

**Mr Ian Breeze**

**A Report by the  
Health and Disability Commissioner**

**(Case 04HDC00208)**



Health and Disability Commissioner  
*Te Toihamu Hamora, Hauātanga*

## Parties involved

Ms A	Consumer/Complainant
Mr Ian Breeze	Provider, general surgeon
Southern Cross Hospital	Private hospital
Tauranga Hospital, Bay of Plenty District Health Board	Public hospital
Dr B	General practitioner
Dr C	General practitioner

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## Complaint

On 7 January 2004 the Commissioner received a complaint from Ms A about the care and treatment she received from Mr Ian Breeze. An investigation was commenced on 14 January 2004, as part of a Commissioner-initiated inquiry into the quality of care provided by Mr Ian Breeze to a number of patients on whom he performed surgery. The issue the Commissioner investigated was:

- *Whether Mr Breeze provided services of an appropriate standard to Ms A, on whom he performed laparoscopic surgery at Southern Cross Hospital in September 1998, and who developed subsequent complications.*
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## Information reviewed

- Letter of complaint from Ms A, dated 4 January 2004
- Transcript of interview with Ms A on 2 March 2004
- Further information from Ms A, received 11 May 2004
- Response to complaint from Mr Breeze, dated 13 February 2004
- Further information from Mr Breeze, dated 11 March 2004 and 4 May 2004
- Ms A's medical records from Southern Cross Hospital
- Ms A's medical records from Tauranga Hospital
- Ms A's general practitioner records
- Information from Dr C, general practitioner
- Information from an anaesthetist

Independent expert advice was obtained from Professor John Windsor, general surgeon.

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## Information gathered during investigation

### *Summary*

Ms A underwent a laparoscopic Nissen fundoplication operation, performed by Mr Breeze, on 17 September 1998 at Southern Cross Hospital, Tauranga. Postoperatively she suffered from abdominal pain and had trouble swallowing. She was discharged on 20 September, only to be re-admitted to Southern Cross on 24 September because her symptoms of regurgitation and abdominal pain did not resolve. It was determined that the wrap on her Nissen fundoplication was too tight, and Mr Breeze performed a further operation that day to loosen the wrap. Postoperatively, Ms A had further pain in her abdomen and chest, and her abdomen was distended. Ms A was discharged on 29 September. Later that day she saw her general practitioner, Dr C, because of increasing abdominal pain. She was referred and admitted to Tauranga Hospital with a small bowel obstruction. She also developed a mild wound infection, and experienced continuing chest wheeze. Ms A's bowel obstruction settled and resolved during the admission, and she was discharged on 8 October. She was readmitted to Tauranga Hospital on 17 October on referral from an after-hours clinic, for management of her wound infection. The wound infection was managed conservatively and resolved, and she was discharged on 21 October 1998.

### *Nissen fundoplication*

A Nissen fundoplication operation corrects the problem of acid reflux. The operation can be performed openly or laparoscopically. During the operation, the surgeon raises the liver to expose the junction between the stomach and the oesophagus. A space is created behind the oesophagus and the fundus (body) of the stomach and freed from its attachment to the spleen. The fundus is then pulled behind the oesophagus and secured in place. Depending on the type of procedure, the wrap is either sutured to the oesophagus itself, or it is sutured to the stomach on the other side of the wrap.

Complications of the procedure include perforation of the stomach or oesophagus. Postoperative complications include periods of gas-bloat syndrome (in which an increase in swallowed air makes it difficult to belch or vomit), abdominal distension, nausea, an increase in flatulence, and dysphagia (difficulty swallowing) due to post-surgical swelling at the wrapped site. I understand that although dysphagia is almost always temporary, a small number of patients experience long-term symptoms, which may require further surgery.

### *Mr Breeze's training for Nissen fundoplication surgery*

Mr Breeze advised that prior to mid-1997 he had been undertaking Nissen fundoplication surgery using the open approach (referred to as laparotomy) only. However, with the advent of laparoscopic surgery he felt that the adoption of a laparoscopic approach was a natural progression. To develop the laparoscopic technique, he attended two annual laparoscopic surgical conferences in Christchurch that addressed the technique of laparoscopic Nissen fundoplication surgery, including live video demonstrations by an international surgeon, and arranged to attend a training course on laparoscopic Nissen fundoplication surgery at the Royal Adelaide Hospital in June 1997. Mr Breeze advised that

he elected to attend the course in Adelaide before commencing laparoscopic Nissen fundoplication surgery.

The four-day course in Adelaide was on “advanced laparoscopic surgery”. The training included a lecture, followed by workshops involving instruction, supervision, and practice of laparoscopic techniques, including Nissen fundoplication, performed on mechanical models, animal viscera, and anaesthetised pigs. The performance of laparoscopic surgery on human patients, including Nissen fundoplication surgery, was then observed in operating theatres.

Mr Breeze advised me that prior to his operation on Ms A, he had undertaken 12 laparoscopic fundoplications, which had been conducted satisfactorily. Ms A advised me that prior to her operation, Mr Breeze informed her that he had performed seven operations.

*Decision to perform laparoscopic Nissen fundoplication surgery on Ms A*

In April 1997 Ms A, who was 39 years old, consulted her general practitioner, Dr B. Ms A’s mother had recently died suddenly from an aortic aneurysm, and Ms A wanted information about the cause of her mother’s death. Ms A was also concerned that she might develop an aortic aneurysm like her mother. On 16 April Dr B referred Ms A to Mr Breeze. In her letter of referral, Dr B noted that Ms A had had chest discomfort for a few days, and that her ECG and cardiac enzymes were normal. Dr B advised that she could find no evidence of aortic aneurysm, but that Ms A might be reassured by an ultrasound examination.

On 1 July 1997 Ms A consulted Mr Breeze. Mr Breeze noted that Ms A was concerned that she might develop an aneurysm, given her mother’s history. He informed her that aneurysms are relatively rare in women and particularly rare under the age of 60, and he pointed out to her the recognisable risk factors, including smoking (Ms A was a smoker). Ms A recalled that Mr Breeze advised her to have an ultrasound, because aneurysms can be hereditary. Mr Breeze noted that Ms A’s abdominal aorta felt normal on palpation, but at Ms A’s request, and for her reassurance, he arranged an ultrasound. Mr Breeze also advised Ms A to stop smoking. During the consultation with Mr Breeze, Ms A also complained of long-term indigestion. Mr Breeze felt her complaint had features of gastro-oesophageal reflux disease (GORD).<sup>1</sup> He noted that Ms A also had heartburn and occasional regurgitation and intermittent dysphagia, which did not respond to Zantac<sup>2</sup> (although she only took Zantac intermittently). He discussed with Ms A the nature of GORD, and gave her written information about lifestyle modification. He also advised her to take Zantac twice daily, and arranged a gastroscopy (endoscopic examination).

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<sup>1</sup> GORD (gastro-oesophageal reflux disease) is a disorder that affects the lower oesophageal sphincter or valve separating stomach from oesophagus. This valve normally prevents food in the stomach regurgitating into the oesophagus. Patients with GORD have a weakened sphincter, which allows stomach acid to flow back into the oesophagus. The oesophageal lining becomes inflamed and patients experience heartburn, chest pain, and even a sour taste in their mouth. If left untreated, GORD can lead to ulcer formation, bleeding and scarring.

<sup>2</sup> Zantac is a medication for the treatment of duodenal or gastric ulcers and reflux oesophagitis.

Mr Breeze advised that an abdominal ultrasound was performed on 15 July 1997, which was normal.

On 5 November 1997 Mr Breeze performed a gastroscopy (a flexible endoscopic examination of the oesophagus, stomach and duodenum) on Ms A. Mr Breeze advised me that the examination was normal, with no evidence of ulceration. However, this does not mean that she did not have gastro-oesophageal reflux, because the diagnosis of reflux is based on a patient's symptoms. Mr Breeze advised that because Zantac, a medium potency medication, did not control Ms A's symptoms, he substituted Losec, a high potency drug, and arranged follow-up to assess whether it was effective in controlling Ms A's symptoms.

On 17 December 1997 Ms A was reviewed by Mr Breeze, and he confirmed to Ms A's general practitioner that she had gained a 50% improvement in her symptoms. Mr Breeze advised me that his recommendation was that Ms A receive a further six-week course (eight weeks is the normal initial treatment duration of Losec). He planned to assess her response two weeks after she completed the course, in order to establish whether she required Losec intermittently or continuously. He considered that it was reasonable to trial conservative treatment before embarking on surgery, which was the alternative option for treatment of her condition.

Mr Breeze reviewed Ms A on 5 February 1998. He recalled that she had not followed the instructions to take Losec daily, so it was not possible to judge the efficacy of the drug at that stage. Ms A advised that she did take the medication, but it provided no relief. Mr Breeze arranged a further review, and advised Ms A's general practitioner that if the treatment was ineffective, they would consider a laparoscopic fundoplication.

Mr Breeze reviewed Ms A again on 26 February 1998. He noted that she had progressive constipation and sub-umbilical colicky pain, coinciding with the commencement of Losec. Clinical examination was normal. Mr Breeze advised me that about 1% of patients who take Losec develop diarrhoea or constipation. Accordingly, he considered that Losec was the basis of Ms A's new symptoms. However, he ordered a barium enema to exclude the possibility that her symptoms were due to a structural abnormality, such as bowel cancer, rather than the Losec. The barium enema on 3 March 1998 did not reveal any significant structural abnormality, although it did show mild diverticulosis and minor elongation of the transverse and sigmoid colon. Mr Breeze concluded that Ms A's constipation was therefore caused by intolerance to Losec, and said that he explored the option of surgery with her. It is unclear what decision was made about surgery, but it appears that Ms A decided not to pursue surgery at that time.

Ms A's new general practitioner, Dr C, referred her for a barium meal X-ray, which was performed on 20 August 1998. The X-ray revealed a large volume reflux, with thoracic oesophageal dysmotility.

