Northland District Health Board

A Report by the
Health and Disability Commissioner

(Case 09HDC00836)

Overview

Mrs B, aged 59, developed acute abdominal pain on 29 March 2008, and was admitted to Whangarei Hospital at 6am on 30 March. She was diagnosed with acute appendicitis, and scheduled for surgery that day.

Delays ensued over the following 48 hours, and Mrs B did not have surgery until 1 April. During the operation she was found to have acute appendicitis with perforation and peritonitis[1].

Mrs B was discharged from Whangarei Hospital on 7 April after a course of antibiotics. Soon afterwards, she developed an incisional hernia[2], which was repaired in December.

This report considers whether the delay in treatment was acceptable, and whether Mrs B was provided with adequate information about the reason for the delay and the outcome of her surgery.

Complaint and investigation

On 2 February 2009, the Health and Disability Commissioner (HDC) received a complaint from Mrs B about the services provided to her by Northland District Health Board. The following issues were identified for investigation:

- *Whether Mrs B received appropriate care and adequate information from Northland District Health Board in March and April 2008.*

An investigation was commenced on 3 June 2009, involving the following parties:

Dr A	General practitioner
Mrs B	Consumer/Complainant
Northland DHB	Provider
Dr C	Consultant general surgeon
Dr D	Surgical registrar

[1] Peritonitis is an inflammation of the peritoneum often caused by the rupture of the vermiform appendix

[2] An incisional hernia is a herniation through a surgical scar

Information was received from:

Mrs B
Northland DHB
Dr A
Accident Compensation Corporation

Independent expert advice was obtained from general surgeon Dr Pat Alley (attached as Appendix A).

Information gathered during investigation

Acute admission to Whangarei Hospital
After developing severe abdominal pain on Saturday 29 March 2008, Mrs B (then aged 59) was seen by an on-call general practitioner in the early morning of Sunday 30 March 2008. The general practitioner diagnosed acute appendicitis, administered morphine pain relief, and arranged transfer by ambulance to Whangarei Hospital.

Mrs B was admitted to Whangarei Hospital at about 6am. She was offered morphine for pain relief, which she initially refused. (Mrs B cannot recall why she refused the offered pain relief, but believes it may have been because of her expectation that she would undergo surgery that day.) Blood tests and an X-ray were taken and Mrs B was advised that she would require surgery later that afternoon. At 2pm, Mrs B was transferred to the surgical ward, under the care of surgeon Dr C.

Mrs B was kept nil per mouth and administered regular pain relief. She recalls being told that her surgery would go ahead at 3pm, but she heard nothing further from staff until 8pm, when she was advised that her surgery would be deferred to the next day (31 March). Northland DHB told Mrs B that delay was "as a consequence of other emergencies".

During the morning ward round on 31 March, Mrs B was seen by surgical registrar Dr D and told that surgery would take place later that morning. However, owing to the high demand for acute services that day, Mrs B's surgery was repeatedly deferred. After re-assessment by Dr D, the surgery was again postponed to the next day, with Mrs B placed first on the list. Mrs B was not informed of the reasons for the delay.

Priority for acute surgery
Patients who require acute surgery at Northland DHB are booked into an acute operation list, and assigned a priority score between 1 (most acute) and 5 (least acute). Mrs B was assigned a priority score of 3. Northland DHB's guidelines on booking acute cases for surgery state that a patient with a diagnosis of acute appendicitis is a category 2 acute case, with a recommended timeframe for undergoing surgery of one to six hours. The timeframe for category 3 cases is six to twelve hours.

Northland DHB advised HDC that the determination of the order in which surgery on booked acute surgical cases is performed is determined by a number of factors, including category acuity and the number of times the patient may have been postponed. In the event that a clinician feels that his or her patient should receive surgery ahead of an equal priority patient, it is discussed directly with the specialists involved and a collective decision reached for the order of cases. These discussions are not recorded.

Over the weekend when Mrs B was admitted (29–30 March), one acute theatre was open. On 30 March, 10 acute cases were booked for surgery, and four patients (including Mrs B) were postponed to the following day. Of the six patients operated on, three had priority scores less than or equal to Mrs B's score of 3. On 31 March, 18 acute cases were booked, and four patients (including Mrs B) were postponed, and one operation was cancelled. Of the 13 patients operated on, eight had priority scores less than or equal to Mrs B's score of 3.

