Registrar, Dr B

General Surgeon, Dr C

A District Health Board

A Report by the

Health and Disability Commissioner

(Case 06HDC08765)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Ms A	Consumer
Mr A	Consumer's partner
Dr B	Registrar / Provider
Dr C	Consultant general surgeon / Provider
A district health board	Provider/District health board (DHB)

Complaint

On 15 June 2006, the Commissioner received a complaint from Ms A about the services provided by Dr B, Dr C, and a public hospital. The following issues were identified for investigation:

Dr B

- *The adequacy and appropriateness of the standard of care provided to Ms A by Dr B on 14 to 15 May 2006.*

Dr C

- *The adequacy and appropriateness of the standard of care provided to Ms A by Dr C on 14 and 15 May 2006.*

The DHB

- *The adequacy and appropriateness of the standard of care provided to Ms A at the hospital on 14 and 15 May 2006.*

- *The appropriateness and adequacy of the theatre systems at the hospital on 14 and 15 May 2006.*

An investigation was commenced on 26 June 2006 and extended on 2 October 2006 to cover all the issues noted above. The providers' responses to the provisional opinion necessitated further expert advice, delaying completion of the investigation.

Information reviewed

Information was received from:

- Ms A
- Mr A
- Dr C
- Dr B
- DHB Customer Relations Coordinator
- DHB General Manager
- A surgical registrar

Ms A's medical records were obtained from the hospital. Independent expert advice was obtained from colorectal and general surgeon Dr Kenneth Menzies. Independent expert advice was also obtained from Professor Michael Ardagh.

Information gathered during investigation

Overview

Ms A, aged 27 years, was in New Zealand in 2006 on a working holiday, holding a temporary work permit with a partnership visa. Ms A had not taken out medical travel insurance.

At about 2am on Sunday 14 May 2006, Ms A developed severe abdominal pain, accompanied by one bout of diarrhoea. The pain continued unabated and at about 7am Ms A, accompanied by her partner, Mr A, sought medical attention at the hospital Emergency Department (ED). She was advised that because of her non-resident status, she should attend a private Accident and Medical (A&M) clinic.

The general practitioner at the A&M clinic diagnosed appendicitis and referred Ms A back to the hospital. Ms A was assessed at Palmerston North ED, considered to have gastroenteritis and discharged. Later that evening Ms A collapsed at home and was taken again to the hospital by ambulance. She had laparoscopic abdominal surgery the following day and was found to have a perforated appendix and peritonitis. Ms A developed respiratory complications that required active management and remained in hospital until 26 May 2006.

Chronology

First presentation to ED
Ms A first presented at the hospital ED in the early afternoon of 14 May 2006. She was told by a staff member at the reception desk that because of her non-resident status, it would be too expensive to admit her to a general hospital and that it would be cheaper for her to see a general practitioner and obtain a referral letter.

Accident and Medical clinic
Ms A, accompanied by Mr A, went to an A&M clinic. Ms A was examined by a GP, who recorded:

> "**Subjective**
> Vomiting + abdominal pain since yesterday
> One episode of diarrhoea during night
> Rigors
>
> **Objective**
> Pulse = 110/min T = 36.9
> Very tender RIF [right iliac fossa], rebound +++, guarding ++
> Acute appendicitis
>
> Refer Surgical Reg stat!"

Mr A stated that the GP impressed upon him the urgency of Ms A's condition. Mr A immediately took Ms A back to the hospital.

Second presentation to ED
Ms A returned to the hospital ED that afternoon. At 1.55pm, a nurse noted that Ms A's admission was the result of a GP referral. Ms A was complaining of "10/10" abdominal pain of one day's duration with an elevated temperature of 38.2°C. She had been vomiting and had diarrhoea. The drug record shows that an unidentified doctor ordered one litre of intravenous normal saline, morphine for pain relief, and an antiemetic, metoclopramide. The records note that Ms A was given 2mg of intravenous morphine at 2pm and again at 2.05pm. There was a reduction in the severity of pain to 4/10.

The nurse noted at 2.30pm that Ms A had been seen by the surgical team: "Not appendix — ? viral. IVF [intravenous fluids] continue. Monitor pain — if no improvement to be s/b med. [seen by the medical team]. Needs MSU [mid-stream urine test]."

Mr A said that Ms A was seen by two doctors in ED. The first doctor was a junior doctor who took blood for routine analysis. The second doctor prescribed intravenous morphine. There is no record of either doctor examining Ms A.

At 2.15pm, the registrar on call for general surgery was Dr B. He examined Ms A and recorded nausea and vomiting and suspected appendicitis. Her pain level at that time was noted to be "4/10". Dr B noted the date in the margin as 13 May, in error, and recorded that Ms A had a one-day history of colicky central abdominal pain in association with loose "diarrhoea + vomiting. Unable to keep food down." He noted that Ms A "looks dry. T 38.7", and drew a diagram of an abdomen with crosses in the central area and noted "soft abdomen". Dr B noted that Ms A's white blood cell count was 17.9 (this was elevated, as the normal range is 4 to 10) and her C-reactive protein (a marker of inflammation) was normal. He also recorded on the drug record sheet a prescription for Buscopan, metoclopramide and Panadol, and a further litre of normal saline.

Dr B returned to review Ms A at 3.35pm. He advised her that appendicitis is a difficult diagnosis as the condition can present in atypical ways. He told her that she could go home but should return to the hospital if she developed further pain or felt that she was deteriorating. Dr B stated that Ms A was "very happy to proceed with this management plan".

Dr B explained his management as follows:

> "Appendicitis was part of my differential diagnosis. On examination [Ms A] had a soft abdomen, no evidence of guarding or peritonism; she had vague lower abdominal pain with no localising features and no evidence of any inguinal or femoral hernias. …
>
> She described this pain as coming and going and gripping in nature (colicky) which along with the diarrhoea and vomiting and normal CRP was consistent with the diagnosis of gastroenteritis. I elected to manage her with analgesia and to rehydrate her with intravenous fluids. On further examination following Panadol and Buscopan (an antispasmodic to reduce gut spasm) she had no pain and was therefore discharged from the Emergency Department."

Ms A said that within 20 minutes of arriving home, she began to vomit and collapsed on the floor in severe pain. Mr A called the emergency 111 number and requested an ambulance.

The ambulance arrived at Ms A's home at 6.35pm. The record states that she was found on the floor in a fetal position. She had lower abdominal pain, particularly in the lower right quadrant, and her abdomen was soft but "guarded ++". She vomited clear fluid when attempting to move. Her blood pressure was recorded at 105/60 and her pulse 114 beats per minute.

Third presentation to ED

Ms A arrived at the hospital ED at 6.52pm. The Triage nurse's comments recorded at 7.15pm were as follows:

> "Pt states she experienced excruciating abdominal pain when she returned home. Had pain for 30 mins then took x 2 Buscopan and 1 x tab Maxolon. Pain increased. Pt vomited and came back to hospital. Pt states 'cramping 10/10 pain' which she has never experienced before. States pain comes in waves."