On 28 August Dr C referred Ms A back to Mr Breeze because of persistent gastro-oesophageal reflux. Ms A consulted Mr Breeze on 3 September 1998. Because Ms A could

not tolerate the usual medications for reflux, Mr Breeze recommended surgery – a laparoscopic Nissen fundoplication.

Mr Breeze considered that surgery was indicated because:

1. Ms A's response to medication was suboptimal – the medication caused constipation and did not relieve her symptoms;
2. Although her endoscopy was negative, Ms A's classical symptoms combined with her barium swallow findings and partial improvement with medical treatment convinced Mr Breeze that she had gastroesophageal reflux disease. The optimal management of gastro-oesophageal volume reflux is surgery, notwithstanding Ms A's concomitant psychological factors.

Mr Breeze decided that further investigations into Ms A's condition prior to surgery (for example, a pH study to confirm and quantify the extent of acid exposure, or oesophageal motility) were not necessary – they would not alter the indications for surgery or the nature of the wrap. In particular:

- Ms A suffered from volume reflux, which is treated most appropriately by surgery. The symptoms of volume reflux are related to the volume of the reflux rather than the acidity. Accordingly, a pH study, which assesses acidity, would not have altered the indication for surgery in Ms A's case – surgery was already indicated for her because she suffered from volume reflux.
- While oesophageal manometry is useful to exclude disorders such as achalasia or diffuse oesophageal spasm (diagnoses which the barium enema had already excluded in Ms A), it does not assist with the prediction of postoperative dysphagia, or guidance on selecting the type of anti-reflux procedure to perform.

Mr Breeze advised me that he informed Ms A that a laparoscopic Nissen fundoplication was a major operation, with a 0.5–2% chance of severe complications, and approximately 10% chance of converting to open surgery. He advised me that she was also informed that the procedure was occasionally followed by difficulty in swallowing. Ms A recalled that Mr Breeze informed her that he had done seven laparoscopic Nissen fundoplication operations, and that it was reasonably straightforward. She does not recall Mr Breeze informing her that it was a major operation or that the procedure was occasionally followed by difficulty in swallowing. She said that he explained exactly what he was going to do, and that there would not be a lot of scarring.

Mr Breeze noted that Ms A had comorbidities (asthma, heavy smoker, prone to sinusitis, underactive thyroid, and she suffered from depression). Because of her asthma, he arranged for Ms A to have a preoperative assessment with his anaesthetist. The anaesthetist reviewed Ms A on 16 September 1998. The anaesthetist's recollection was that when he reviewed Ms A her asthma was under reasonable control.

*Nissen fundoplication operation*

Ms A was admitted to Southern Cross Hospital on 17 September 1998 for a laparoscopic Nissen fundoplication operation. The operation was performed that day by Mr Breeze. The handwritten note for the operation recorded that the operation commenced at 12.10pm, and was uneventful and routine. The typed operation note states:

**“Indications:** A three year history of volume reflux confirmed on gastroscopy and barium swallow. Has not responded to PPIs which she has been intolerant of. Also has severe asthma which may be secondary to reflux with aspiration.

**Procedure:** ... Four secondary ports inserted under direct vision in standard positions. Nathanson liver retractor inserted. The upper portion of the lesser omentum was divided vertically above the hepatic branch of the vagus. The groove between the right pillar of the crus and the oesophagus was identified and dissected and the right and left pillars of the crus defined and dissected. A retro-oesophageal window anterior to the posterior vagus was then dissected and a tape inserted encircling the oesophagus. A cruroplasty was undertaken with 2/0 Prolene using extracorporeal knotting. The retro-oesophageal window was dissected further and a grasper passed behind the oesophagus. The gastric fundus was grasped and withdrawn behind the oesophagus to create the wrap. The tape was removed and a 50mm bougee passed into the oesophagus. The wrap was calibrated with this and the bougee withdrawn. The 360 degree wrap was sutured using three interrupted 2/0 Prolene sutures, the upper two of which incorporated a bite of oesophagus. The knots were tied extracorporeally. This produced a wrap that sat nicely and appeared to be of the correct tension. Secondary ports and Nathanson liver retractor were removed under direct vision, the pneumoperitoneum evacuated and the primary port removed. The 10mm port wound was closed with Dexon to the rectus sheath and skin winds were all closed with staples.

**Post-Op:** Commence oral fluids in 24 hours, light diet in 48 hours with a view to discharge 72 hours.”

Mr Breeze advised me that he performed the operation exactly as he had been trained. He stated:

“The calibre of the wrap, was calibrated with a seventeen millimetre diameter bougee (device resembling a long stout flexible knitting needle as a size guide) in the oesophagus, with the intention of achieving the correct tension.”

The bougee is used to help achieve the correct tension in the wrap, and avoid postoperative dysphagia. However, Mr Breeze advised that a bougee does not eliminate the possibility of creating an over-tight wrap.

The handwritten operation note advised that vomiting was to be prevented postoperatively, and she was to avoid narcotics.

Ms A returned to the ward at 5.15pm. That evening she was reviewed by the anaesthetist who charted IV pethidine and antiemetics. At 9pm the notes record that she became very agitated, restless, sweaty and shaking, and her visitors were asked to leave. Once her visitors left, she became more settled. The progress notes indicate that at 10.45pm she was settled, her observations were stable, and she was moving well around the bed. However, she had a chesty cough and was uncomfortable, especially in her right ribs. Ms A was taking small sips of water, but complained when drinking. She recalled that after her operation she had severe pain in her abdomen, and could not even swallow water.

At 7.40am on 18 September Ms A was reviewed by Mr Breeze. Ms A advised that when Mr Breeze reviewed her she was “doubled over” in pain and was having difficulty swallowing. She recalled that Mr Breeze asked her, “What are you doing like that?” and “didn’t seem too worried”. The morning nursing report in the progress notes indicates that Ms A’s general condition was stable, her temperature was 37 degrees, and there was old ooze from her umbilical wound.

At 9.30pm on 18 September Ms A was seen by the anaesthetist who continued IV hydration and cortisone, and started prednisone, with her dose decreasing once she began eating. At 10.30pm the nurses noted that Ms A was stable, brighter, mobilising, afebrile with stable observations, and tolerating limited free fluids. However, she was complaining of upper abdominal discomfort.

Ms A recalled that on the evening of 18 September and on 19 September it was almost impossible for her to eat or drink because it was so painful.

At 6am on 19 September it is noted that Ms A’s condition was stable, but emotionally she was not coping well, and was not interested in taking fluids orally. Ms A was afebrile, sore at times, had passed small amount of flatus, and her dressings were intact with no ooze.

At 8am Ms A was complaining of pain when eating, causing central pain through to her back. She described a feeling of indigestion, not associated with heart pain. Her observations were noted as stable, although her intake was poor. It was also noted “B.N.O. [bowels not open] Passing flatus, nauseated and slight vomit @ 1200 – ?” At 2.45pm the nursing notes record that Mrs A had been seen by Mr Breeze that morning, and that care was to continue. The progress notes record that he was aware of her discomfort, and that it was “probably wind”. At 12.15pm Mr Breeze phoned the ward to discuss her discomfort, but there were no new orders.

Ms A was not reviewed by a doctor that afternoon. Her general condition remained satisfactory, and her central wind pain continued after eating and drinking, but improved over the afternoon duty. It was noted that she was mobilising a lot, her observations were stable, she was afebrile, and had tolerated mashed food and fluids.

In the early morning of 20 September, it was noted that Ms A was tender and passing flatus. She was reviewed by Mr Breeze at 9am. The progress notes record that Mr Breeze was aware that it was taking a while for her food to go down. However, he noted that she was



for discharge home and follow-up on Monday 28 September in his rooms. The nurse noted that Ms A was still aware of a 'feeling' when swallowing fluids or soft foods.

Ms A was discharged at 10.45am on 20 September. Before she left, she was given advice about her diet, and an outpatient appointment was arranged for 28 September.

The anaesthetist recalled that Ms A required a significant amount of opiates to control her postoperative pain.

Mr Breeze advised me that he considered Ms A's postoperative progress was satisfactory. She coughed up sputum and continued to smoke against advice. Mr Breeze advised that it is his expectation that patients be discharged on the third postoperative day after a laparoscopic Nissen fundoplication, as was the case with Ms A. He stated that patients occasionally experience some degree of dysphagia (difficulty in swallowing) in the early postoperative period, and Ms A reported that. However, at the time of her discharge he expected her dysphagia would rapidly improve (which normally happens), and he reassured Ms A. Ms A could not recall Mr Breeze advising her about what might be causing her ongoing dysphagia, or when she could expect the symptom to resolve.

#### *Problems experienced after discharge*

Ms A recalled that after her discharge she could not eat or sleep, and the reflux was "majorly bad". Ms A felt that she should not have been discharged from hospital at that time. She advised, "I suffered real bad when I got home. I never slept, I sat up all night, I couldn't drink or eat, it was ridiculous."

Ms A advised that she had a piece of kiwifruit, hoping that it would help with her pain and encourage her bowels to move. However, the kiwifruit made her pain worse. At 2.10pm her friend phoned the hospital, and advised the nursing staff that Ms A had eaten a kiwifruit and was distressed with pain. The nurse recorded on the Discharge Summary Form that Mr Breeze was notified. The nurse noted that Mr Breeze would ring Ms A and reassure her, and that Ms A had been told to avoid raw fruit. Ms A said that she was not told to avoid eating raw fruit prior to her discharge from hospital.

A further note on the Discharge Summary Form, made at 5am on 21 September, recorded:

"Telephoned – distressed with reflux! Not eating. Regurgitating bile"

And at 6am, "Mr Breeze notified – to see her in his rooms this afternoon."