There is no evidence that Mrs B's clinical priority was reviewed from day to day as her surgery was twice postponed, or that any discussion took place between the surgeons and consultants about her clinical priority.

Surgery

At approximately 8.30am on 1 April 2008, Mrs B was taken to theatre. The surgery was performed by Dr D. Although a laparoscopic procedure was planned, it was converted to an open procedure after a perforated appendix and localised peritonitis was found. Mrs B's appendix was removed, and a serosal[3] tear of her bowel was repaired. No separate operation record was made, but a note was made in the clinical notes.

Mrs B returned to the ward at approximately 2.30pm and was told the operation had been considerably more difficult than anticipated. She required intravenous triple antibiotic therapy until discharge six days later. The nursing notes contain several references to Mrs B becoming distressed at the length of her stay in hospital and the amount of medication she was taking. According to Mrs B, she was not told at any stage during her admission that she had developed peritonitis and that this was the reason for administering antibiotics.

Discharge from hospital

On 7 April 2008, Mrs B was discharged from hospital and told it would take six weeks to recover from the surgery. At discharge, Mrs B was referred for district nursing assistance for wound management. The referral form stated: "Appendix was acutely inflamed containing pus — not perf[orat]ed".

Although her surgical wound healed well, Mrs B visited her GP several times throughout the remainder of 2008 complaining of swelling around the surgery site. In early November 2008, an incisional hernia was diagnosed. It was repaired on 15 December 2008.

[3] A thin membrane layer of the bowel.

Subsequent actions by Northland DHB
In response to Mrs B's complaint, Northland DHB held a general surgeons' special meeting to discuss the complaint, review the DHB's procedures for managing acute surgical patients, and identify any response required to prevent a recurrence.

As an outcome of the meeting, the DHB acknowledged that Mrs B waited too long for surgery, and should have been given a higher priority on the acute surgical list. The meeting identified three recommendations and learning objectives: that appendicitis should not be treated lightly; that the acute scoring policy for prioritising patients needs to be reinforced to staff; and that appendicitis should be operated on within 24 hours.

In a letter to Mrs B, dated 6 March 2009, the DHB apologised for the delay in surgery and emphasised the high caseload of acute surgical patients and limited theatre resources available over the weekend of 30 and 31 March 2008. The DHB explained that on 30 March, there were 10 acute cases booked for surgery "all with higher clinical priority than your operation", and that four other patients were also postponed. The DHB advised that on 31 March "the number of acute cases booked had risen to 18, and the theatre worked until [11.10pm] that night".

Opinion: Breach — Northland District Health Board

Mrs B was promptly assessed when she arrived at Whangarei Hospital. A diagnosis of acute appendicitis was quickly confirmed and she was placed on the acute operating theatre list for the same day.

However, from that point onwards, Mrs B faced numerous delays and was not operated on until over 48 hours had passed. Nor was she kept informed of the reason for the delays, and the outcome of her surgery was not thoroughly discussed with her. As discussed in case 04HDC13909, it is well recognised that within the health sector there is insufficient public funding to meet the immediate health needs of all New Zealanders.[4] In this environment, it is essential that patients waiting for treatment receive adequate information and appropriate care and management until they are able to be treated.

The duty of care that a DHB owes a patient includes the appropriate management of waiting lists, both for acute and elective surgery. It is also the DHB's responsibility to ensure patients are given adequate information about when treatment is likely to be provided and the reasons for any delays.

In its guidance to doctors faced with the need to prioritise patients owing to resource constraints, the Medical Council states that "prioritisation systems should be fair,

[4] Opinion 04HDC13909 *Urologist, Dr D, Southland District Health Board: A Report by the Health and Disability Commissioner* (4 April 2006), page 2.

systematic, consistent, evidence-based and transparent". In relation to "dealing with acute patients", the Council states:[5]

> 12. Every effort should be made to avoid withdrawing or not providing treatment when this would involve significant risk for the patient and the only justification for doing so is resource limitation.
>
> …
>
> 14. When deciding whether to change or withdraw one patient's treatment to make way for another, doctors should consider the expected benefit or potential harm to each patient.
>
> 15. Always inform the patient about the decision being made and the reasons for it.