Ms A was given 3mg of morphine at 7pm, 4mg at 7.20pm followed by a further 1mg. It is unclear when this occurred as it is untimed by the nurse. At 7.30pm Ms A reported that her pain was "6/10".

Dr B recorded his examination of Ms A at 9pm, noting that she had a sudden onset of "colicky" abdominal pain, which was generalised and worse with moving. He noted "D & V ++". Dr B noted that although Ms A looked well, she was shivering; her temperature was 38.2ºC and her pulse rate 100 beats per minute. He also noted that she had had half a cup of water since arriving at the hospital, although Ms A denies this. Her WCC [white cell count] was 14.5. His differential diagnosis included gastroenteritis and atypical appendicitis.

Dr B discussed Ms A's case with Dr C, consultant general surgeon, after his second assessment. He relayed his findings of recurrent lower abdominal pain, initially of a colicky nature but becoming more constant, persistent vomiting and diarrhoea. He noted his clinical findings of a soft abdomen without any guarding or tenderness to palpation, and that she was well perfused and had an elevated heart rate and normal blood pressure. The white blood cell count was elevated and C-reactive protein normal. Dr C and Dr B decided to place Ms A on the acute theatre list for laparoscopy the following day. In the meantime, she was admitted to the surgical ward. At 9pm Dr C did not believe that Ms A had generalised peritonitis, based on his personal experience, knowledge of the hospital practice guidelines regarding general anaesthesia and fasted patients, and the information presented by Dr B, whom he considered reliable and competent. Dr C decided that surgery could be deferred until the following morning.

Dr B stated:

> "On examination once again [Ms A] had no evidence of peritonitis. On palpating her abdomen she had no pain. At this stage I discussed [her] with [Dr D] and we decided that she should be admitted. It was decided to place her name on the operating list for the following day given her pain had not settled it would therefore be prudent to look into her abdomen with a laparoscope to rule out appendicitis.
>
> I follow the rule that anyone that has multiple presentations to the Emergency Department, regardless of the problem should be admitted for observation and senior review. I was now aware that she had presented twice and as such she was admitted (both times being seen by myself). I was unaware that she had apparently been seen in the Emergency Department three times prior to

> admission (there does not seem to be any record of this in the notes and this was certainly not stated to me by her or any of the staff at the time). …
>
> The [District Health Board] guidelines [attached as Appendix 4] states that surgery should be performed after hours only in extreme/very serious circumstances, and that given there was no evidence of peritonitis it would be prudent to wait until the morning for further management. The fact that she had drunk half of a glass of water had some bearing on this decision, which was a decision for the consultant to make, the decision was a reflection of the current clinical situation and the lack of peritoneal signs suggestive of a perforated appendix. This was not discussed with an anaesthetist."

At 9pm Dr B booked acute surgical time the following day. He ordered further blood and urine analysis and at 10.40pm admitted Ms A to the ward. Dr B handed Ms A over to a surgical registrar. The next morning, he informed the surgical registrar that he had conducted a digital rectal examination on Ms A the previous evening, which was normal, but had forgotten to record the examination in the notes. He had completed 48 hours on call, and put the omission down to fatigue.

Inpatient — 15 to 26 May 2006

Ms A was seen by the surgical registrar during the morning ward round on 15 May 2006. Management included continuing "nil by mouth" and intravenous fluids pending surgery. She was also seen at 11.20am by the house surgeon because of worsening abdominal pain. It was noted that Ms A was on the acute theatre list. She was booked for surgery at noon, but as a result of two other more urgent cases (a testicular torsion and a bleeding duodenal ulcer) she did not have surgery until 3.10pm on 15 May.

During the surgery, Dr C found that Ms A had a "perforated pelvic appendicitis with early abscess formation and free peritonitis with copious pus in both upper quadrants". Intravenous antibiotics were continued postoperatively. Dr C stated:

> "[Ms A's] postoperative course was prolonged because of her reluctance to use narcotic analgesia via a patient-controlled device (PCA), and her reluctance to mobilise. This in turn led to a significant lower lung atelectasis (incomplete expansion of a portion of the lung) that caused severe right pleuritic chest pain, fever and hypoxia.
>
> On 21 May, an internal medicine opinion was obtained because of [Ms A's] respiratory symptoms: a CT scan of the chest, abdomen and pelvis excluded pulmonary embolus and subphrenic or other intra-abdominal abscess/fluid collection, but showed significant bilateral pleural effusion, more so on the right side, as well as bilateral atelectasis.
>
> A right pleural aspirate was performed under local anaesthetic to yield a reactive effusion. Unfortunately, a post-procedure chest X-ray showed a right pneumothorax, and a chest drain was subsequently inserted after a failed trial of

once-only percutaneous needle aspiration of trapped air. The chest drain was removed the following day.

[Ms A's] reluctance to deep breathe or mobilise was noted by the Acute Pain Service over this time period, and PCA use was continued from immediately postoperatively until 25 May. [Ms A] was discharged on 26 May."

Response to Ms A's experience

Dr B
Dr B offered an expression of regret to Ms A:

"It is unfortunate that [Ms A] had a prolonged and complicated illness. I am very sorry this happened and regret that we were not able to make the diagnosis of appendicitis earlier. [Ms A] was the unfortunate victim of an atypical presentation of a common and severe illness."

Dr C
Dr C explained his supervisory role in relation to Dr B as follows:

"[Dr B] worked as a registrar in surgical services for a continuous period from December 2004 to December 2006. During the first twelve months, he worked as a general surgical registrar for the first six months and as a registrar on a six-month rotation to the Intensive Care Unit as part of his Basic Surgical Training Programme of the Royal Australasian College of Surgeons. [Dr B] was then accepted into the Advanced Surgical Training Programme … commencing December 2005 and thus the second twelve month period was in that capacity in the hospital.

[The] hospital's acute and after-hours surgical registrar call is through a pooled general surgery and urology registrar roster system whereby the same rostered registrar covers both General Surgery and Urology. Consultant cover is by separate appropriate surgical specialists. This system has existed for at least seventeen years (personal experience) because the hospital does not have funding for sufficient registrar numbers to run separate registrar rosters for the two surgical specialities. There has also traditionally been a good liaison between the two surgical specialities at all levels so that this system has never posed a major logistic or functional problem.

I have not personally formally assessed [Dr B], since he has not been attached to my clinical team. Nonetheless there are several less formal mechanisms that exist to ensure our registrars are appropriately competent:

1. The consultants in the Department of General Surgery meet often as a group and any problems are discussed freely, particularly major issues that could arise or influence the function or standard of our service e.g. medical staff competence, systemic issues, etc. Thus registrars that any of us are

concerned with are highlighted and discussed since this has obvious bearing on the functioning of our department. [Dr B] has never been discussed in this way.