Mr Breeze advised me that on 21 September he was notified by Ms A that she was experiencing unusually severe dysphagia. He arranged a barium swallow X-ray to investigate the cause of her severe dysphagia. The barium swallow X-ray revealed an excessively tight wrap, five millimetres in maximum diameter. Mr Breeze considered that the appropriate treatment of the excessively tight wrap was operative revision, laparoscopically if possible. He stated that the recommended treatment of an over-tight wrap is to redo the anti-reflux procedure.

Mr Breeze arranged for surgery to take place at Southern Cross Hospital on 24 September 1998.

*Revision of Nissen fundoplication and loosening of wrap*

Ms A was readmitted to Southern Cross Hospital on 24 September. It was noted that she was regurgitating food and had pain in her upper left abdomen. At 3.50pm Mr Breeze operated on Ms A. The anaesthetist advised me that in view of the extent of Ms A's pain after her first operation, he decided to use epidural anaesthesia for postoperative pain relief, and that was incorporated into the anaesthetic. The operation was converted from a laparoscopic procedure to open surgery because of the tissue swelling from her previous surgery on 17 September. The wrap was undone and redone more loosely. The operation note recorded:

**“Indications:** Eight days ago [Ms A] underwent a laparoscopic Nissen fundoplication for volume reflux. Unfortunately she has developed severe dysphagia post-operatively and a barium meal reveals an unduly tight wrap, the maximum diameter being only 5mm. I felt operative revision rather than dilatation was appropriate.

**Procedure:** ... The five port wounds were reopened and the camera was introduced. Three secondary ports were inserted and the liver was retracted. A small collection of fluid was aspirated from the region of the repair. Unfortunately the tissues were indurated, consistent with normal post surgical changes seven days post-operatively. It was not possible to safely dissect the tissues endoscopically. Accordingly the ports were withdrawn and a midline laparotomy incision carried out. The wrap was taken down and refashioned more loosely using 3 interrupted 2/0 Prolene sutures, two of which incorporated a bite of oesophagus. On this occasion the wrap was performed with the gastroscope and a nasogastric tube in situ to confirm its adequate calibre. It was insufflated with air to confirm no perforation. Haemostasis was secured, a large bore silicone tube drain was inserted and the abdomen was closed with continuous 1 Novafill to the linea alba and staples to the skin.

**Post-op:** Epidural pain control. Chest physio and usual treatments for asthma.”

Ms A was transferred to the recovery room at 6.25pm. It was noted that there was no obvious ooze from her wound. She returned to the ward at 7.34pm.

The progress notes record that Ms A awoke extremely restless and agitated. At 7.45pm the anaesthetist was notified. The notes record that he prescribed midazolam, a sedative, and advised that she could have one cigarette overnight. According to the progress notes, sedation was given with little effect, and Ms A became abusive toward her family. The anaesthetist was notified again at 9pm. He advised to commence Hemineurin, another sedative, and noted that he would see her later that evening. The anaesthetist did review her later that evening, although the time of his visit is not recorded. He noted that she was to

continue with the same cares, have Nicorette patches, and was to have a blood test taken in the morning. Her observations were stable at that time.

At 6am on 25 September Ms A was more settled, and her observations were satisfactory. She was reviewed by Mr Breeze at 8.05am. He gave instructions to remove the nasogastric tube, have 30ml of water hourly and more if tolerated, she was for fluids only, and she was to try nicotine patches.

At 11.45am the anaesthetist was contacted regarding the blood test results. He advised to discontinue Heminurin, and that she was to have a Ventolin nebulizer three times daily. The anaesthetist advised that he would review her that evening. It was recorded by the nurses that Ms A was stable and afebrile, although anxious.

The nursing notes written at 10.15pm record that Ms A was seen by the anaesthetist (who made no notes) and the physiotherapist that afternoon. Her observations were stable, although her temperature was noted as 37.5 degrees.

At 5.10am on 26 September the anaesthetist was notified regarding an increase in Ms A's pain. He advised to increase her epidural infusion. The progress notes for that morning record that Ms A was complaining of severe pain in her abdomen wound and around the drain. Her temperature was 36.1 degrees and her observations were stable, although it was noted that she had a severe bout of pain at 3.30am.

Later that morning Ms A was reviewed by Mr Breeze. He noted that her in-dwelling urinary catheter should be removed, fluids re-charted, that she could have free fluids and jelly and ice cream, and he prescribed Tilcotil, a non-steroidal anti-inflammatory analgesic. The nursing notes record that Ms A was encouraged to do deep breathing exercises, as it was noted that she had a tight chest that morning and was expectorating thick creamy sputum. It was also noted that she was smoking occasionally, despite advice to the contrary. Her observations at that time were stable, and she was afebrile. It was noted that her pain was more controlled since she had been given Tilcotil, and that she was enjoying coffee, Milo, water, jelly and ice cream.

At 3.30pm Ms A was reviewed by the anaesthetist. He re-sited her IV (intravenous) line, and noted that she was to stop IV fluids as long as she continued to tolerate oral fluid. He noted that the epidural should be stopped at 8am, but the catheter should be left in and Ms A assessed. That afternoon/evening, the nurse noted that Ms A was feeling better, her observations were stable, she was afebrile, but she had no bowel sounds. She was also experiencing slight discomfort at the drain site and when coughing. It was recorded that she had also had one episode of slight nausea and feeling hot, although she had settled, and her abdomen was slightly distended. Overnight she was much improved, and pain was only noted in her wound when she coughed.

Ms A was reviewed by Mr Breeze on the morning of 27 September. He advised that she was to have her epidural and drain removed, that she was for a light diet, and that her IV luer was to be left in place until she was tolerating food. The nurses that morning noted that

Ms A's general condition was satisfactory, although her abdomen was a little distended (Mr Breeze did not comment on her distended abdomen). It was noted that her chest had improved, her observations were stable, she was pain free, drinking free fluids, had not passed flatus and had minimal bowel sounds.

The evening nursing notes record that the anaesthetist telephoned at 7.30pm, but there were no new orders. Her condition was stable. Although Ms A was coughing up small amounts of yellow sputum, her cough was moist. Ms A's temperature had increased to 37.5 degrees, and she had increased discomfort with coughing. Her abdominal wound was dry, and there was no ooze from her drain site. It is recorded that her abdomen remained slightly distended. The overnight nurse recorded that she was slowly improving, her temperature had decreased to 37.1 degrees, her wound was clear and dry with no ooze, but she had pain with deep breathing and coughing.

At 7.15am on 28 September Mr Breeze reviewed Ms A, and he ordered a blood test. Ms A was concerned about her asthma, and her pain with deep breathing and coughing. At 9am the anaesthetist phoned in, and advised nursing staff to commence Ms A on prednisone, a corticosteroid, and Nuelin, a bronchodilator (for the treatment of bronchial asthma, bronchitis, and emphysema). The nurse recorded that Ms A improved over that duty. She was afebrile, tolerating a light diet and fluids, and was expectorating sputum, which appeared white.

At 5.30pm Mr Breeze telephoned to check on Ms A. There were no new orders. The nurse recorded that Ms A had coughed up clear sputum, was walking, had complained of wind pain, was afebrile with normal recordings, was tolerating a light diet and fluids, and that her wounds were healing with no ooze. Her abdomen was still slightly distended. On the bottom of the progress notes for that day Mr Breeze recorded, "I have seen [Ms A] for [postoperative] chest problems the last 4 days and apart from an asthma attack she is doing well with breathing. Leaves tomorrow." (There is no record of an asthma attack in the progress notes.) The evening nurse recorded that Ms A's condition was satisfactory – she was afebrile, she had some pain, was tolerating a normal diet, and her wound was clean and dry.

On 29 September Ms A was seen by Mr Breeze. She was given a script for antibiotics and sleeping tablets, and was advised to see her general practitioner if she had any problems, or to see the anaesthetist, as Mr Breeze would be away until the following Monday (5 October).<sup>3</sup> The nurse noted that Ms A had a good morning, although she initially had wind-type pain and her abdomen was distended though soft. It was noted that her pain eased after she had a shower and mobilised, although she still experienced episodes of pain.

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<sup>3</sup> Information obtained from Bay of Plenty District Health Board indicates that Mr Breeze applied for leave on 5 and 6 October 1998.

Ms A was discharged that morning. She was advised to avoid heavy lifting, straining and strenuous exercise for six weeks. She was further advised to have small frequent meals, to chew her food well, and to contact the surgeon if she had any problems.

Mr Breeze felt that overall Ms A's progress was satisfactory, although it was hampered by her lower respiratory tract infection and her inability to stop smoking. He stated that on the day of discharge she was eating and drinking, and her abdomen was distended but soft. Mr Breeze advised that because her abdomen was soft, he was not concerned that it was distended. He advised me that distension commonly occurs after anti-reflux surgery for a number of reasons, including:

- “1. Restoration of the normal valvular action at the lower end of the oesophagus with the inability to belch, results in trapping of air in the gastro-intestinal tract.
2. Reflux sufferers commonly swallow saliva excessively to neutralise acid, and simultaneously swallow air excessively.
3. Dissection around the oesophagus can produce temporary dysfunction of the vagal nerves (these stimulate gut contraction) and this results in gut dilatation.”

He noted, however, that in hindsight the distension may have heralded the onset of Ms A's bowel obstruction.

Ms A advised me that she was very distressed by the events surrounding her need for a second operation. She was also concerned that she was still having problems eating and drinking when she was discharged on 29 September. Ms A recalled that she informed the nurses prior to her discharge that she was still having problems eating and drinking, but she could not recall seeing Mr Breeze before she was discharged.

#### *Bowel obstruction*

On the bottom of the Discharge Summary Form it is noted that after her discharge on 29 September Ms A telephoned regarding continuing pain. A note was made “will phone Breeze”. It is unclear whether that meant the nurse would phone Mr Breeze, or Ms A was advised to phone him.