I consider these principles equally applicable to district health boards managing a high level of demand for a resource-constrained service such as acute surgery. To meet its obligations, Northland DHB needed to have in place clear systems and procedures to monitor and review the acute surgery waiting list. In Mrs B's case, this should have included a "flag" or similar alert to staff that Mrs B had been delayed beyond the period recommended in Northland DHB's guidelines. There was also a lack of clear direction on options for management of acute patients who had exceeded the maximum recommended wait, in the event that there was no capacity to operate on them.

Delay in performing surgery

The delay in Mrs B receiving surgery was partly due to excessive demand on the acute operating theatre and surgical teams, but also resulted from the way Northland DHB ran its acute surgery list. My expert, general surgeon Dr Pat Alley, identified two major concerns about the delays affecting Mrs B: (1) lower priority patients were operated on ahead of Mrs B; and (2) only one acute theatre was available at the time. Both factors suggest that the DHB did not have effective systems in place to manage a situation of high demand for acute surgical services.

Priority for acute surgery

Northland DHB's main system for determining the priority of patients on the surgical list appears to be the score they are assigned following the guidelines entitled "How to book acute cases" (see Appendix B). The risks to patients of not following the guidelines are clear. The guidelines emphasise at their conclusion:

> "Failure to follow guidelines will result in the delay of patients undergoing surgery."

[5] Medical Council of New Zealand *Statement on safe practice in an environment of resource limitation* (Wellington, August 2008).

Mrs B was incorrectly categorised as a Category 3 acute patient, despite Northland DHB's guidelines indicating that patients diagnosed with acute appendicitis should be assigned Category 2 priority. Dr C stated that "the condition of acute appendicitis is very common and well known to staff" and that usual practice is to assign a high category and treat it as urgent. It is unclear why Mrs B was miscategorised.

Mrs B's surgery was postponed on consecutive days, 30 and 31 March 2008, while other patients were accommodated. Most of the other patients required surgery more urgently than Mrs B. However, Dr Alley identified at least two cases where, arguably, less urgent patients were given priority ahead of Mrs B. A patient presenting with a dislocated right shoulder on 30 March and another presenting with abdominal pain on 31 March should not have taken priority over Mrs B. Dr Alley advised:

> "[T]he problem was either a lack of advocacy on the part of the staff attending [Mrs B] or the failure of a system designed to resolve the dilemma of competing clinical cases."

Northland DHB submitted that conservative management of appendicitis was appropriate, and surgery could be safely delayed for 12–24 hours. Although this is true in most cases, Mrs B waited over 48 hours for surgery, which was not appropriate. Dr Alley advised:

> "... [T]here is a surgical imperative to remove the appendix as promptly as can reasonably be achieved. I readily accept that ... patients with appendicitis can be safely left without surgery [overnight] provided adequate hydration and antibiotic administration is instituted and very firm arrangements are made for appendectomy the following day."

Dr Alley's advice is clear that a patient diagnosed with acute appendicitis should be operated on as soon as possible. The longer a patient in Mrs B's position waits, the greater the risk of perforation of the appendix and peritonitis. I accept Dr Alley's advice that when a decision had been made to delay Mrs B's surgery, it became imperative that steps were taken to minimise the risks to her of such a delay, by re-scheduling her surgery for as soon as possible. Dr Alley also advised that antibiotics should have been administered to Mrs B when it became apparent that her surgery would be delayed:

> "In the presumed knowledge that she was suffering appendicitis I would regard that omission as a moderately severe departure from accepted practice."

In relation to re-scheduling the surgery, Dr Alley considered it incumbent on the surgeon (in this case the surgical registrar) exercising his or her skill and clinical judgment, to advocate for the patient to have surgery as soon as possible. However, in my view the responsibility to prioritise and manage acute patients extends beyond the individual surgeon to the DHB. In my North Shore Hospital inquiry report,[6] I stated that acutely unwell people should not experience long delays without sufficient

[6] *North Shore Hospital March to October 2007: A Report by the Health and Disability Commissioner* (07HDC21742), pages 64–65.

oversight, management and precautions, such as the administration of antibiotics. Delay in itself is bad enough, but it is unacceptable for a patient to face delay without sufficient information and appropriate care in the meantime.

