 days after his original operation. In [Ms A's] case, her revision was 12 days post the original operation.

One of the questions in this case would be whether the prolonged time to stoma function was considered possibly a mechanical issue or whether this was, as it would seem at least in the early stages, put down to the patient's bowel motility issues and therefore a not unexpected delay to stoma action.

A relatively simple and low morbidity test to look for mechanical problems is to instil contrast down the stoma. This was finally done on 29 [Month1]. This simple test can service to be reassuring if the stoma is entirely normal. I could see no record of even simple plain radiography having been undertaken on this patient prior to the oral Gastrografin which was given on 28 [Month1].

More consideration is given to the post-operative course in question 3 however I feel there has been a moderate departure from the standard of care in that imaging, either simple plain or more appropriately a contrast study down the stoma itself, was not undertaken earlier. Most surgeons in this scenario would probably look at imaging, even in a complex case such as this, from 5–7 days post operatively if nothing at all had happened via the stoma.

Whether [Ms A] was provided with an appropriate standard of care following her operation on 17 [Month1], 29 [Month1], and 4 [Month4].

Post-operative care following operation on 17 [Month1]

The primary issue here is the length of time it took to identify that the patient had a mechanical obstruction, in this case the wrong end had been opened, and some of this has been covered in the question above. As mentioned there are some mitigating circumstances with this patient's history, and there would have been an almost expected prolonged time to stoma function, more so than had the stoma been formed for other reasons.

One other ongoing concern to be considered would be the patient's nutritional requirements and nutritional status. The management in the first few days following stoma formation does not seem unreasonable, nor was it at that stage, not following an unexpected course. When no action had however occurred on day 5 and despite the fact that enemas down the stoma were not producing any stoma output, further action should have been prompted from this time onward. Of note is that the patient was getting ongoing abdominal pains and distension particularly when the nasojejun tube was used at any attempt at feeding. As such it had to be stopped again and Klean-Prep (a very strong laxative) was prescribed as being given on 25 [Month1] via the nasojejun tube, again with no output. This should have prompted earlier investigations as to a likely mechanical cause for the stoma non-function rather than the presumed continued thoughts that this was all a motility related delay to function. Klean-Prep had been given and worked for this patient pre-operatively. The abdomen was described as being distended but not even plain imaging had been undertaken to see whether this was small bowel, large bowel, or gastric, and it was only at 8 days post-operatively that the nasogastric tube was inserted as an attempt to decompress.

The ongoing nutritional compromise that the inability to feed nasojejunally created and the very limited oral intake that was documented on several occasions, should also have prompted an earlier investigation for a possible mechanical cause, and possibly even consideration for intravenous nutrition to be given at an earlier stage.

It should be mentioned that there are a couple of comments in the notes, 24 [Month1] 'bo (bowel opening) into the stoma — liquid' and later 'passing flatus' which may have given some hope that the stoma was working however volumes are not documented and these were isolated events. On most of the days in the whole of the post-operative period abdominal distension is mentioned on a likely increasing level together with vomiting and abdominal pain, probably to a degree that you would not expect with a motility related degree of bowel distension.

These, together with the lack of action with Klean-Prep and the ongoing nutritional compromise, should have precipitated actions earlier.

I feel that this is a moderate departure from the accepted standard of care and most people would have instituted investigations earlier. (It is of note that, following the operations on 29 [Month3] and 04 [Month4], radiological investigations were instituted much more readily).

Post-operative care following operation on 29 [Month1]

During this post-op period it appears that issues were identified and investigated promptly. CT scans were undertaken on 1 [Month2] and again when the patient had ongoing abdominal discomfort, and this periumbilical pain and lump were identified by the patient. On 4 [Month2] when the stoma ceased working again, the patient had endoscopic evaluation of the proximal colon via the stoma and also the rectal stump. As a mechanical problem had not been ruled out appropriate stimulants were started.

In addition the nutritional concerns I think were better addressed both enterally and via the intravenous route with TPN having been started early in this post-operative period.

Appropriate management also seems to have been instituted during the readmissions on 23 [Month2] and 26 [Month2] prior to discharge on 28 [Month2].

I feel there has been no significant departure from accepted practice in the post-operative period after the operation of 29 [Month1].

Post-operative care following operation on 04 [Month4]

Following this operation nutritional concerns were addressed early and appropriately. It appears also there was good involvement from the pain service. Additional input was requested from [another surgeon] when progress wasn't presumably as expected.

It maybe wasn't too unexpected that stomal output would be a major issue however this time, radiological investigations were instituted early.

The only issue I feel warrants further comment is a probable slight delay to more formal examination under anaesthetic and dilatation of the stoma. The CT scan on 10 [Month4] talks about dilation of the loops of small bowel proximal to the stoma indicating that there may have been a degree of hold up at stomal level, as the bowel passed out through the abdominal wall. This was obviously felt to be at least a possibility by the team and stomal examination on the ward was undertaken the following day. The examination describes the passage of a finger down to the proximal interphalangeal joint level. It is not clear as to whether this was just at skin level or whether this was dilated through the whole thickness of the anterior abdominal wall but the procedure was documented as being 'excruciatingly painful' despite the use of what does appear to be quite an appropriate analgesic regime.