Ms A advised me that she had only been home a few hours before her daughter took her to her general practitioner because of severe abdominal pain. Ms A consulted Dr C, who noted that Ms A had had abdominal pain for 24 hours. She was not vomiting, but had some nausea. On observation her temperature was 37 degrees, pulse 80 and blood pressure 150/105. She had occasional bowel sounds and a distended abdomen. Dr C queried whether Ms A had a bowel obstruction, and referred her to Tauranga Hospital.

Ms A was reviewed in the Emergency Department at 5.35pm by a house surgeon, who noted that Ms A had generalised abdominal pain, which was deeper than her wound and had been getting worse since the previous evening. It was noted that she felt hot and sweaty with pain, had some nausea but no vomiting, and was also complaining of right flank pain.

The house surgeon noted that she smoked 20 cigarettes a day. On observation she was very distressed, her temperature was 36.6 degrees, blood pressure 135/75, and her pulse 65. Ms A's chest was clear, and her abdomen was tense, tender and generally swollen. Her bowel sounds were absent. Her scar looked good with no ooze. Ms A was diagnosed with SABO (small abdominal bowel obstruction). The plan was to admit her, for her to have nil by mouth, analgesia, IV fluids, an abdominal X-ray, a nasogastric tube, and blood tests. The house surgeon noted that he would discuss Ms A with the registrar. The results of the blood tests showed that her haemoglobin was 116, and her white cell count 9.2. Ms A was admitted at 8.50pm. She had an abdominal X-ray, although the time the X-ray was taken is not recorded.

Ms A was admitted under the care of Mr Breeze, but it appears that Mr Breeze was not involved in her treatment during this admission, because he was on leave until 6 October. However, he advised me that development of small bowel obstruction postoperatively is most commonly due to adhesions. He stated that postoperative adhesions develop in between 55 and 100% of patients, and are not the result of suboptimal surgical technique. In this respect, he stated: "Unfortunately, the adhesive small bowel obstruction suffered transiently by [Ms A] is a not uncommon entity and can affect any patient undergoing abdominal surgery. It is not the result of sub-optimal treatment." Mr Breeze further advised that bowel obstructions often resolve spontaneously. He said that in the absence of features of bowel strangulation, non-operative treatment with intravenous fluids and nasogastric suction is trialled. Non-operative treatment resolves 60-85% of obstructions, and Ms A was treated this way.

On 30 September Ms A was reviewed by the registrar. The abdominal X-ray was reviewed and confirmed small bowel obstruction. Ms A was passing flatus, but her bowels had not moved. Her care continued with nil by mouth, IV fluids, and a nasogastric tube. Her condition began to improve, and her observations were stable.

Later that day the nurse recorded that Ms A's abdominal suture line was becoming red around the clips, and there was ooze coming from a small gaping area where the clip appeared in the middle between the skin edges. The nurse noted that Ms A's wound needed review, and a wound swab was sent.

At 9.15am on 1 October the house surgeon reviewed Ms A. Ms A was feeling miserable. It was noted that her abdomen was distended and she had no bowel sounds, but she was afebrile and her blood pressure was stable. The house surgeon noted small pus-like drainage from her wound. The plan was to continue with conservative treatment for her bowel obstruction, and that the house surgeon would discuss with the registrar whether Ms A required antibiotics for her wound. The house surgeon advised nursing staff to remove the staples from Ms A's laparoscopic sites and one clip from the centre of the abdominal wound, which the nurse did later that day.

Ms A was reviewed by the registrar at 12.30pm that day (1 October). He noted that she was still in pain, but the plan was to continue with treatment. He advised that she was not for

antibiotics at that stage, and recorded that recent blood tests had shown her white cell count to be 12.1 (within the upper limit of normal).

On 2 October Ms A was reviewed by the registrar again, who noted that Ms A had passed wind and two very small bowel motions. He instructed that Ms A was to be commenced on IV antibiotics, and that she was to continue IV fluids and remain nil by mouth. At 2pm Ms A's temperature was 38.3 degrees and her pulse 110 beats per minute. The house surgeon reviewed her and recorded that she was feeling hot, but she was well hydrated. It was also noted that Ms A had wheeze throughout her chest, and that the mild area of infection in her abdomen was looking better. Her abdomen was soft, with less distension and no bowel sounds. The house surgeon recorded a resolving bowel obstruction, exacerbation of asthma, and possible chest infection. The plan was for a chest X-ray, and treatment for asthma. The house surgeon discussed Ms A's management with the surgical registrar. The possibility of a chest, urinary tract or wound infection was suggested in light of her temperature and pulse. It was agreed that her antibiotic would be changed to Augmentin, and she would have a chest X-ray.

The chest X-ray was reviewed by the radiologist, who noted bronchial wall thickening in the right lung, some suggestion of atypical infection, but no pneumonia.

Over that evening Ms A was recorded as being febrile, with a temperature between 37.3 and 38.5 degrees, and her pulse remained slightly raised between 100 and 108 beats per minute.

By 4 October Ms A's condition was improving, and her IV fluids were discontinued. Her bowels had opened, her abdomen was less distended, and her observations were stable. Her wound was noted as being clean. Ms A continued to improve, although she was experiencing some crampy abdominal pain after eating, her wound was still mildly infected and her asthma was not improving. She remained on IV and oral antibiotics.

By 6 October Ms A's bowel obstruction had resolved, but she still had asthma. Her asthma improved and the infected area in her wound began drying up, and she was discharged home on 8 October. Ms A had mild diarrhoea on discharge, and was advised to have a light diet for the following two weeks. An appointment was made for her to see Mr Breeze in his outpatient clinic in two weeks' time, and to see her GP about any concerns in the interim.

Ms A recalled that she lost a lot of weight in hospital, and was very weak. She advised that after she was discharged, she spent a lot of time lying in bed, too weak to move and with an infection in her abdomen.

#### *Admission for postoperative wound infection*

Ms A consulted her general practitioner, Dr C, on 13 October 1998 because of a small wound haematoma. Dr C drained the haematoma, and a moderate amount of pus from the lower end of the wound. She prescribed antibiotics for Ms A and arranged to review her again in two days' time. Dr C reviewed Ms A on 15 October and noted that the wound was still oozing, although less than previously. It was noted that the wound required dressing twice daily. Antibiotics were continued.

On 17 October Ms A saw a doctor at an After Hours Medical and Accident Care Clinic, because she had a headache, fever, nausea, abdominal pain, and diarrhoea. The doctor noted that she was unwell, with a temperature of 38.3 degrees, and blood pressure of 132/74. Her abdomen was soft on the left, and she had a tender mass to the right of her wound. The doctor queried intra-abdominal sepsis, and referred her to Tauranga Hospital.

Ms A was assessed in the Emergency Department at Tauranga Hospital at 6.50pm. She was reviewed by a house surgeon who advised that she should be admitted. A wound swab was taken, and IV antibiotics were commenced. Blood for culture was taken, and the plan was for Ms A to be reviewed by the surgical team for a possible abdominal collection. Ms A was transferred to the ward with a diagnosis of post-surgical wound infection.

At 9.10pm her temperature was 38.6 degrees, and the house surgeon was informed. However, her temperature decreased to 37.5 degrees at 10pm. Her wound dressing was changed, and it was noted that there was dry ooze on the pad that was removed. Over that evening she remained afebrile, with satisfactory observations.

On 18 October Ms A was reviewed by a surgeon. He noted that she had been admitted with a wound infection, a wound collection, increased white cell count and fever. His recorded plan was that she would probably need an abdominal and chest X-ray, and her care was to be handed over to Mr Breeze. By that evening Ms A's condition had improved. A small amount of pus had oozed from her wound, which was cleaned, soaked with saline and covered with a dry dressing.

At 8.20am on 19 October Mr Breeze reviewed Ms A. He noted that she had had a high temperature and diarrhoea, but that her white cell count was normal at 7.2, and she was slowly improving. His plan was for her to have an ultrasound, to review the chest X-ray with a radiologist, and involve the dietician. The nurses changed the dressing, and Ms A was given oral and IV antibiotics. It was noted that she was feeling good. Mr Breeze advised that she was to have a CT scan the following Tuesday.

At 8.30am on 20 October Mr Breeze reviewed Ms A. He recorded that she had pain in her ribs which "caught" when she breathed, and that she had experienced this since the first operation. He noted that she was afebrile, her observations were stable, and she looked well and not toxic. Mr Breeze cancelled the CT scan, and noted that it was only to be considered if her temperature and white cell count rose again.

At 9.30am the nurses reviewed Ms A's dressings and noted that there was slight oozing at the base of her wound, but that the rest of the wound was clean and dry.

Ms A was reviewed again by Mr Breeze during his ward round on 21 October, and she was discharged home. Arrangements were made for a district nurse to supervise her wound healing.

Mr Breeze advised me that Ms A was predisposed to wound infection because her surgery involved the abdomen, her second operation exceeded two hours in duration, the operative



field (containing seven-day-old stapled incisions) was contaminated, and she had more than three comorbidities. Mr Breeze attempted to mitigate the risk of infection by giving Ms A preoperative antibiotics.

*Subsequent care and treatment*

Ms A had an outpatient appointment with Mr Breeze on 29 October 1998. He established that she was making a good recovery – she had no difficulty in swallowing and her asthma was well controlled. He noted that she had developed an irritable bowel syndrome, and he prescribed her medication for that.

Dr C advised me that she saw Ms A again on 11 December 1998, three months after her surgery. Ms A had been lifting some heavy boxes at work and had developed reflux symptoms. Dr C prescribed Zantac on a trial basis, and advised Ms A to return for a barium swallow if Zantac did not resolve her symptoms.

Dr C advised me that a month later Ms A was suffering from recurrent diarrhoea and tenderness around her upper abdominal scar. Dr C considered whether Ms A was suffering from nerve entrapment, and advised Ms A that she would refer her back to Mr Breeze if her symptoms did not settle. Dr C then went on maternity leave, and Ms A's care was taken over by a locum.

On 22 January 1999 Ms A consulted the locum, who noted that Ms A was off her Zantac and had increased symptoms. Ms A was referred for a barium swallow.