Acute theatre availability
Whangarei Hospital has only one acute operating theatre available full time, and a second acute theatre is available on Monday afternoon, Thursday morning and all day Friday.[7] This limited capacity directly contributed to the delay in Mrs B's surgery. Dr Alley advised that Northland DHB's decision to run only one full-time acute theatre was "surprising" and recommended that:

> "Northland DHB gives urgent attention to the need for a second acute theatre. One theatre should be devoted to trauma and orthopaedics, the second to non-orthopaedic acute cases. I would regard this departure from practice as moderately severe."

I agree that Northland DHB did not prioritise its resources optimally for acute patients. If there is only one full-time acute theatre, it is essential that efficient systems are in place to manage the inevitable competing demands on the theatre. Northland DHB has failed to fulfil its responsibility to plan and provide adequate resources and systems for acute surgery at Whangarei Hospital.

Review of clinical priority
Although there was a clear need for Mrs B to undergo prompt surgery, there was no system in place to review the priority of postponed patients, nor is there evidence of any discussion between clinicians over acute patients' priority. Dr Alley advised:

> "The delay in surgery was not acceptable ... the surgical department is well aware that it was unacceptable as well."

Summary
Mrs B was not provided with the acute surgery that she needed within a safe time frame, and while she waited for surgery was not given antibiotics, which were necessary for a patient in her condition to minimise the risk of further complications. The DHB's own guidelines for prioritising acute patients for surgery were not correctly applied. I conclude that Northland DHB breached Rights 4(1) and 4(3) of the Code of Health and Disability Services Consumers' Rights (the Code).[8]

Adequacy of information

Preoperative information
Mrs B recalls that "communication between hospital staff and myself and [my] husband was appalling". She was initially told that surgery would be performed at 3pm on 30 March, but heard nothing from staff until 8pm, when she was told that her

[7] In addition, an emergency operating theatre is always available at Whangarei Hospital.

[8] Right 4(1) of the Code states: "Every consumer has the right to have services provided with reasonable care and skill."
Right 4(3) of the Code states: "Every consumer has the right to have services provided in a manner consistent with his or her needs."

surgery was postponed, after several requests (from her and her husband) for information. On 31 March, "there was no communication as to when the surgery would take place or why it was not going to happen".

There was also no discussion with Mrs B of any additional risk that the delay in surgery posed for her.

Dr Alley advised that the increased risks from delayed surgery, including the increased likelihood that the operation would have to be performed as an open procedure rather than laparoscopically, should ideally have been discussed with Mrs B.

I accept Dr Alley's advice that the delay increased the operative risks to Mrs B and the likelihood that an open operation would be necessary. I consider this to be information that a reasonable patient, in Mrs B's circumstances, would expect to receive. The DHB failed to provide Mrs B with this important preoperative information.

As an acutely ill patient, Mrs B would no doubt have been anxious as to when her surgery would be performed. Poor communication would only have increased her anxiety in an already uncertain and stressful situation. Mrs B should have been kept updated on her progress through the acute surgery list. A reasonable patient in Mrs B's circumstances would expect to receive this information.

Postoperative information
After Mrs B eventually had the surgery on 1 April, she was not told that she had developed peritonitis. Mrs B was surprised by the extent of the operation that had been required and the amount of medication she was administered.

Dr Alley advised:

> "This failure to disclose the extent of the surgical problem ... does represent a missed opportunity to redress the matter of the delay. I would regard this as a moderately severe departure from practice."