It was only on 17 [Month4] that the patient, in view of the ongoing stomal dysfunction, had an examination under anaesthetic with dilatation of the ileostomy, and the description in the written operation note that the stoma was 'tight at peritoneum'. This was stretched. This would indicate that there was a likely hold up at the deeper layers of the anterior abdominal wall, one that might not have been dealt to or appreciated by a bedside digital examination in the presence of pain. It could be considered that there was a slight delay to formal intervention on this stenosis, but overall therefore I feel this is only a minor departure from the accepted standard of care in this regard.

Quite appropriate consideration regarding transfer of the patient to [another hospital], where the patients on long-term TPN tend to be assessed and assisted nationally, was instituted for this patient.

Any other matters in this case that warrant comment.

I feel it is appropriate to note that this is a complex case from the beginning and would consequentially be difficult to manage. Multiple opinions had been sought in the lead up to and during these events and this plan was appropriately a consensus of those opinions.

Submitted for your review and consideration

Yours sincerely

MARK SANDERS MDBS FRCS (Eng) FRCS (Ed) FRACS
Consultant General Surgeon
Northland District Health Board”

The following further expert advice was provided by Dr Sanders:

“This supplementary report is in addition to my earlier report submitted in April 2017 but is after reviewing a response to that report by [Dr B].

I have been specifically asked to

Provide a response to that report after review, and

Comment on the adequacy of Nelson Marlborough DHB’s [post-surgery recovery programme]

I have been provided with the response to my report by [Dr B] dated 18/10/2017 and a copy of the Nelson Marlborough District Health Board’s [post-surgery recovery programme].

In response:

I have reviewed [Dr B’s] letter of 18/10/17 and I fully acknowledge and appreciate the comments that she has raised, and in particular do note her acknowledgement of the events and that her planned changes to practice should be appreciated. I do realise that a retrospective review is usually more straightforward than the prospective management of what is a complex case and that has been considered when supplementing my report.

I still however maintain that the formation of a wrong end stoma constitutes a severe/*significant* departure from the normal accepted standard of practice. As in my earlier letter I commented on the potential difficulties that could be encountered particularly given a long sigmoid loop and the laparoscopic approach. However an event such as this should be considered extremely rare as it is always potentially avoidable. *As stated in my initial report, most surgeons would just employ a visual*

check to determine which end is which. The additional techniques mentioned in my initial report are however supplementary to this visual check and are therefore available to the surgeon for additional clarity as to which end is which if there is still confusion after the visual check. My comment on the complication rate is that I would expect it to be less than 1% and realistically this would be significantly less than 1% although there is very limited data available that would provide any hard and fast figures. I do not think it is reasonable that we should accept a complication rate of 1% as in this type of surgery avoiding this complication completely is attainable. This has been a genuine mistake and has been acknowledged as such by [Dr B] which is laudable.

Likewise I still maintain that further investigations into the non-functioning of the stoma should have been instigated earlier and therefore this remains a moderate departure from the accepted standard of care. I appreciate the difficult scenario with the long-standing bowel motility issues and how this might impact on the expected delay to function however 12 days remains outside what I feel is acceptable. I do note that [Dr B] was away from Day 7 and was obviously not in a situation herself to be able to instigate earlier investigations however it still remains within the relevant department of the Nelson Marlborough DHB to continue to care for patients appropriately when one member of the team is away. That would fall upon handover of patients and ensuring that there is a degree of continuity of care. It is acknowledged that as soon as [Dr B] returned from leave appropriate investigations were instigated, but the total length of time remains outside that which I feel is appropriate.

The question of whether a TPN could have been started earlier I think remains in my opinion, a little later than most would have considered. The decision to start this not only depends on how long the patient has been without significant enteral intake but also the preoperative state of nutrition of the patient but also the likelihood of the return of enteral nutrition within the foreseeable future. This is why I think earlier consideration should have been given to this and generally waiting the 10 days, as suggested by [Dr B], when there was likely to be no dramatic resolution of her oral intake following this, remains a little prolonged. I do note however the potential complications of starting intravenous nutrition and that these obviously were considered and therefore this just remains a minor departure from the accepted standard of care.

Nelson Marlborough District Health Board's [post-surgery recovery programme] appears a quite appropriate and thorough document for which I have no major concerns. I think it is fair to note that not all patients will fit into this pathway and some of these can be predicted pre-operatively and this complex case was probably going to be one such scenario.

Submitted for your review and consideration

Yours sincerely

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The following further advice was received from Dr Sanders:

“This is a further supplementary report after a response by [Dr C], consultant general surgeon from Nelson Marlborough DHB, had been forwarded to me for consideration. [Dr C] was particularly involved in [Ms A’s] care during the time that [Dr B] was away on leave between 25–29 [Month1].