On 26 January 1999 Mr Breeze received an X-ray report from the locum, which noted:

“Barium meal and swallow 26 January 1999.

Normal oesophageal peristalsis is demonstrated. Fundoplication clips are located inferior to the diaphragm. There is no evidence of hold up at the level of the fundoplication and there is normal oesophageal diameter as it passes through the wrap. The stomach is distended by a large mottled filling defect consistent with a phytobezoar (mass of undigested vegetable fibre). This extends from fundus to antrum. There is fundal outpouching medial to the wrap and this suggests partial fundoplication wrap breakdown.

The mucosa in the antrum is unremarkable and duodenal cap and loop appear normal.

Impression: Previous Nissen fundoplication with no evidence of oesophageal obstruction. There appears to be partial breakdown of the fundoplication wrap. The stomach remains sub-diaphragmatic. There is a large phytobezoar within the stomach and this is probably responsible for the patient's current symptoms of discomfort. Surgical review is indicated.”

Mr Breeze advised that he was not consulted about the X-ray, and he could not recall what action, if any, he took on receipt of the X-ray report.

Ms A consulted the locum on 27 January 1999. The locum recorded that she would discuss a review with the surgical registrar at Western Bay Health (now Bay of Plenty District Health Board). It is unclear what happened from this time in relation to Ms A's condition, care and treatment. However, Ms A did not consult Mr Breeze again.

Ms A recalled that her recovery was slow, and it took about a year to feel normal again, and three months to return to normal work. She finds that she does not have as much strength as she used to, and has recently been diagnosed with fibromyalgia. Earlier this year Ms A consulted an otolaryngologist, who diagnosed her with probable recurrence of laryngopharyngeal reflux symptoms. Ms A advised that she suffers from acid burning her throat from her stomach, which causes inflammation.

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## Independent advice to Commissioner

The following expert advice was obtained from Professor John Windsor, Professor of Surgery:

**“Re: Expert advice regarding the standard of care that Mr Ian Breeze provided to [Ms A].**

Thank-you for the opportunity to contribute to this Commissioner initiated inquiry. I have read and agree to follow the Guidelines for Independent Advisors.

As a registered medical practitioner (NZMC # 12696), I trained in General Surgery and received a Fellowship from the Royal Australasian College of Surgeons in 1989. Part of my post fellowship training, in Edinburgh, included gastro-oesophageal and advanced laparoscopic surgery. Since returning to New Zealand in 1991 I have established the HBP/Upper GI Unit at Auckland Hospital, within which patients with gastro-oesophageal reflux disease are regularly treated. The Unit is also a referral centre for dealing with problems that require re-operative surgery in this field. In addition I convene and teach in an annual course in laparoscopic anti-reflux surgery at the Surgical Skills Training Centre, which I established and direct. The most recent publication (as a co-author) in this field is a multi-centre randomised controlled trial comparing a Nissen fundoplication with an anterior partial fundoplication.

### Case Summary

[Ms A] initially attended Mr Breeze because of questions surrounding the unexpected death of her mother. Her other significant co-morbidity was asthma. When the problem of her reflux disease came to light, and after attempts at improving the medical treatment of this problem, Mr Breeze offered to perform a laparoscopic Nissen Fundoplication. This was done on 17 September 1998 at the

Southern Cross Hospital in Tauranga. Because of severe dysphagia she was investigated and had the fundoplication revised to make it looser, and this necessitated open surgery. The operation was successful, but was complicated by subacute small bowel obstruction and a wound infection.

The supporting information that has been supplied to me has been clearly listed on page 2 of the document titled 'Medical/Professional Expert Advice' and dated 10 May 2004. These are items 'A' to 'K' (pages 1–391). Further information supplied includes the following:

- Letter from [Ms A's otolaryngologist], (10/5/2004) and forwarded by HDC on 13/5/2004.
- Letter from Ian Breeze providing 'Further Information' (4/5/2004) and forwarded covering letter from HDC on 17/5/2004.

I will deal with each of the specific matters that you raise. These are copied in bold.

**The level and type of training a surgeon should reasonably undergo before performing laparoscopic Nissen fundoplication surgery.**

The training that Mr Breeze voluntarily did was more than most surgeons in this field would have undertaken. He attended two dedicated laparoscopic anti-reflux courses in a city. Furthermore he attended another course run by leading trainers in Australasia.

It is well understood that these courses do not assure competence, but these three courses taken together would have provided an excellent basis for the introduction of this type of surgery into Mr Breeze's practice.

After courses of this nature, it is our practice ... to recommend that the attendees arrange to do their first few cases with a more experienced surgeon, acting as a mentor. This is not always possible, and I am not sure whether this occurred for some of the first 11 laparoscopic Nissen fundoplication procedures. I do note that Mr Breeze had already been undertaking open fundoplications prior to starting the laparoscopic approach, and this may have meant that he was able to be more confident.

Opinion:

The approach taken by Mr Breeze with regards to his level and type of training was excellent.

**General information on laparoscopic Nissen fundoplication surgery, including information about the indications for surgery, risks/complications of surgery and other options for treatment of gastro-oesophageal reflux.**

The Nissen fundoplication is the most widely practised and most validated surgical approach to the treatment of gastro-oesophageal reflux disease. There are variations in technique and these will have been well covered in the training courses that Mr Breeze attended.

Alternatives to the Nissen procedure do exist. These are partial fundoplications where the wrap is less than 360°. These procedures have been promoted for patients with inefficient oesophageal clearance associated with impaired oesophageal motility. This dysmotility can be a primary one, or it can be secondary to the reflux problem. The latter appears to be the case for [Ms A] because the oesophageal dysmotility present on the first Barium Meal had resolved at the time of the last study, following the operation.

The indications for surgery are not absolute and considerable judgement is required. In this particular case the following factors were present and are in support of surgery.

- The patient was poorly controlled on optimal medical therapy. Double dose Zantac was followed by at least a two-month course of Losec.
- There was evidence of volume reflux on the initial Barium Meal. This form of gastro-oesophageal reflux disease is better treated with surgery, as it is more difficult to control with medical therapy.
- The patient was young. This means that she would have longer to suffer suboptimal medical control. It also means that over lifetime she would be subject to an increased risk of the development of the premalignant condition of Barrett's oesophagus.
- Respiratory symptoms. I would be interested to know whether her asthma has improved following the surgical treatment of her reflux. Sometimes what appears to be asthma is in fact a consequence of micro-aspiration secondary to volume reflux, this might have been a factor in [Ms A's] case.

Factors that might temper the decision for surgery are:

- *Atypical response to medical therapy.* A prompt and good response to medical therapy increases the certainty of the diagnosis of acid reflux and the likelihood of a good response to anti-reflux surgery. The converse is also true.
- *Concomitant psychological factors.* These patients have a higher incidence of postoperative complaints. It is noted that at the time that [Ms A] first presented to Mr Breeze it was because of the recent death of her mother. At the same time she was organising for her marital separation. And she had

previously required treatment for depression. It appears from the clinical record that [Ms A] is prone to anxiety.

- *Evidence of oesophageal dysmotility.* This evidence comes from the history of dysphagia given by the patient, and recorded in the initial consultation letter. The letter (1.7.97) notes that she had heartburn, intermittent dysphagia and occasional regurgitation. Oesophageal dysmotility can be a factor in some patients because it results in slow clearance of the acid, and hence longer 'burn time'. Dysmotility was confirmed on the first Barium Meal.
- *'Endoscopy negative' reflux disease.* One has to be cautious in patients who show no evidence of oesophagitis on endoscopy. This finding is usually because the inflammation has resolved with antacid therapy. In this case I am not able to ascertain the compliance to medical therapy during the weeks prior to endoscopy. There are a group of patients with hypersensitivity of the oesophagus, who get marked symptoms of heartburn without endoscopic evidence of oesophagitis.
- *Fitness of the patient.* There is no evidence that [Ms A] had any comorbidities that were a contraindication for surgery.

I stress that these factors do not represent absolute contra-indications to surgery, alone or together. When these factors exist it is usual practice to investigate the patients more fully before surgery. In particular it is usual to recommend that endoscopy negative patients should have a 24-hour pH study to confirm and quantify the extent of abnormal acid exposure. Further it is usually recommended that in the presence of preoperative dysphagia and the diagnosis of oesophageal dysmotility on the barium meal that oesophageal motility should be characterised further with oesophageal manometry. It is difficult for me to determine whether these further investigations were required in this case. It is all too easy to suggest this, in retrospect.

The risks and complications were discussed with [Ms A], as outlined on page 180 ('G'). It is not clear how much detail Mr Breeze provided, but it does indicate that the risk of dysphagia was covered.

Other options for the treatment of gastro-oesophageal reflux did not exist in the late 1990's. The decision was between continued medical therapy and surgery. The last few years have seen the development of lesser procedures performed using flexible endoscopes.

**Whether Mr Breeze's decision to undertake surgery (and in particular laparoscopic surgery), was appropriate in the circumstances of [Ms A's] presentation and comorbidities.**

Opinion:

It is my opinion that the decision to undertake surgery was the correct one, notwithstanding some factors that suggested the need for some caution. The extent of pre-operative investigation (endoscopy and barium meal) was appropriate for straightforward cases. More extensive investigation would not have altered the indications for surgery, but may have indicated the need for a partial fundoplication. It is not appropriate to be dogmatic on this point, as it is a matter of judgement.

**What information you would expect a reasonable surgeon to provide a patient prior to surgery.**

As stated above, it appears that Mr Breeze addressed the issues of risks and complications with [Ms A]. This is not a complete record of what information was discussed with [Ms A]. It is difficult for patients to recall all that is said. While it is not common practice, it is often useful to supplement this with written information. An example of an information sheet is appended [Appendix 1]. This does not cover a lot of details regarding risks and complications. It is also difficult to predict how much information a patient may want before a procedure. But if problems occur patients often wish they had had more information.