2. Since the registrar and consultant acute call rosters do not coincide, we are very frequently on acute call with a registrar from either Urology or another general surgical team. Thus I have worked with/supervised [Dr B] when I have been on call on many occasions and form my own opinion on his level of competence. Once again, I have never had reason to doubt his clinical competence.

3. [Dr B] had an excellent formal assessment by [a] consultant general surgeon, the hospital, following [Dr B's] first six-month attachment with him up to June 2005.

From the experience viewpoint, [Dr B] was typical of the registrars who come to the hospital i.e. first, second and sometimes third year as a registrar when employed as a basic training surgical registrar, and second, third or fourth year registrar if employed as an advanced training registrar in both the Departments of General Surgery and Urology in this hospital. Thus regular assessment and management of acute abdominal pain is an integral component of being a general surgical/urology registrar in our hospital and forms a very significant amount of the acute clinical work for these registrars.

[Dr B] was accepted into advanced surgical training … after a selection process in mid 2005 for commencement of training in December 2005. There are minimal formal competency assessments and clinical experience criteria that must be met as a prerequisite for selection, including experience as a registrar in general surgery. These criteria are strictly defined by the Royal Australasian College of Surgeons. Clearly, [Dr B] must have met these in mid 2005 in order to be selected into advanced training ..."

The DHB

The DHB Customer Relations Coordinator explained that the reason Ms A was not seen by a doctor when she first presented to the hospital ED on 14 May 2006 was because she was a non-New Zealand resident with a work visa for less than two years.

The General Manager of the DHB advised:

"When patients arrive in the department and they are a non-New Zealand resident, they are advised that they will be charged for their attendance. The exact amount would depend upon the treatment that they receive. At the same time, they are advised that they may wish to see a GP and the basic GP charge would be less than the basic charge in ED.

> On 14 May 2006, there was no written policy with regards the registration of patients. Therefore, if the patient decided to leave the department after receiving the information with regards payment, no record would have been present.
>
> ... [T]he new policy, 'Registration of Emergency Department Patients' [attached as Appendix 5] … was written in June 2006 and was placed on DMS on 24 August 2006.
>
> It was possible to open a second acute theatre. We have an 'Emergency Surgery — Opening of Extra Theatre' policy [attached as Appendix 6] which gives clear instruction and management process for opening a second theatre. It is the responsibility of the Consultant Surgeon to request this through the acute Anaesthetist and Nursing Coordinator. The number of theatres opened will be dependent on staffing numbers at the time. If necessary, staff may be called into work or, if this happens during normal working hours, an elective list may be cancelled. From our assessment of the day, it would have been possible to open a second acute theatre, should this have been deemed to be necessary.
>
> We have an acute theatre covered by nursing and anaesthetic staff which works Monday to Friday, 0800−2300hrs. All emergency cases outside these hours are covered by one team and surgery is performed on patients that have life/limb/significant viscera or organ threatened, or if the patient is at major risk of their condition worsening if surgery is postponed. The process is that the Consultant Surgeon discusses the situation with the acute Anaesthetist, the Session Director and the Nursing Coordinator. We have a policy that allows for prioritisation of cases and times and supports negotiation within specialties to enable patients that require emergency surgery to proceed, day or night."

ACC

On 12 July 2006, ACC accepted Ms A's treatment injury claim on the basis of advice from a consultant general surgeon that there had been "avoidable delay" in providing treatment, and that the delays "probably exacerbated" her intra-abdominal sepsis and prolonged her postoperative course.

Ms A was advised that she would be reimbursed for the general practitioner visit and the cost of the chest X-ray, as a complication of the surgery. She was liable for all other treatment costs totalling $14,075.87.

Independent advice to Commissioner

On 10 October 2006, preliminary expert advice was obtained from colorectal and general surgeon Dr Kenneth Menzies. Dr Menzies' advice is attached as Appendix 1.

Responses to expert advice

Dr Menzies' advice was provided to Dr B and Dr C for their comments, which were received on 11 December 2006 and 24 November 2006 respectively.

Dr B
Dr B responded:

> "When I saw [Ms A] I was unaware that she had been given morphine, I did not examine her prior [to] the administration of morphine, the administration of morphine had not been discussed with me. I am unsure who prescribed this medication but can only assume it was one of the emergency doctors. As I was unaware that this medication had been prescribed it did not influence my decision making.
>
> Mr Menzies brings up the point that morphine administration may impair the physical findings of acute appendicitis and lead to management errors. This is a belief held by some surgeons and is stated in many traditional text books. This opinion has now been extensively studied scientifically; a meta analysis of 12 trials reviewed by two separate authors and was recently published in the Journal of the American Medical Association (Ranji et al. Do opiates affect the clinical evaluation of patients with abdominal pain? JAMA. 296 (14): 1764–74, 2006 Oct 11.). It found that although morphine may alter the findings in acute abdominal conditions it [does] not lead to any significant change to the rate of misdiagnosis of patients with abdominal conditions. In fact across all age groups, patients assessed with adequate analgesia in the form of intravenous opiates (morphine) were less likely to be misdiagnosed than those without intravenous opiates (however, this was not statistically significant).
>
> …
>
> In regard to the question of performing a digital rectal examination. Although I did not document this in the notes this was performed in the emergency department on her second review in ED, it was normal with no evidence of cervical excitation or rectal tenderness and nothing to indicate any further pathology.
>
> Unfortunately, I had returned home by the time I realised that I had not documented her digital rectal examination findings. Given that I was on 48–hours on-call period, I did not return to the hospital after realising this omission to document this. Instead, I elected to hand this information over to the team caring for [Ms A] in the morning.

> This finding was relayed to the general surgery registrar working for [Dr C] the following morning. … I regret that I did not document the rectal examination findings at the time. …
>
> I would also like to draw your attention to Mr Menzies' opinion dated 10/10/2006 that he believes that a digital rectal examination would be essential in patients who present like [Ms A]. … This case in which [Ms A] had a normal rectal examination highlights that this is not necessarily the case and why many surgeons have stopped performing routine digital rectal examinations in patients with suspected appendicitis. ...
>
> My response to why I did not perform a rectal examination on the first time I examined [Ms A] in the emergency department is that the history and examination findings were not consistent with a diagnosis of appendicitis. She was pain free following review so there was in my opinion no justification for subjecting her to an invasive intimate examination that would not have changed my management confirmed by my findings when this examination was carried out."

Dr C

Dr C responded:

> "[T]he registrar calls me if needed for advice or direct input/involvement in patient care and also usually calls me during the evening to give me an update on, and discuss, the day's work.
>
> The registrar therefore is able to assess and manage patients, on my behalf, in the Emergency Department (including discharge such patients as seems appropriate at the time) as much as in the wards, without necessarily discussing this with me on each and every occasion, unless s/he is concerned. Operative surgery is managed along the same principles although the threshold for the supervising surgeon to be advised/involved is generally lower than for non-operative management. … As the supervising specialist, I take overall responsibility for what the registrar does on my behalf unless there is clear negligence or criminal activity by that registrar.
>
> Although there is no written institution policy to confirm this, and the evidence-base to support this widespread anaesthetic practice is debateable, it has been standard clinical practice in the hospital for at least the fourteen years I have worked as a specialist here (personal experience as well as personal communication with [the] Clinical Director of Anaesthesia at [the hospital]) to, where practicable, avoid general anaesthetic until an adult patient has been fasted for four hours. This is generally achievable and strictly enforced in elective surgery but can be overridden in acute/emergency surgery only if the risk of aspiration during induction of anaesthetic is considered to be

significantly less than the risk of clinical deterioration due to the illness for which surgery is indicated."