Conclusion

Before her operation, Mrs B was not given sufficient information about the delays affecting the acute theatre (including her progress on the acute waiting list), the consequential increased operative risk, or the increased likelihood of conversion of the operation to an open procedure. After her operation she was not given an adequate explanation of the surgical findings and the reasons for her extended hospital stay and course of medication. I conclude that Northland DHB breached Rights 6(1)(a), (c) and (g) of the Code.[9]

Recommendations

I recommend that Northland District Health Board:

- Review the management of acute surgery and the availability of surgical theatres at Whangarei Hospital in light of this report, and advise HDC by **31 March 2010** how it intends to alleviate the problems associated with having only one full-time acute theatre.
- Review the process for determining clinical priority of competing acute surgery cases, giving consideration to Dr Alley's comments about improving patient advocacy through effective communication among clinicians and staff, and advise HDC of the outcome of the review by **31 March 2010**.
- Remind staff of their obligation to inform patients of the reason for any delay in treatment, and of the need to fully disclose to the patient the outcome of any procedure, and advise HDC of the action taken in response to this recommendation, by **31 March 2010.**

Follow-up actions

- A copy of this report with details identifying the parties removed, except the names of Northland DHB, Whangarei Hospital and my expert, Dr Alley, will be sent to the Director-General of Health, all district health boards, and the Royal Australasian College of Surgeons, and placed on the Health and Disability Commissioner website, for educational purposes.

[9] Right 6(1) of the Code states: "Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive, including—

(a) An explanation of his or her condition; and

...

(c) Advice of the estimated time within which the services will be provided; and

...

(g) The results of procedures."

Appendix A

Independent advice to Commissioner — general surgeon

The following expert advice was obtained from general surgeon Dr Pat Alley:

"My name is Patrick Geoffrey Alley. I am a vocationally registered general surgeon employed by Waitemata District Health Board. Additionally I am the Director of Clinical Training for that DHB.

I graduated M.B.Ch.B from the University of Otago in 1967. I gained Fellowship of the Royal Australasian College of Surgeons by examination in 1973. After postgraduate work in England I was appointed as Full Time Surgeon at Green Lane Hospital in 1977. In 1978 I joined the University Department of surgery in 1978 as Senior Lecturer in Surgery. I was appointed as Full Time Surgeon at North Shore Hospital when it opened in 1984. I am a Clinical Associate Professor of Surgery at the University of Auckland, have chaired the Auckland branch of the Doctors Health Advisory Service for many years and have formal qualification in Ethics which is utilised as a member of two institutional ethics committees. One is at Waitemata DHB, the other at Mercy Ascot Hospital. I declare no conflict of interest in this case.

Synopsis of case

This lady developed acute abdominal pain on 29 March 2008. She was seen by her general practitioner in the early hours of the following day. He concluded that she most likely had acute appendicitis and after giving standard pain relief arranged for her transfer and admission to Whangarei Base Hospital. She was admitted at 0600 on the morning of 30 March. Routine investigations were done. It was concluded that she had acute appendicitis. She was scheduled for surgery. Delays ensued over the following 48 hours for a range of reasons which will be alluded to in the balance of this report. She finally had surgery on the morning of the 1st of April 2008. At operation she was found to have acute appendicitis with perforation and localised peritonitis. She was finally discharged on the 7th of April after a course of antibiotics.

In November of 2008 an incisional hernia at the site of the appendicectomy was found.

The central clinical issues of this case are

1. The delay in the operation.
2. The lack of disclosure of the true nature of the intra abdominal findings to the patient herself.
3. Whether the delay in diagnosis contributed to the eventual incisional hernia.

Expert advice required

The Commissioner has also requested of me specifically comments on

1. the general standard of care
2. the appropriate of the clinical decision to defer her surgery
3. the standard of assessment by the surgical team in the team prior to her appendicectomy
4. the standard of surgical care offered at the time of the appendicectomy
5. the standard of post operative care
6. the level of advice given to the patient about a) her surgery, b) her surgical care, c) her post operative care
7. the adequacy of the information around discharge of the patient.

Additional comments have been sought on

1. Whether an earlier operation would have prevented firstly peritonitis and secondly a incisional hernia (se above)

2. Any systemic issues of concern contributing to [Mrs B's] outcome, the actions taken by Northland DHB in light of the complaint and any other recommendations.

Evidence to support conclusions

I have been furnished a series of reports from the Commissioner's office to assist me in this enquiry. They include a full summary of her notes, comments from the Clinical Director of Surgery at Whangarei Base Hospital, a letter from [Mrs B] concerning her admission, a letter from [HDC'sclinical advisor], considerable details from Northland DHB in regard to protocols around the prioritisation of surgical cases and comments from her general practitioner.