**Whether a laparoscopic Nissen fundoplication operation was the most appropriate information and/or option for the treatment of [Ms A's] condition.**

Opinion:

The answer is yes, and the result of the revisional operation supports this. A loose Nissen has resulted in the successful treatment of [Ms A's] reflux disease. The problem of postoperative dysphagia is more common after a total fundoplication (Nissen) than a partial fundoplication. A Nissen is the preferred operation in patients with volume reflux. A partial fundoplication is an option in patients with significant oesophageal dysmotility. The latter has not been determined in this case, but because it has disappeared with the treatment of the reflux, it was not a significant primary dysmotility.

**Whether the laparoscopic Nissen fundoplication operation on 17 September 1998 was performed in accordance with professional standards.**

Opinion:

It is impossible to answer this question because the 'devil is in the detail'. A more detailed description of what exactly was found at the time of the second operation would be helpful, but is probably not possible at this time interval. From the available information, as detailed in the operation note, I believe that the procedure was done in accordance with professional standards.

It transpires that the fundoplication was constructed tightly, despite the precautionary use of a Bougie. Some authorities suggest, and I stress that there is not universal agreement on this, that the problem of postoperative dysphagia can be reduced by more complete mobilization of the gastric fundus, and in particular the division of the short gastric vessels. However, a recent randomised controlled trial has not confirmed this contention. Sometimes dysphagia can be the result of not using the optimal parts of the fundus for constructing the fundoplication. This can cause a tight wrap, as well as one that is imbalanced, producing a twist that acts like a spiral valve. There is no suggestion, from the second operation note, that this was the problem. The findings, as recorded, show swollen tissue, that is in keeping with the recent surgery.

**The appropriateness of Mr Breeze's post-operative management of [Ms A] prior to her discharge on 20 September, including whether he adequately responded to her complaint of post-operative swallowing difficulty.**

There appears to be a discrepancy between what is recalled in the 2004 interview with [Ms A] and what is recorded in the nursing notes on the days up to discharge. There is evidence in the clinical record that [Ms A] was having some difficulty, but not out of keeping with what is often experienced after a Nissen fundoplication. In particular there was evidence that she was swallowing fluids and a soft diet. Further the nurses document that she received education regarding diet after this kind of operation. There is also evidence, on 20/9/98 that [Ms A] was 'wanting to go home', was 'feeling positive' and 'looking forward to sleeping in own bed'.

Mr Breeze reviewed her prior to discharge and considered that her postoperative progress was satisfactory. He reassured [Ms A] that this problem with swallowing should resolve promptly. Follow up was arranged.

Opinion:

From the available evidence I consider that Mr Breeze's post-operative management was at an appropriate standard of care.

**Whether the decision to discharge [Ms A] on 20 September was appropriate.**

Opinion:

Yes. See above.

**The appropriateness of Mr Breeze's post-management of [Ms A] following her discharge on 20 September and prior to her readmission on 24 September.**

There were two telephone calls within the first 24 hours after discharge (page 025) indicating that there were concerns with 'pain' (after eating kiwifruit) and with 'reflux' (which cannot be the case if the fundoplication were too tight) and 'regurgitation'. The nursing record indicates that Mr Breeze was contacted on both

occasions and that he arranged to see [Ms A] that same afternoon, which is prompt. He investigated the problem appropriately with a Barium Meal. This showed a tight fundoplication. From my experience I would have not been too concerned (per se) with the '5mm' calibre at the level of the fundoplication, as shown on the radiological study. At this interval after the operation, and especially after a Nissen fundoplication, it is usual to find the region of the wrap to be tight, because of the tissue swelling from the surgery. And the fundoplication gets tighter before it loosens up. For this reason, many surgeons will treat mild to moderate dysphagia conservatively. This entails keeping to a liquid diet and after a few weeks and if there is still a problem with dysphagia to perform a gentle endoscopic balloon dilation. In this case, Mr Breeze took a more aggressive course. One can presume that this is because of his assessment of the severity of the clinical dysphagia. It takes courage to face up to this situation and be prepared to return to the operating theatre to revise the operation. Early revisional surgery is recommended in the reference that Mr Breeze has provided. I support this approach for severe dysphagia.

Opinion:

The postoperative management was timely and appropriate.

**Whether the decision to proceed to surgery to loosen the wrap was made in an appropriate and timely manner.**

Opinion:

Yes. See above.

**Whether the operation to loosen the wrap on 24 September was performed in accordance with professional standards.**

This is difficult to determine without being there. The operative note is of a good standard, but the details of what was found was not described in sufficient detail to answer this question. What was done differently with the second operation from the first? How was the increased looseness assured? Was a partial fundoplication considered as an option? That it wasn't performed raises the possibility that a technical error was found from the first fundoplication, and consequently a new Nissen constructed with confidence that the problem was not repeated. Should Mr Breeze have sought to refer this patient to somebody more experienced with revisional surgery? The argument for this would be that there might have been a greater chance of avoiding a conversion to an open surgery, and therefore a reduced risk of adhesion associated small bowel obstruction and wound infection. In defence of this is the understandable desire to rectify the problem that you have been responsible for. With Mr Breeze's prior experience with open fundoplication he might well have had the confidence in his ability to sort the problem out.



Opinion:

Yes, within the level of information that we have. In the end, this second operation has fixed the problem of dysphagia and has resulted in a satisfactory outcome, in terms of reflux control.

**Whether Mr Breeze's postoperative management of [Ms A] was appropriate (after the second operation).**

The postoperative care appears appropriate and of an acceptable standard. The decision for discharge appears sound. It is clearly recorded that [Ms A] was tolerating a light diet and fluids, that she had had a loose bowel motion and that her wound was satisfactory. Referral for home help was made. Clear instructions were given regarding activity and diet. A prescription was given for analgesia and other medication. Advised to contact surgeon if there were any problems. As it was, [Ms A] rang the ward, rather than Mr Breeze, very soon after she had returned home complaining of pain. She was referred promptly to Tauranga Hospital and admitted. The conservative management of the small bowel obstruction was appropriate.

One of the questions that arise in my mind is whether the diagnosis of subacute small bowel obstruction is correct. It is also possible that she just had a paralytic ileus. In support of this is the significant intake of opiate medication (which predisposes to an ileus) and the clinical findings of distension and absent bowel sounds. The diagnosis of obstruction is based on the surgical registrar's review of the plain abdominal x-ray. I have not found the formal report of this x-ray in order to determine whether a radiologist corroborates the diagnosis of obstruction. This question is not that important, as the management of an ileus is conservative, as well.

**Whether it was appropriate for [Ms A] to be discharged on 29 September (she was re-admitted later that day with a bowel obstruction).**

There was no evidence of obstruction on discharge. The diagnosis of obstruction is presumptive. The response to her telephone call regarding ongoing pain was a prompt admission to Tauranga Hospital, via the Emergency Department.

Opinion:

Yes, the discharge appears appropriate.

**Whether [Ms A's] bowel obstruction should have been identified prior to her discharge on 29 September.**

As pointed out above, there was clear evidence in the nursing record that there was no clinical evidence of obstruction on the day of discharge.

Mr Breeze deals with this issue, by supplying a chapter by DeCherney and diZerega. This underlines the fact that adhesive bowel obstruction is a well-recognised complication of abdominal surgery. It is more likely in re-operative cases.

**The appropriateness of the treatment of [Ms A's] bowel obstruction.**

This was appropriate.

**The appropriateness of the treatment of [Ms A's] wound infection.**

This was appropriate.

**Summary of Opinion**

**It is my professional and expert opinion and following a careful review of the available material relating to the management of [Ms A] that Mr Breeze acted with reasonable care and skill. His training in laparoscopic fundoplication surgery was better than for many surgeons and was excellent. The indications for and the choice of the operation were appropriate. The complication of postoperative dysphagia following fundoplication is well recognized and appears to have been discussed with the patient. [Ms A] had a particularly tight fundoplication necessitating revisional surgery, which was successful. This second operation was complicated by the problem of abdominal pain and distension, which was thought to be a subacute small bowel obstruction secondary to adhesions. Equally possible is an opiate induced paralytic ileus. Either way the problem was dealt with appropriately. This was also the case for the wound infection. It is my opinion that Mr Breeze provided services of an appropriate and professional standard.”**

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**Code of Health and Disability Services Consumers' Rights**

The following Right in the Code of Health and Disability Services Consumers' Rights is applicable to this complaint:

*Right 4*

*Right to Services of an Appropriate Standard*

- (1) Every consumer has the right to have services provided with reasonable care and skill.*

## Opinion: No breach

### *Preoperative investigations*

Ms A first presented to Mr Breeze with symptoms of gastro-oesophageal reflux on 1 July 1997. Mr Breeze advised Ms A to take Zantac, a medium potency medication for the treatment of reflux oesophagitis, twice daily. Mr Breeze arranged an endoscopy to further assess her condition.

The endoscopic examination of Ms A's oesophagus, stomach and duodenum (gastroscopy) was performed on 5 November 1997. Mr Breeze felt that the examination was normal, but remained of the opinion that Ms A had gastro-oesophageal reflux. I understand that at that time there were essentially two treatment options for gastro-oesophageal reflux, namely medical (drug) therapy, or surgery. Mr Breeze considered that it was reasonable to trial conservative treatment before embarking on surgery. Because Zantac was not relieving Ms A's symptoms, he substituted a higher potency drug, Losec. Mr Breeze arranged to reassess Ms A after a short trial of Losec.

Mr Breeze reviewed Ms A on 17 December 1997, at which time he noted that there had been a 50% improvement in her symptoms with Losec. Mr Breeze advised Ms A to continue taking Losec, and arranged a further review approximately six weeks later.