In relation to Dr Menzies' comments about Ms A being given morphine before surgical review, Dr C stated:

"Although traditional surgical teaching was to deliberately withhold narcotic analgesia to patients without prior assessment by a surgeon/surgical registrar, contemporary practice is to administer such narcotic analgesics prior to surgical assessment.

'*There is now good evidence to support the early administration of opiate analgesia in patients with acute abdominal pain. This has been clearly shown to have no detrimental effect on subsequent clinical assessment; on the contrary, because the patient becomes more comfortable, further assessment may actually be facilitated. The cruel practice of withholding analgesia until the emergency surgeon has examined the patient with acute abdominal pain must be condemned.*' A Companion to Specialist Surgical Practice: Core Topics in General and Emergency Surgery, 2nd edition, 2001, p109. …

The single-occasion results of routine blood tests can suggest or support a clinical diagnosis but cannot in themselves be taken as being diagnostic for the cause of acute abdominal pain. [Dr C quotes from page 110 of *A Companion to Specialist Surgical Practice: Core Topics in General and Emergency Surgery*, 2nd edition, 2001, to support his statement.]

The night-time acute theatre policy at the hospital is to actively discourage acute surgery between 2300h and 0800h unless there is a true emergency situation with imminent threat to life, limb or vital organ. Several studies support this clinical practice from the viewpoint of safety of clinical practice as well as that of health economics, and demonstrate no overall adverse outcome in pathophysiology of this group of acute patients. As a consequence, day-time acute operating theatre lists were deliberately introduced in the mid-1990s at the hospital to accommodate those acute cases that had previously been operated on throughout the night.

The potential/actual problems due to the implicit trust relationship that is necessary in the traditional apprentice-master model of surgical training are well recognised but unavoidable without severely compromising the quality of surgical training, unless there is a huge paradigm shift in how surgeons are trained. Thus these particular issues that have been raised about [Ms A's] standard of care apply not just as an isolated incident at the hospital, but to all major public hospitals throughout New Zealand that are involved in specialist training."

Additional expert advice

Dr Menzies was asked to review his advice in light of Dr B's and Dr C's responses, and on 15 January 2007 provided additional advice, which is attached as Appendix 2.

Dr Menzies was also asked about the abilities and supervision of surgical registrars. His response is attached as Appendix 3.

Responses to provisional opinion

The DHB
The DHB responded to the provisional opinion as follows:

> "**Comments on Pain Management**
>
> Our Senior Medical Staff in General Surgery and Emergency Department dispute Dr Menzies' contention that morphine should have been withheld until a thorough medical examination had been carried out. In addition, we have sought advice from [a] Nurse Practitioner, Pain Management, [the DHB] who advises:
>
> > 'Previous health mythology suggested that analgesia should be withheld from patients with abdominal pain until a diagnosis is made. Good evidence showing that the provision of early analgesia does not affect diagnostic accuracy in either children or adults is available (Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine, 2005). The safe timely and effective administration of opioid analgesia in the acute setting may indeed prevent the development of pathological pain states.'
>
> …
>
> **Comments on Emergency Department Management**
>
> [The] Clinical Director of our Emergency Department, has made the following comments as to your provisional opinion:
>
> > 'I would thank you for this opportunity as I strongly believe that there are a number of points that, if not challenged, could lead to deterioration in patient care in Emergency Departments across the whole of New Zealand.
> >
> > Initial Management of Acute Pain in the Emergency Department

> [The] hospital does not have a dedicated Admissions/Assessment Unit for patients referred to a specialist Registrar from a GP, this role falls to the Emergency Department (ED). Upon a patient's arrival in ED they are triaged and the relevant Registrar is informed of that patient's arrival.
>
> Whilst awaiting the arrival of that doctor, the nurse caring for the patient will undertake a basic assessment, which will include baseline observations; appropriate investigations such as urinalysis, blood testing and ECG; and assessment of pain. If a patient is in pain it is expected practice for that nurse to initiate a pain control programme. If that pain control programme requires prescribed drugs, the nurse would go initially to the doctor who would be caring for that patient. If that doctor is not available then the next appropriate doctor would be an ED doctor.
>
> A recently performed audit of GP referred patients has revealed that the average length of time between the patient arriving in ED and the Specialist Registrar being free to attend them is 2 hours 50 minutes (range — 30 minutes to 12 hours). It is therefore understandable that in the majority of cases the nurse will be approaching an ED House Surgeon to undertake the prescribing of appropriate analgesia. It is not appropriate for the ED House Surgeon to undertake an initial assessment of the patient, and this is not required if a nurse has undertaken an appropriate pain assessment, can give an account of the patient's presenting complaint as per the GP assessment and relate the baseline observations.
>
> The prescribing of intravenous fluids and morphine by an ED House Surgeon for [Ms A] was appropriate.
>
> As has been mentioned in the report there is an extensive body of evidence that supports the fact that appropriate analgesia, including narcotics, made the assessment of the patient with an acute abdomen easier rather than more difficult. Therefore, it would be cruel and inhumane to suggest that analgesia be withheld from a patient until a physical examination by a doctor has been performed. Not wishing to question the opinion of the Surgical Expert, I would like to suggest that a survey of current ED and Surgical SMOs be sought prior to the publication of this report."

As requested by the Clinical Director of the Emergency Department, I asked Professor Mike Ardagh, emergency medicine specialist, to comment on pain management in Emergency Departments. Dr Ardagh confirmed that it would be unusual for a house surgeon to assess a patient for pain relief if the nurse caring for the patient had completed a basic assessment. In some cases the nurse would initiate analgesia, which would be prescribed by the house surgeon.

Dr B

In response to the provisional opinion, Dr B provided the following statement:

"I accept that I have breached Right 4(2) of the Code this was a lapse due to fatigue. I would ask you to take this into account and consider whether the sanction of a breach finding is required or whether concern could be noted given:

1. I realised this omission on getting home and while I accept that in a perfect world I should have driven back to the hospital to document this, sleep was also an important goal at that time.
2. I have since stopped doing 48 hour on call periods and therefore such fatigue will not be an issue.
3. I unreservedly apologise for this omission which is out of character for my practice.

Mr Menzies has made adverse comment on my care but based on incorrect assumptions of fact, I would appreciate reconsideration of such comments and the breach findings.