Timeline of events after Admission to Whangarei Hospital

[Mrs B's] surgery was booked soon after admission but at 2200 hours on the 30th of March 2008 the ward was notified that her operation would be deferred to the following day. During the course of the day in question (30th March 2008) the theatres were busy with a range of acute problems. It is noted however that a patient with a dislocated right shoulder was operated on on the 30th of March after [Mrs B] was cancelled. The justification for the dislocated shoulder taking priority is not clearly stated. On the 31st of March [Mrs B] was again scheduled for operation but was postponed. It is noted that a patient with a similar presentation of abdominal pain underwent surgery. I am unsure when she was booked for this but it does not appear that she had been cancelled before as [Mrs B] was.

[Mrs B] finally underwent surgery on the 1st of April at 8am. At that time the appendicitis with perforation had localised peritonitis [around] the right iliac fossa (the region of the abdominal cavity where the appendix is normally found).

Subsequent to that she convalesced in hospital until 7 April 2008 when she was discharged.

In November of that year she presented with an incisional hernia which has been subsequently repaired.

A note of Pathology of Acute Appendicitis

Delay in diagnosis increases the chance of perforation in appendicitis. There is a wealth of literature on this subject and the overall conclusion is that the above proposition is true. However, some research indicates that while the instance of "normal" appendicitis may be decreasing, the rate of perforative appendicitis is staying the same. This may indicate that the patho-physiology of perforated and non perforated appendicitis is different but it does not alter the conclusion that when a patient presents with the signs and symptoms of appendicitis, perforation cannot be readily excluded. My personal belief is that the majority of perforations occur in the community rather than in the hospital but the problem with delaying treatment for perforative appendicitis is, as this case amply demonstrates, that the instance of peritonitis may increase. The most comprehensive review of the subject is included as a reference at the conclusion of this report.

Commentary is also needed on whether a delay in diagnosis, appendicectomy and the sequelae predispose a patient to the development of an incisional hernia. This is unclear. What is known for certain is that **wound infection** predisposes to incisional hernias and it is clear from the review of the notes that she did not suffer such an infection. The last recorded entry on this matter is the 10th of April when she was seen by her general practitioner who comments 'wound all fine'. There is some theoretical claim that perforated appendicitis may predispose to hernia but this is not proven. Therefore in this particular case there can be no proven link from the diagnosis of perforated appendicitis to the development of an incisional hernia.

The major factors in this particular delay are as follows

1. High caseload demanding theatre time

The striking impression from the profile of acute cases presenting around the time of [Mrs B's] admission were the number of trauma and orthopaedic cases. Given the high index of rurality, recreation and open highways that are features of this district health board that is not so surprising. What is surprising is that with the rise in non-orthopaedic acute surgery, which has occurred in all New Zealand hospitals, this district health board only deploys one acute theatre. In the body of information there is comment that in several weeks around the time of these reports being developed the acute theatres have again been over burdened.

It has also been submitted to me that there is the ability for clinical priority to be discussed among surgeons but this does not appear to have happened. A reference citing the value of separating these acute functions is appended. Related to this, I

believe there was an absence of effective advocacy for this patient by the attending surgical staff.

2. An apparently well patient

Despite a diagnosis of appendicitis being made on admission her clinical state did not appear demanding. In several annotations the staff record that [Mrs B] declined pain relief. Her temperature was often normal in the time she was awaiting surgery. However such appearances are deceptive and patients in otherwise robust health as [Mrs B] was can lull even experienced clinicians into a sense of security that allows delays in the face of apparently more pressing clinical demands from other patients. The details of such patients are mentioned above. In my view [Mrs B] had priority over the two mentioned and in hindsight should have had her surgery before they did.

3. Validity of conservative management

It has also been submitted that there is a tendency for conservative management of patients with intra-abdominal inflammation. I refute this in the case of appendicitis. The gold standard of treatment is still to my certain knowledge — appendicectomy as soon after diagnosis as practicable.