I have had the chance to review [Dr C’s] response together with my earlier responses to this case.

I fully acknowledge his comments which I feel are all appropriate especially in light of some of the previously encountered gut motility issues in this case.

In response to [Dr C’s] comment in paragraph 10, wrong end stoma is, as he says, a rare complication but, because this is always a preventable complication then it should still be considered a significant departure from the normal standard of care. Again I fully appreciate the comments that [Dr C] had made with regards to only performing additional checks for bowel end orientation if there remains confusion after a visual check. This is indeed what I have stated in both my initial and supplementary reports that these additional techniques are not done in every case. They do however remain an option. I continue to believe that this has been a genuine mistake not a result of any reckless action.

In response to [Dr C’s] comments in paragraphs 11 & 12, again as I have mentioned in my previous reports it has been acknowledged that the history of significant past bowel dismotility issues in this patient were mitigating circumstances in potentially not instigating investigations and management sooner for the non-functioning stoma after the initial operation. It does however I think remain a moderate departure, as the patient, despite [Dr C’s] comments that the patient remained well, did have significant pain documented, had no response to large doses of strong laxatives (Kleen-Prep), and was getting on-going vomiting. Despite the patient’s past history that has obviously been noted I still believe this could have prompted investigations at a slightly earlier date. The question of maintaining adequate nutrition again remains an issue and that consideration for TPN could have been considered.

As mentioned previously this should be acknowledged as a complex case, and as I have mentioned previously, assessing management retrospectively is often far easier than managing these cases prospectively.

Submitted for your review and consideration

Yours sincerely

MARK SANDERS MDBS FRCS (Eng) FRCS (Ed) FRACS
Consultant General Surgeon
Northland District Health Board”

The following further advice was also received from Dr Sanders:

“This is a further supplementary report after a response by [Dr D] dated 15th October 2018.

I have had the chance to review [Dr D’s] response together with my earlier responses to this case.

The differing opinions in this case do serve to highlight the complex nature of the underlying condition and how it may affect the post-operative course and the infrequent nature of the formation wrong end stoma which overall leads to a paucity of literature based evidence here. Opinions are therefore largely based on anecdotal evidence which can obviously vary significantly between people.

I maintain that formation of the wrong end stoma itself should be considered a departure from expected practice as obviously this would not be an expected complication. The best guess figure by [Dr D] of a 0.5% rate sits well with my best guess of a rate less than 1%. Talking to my Colorectal colleagues their experience/involvement with such cases is anecdotally less than [Dr D’s] colleagues. This only serves to highlight the infrequent nature of this type of event. A personal rate can only really be accurately determined at the end of a surgeon’s career &/or with statistical analysis of cases done, so it is difficult to say whether [Dr B’s] rate is going to be outside accepted practice or not. The question is as much however if a wrong end stoma could be formed. Are there mitigating circumstances that may make it more likely and were reasonable checks made if there was doubt? Certainly in this case, as I have mentioned previously, the nature of the underlying bowel may well have made orientation more difficult; however no specific difficulties with orientation were mentioned in the operation notes that might have precipitated further checks. Laparoscopic formation stoma seems to have a higher rate than open surgery of wrong end formation. This event, again as previously mentioned, does not seem to have been the result of any reckless action rather a genuine technical error.

With regards to some of the post-operative issues following the operation of 17 [Month1]. I fully concur with some of the comments by [Dr D] that cases such as this are very complex to manage. I agree that in cases of presumed ‘colonic inertia’ time to bowel action after intervention can be prolonged — I have alluded to this in my earlier reports. It remains that it was 12 days without any meaningful bowel action before repeat surgery was undertaken. This is beyond the 7–10 days mentioned as not to be unexpected by [Dr D] (a time frame I agree with). During this 12 days however the patient also had significant attempts to stimulate the bowels; Fleet and Microlax enemas, Kleen Prep and Gastrografin all to no avail which, I feel, should have heightened concerns even in this case. I appreciate that [Dr B] was on leave during some of that time and it would have been a challenge for a covering team to get to grips with the complexity of the case. It is noted, as before, that on her return investigations were undertaken promptly. With regards to the Intra-venous nutrition commencement. There had been attempts to consider nutrition previously with the placement of a naso-jejunal feeding tube. When this wasn’t tolerated however and stopped it would have

seemed reasonable at that stage to continue to consider nutrition and, as it was not being tolerated enterally, to start IV nutrition around then.

This remains a very complex and challenging case for which there are few, if any, expected pathways to follow or an unequivocally correct management sequence. This is just highlighted by the differing opinions and debate generated.

There is little doubt I am sure that [Dr B's] management was always with the patient's best interest at heart and the technical error at its onset, has been a genuine mistake only.

Submitted for your review and consideration

Yours sincerely

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