1. You state that '[Dr B] disagreed with Dr Menzies that [Ms A's] abdomen should have been carefully examined and I would have done so if in attendance at the time.' My response to this opinion is that the administration of morphine to [Ms A] was not discussed with me and I was therefore not in a position to agree or disagree or examine the patient beforehand. … In summary Dr Menzies' suggestion that a doctor examines the patient prior to administration of morphine and document their findings is a reasonable one but unfortunately on both occasions the patient was given morphine without my knowledge and prior to being examined by any doctor. The alternative of denying pain relief when it was unlikely to adversely impact on examination does not seem justified.

2. You state that 'However the doctor prescribing the pain relief should examine the patient's abdomen before prescribing morphine … [Dr B] failed to do so'. As stated above [I] agree with the first part of this statement. …
3. You state '[Dr B] seems to have misread other signs indicative of infection such as an elevated temperature, pulse rate and white cell count'. Medicine is an inexact science and every one of these signs needs to be taken in context. Fevers and an elevated heart rate are just as likely to be associated with gastroenteritis with dehydration as appendicitis (both of which are infections) this has been well established in large trials ('Body temperature could not significantly verify or exclude appendicitis' Johansson et al Acta Radiol 2007 Apr, 48(3):267–73).

Likewise Dr Menzies has placed an emphasis on the elevated white cell count on [Ms A's] admission, it has not been mentioned that her white cell count on her second admission at 2100 had reduced and that the second common marker that we use for inflammation (CRP) was in fact normal. You state that 'she had an increased white count indicating infection'. Blood tests in the diagnosis of acute appendicitis have been formally studied and published in numerous journals. Khan et al (JA Med Coll 2004 Jul–Sep; 16(3):17–9) and showed 'The sensitivity and specificity of and elevated White Cell Count in this study was 83% and 62.1% and that for an elevated CRP was 75.6 and 83.7%'. Obviously well outside the 100% ideal blood test, and with Ms A having a normal CRP blood test the diagnosis of appendicitis is brought into doubt if you guide your diagnosis on blood tests. I … frequently see people with passing renal stones who have elevated white cell counts yet no infection. Any patient who breaks a bone likewise will have an elevated white cell count yet no infection. A white cell count is a marker on inflammation and not infection (let alone bacterial versus viral infection) and cannot be relied on in deciding whether a patient goes forward for surgical management and all its inherent risks.

4. [Ms A] was booked for the first available operating time the following day not for 12pm the following day as suggested in your opinion. I am unable to control the order in which patients are operated on the following day; this is something that only the doctors looking after the patient can try to change.

My main concern lies in that this appears to be a retrospective review of a difficult diagnosis reviewing the facts once the diagnosis is in hand. I accept that my documentation could have been better. But many of the signs described are either non-specific or in the case of digital rectal examination have been shown to be flawed. If in the opinion this patient would have benefited from emergency life or limb surgery that night then why was this still not apparent when the patient was reviewed by the General Surgical registrars on the morning ward round? This suggests that because of the difficulties in diagnosis in this case, that the surgical registrars that reviewed [Ms A] in the morning were likewise unsure of the diagnosis.

I believe the opinion does not fairly evaluate the situation particularly in light of the heavy emphasis placed on blood tests (extensively studied and shown to be incorrect), the significance of morphine administration (which was given prior to discussion with myself and has been extensively shown to be incorrect) and the emphasis placed on the findings at the time of operation when the diagnosis is obviously much clearer. It is unfair to say that I breached Right 4(1) when as stated by Mr Menzies 'more than likely peritonitis would have been present for at least 12 hours' when I examined

> [Ms A] 18 hours prior to these findings and when the diagnosis was still not clear 6 hours prior to her operation (on the morning general surgical ward round). Obviously 23 hours prior to the operation (0315) I was not in the hospital and … I did not see [Ms A] the following morning.
>
> I am concerned that as the result of a bad outcome a retrospective analysis has been performed to find someone at fault rather than accepting that humans are not cars and do not present with a flat battery or a puncture tyre but rather a complex series of symptoms that is often compatible with a variety of different illnesses. … I do not have a vested interest in 'proving my innocence' but rather would like to ensure that we do not evolve into a blame culture where if something goes wrong it must be someone's fault. Unfortunately we live in a world when bad things happen to good people despite the efforts of people who are trying to help. …"

Further expert advice

Dr Menzies reviewed his earlier advice in light of the DHB's and Dr B's responses to the provisional opinion. In summary, Dr Menzies advised:

> "The letter from … [the DHB], dated 13 June 2007, states on Page 2 'it is not appropriate for the ED House Surgeon to undertake an initial assessment of the patient, and this is not required if a nurse had undertaken an appropriate pain assessment, can give an account of the patient's presenting complaint as per the GP assessment and relate the baseline observations'. I find this statement quite remarkable! To my mind the term ED House Surgeon indicates that this is a doctor who is working in the Emergency Department. In my opinion an ED House Surgeon should examine the abdomen of a patient presenting with acute abdominal pain prior to prescribing analgesics and his abdominal findings should be documented. Reference is made to the GP assessment. The GP who saw [Ms A] on the afternoon of 14 May noted in his letter of referral that she was very tender in the right iliac fossa with significant rebound tenderness and guarding. As I stated in my original report (paragraph 9), he made a provisional diagnosis of acute appendicitis and he recommended that she be seen 'stat' by the surgical registrar.
>
> The letter from [the DHB] states that the average time between the patient arriving in ED and the specialist registrar being free to attend them is 2 hours 50 minutes. [Ms A] was in fact seen by [Dr B] at 1430 hours, just half an hour after her arrival in the A & E Department. In his letter to the Health & Disability Commissioner on 13 July 2007, Dr B states that 'the administration of Morphine to [Ms A] was not discussed with me' and he

goes on to state 'but unfortunately on both occasions the patient was given Morphine without my knowledge and prior to being examined by any doctor'.

In my opinion it would NOT have been cruel and inhumane (as suggested by the General Manager of [the hospital]) to withhold analgesia from [Ms A] for 30 minutes. There was obviously no significant delay between [Dr B] being informed of the arrival of [Ms A] in the A & E Department and his arrival there to see her.

I will re-state my opinion, that [Ms A's] abdominal signs had been masked by the Morphine, and as a consequence [Dr B] underestimated the severity of her intra-abdominal pathology.

If [Dr B] had indicated, when he was notified about the arrival in the A & E Department of [Ms A], that he would be delayed, then I agree that it would be, in that instance, inappropriate to withhold adequate analgesia. However in this case there was no delay between his being informed and [Dr B's] arrival in the A & E Department.

…

In his initial assessment of [Ms A] [Dr B] notes that she presented with a one day history of abdominal pain, colicky, central, associated with loose diarrhoea ++. He subsequently made a diagnosis of gastroenteritis. The fact is that [Ms A] had only one episode of diarrhea during the night. The prominent presenting symptoms were abdominal pain and vomiting not diarrhoea.