COMMENTARY

Appendicitis, as most know, is the commonest general surgical emergency that presents to our hospitals. Despite evidence to the contrary there is a tendency to regard patients suffering this complaint as "Just another appendix". The reality is that between three and five people die every year in the Auckland urban statistical area from this disease or the operation done to remedy it. Furthermore, as this case amply demonstrates, there can be considerable surgical mischief afoot in a patient who is relatively uncomplaining. As alluded to previously it is likely that perforated appendicitis is a phenomenon that often arises *ab initio* so that when an admission diagnosis of appendicitis is made (as was done in this case) there is a surgical imperative to remove the appendix as promptly as can reasonably be achieved. I readily accept that between the hours of 2200 and 0800 patients with appendicitis can be safely left without surgery provided adequate hydration and antibiotic administration is instituted and very firm arrangements are made for appendicectomy the following day. I note though that despite delays in surgery [Mrs B] did not receive antibiotics preoperatively.

The charge nurse manager when asked by an email stated that there was indeed a process whereby the priority of urgency of cases could be determined but apparently it was not called upon to adjudicate in this particular circumstance. It is the prerogative of the consultant surgeons on call to confer when such conflicts arise and a priority is then defined.

Specific questions to be answered

1. The general standard of care

The delay in surgery was not acceptable. My reading of the submissions from Whangarei indicates that the surgical department is well aware that it was unacceptable as well. That aside however, the standard of surgical care was generally acceptable apart from this and issues summarised below.

2. The appropriateness of the clinical decision to defer her surgery

There was no plan to delay the surgery. It happened by virtue of the supervening of other events. As mentioned the problem was either a lack of advocacy on the part of the staff attending [Mrs B] or the failure of a system designed to resolve the dilemma of competing clinical cases. I would regard this departure from practice as moderately severe.

3. The standard of assessment by the surgical team in the team prior to her appendicectomy

The assessment of the patient was done appropriately and expeditiously. In one sense this compounds the problem in that there was a very clear need for [Mrs B] to undergo surgery. I note that during the course of her delay no antibiotics were administered. In the presumed knowledge that she was suffering appendicitis I would regard that omission as a moderately severe departure from accepted practice.

4. The standard of surgical care offered at the time of the appendicectomy

The operation when eventually carried out was done properly. There was no dictated operation note but a full written entry in the case notes. I would regard this as a minor departure from good practice.

5. The standard of post operative care

There were no issues of concern about this aspect of the patient's care. The notes are full and consistent.

6. The level of advice given to the patient about a) her surgery, b) her surgical care, c) her post operative care

The patient was not kept fully informed as to the reasons for the delay. I base this on the representation of [Mrs B]. I make a recommendation about this below. Furthermore she was not informed as to the extent of pathology evident at surgery. This could well have been the basis for an early apology from the department along the lines of "We apologise for the delay. The factors were mostly due to circumstances beyond our control but because of that delay your condition had deteriorated so that you had developed a localised peritonitis." This failure to disclose the extent of the surgical problem while understandable (especially if the

patient did not enquire) does represent a missed opportunity to redress the matter of the delay. I would regard this as a moderately severe departure from practice. In respect of advice about her surgical care and the post operative care I find no cause for criticism.

7. The adequacy of the information around discharge of the patient

There are no issues concerning this aspect of her care.

RECOMMENDATIONS

- Once a diagnosis of possible perforated appendicitis is made that should ensure a high priority is given to that patient
- Occasional delays in accessing care are common. If they occur it is important that the subject of such delay, the patient, is kept fully informed as to progress in resolution of that delay. It is the duty of attending staff to constantly advocate for their patients if they are subject to delays in accessing interventions.
- Northland DHB gives urgent attention to the need for a second acute theatre. One theatre should be devoted to trauma and orthopaedics, the second to non-orthopaedic acute cases.
- Priority for this second theatre should be determined by the registrars who are admitting patients at the time. If they cannot decide a priority the consultant surgeons should be involved. There is also merit in including the senior nursing personnel from theatre in these deliberations so that they can offer the best skill mix of staff for any given case."