Mr Breeze reassessed Ms A on 5 February and 26 February 1998. On 26 February Ms A complained of constipation. Mr Breeze believed that the constipation could be a side effect of Losec, which is known to cause constipation. However, he ordered a barium enema to exclude the possibility that her constipation was due to a structural abnormality. The barium enema did not show an abnormality, and Mr Breeze concluded that Ms A's constipation was caused by Losec. Because drug therapy was proving ineffectual in managing Ms A's reflux, Mr Breeze discussed the option of surgery with her.

There is an unexplained gap between the time of that appointment and Ms A's barium meal X-ray on 20 August 1998, which revealed a large volume reflux with thoracic oesophageal dysmotility. Following the barium meal X-ray, Ms A's general practitioner referred her back to Mr Breeze. Ms A consulted Mr Breeze on 3 September 1998. A decision was made to perform a laparoscopic Nissen fundoplication operation because of Ms A's intolerance to medications. Mr Breeze was aware that Ms A had comorbidities, including asthma, and he consulted with his anaesthetist. Mr Breeze asked the anaesthetist to review Ms A to assess her suitability for surgery. Surgery was arranged for 17 September 1998 at Southern Cross Hospital, after a review by the anaesthetist.

My expert advisor informed me that in Ms A's case there were a number of reasons why it was appropriate for Mr Breeze to operate. However, there were also reasons why Mr Breeze needed to be cautious with his decision to operate. The reasons in favour of performing surgery were:

1. Her condition was poorly controlled on optimal medical therapy, which had been trialled for a reasonable period of time;

2. The barium meal X-ray taken in August 1998 showed evidence of volume reflux. My advisor informed me that this type of gastro-oesophageal reflux disease is most appropriately treated by surgery, because it is difficult to control with medical therapy; and
3. Other factors in support of surgery were her age, and her respiratory symptoms. Ms A had no comorbidities that were a contraindication to surgery.

The reasons why Mr Breeze needed to exercise caution with his decision were:

1. While a prompt and good response to medical therapy increases the certainty of the diagnosis of acid reflux and the likelihood of a good response to anti-reflux surgery, the converse is also true. Ms A's limited response to medical therapy could have alerted Mr Breeze to exercise caution with his decision to operate in this case;
2. Ms A had oesophageal dysmotility, which can result in slow clearance of the acid, and longer "burn time"; and
3. The endoscopy was negative for reflux disease. Mr Breeze advised me that a normal endoscopic examination does not mean that the patient does not have gastro-oesophageal reflux. However, my advisor informed me that a doctor should be cautious in patients who show no evidence of oesophagitis on endoscopy.

My advisor informed me that while the factors indicating caution are not "absolute contraindications to surgery", when they exist, it is usual practice to investigate the patient more fully before surgery. For example, for endoscopy negative patients it is usual to recommend a 24-hour pH study to confirm and quantify the extent of abnormal acid exposure, and in the presence of preoperative dysphagia and oesophageal dysmotility (confirmed on the barium meal X-ray) it is usually recommended that oesophageal motility be further characterised with oesophageal manometry. My advisor stated that while, in hindsight, further investigations may have been useful, it is difficult to determine whether further investigation of Ms A was required at the time the decision was made to operate.

Mr Breeze submitted that further investigation was not warranted in Ms A's case prior to proceeding with the laparoscopic Nissen fundoplication operation. He stated that surgery was indicated because of her poor response to medication, her classical symptoms of reflux disease, her barium swallow findings, and the partial improvement in her condition with medical treatment. In addition, Ms A suffered from volume reflux disease which, as noted by my advisor, is appropriately treated surgically. Further investigations would not have altered the indication for surgery or provided any guidance in selecting the type of anti-reflux procedure to perform (ie, a partial or full fundoplication).

I accept my expert's advice that the indications for surgery are not absolute, and considerable judgement is required when deciding whether to proceed with surgery. My role is to assess whether Mr Breeze acted appropriately at the time and to avoid the influence of hindsight bias. I accept that it was appropriate for Mr Breeze to operate on Ms A on the

basis of the endoscopy and barium meal results alone, despite my expert's comment about the need for Mr Breeze to exercise caution. While, in hindsight, it may have been appropriate for Mr Breeze to exercise caution and conduct further pre-operative investigations, his decision to operate on Ms A was appropriate. Clearly, at the time, Mr Breeze considered that there was sufficient evidence that surgery was indicated for Ms A, and he made a reasonable decision to perform a laparoscopic Nissen fundoplication operation. Accordingly, in my opinion Mr Breeze did not breach Right 4(1) of the Code with regard to his preoperative investigations of Ms A and his decision to operate.

However, I draw Mr Breeze's attention to my advisor's comment that while more extensive investigation would not have altered the indications for surgery, it may have indicated the need for a partial, as opposed to a full, Nissen fundoplication. A partial fundoplication is an option for patients such as Ms A with significant oesophageal dysmotility, and is promoted for patients with inefficient oesophageal clearance associated with impaired oesophageal motility.

#### *Operation*

Mr Breeze operated on Ms A on 17 September 1998. The operation was recorded as uneventful and routine. A copy of Mr Breeze's operation note was reviewed in the course of my investigation. It clearly outlined the procedure Mr Breeze used to create and calibrate the wrap.

My advisor stated that on the available information, as detailed in the operation note, the Nissen fundoplication was performed in accordance with professional standards. However, Ms A developed postoperative dysphagia, and her wrap was found to have been too tight. The relationship between the standard of Mr Breeze's operation and the subsequent findings is not clear. My advisor made two comments about the operation in light of Ms A's postoperative dysphagia, and the subsequent finding that her wrap was too tight. First, although there is not universal agreement on this point, the problem of postoperative dysphagia can be reduced by more complete mobilisation of the gastric fundus and, in particular, the division of the short gastric vessels. Secondly, dysphagia can be the result of not using the optimal parts of the fundus for constructing the fundoplication, which can create a tight or imbalanced wrap.

With regard to the first point, I note that the observation that postoperative dysphagia can be reduced by more complete mobilisation of the gastric fundus is not universally accepted, and there is no suggestion by my advisor that reasonable practice requires that technique to be adopted. Accordingly, I cannot find that Mr Breeze acted unreasonably by failing to completely mobilise the gastric fundus to reduce the likelihood that Ms A would suffer from postoperative dysphagia. However, clearly this is a matter that Mr Breeze needs to consider for his future practice.

In terms of the second point, I note the observation that Ms A's tight wrap may have been the result of Mr Breeze not using the optimal parts of the fundus for constructing the fundoplication. However, as noted by my advisor, there was no suggestion in the second operation note that this caused the over-tight wrap. Although this is one hypothesis for the

cause of the problem, there is no evidence to support a finding that there was a lack of reasonable care and skill by Mr Breeze in constructing the fundoplication.

I accept my expert's advice that on the written information available, it appears Mr Breeze performed surgery in accordance with professional standards. Accordingly, in my opinion Mr Breeze did not breach Right 4(1) of the Code in his operation on Ms A.

*Postoperative dysphagia and decision to re-operate*

Following the operation, Ms A was reportedly very anxious, and suffered from dysphagia. While in the hospital, she had difficulty drinking water, and had pain in her abdomen. By the time she was discharged from hospital, she was noted as tolerating mashed food and fluids, although she was still aware of a "feeling" when swallowing. Mr Breeze advised that he expected Ms A's dysphagia would rapidly improve, and reassured her.

My advisor informed me that he considered Mr Breeze's postoperative management was timely and appropriate. Prior to her discharge from hospital there was evidence that although she was having some difficulty, her condition was not out of keeping with what is often experienced by patients following a Nissen fundoplication. Ms A was swallowing fluids and eating a soft diet. The notes record that before she was discharged home, she was given information about what she should and should not eat following her surgery. Mr Breeze reviewed Ms A prior to her discharge, and reassured her. My advisor informed me that the decision to discharge Ms A on 20 September was appropriate.

After she was discharged, Ms A could not eat or sleep, and her reflux was severe. Ms A contacted the nursing staff at the hospital twice within 24 hours because of her reflux and regurgitation, and Mr Breeze was notified. An appointment was arranged for Ms A to see Mr Breeze on 21 September, within a day of her discharge. Mr Breeze recalled that Ms A was suffering from unusually severe dysphagia, and he arranged a barium swallow X-ray to investigate the cause. The barium swallow X-ray revealed an excessively tight wrap. Mr Breeze recommended operative revision, and surgery was arranged for 24 September, three days later.

My advisor informed me that Mr Breeze's response in arranging an appointment on 21 September was prompt, and his postoperative management was timely and appropriate. It is common to find the region of the wrap to be tight following a Nissen fundoplication, because of tissue swelling from the surgery. My expert advised that the fundoplication gets tighter before it loosens. Accordingly, many surgeons would treat mild to moderate postoperative dysphagia conservatively (for example, keep the patient to a liquid diet and if there is still dysphagia after a few weeks, perform a gentle endoscopic balloon dilation). Mr Breeze clearly assessed Ms A's dysphagia as severe, and took a more aggressive course of action, which appeared to be appropriate in the circumstances.

In my opinion Mr Breeze acted reasonably in his management of Ms A's postoperative dysphagia, and his decision to re-operate was appropriate and timely. Accordingly, Mr Breeze did not breach Right 4(1) of the Code in his postoperative management of Ms A's dysphagia.

*Postoperative complications, care and treatment*

It took Ms A a long time to recover from her two operations. Her recovery was complicated by a small bowel obstruction, a respiratory tract infection, and a wound infection. It is clear that the period between her first operation in mid-September 1998 and her recovery from her wound infection in late October 1998 was very distressing for her. However, for the reasons set out below, it is my opinion that Mr Breeze did not breach the Code in respect of Ms A's ongoing complications.

Ms A's postoperative recovery from the revision operation was complicated by a respiratory tract infection. She did not suffer from dysphagia, but did experience pain in her abdomen, which was distended. Mr Breeze explained that distension commonly occurs after anti-reflux surgery for a number of reasons, including:

1. Restoration of the normal valvular action at the lower end of the oesophagus, with the inability to belch, results in trapping of air in the gastrointestinal tract.
2. Reflux sufferers commonly swallow saliva excessively to neutralise acid, and simultaneously swallow air excessively.
3. Dissection around the oesophagus can produce temporary dysfunction of the vagal nerves (which stimulate gut contraction) and this results in gut dilatation.