When [Dr B] re-examined [Ms A] at 2100 hours on 14 May, he documented in the notes 'D & V ++', in other words he was again perhaps over-emphasising the significance of her diarrhoea and this may well have influenced his diagnostic assessment. He does mention in that same paragraph that her abdominal pain was 'generalized and worse with moving'. This is more likely to be an indication of peritonitis rather than gastroenteritis. The fact that the white cell count was 14.5 when she was assessed the second time compared to 17.9 at the time of his initial assessment does not diminish the likelihood that the diagnosis was acute appendicitis.

…

It is difficult for me to interpret from the clinical record whether or not [Ms A] was reassessed at about 8–8.30am on 15 May. She was reviewed at 11.20am by the house surgeon because of worsening abdominal pain. The

house surgeon noted that her abdominal pain was constant with a severity of 8/10.

…

Much has been made of the after-hours acute surgery policy of [the DHB] (Appendix 4). This policy covers the period from 2300 hours until 0800 hours. The policy states that during that time 'surgery will be performed if a patient's life/limb/significant viscera/organ is threatened, or the patient is at major risk of their condition worsening if surgery is postponed'. The nursing note on page 084 of the clinical record states for 'laparoscope today — booked on acute list for 12 midday'. I wish to put the following question. Why does the acute list start at 12 midday? Why does it not start at 8am? In my view there were two opportunities for [Ms A] to have her surgery performed earlier than 3pm on 15 May. She could have had her operation between 2100 hours and 2300 hours on 14 May or she could have had surgery between 8am and 12 midday on 15 May.

…

In my opinion there were some deficiencies in [Dr B's] management of [Ms A], however I don't feel that [Dr B] should take the rap, so to speak, for the adverse outcome which [Ms A] had. There were other factors which were outside his control which contributed."

Code of Health and Disability Services Consumers' Rights

The following Rights in the Code of Health and Disability Services Consumers' Rights are 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.

(2) Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards.

Professional Standards

Medical Council of New Zealand, Good Medical Practice — A Guide for Doctors (2004):

"Domains of competence

1. Patients are entitled to good standards of medical care. The domains of competence that follow are medical care, communication, collaboration, management, scholarship and professionalism.

Good clinical care

2. Good clinical care must include:

   - an adequate assessment of the patient's condition, based on the history and clinical signs and, if necessary, an appropriate examination
   - providing or arranging investigations or treatment when necessary
   - taking suitable and prompt action when necessary

   …

3. In providing care you must:

   ...

   - be competent when making diagnoses and when giving or arranging treatment
   - keep clear, accurate, and contemporaneous patient records that report the relevant clinical findings, the decisions made, the information given to patients and any drugs or other treatments prescribed."

Opinion: Breach — Dr B

Diagnosing an acute appendicitis in the Emergency Department setting can be extremely difficult. Failure to make the correct diagnosis in itself does not amount to a breach of Right 4(1), the right to have services provided with reasonable care and skill. However, in this case Dr B misread a number of critical factors when assessing Ms A, which contributed to her surgery being delayed, with serious consequences.

Dr B stated that he was not informed either by Ms A or other staff that she had been seen in the ED "three times" prior to her admission. He did not know she had been given morphine for her severe pain, but it was clearly documented in her clinical record, and it was Dr B's responsibility to read the records. He thought that she had ongoing diarrhoea, although she had suffered only one bout of diarrhoea at 2 o'clock that morning.

While it is true that Ms A presented at the hospital ED three times, she was medically assessed on only two of those occasions, at 2.15pm and around 9pm, and both of those assessments were conducted by Dr B. What Dr B failed to appreciate was that Ms A's severe pain had recurred over a period of time and showed no sign of abating. This should have prompted him to reconsider his diagnosis of gastroenteritis.

Dr B stated that appendicitis was part of his differential diagnosis, but he recorded a diagnosis of gastroenteritis at 2.15pm, and gastroenteritis and "?appendix → atypical" at 9pm, in the absence of significant diarrhoea. Furthermore, Dr B seems to have misread other signs indicative of infection such as an elevated temperature, pulse rate and white cell count, which Dr Menzies advised are more likely to be an acute abdomen than gastroenteritis.

In response to my provisional opinion, Dr B submitted that fever and an elevated heart rate are associated with gastroenteritis with dehydration, as well as with appendicitis. He noted that Ms A's white cell count had reduced at 9pm, and the C-reactive protein was normal. Dr Menzies advised that Ms A's prominent presenting symptom at Dr B's initial assessment was abdominal pain and vomiting, not diarrhoea. At 9pm Dr B recorded that Ms A's abdominal pain was generalised and worse with moving, which is more likely to indicate peritonitis than gastroenteritis. Furthermore, the reduction in white cell count between presentations does not diminish the likelihood that the diagnosis was acute appendicitis.

In my view, there was sufficient documentation on file for Dr B to have a high suspicion that Ms A had an acute abdomen. The records contained the general practitioner's referral, which noted that Ms A was very tender in the right iliac fossa with significant rebound tenderness and guarding. The admitting nurse recorded that Ms A was in severe pain and that her temperature and heart rate were elevated. The increased white cell count indicated the presence of inflammation.

Following Dr B's presentation of Ms A's case to Dr C, it was decided to place Ms A on the operating list for the following day because her pain had not settled. Dr B considered it "prudent to look into her abdomen with a laparoscope to rule out appendicitis". Dr B did not consider Ms A a candidate for after-hours surgery and did not discuss her case with the on-call anaesthetist because she did not meet the criteria of threat to "life/limb/significant viscera or organ". Another factor that influenced Dr B was that Ms A had drunk half a cup of water in the ED and was therefore considered an anaesthetic risk.

Dr Menzies advised that it would have been in Ms A's best interests if the surgery had been undertaken between 9pm and midnight on 14 May. He questioned the significance placed by Dr B on the small amount of fluid Ms A had allegedly taken between being admitted and when he saw her at 9pm. Dr Menzies took advice from two anaesthetists, both of whom advised that in similar circumstances they would undertake a rapid sequence induction to minimise the risk of aspiration.

Dr Menzies stated:

> "It is well known that the diagnosis of acute appendicitis can be extremely difficult. Nevertheless, the findings at laparoscopy on 15 May indicate that the pathology of [Ms A's] acute appendicitis was in fact well advanced. In the operation report dictated by [Dr C], the operative findings included the following 'free peritonitis with copious pus in both upper quadrants'. This is a quite unusual finding in patients with acute appendicitis. It is quite unlikely that such an advanced state of peritonitis would have developed within a matter of hours. More than likely peritonitis would have been present for at least twelve hours. … [Ms A's] postoperative complications were the result of the severe generalised peritonitis which she had at the time of her surgery."

Dr Menzies explained that diagnosing appendicitis is made difficult because there is no objective test as there is in other acute abdominal presentations. The diagnosis is made with a large element of subjectivity and to some extent is determined by experience. It is generally accepted that there is a false positive rate in the order of 20%. "In other words if I diagnose Acute Appendicitis in 100 patients, 80 will indeed have Acute Appendicitis and 20 will have a normal appendix."