Yours sincerely

P G ALLEY MBChB, FRACS, Dip.Prof. Ethics
Director Clinical Training
Waitemata District Health Board

1. Ditillo MF, Dziura JD, Rabinovici R: Is it safe to delay appendectomy in adults with acute appendicitis? *Ann Surg* 2006, 244(5):656-60.
2. Eldar S, *et al.*: Delay of surgery in acute appendicitis. *Am J Surg* 1997, 173(3):194-8.
3. Bhattacharyya T, *et al.*: The value of the dedicated orthopaedic trauma operating room. *J Trauma* 2006, 60(6):1336-40.

Further expert advice
The following additional expert advice was obtained from general surgeon Dr Pat Alley:

"**1. When discussing with [Mrs B] the fact that her operation was going to be postponed again, should that discussion have included whether further delay presented additional risk to her or increased the likelihood that the operation would have to be an open one?**

Yes it should have ideally. In the real world of clinical surgery however it is the normal case that when such a diagnosis is made then surgery is carried out as expeditiously as possible so the question hardly ever arises. It should be self evident to the surgeons involved that delay would increase operative risk to [Mrs B].

2. Would the operation have presented an increased level of risk to her given the delay, or would there be any other matters you would have expected would be discussed with her prior to surgery given the delay?

This is very closely related to the first question. As stated in the body of the report having made a diagnosis of perforated appendicitis (or at least having that diagnosis uppermost in the differential diagnoses) it is incumbent on the surgeon (in this case the surgical registrar) to press for as early an operation as possible. This is because perforated appendicitis continues to slowly 'perforate' and release infected material into the peritoneal cavity. The physical response to this is manifest as peritonitis.

3. I note that [Mrs B] was quite surprised and distressed that an open operation was required rather than a laparoscopic procedure and that she was so unwell following the operation. Do you feel that was due to her receiving inadequate information prior to her operation or due to poor disclosure following the operation?

There are two dimensions to this question. If on one hand it were [Mrs B's] surprise and emotional distress then she would be the person to judge whether inadequate information or lack of disclosure was the root cause of that. However, if you are referring to physical distress then it is certainly the case that an open operation would have engendered more physical distress and that would be attributable to the delay.

Yours sincerely

P. G. Alley FRACS
General Surgeon "

Appendix B

Northland DHB Acute Surgery Booking Form Guidelines

HOW TO BOOK ACUTE CASES 00950

A Please write clearly.

B Please make sure that ALL sections of the booking form are completed.

C It is important that the surgeon performing the operation/procedure is identified and that the name of the booking doctor (with contact number) is also completed.

D Please ensure the acuity category is completed accurately (see below).

E Please ensure that the acute anaesthetist is informed.

F "Please phone Theatre 5 (ext 8789) or ext 8772 out of hours, to confirm fax being sent."

ACUITY CATEGORIES

ACUTE SURGERY:-

CATEGORY 1	(ASAP - 20 mins-1 hour) e.g. Trauma / haemorrhage / perforated bowel / ulcer / unstable ectopic / Torsion testis.
CATEGORY 2	(1-6 hours) e.g. Acute appendix / bowel obstruction / acute paediatrics / stable ectopic / open fractures / eye injuries / irreducible hernias.
CATEGORY 3	(6-12 hours) e.g. Closed Fractures / cholecystectomies / debridements / PICC lines / 2nd looks / paediatrics.
CATEGORY 4	(24 hours) e.g. Planned acutes

OBSTETRICS /LUSCS:-

CATEGORY 1	(20mins) e.g Maternal / foetal life threatening
CATEGORY 2	(2 hours) e.g. Maternal / foetal compromise
CATEGORY 4	(24 hours) Planned LUSCS

NOTES:

Only cases with Acuity 1 will be started after 9 pm.

Acuity 2 cases will be started after 9 pm after consultation with the anaesthetist.

Acuity 4 cases booked on the acute list will only be undertaken after more urgent cases have been completed.

PICC lines will only be undertaken during normal working hours. PICC lines that cannot be completed by 6 pm will be deferred until the following day.

FAILURE TO FOLLOW GUIDELINES WILL RESULT IN THE DELAY OF PATIENTS UNDERGOING SURGERY. THE INCOMPLETED FORMS WILL BE RETURNED TO YOU FOR COMPLETION.