For these reasons Mr Breeze was not concerned that Ms A's abdomen was distended when she was discharged, because it was also soft. Ms A recalled that when she was discharged she was still having problems eating and drinking. However, the clinical records show that Ms A was eating and drinking well prior to her discharge on 29 September.

My advisor informed me that the decision to discharge Ms A on 29 September was sound. It is clearly recorded that Ms A was tolerating a light diet and fluids, that she had had a loose bowel motion, and that her wound was satisfactory. She was given instructions about her diet and activities she should avoid, and a referral for home help was made. She was also discharged with a prescription for analgesia, and was appropriately advised to contact the surgeon if there were any problems, or to see the anaesthetist, in Mr Breeze's absence. In my view, the evidence indicates that Ms A's care following her second operation was appropriate, as was the decision to discharge her on 29 September.

Ms A was discharged from Southern Cross Hospital on 29 September, but was readmitted to Tauranga Hospital later that day with generalised abdominal pain and nausea. She was diagnosed with a small bowel obstruction secondary to adhesions. Although the clinical notes record that Ms A was admitted under the care of Mr Breeze, it does appear that he was not involved in her care and treatment during that admission (Mr Breeze was on leave for some of the period). Ms A was treated conservatively, with nil by mouth, IV fluids, and a nasogastric tube, and her obstruction resolved by early October. Ms A's wound started to ooze during this admission, and it was noted that she had a mild infection. The infection was treated conservatively, and Ms A was discharged on 8 October.

Ms A underwent two abdominal operations in a short period of time. My expert informed me that small bowel obstruction secondary to adhesions is a well recognised complication of abdominal surgery, and is more likely in re-operative cases. There is no evidence that the development of Ms A's bowel obstruction was due to a lack of reasonable care and skill by Mr Breeze during surgery. In addition, my advisor informed me that the conservative management of Ms A's small bowel obstruction was appropriate. Accordingly, in my opinion Mr Breeze did not breach Right 4(1) of the Code in relation to this matter.

Ms A complained that after her discharge on 8 October, she was very weak, and spent several weeks lying in bed with an infection in her abdomen. She consulted her general practitioner on 13 October. Her general practitioner noted that she had a small wound haematoma, which was drained with a moderate amount of pus from the lower end of the wound. Antibiotics were prescribed. Ms A's general practitioner reviewed her on 15 October, and antibiotics were continued. Her wound dressings required changing twice daily. On 17 October Ms A went to an after-hours medical centre, with a headache, fever, nausea, abdominal pain, and diarrhoea. The doctor referred her to Tauranga Hospital, where she was admitted with a post-surgical wound infection. Mr Breeze arranged a CT scan, but cancelled the scan when her condition improved. She was discharged home on 21 October.

Mr Breeze informed me that Ms A was at a high risk of developing a wound infection because she had two operations, which meant that the operative field during the second operation was contaminated, the surgery was abdominal, her second operation exceeded two hours, and she had more than three comorbidities. I accept his response. I also accept the advice of my expert advisor that Mr Breeze's treatment of Ms A's wound infection was appropriate. Accordingly, in my opinion Mr Breeze did not breach Right 4(1) of the Code in relation to Ms A's wound infection.

In summary, I accept my expert's advice that Mr Breeze's postoperative care of Ms A was of an acceptable standard. Accordingly, Mr Breeze did not breach Right 4(1) of the Code in his management of Ms A's postoperative complications.

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## Other comments

### *Record-keeping*

I asked my advisor whether the operation to loosen Ms A's wrap on 24 September was performed in accordance with professional standards. Professor Windsor advised me that the details of what was found at the operation were not described in sufficient detail in the clinical records for him to answer my question. For example, there was no information about:

- what was done differently with the second operation from the first;
- how the increased looseness was assured; or
- whether a partial fundoplication was considered as an option.



Because of the lack of information in the operative record, my advisor was unable to consider aspects of the quality of care provided to Ms A. In particular:

- whether a technical error from the first operation was found during the revision procedure;
- whether Mr Breeze should have referred Ms A to another surgeon more experienced in revisional surgery, which may have avoided the need for conversion to open surgery and reduced the risk of adhesion-associated small bowel obstruction and wound infection.

I am concerned at the lack of detail in Mr Breeze's operative record. In my view, operative records should record the basis for the decision to proceed with surgery, and should include clear and accurate information about operative findings and a detailed description of the surgical technique. My view is supported by several published guidelines in this area, in particular, the Medical Council of New Zealand's "Good Medical Practice: A Guide for Doctors" (2000), which states:

"3. In providing care you must:

... keep clear, accurate, and contemporaneous patient records which report the relevant clinical findings, the decisions made, the information given to patients and any drugs or other treatment prescribed."

The Medical Council's "Guidelines for the Maintenance and Retention of Patient Records" (October 2001) also state:

"1. Maintaining patient records

Records must be legible and should contain all information that is relevant to the patient's care.

Information should be accurate and updated at each consultation. Patient records are essential to guide future management, and invaluable in the uncommon occasions when the outcome is unsatisfactory."

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## **Recommendation**

I recommend that Mr Breeze review his practice in light of my advisor's comments about his preoperative investigations of Ms A and my comments about the adequacy of his note-taking in this case.

## **Follow-up actions**

- A copy of my final report will be sent to the Medical Council of New Zealand, and the Royal Australasian College of Surgeons.
- In light of the significant public interest in my inquiry into Mr Breeze's practice, a copy of my final report, with details removed identifying all parties other than Mr Breeze, my expert advisor, and the hospitals, will be released to the media and placed on the Health and Disability Commissioner website, [www.hdc.org.nz](http://www.hdc.org.nz), for educational purposes, upon completion of my inquiry.

## Appendix 1

# **GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD)**

## *Answers to some Questions*

### **What is GORD?**

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The movement of stomach fluid back into the oesophagus is a normal occurrence. When it happens too frequently people can experience heartburn. This is the burning sensation behind the breastbone. Heartburn can also occur when the oesophagus is unable to clear the acid efficiently or when the oesophagus is particularly sensitive. Heartburn is usually worse after meals and sometimes with bending down. When GORD is severe patients experience fluid rising all the way to the mouth. This is called waterbrash or volume reflux.

A hiatus hernia is usually associated with heartburn, but not always. This is when the hole, through which the oesophagus passes to become the stomach, enlarges and allows the stomach to slide up into the chest.

### **What are the complications of GORD?**

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The inflammation of the oesophagus can become so severe that it can cause bleeding and anaemia. Scarring develops when reflux occurs over a long period. This scarring can narrow the oesophagus and cause difficulties in swallowing. Another long-term problem is the change that occurs to the lining of the oesophagus. For protection it undergoes a transformation, known as Barrett's oesophagus. This can progress to cancer, but in only a very few patients.

## **How is GORD diagnosed?**

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The patient's description of heartburn is often enough to make the diagnosis of GORD. Heartburn should be relieved with antacid treatment. The diagnosis of GORD is usually confirmed by evidence of inflammation at the bottom end of the oesophagus. This is seen using an endoscope.

When there is doubt about the diagnosis it is necessary to undertake a 24-hour pH test. This involves measuring the exposure of the lower oesophagus to stomach acid. It is important to observe the relationship of the acidity to the occurrence of heartburn.

Another test that needs to be done in some patients is manometry. This tests the muscle function of the oesophagus. Normal muscle function is needed to clear acid from the oesophagus back into the stomach.

## **When is an operation needed to treat GORD?**

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An operation is the best way to treat some patients with GORD and it is very important that these patients are selected carefully.

Patients should have had a good response to optimal antacid treatment (using Losec or Sumac), have a secure diagnosis of GORD, and have normal or near normal oesophageal muscle function.

It is usual to offer an operation to younger patients, those who do not tolerate medical treatment, those who do not want to take medication for the rest of their life, those who have volume reflux, and those with Barrett's oesophagus.

An operation can make a patient worse if the diagnosis of GORD is not correct, if it is not done properly and if there is a problem with the muscle function of the oesophagus.

## **What is the operation for GORD?**

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Actually there are several types of operation, and your surgeon may have a particular preference for one of them. The operations have common elements. These include pulling the stomach back in to the abdomen, ensuring that there is at least a 2 cm length of oesophagus in the abdomen, narrowing the hole in

the diaphragm to prevent reformation of the hiatus hernia, and then some form of fundoplication. This is where the floppy upper part of the stomach is used to wrap around all (Nissen fundoplication) or part (partial fundoplication) of the lower oesophagus. There appears to be a higher risk of problems with swallowing with a total fundoplication.

### **How long does the operation take and how long am I in hospital for?**

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The operation usually takes between 1 and 2 hours and patients are usually in hospital for 1 to 2 days. The development of the laparoscopic approach to the operation is a significant advance. This involves 5 small 'keyhole' incisions, making the operation more comfortable. The patient will be able to go home earlier than if it were performed by an open surgical method.

### **What do I need to know about the period after the operation?**

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- As soon as the patient is able to belch they can commence drinking. This is started cautiously. They are usually able to drink freely within 8 hours. A light diet is given the following day.
- Eating has to be done carefully and all food must be thoroughly chewed. Avoid bulky foods like steak and toast because they can stick at the level of the operation. Food sticking can induce vomiting. The oesophagus is narrowed by the operation, particularly for the first week or two because of swelling in the tissues.
- It is very important to avoid vomiting or heavy coughing during the first few weeks after the operation because this can disrupt some of the stitching inside. For this reason you will be given medicine to counteract nausea and vomiting.
- There is no need to continue with your antacid treatment.

- You will be allowed to go home as soon as you are comfortable enough, can eat and are able to look after yourself.

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