In my view, as an advanced surgical trainee Dr B should have been able to make an adequate assessment of a patient with acute abdominal pain in order to convey his findings to the consultant surgeon, Dr C. Dr B did not consult Dr C after he had examined Ms A at 2.15pm, but treated her for gastroenteritis and sent her home. Dr B underestimated the severity of Ms A's illness because the abdominal signs were masked by morphine. Although the administration of morphine was not discussed with him, it was clearly documented in her clinical records, along with the findings of the assessment undertaken by the general practitioner and nurses, which Dr B had a responsibility to review and take into account in his assessment of Ms A.

Dr B also did not respond appropriately to her condition when he saw her for the second time at 9pm. He stuck to his primary diagnosis of gastroenteritis when the signs should have prompted him to consider acute appendicitis as a serious possibility. As a consequence he gave Dr C an incomplete picture of the situation. This meant that there was no recommendation to arrange after-hours acute surgery.

Dr Menzies advised that there were some deficiencies in Dr B's management of Ms A, but he should not take "the rap" for the adverse outcome as there were other contributory factors outside Dr B's control. I accept that it can be extremely difficult to diagnose appendicitis, and that there were a number of factors (including unforeseen circumstances leading to a delay in surgery) that contributed to Ms A's adverse outcome.

Nonetheless, I conclude that Dr B did not meet the standard of reasonable care and skill expected of a surgical registrar when assessing Ms A at 2.15pm on 14 May 2006, and that he was hasty in discharging her. A careful surgical registrar in Dr B's shoes would have reconsidered his primary diagnosis and raised the possibility of acute appendicitis with his consultant. Dr B made an innocent mistake, at a time when he was tired, but as a professional he should be willing to accept responsibility for a deficiency in his care on this single occasion. In my opinion Dr B breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).

Documentation
Dr B did not clearly record his findings when he saw Ms A on 14 May 2006. When he saw her at 2.15pm, he did not record appendicitis in his assessment conclusions and he recorded the date "13/5/6" in the margin in error. Dr B also failed to record the digital rectal examination he undertook at around 9pm. Dr Menzies commented that the significance of the diagram with three crosses marked on the abdomen was unclear, and that it is difficult to interpret Dr B's findings on abdominal examination at 9pm. In response to my provisional opinion, Dr B acknowledged his omission, which he put down fatigue. He realised the omission when he arrived home, and reported his findings to the surgical registrar who took over the care of Ms A. The accurate recording of findings and examinations is critical to the ongoing care of the patient. The incorrect date is most likely to be simply an oversight, and Dr B followed up on his omission to record the rectal examination. However, by his incomplete and unclear documentation, Dr B breached Right 4(2) of the Code.

Opinion: No Breach — Dr C

Dr C did not see Ms A until 15 May 2006 when her surgery had been scheduled. He is available after hours to provide advice or direct input if required by his registrars but he relies on them being able to assess and manage patients in the ED without always

consulting him. As a consultant surgeon, Dr C appropriately takes overall responsibility for his registrar's actions, while placing "implicit trust" in his registrar.

Although Dr C had not personally assessed Dr B, he knew that he was an advanced surgical trainee, and he relied on the following systems operating at the DHB for education and supervision of registrars:

> "1. The consultants in the Department of General Surgery meet often as a group and any problems are discussed freely, particularly major issues that could arise or influence the function or standard of our service e.g. medical staff competence, systemic issues, etc. Thus registrars that any of us are concerned with are highlighted and discussed since this has obvious bearing on the functioning of our department. [Dr B] has never been discussed in this way.
>
> 2. Since the registrar and consultant acute call rosters do not coincide, we are very frequently on acute call with a registrar from either Urology or another general surgical team. Thus I have worked with/supervised [Dr B] when I have been on call on many occasions and form my own opinion on his level of competence. Once again, I have never had reason to doubt his clinical competence.
>
> 3. [Dr B] had an excellent formal assessment by [a] consultant general surgeon, the hospital, following [Dr B's] first six month attachment with him up to June 2005."

Dr C further explained:

> "From the experience viewpoint, [Dr B] was typical of the registrars who come to the hospital i.e. first, second and sometimes third year as a registrar when employed as a basic training surgical registrar, and second, third or fourth year registrar if employed as an advanced training registrar in both the Departments of General Surgery and Urology in this hospital. Thus regular assessment and management of acute abdominal pain is an integral component of being a general surgical/urology registrar in our hospital and forms a very significant amount of the acute clinical work for these registrars.
>
> [Dr B] was accepted into advanced surgical training … after a selection process in mid 2005 for commencement of training in December 2005. There are minimal formal competency assessments and clinical experience criteria that must be met as a prerequisite for selection, including experience as a registrar in general surgery. These criteria are strictly defined by the Royal Australasian College of Surgeons. Clearly, [Dr B] must have met these in mid 2005 in order to be selected into advanced training ..."

Dr Menzies described the nature of a surgeon's supervisory responsibility as follows:

> "It is the responsibility of the Consultant Surgeon to try and form an opinion as to the competence of each registrar in the Team. Usually one would expect that a surgical registrar with two years' experience would be able to make an adequate assessment of a patient admitted with Acute Abdominal Pain, and that he could then convey those findings to his consultant so that a plan of management could be determined."

When Dr B notified Dr C of Ms A's admission and need for surgery at about 9pm on 14 May, he appropriately relied on being given an accurate representation of Ms A's condition. Dr B considered gastroenteritis the likely cause of Ms A's symptoms. Based on the information provided by Dr B, Dr C did not believe Ms A had generalised peritonitis and judged that surgery could be safely deferred to the following morning's acute theatre list.

Dr C supported Dr B's view that Ms A should have been given narcotic analgesic prior to the surgical assessment, and that to withhold it is a "cruel practice". Dr Menzies did not disagree with this view, but stated that a narcotic should only be prescribed after a careful documented assessment of the abdomen. This was not done. As noted above, there was evidence of Ms A's rebound tenderness and guarding from the GP who examined her before the narcotic was given. Dr B was unable to witness rebound tenderness for himself and it is uncertain what emphasis he placed on the GP's findings when he spoke to Dr C.

Dr C also pointed out that single occasion routine blood results, such as Ms A's elevated white cell count, can suggest or support a diagnosis but in itself cannot be taken as being diagnostic of the cause of abdominal pain. There were, however, a number of other signs that taken together should have led Dr B to have a high suspicion that the cause of Ms A's abdominal pain was not simply gastroenteritis.

Dr C placed reasonable reliance on Dr B's assessment and information in relation to Ms A in deciding to place her on the acute list the following day, rather than take her to theatre that night. In my view, Dr C was entitled to expect that his surgical registrar would give him a fuller and more accurate picture than he received from Dr B.

Dr Menzies advised that it is usual practice for the patients who are admitted overnight to be assessed by the consultant (together with the registrar) as part of the morning ward round. There is no record of Dr C having assessed Ms A at this time.

The following day, Ms A's surgery was further delayed by two more urgent cases requiring surgery. I note Dr Menzies' comment that from time to time unforeseen urgent clinical scenarios happen, such as occurred to delay Ms A's surgery, and that in such circumstances an individual patient is inevitably disadvantaged. This matter was outside of the control of Dr C.

Overall, I am satisfied that Dr C made reasonable decisions on the basis of the advice he was given by Dr B. I consider that Dr C fulfilled his supervisory responsibility and did not breach the Code in relation to his role in Ms A's care.

Opinion: No Breach — The District Health Board

Availability of operating theatre

Ms A was readmitted to the hospital at 6.52pm after collapsing at home with severe abdominal pain. Dr B examined her for the second time that day. He amended his initial impression of gastroenteritis. Although he considered that she might have atypical appendicitis, he believed there was no evidence of peritonitis. Dr B discussed Ms A with Dr C, who advised him to place her name on the operating list for the following day.

Dr B explained that the reason Ms A did not have surgery on the evening of 14 May was because the District Health Board guidelines relating to after-hours acute surgery stated that the surgery should be only performed if there was a grave risk to the patient. As there was no evidence of Ms A having peritonitis at that time, and she had taken a glass of water, which could be an anaesthetic risk, her surgery was deferred to the following day. The DHB explained that at 9pm Ms A was booked on the acute theatre list for the following day, being third on the list. The nursing note in the clinical records states that Ms A was due to go to theatre at midday. However, due to the addition of two other more urgent cases, the operation was not performed until 3.10pm on 15 May.

The DHB had policies in place to guide staff in their decision-making regarding access to after-hours surgery. The policy states, "All surgical staff are responsible for judging the need for surgery, after-hours, based on the risk to the patient and available resources. Surgery from 2300 hours will be performed if a patient's life/limb/significant viscera/organ is threatened, or a patient is at major risk of their condition worsening if the surgery is postponed." Dr B decided that Ms A's case was non-urgent.

Dr Menzies did not favour rigid protocols for diagnosing acute appendicitis. It is the usual practice for consultants to instruct all new registrars on their preferred management of patient admitted as emergencies with acute abdominal pain.

I accept that it is not necessary to have a policy on diagnosing acute appendicitis. The DHB provided its policy for the postoperative management of appendectomy. In my opinion, the DHB provided the necessary resources and policies to guide staff in their decision-making in relation to after-hours surgery. In relation to this matter, the DHB did not breach the Code.

Vicarious liability

In addition to any direct liability for a breach of the Code, employers may be vicariously liable under section 72(2) of the Health and Disability Commissioner Act 1994 for any breach of the Code by an employee. Under section 72(5), it is a defence for an employing authority to prove that it took such steps as were reasonably practicable to prevent the employee from doing, or omitting to do, that which breached the Code.

Dr B was employed by the DHB. At the time of these events he was on-call registrar for surgical services under the supervision of consultant Dr C. I am satisfied that Dr B was appropriately qualified, and that Dr C could reasonably rely on his assessment without personally reviewing Ms A himself. I am also satisfied that Dr B was appropriately experienced to cover the surgical department as registrar on call. His error in assessment and documentation was a human error at a time when he was fatigued. He should not have been rostered on call for 48 hours.

Nonetheless, I conclude that the errors in this case were primarily a matter of individual rather than systemic responsibility. The DHB is therefore not vicariously liable for Dr B's breach of Rights 4(1) and 4(2) of the Code.

Other comments

Pain management in the Emergency Department
There are two issues in this case that seriously impacted on the quality of services Ms A received: first, the administration of analgesia in the emergency department; and secondly, her placement on the acute operating theatre list. I have discussed the availability of the operating theatre above. I accept that due to unforeseen circumstances on the morning of 15 May, a judgement about clinical priorities had to be made, and resulted in a delay in Ms A's operation until 3.10pm that afternoon.

Clearly there is a difference of opinion on the management of acute pain in the emergency department. Dr C stated: "Although traditional surgical teaching was to deliberately withhold narcotic analgesia to patients without prior assessment by a surgeon/surgical registrar, contemporary practice is to administer such narcotic analgesics prior to surgical assessment" and this has been shown to have no detrimental effect on subsequent clinical assessment.

The Clinical Director of the ED, stated that a nurse will undertake a basic assessment of a patient who has been referred to a specialist registrar, while awaiting the arrival of the registrar. If a patient is in pain, it is expected practice that the nurse initiates a pain control programme. If the pain control programme requires prescribed drugs, the nurse will go initially to the doctor who will be caring for that patient and, if unavailable, to the next appropriate doctor, an ED doctor. The Clinical Director submitted that the ED house surgeon is not required to undertake an initial assessment of the patient if

the nurse has already undertaken an appropriate pain assessment, and can account for the patient's presenting complaint in line with the GP's assessment and related baseline observations. Professor Ardagh confirmed that it would be unusual for a house surgeon to assess a patient for pain relief if the nurse has completed a basic assessment.

Dr Menzies agreed that it is appropriate to administer analgesia to a patient presenting to the ED with acute abdominal pain if the specialist registrar is delayed. However, Dr Menzies considered that if an ED house surgeon prescribes analgesia, he or she should examine the patient's abdomen and document the findings prior to the prescription.

I acknowledge that there are conflicting views on whether an ED house surgeon should undertake an assessment of the patient before prescribing analgesia. I do not intend to make a determination on this specific point. However, I am concerned about the lack of communication and documentation in relation to the initial management of Ms A's pain. In my view this hindered the quality and continuity of care for Ms A. Ideally, the nurse caring for Ms A should have discussed the administration of analgesia with Dr B, prior to its administration, when he was alerted to Ms A's arrival in ED. There was sufficient information in the GP's referral note, and following her initial assessment in ED, that Ms A might require pain relief. I also consider that it is good practice for an ED house surgeon who prescribes analgesia in reliance on information provided by a nurse, to document this. I draw this to the attention of the DHB.

Referral to GP

When Ms A presented at the hospital ED at 2pm on 14 May 2006 with abdominal pain, she was told by staff at reception that as she was a non-New Zealand resident with no medical travel insurance she would be better going to a general practitioner. Ms A was advised that the cost to see a general practitioner would be less than being seen at the hospital.

My colorectal and general surgeon advisor, Dr Menzies, stated that any person who presents with abdominal pain to the ED of a New Zealand public hospital should be seen by a doctor. He said, "The medical situation should be paramount and financial considerations should be secondary." He noted that there was no record of Ms A presenting at the ED at this time, and that it appeared that she was given little choice about being seen.

The DHB General Manager advised that on 14 May 2006 there was no written policy on registration of patients. If the patient decided to leave ED after being told about payment conditions, no record was made about that person's attendance. However, in June 2006 a new policy, "Registration of Emergency Department Patients", was written to ensure that all patients are registered on the ED computer on their arrival.

Postoperative care

Ms A's postoperative care was prolonged owing to respiratory complications. The Acute Pain Service noted reluctance by Ms A to use pain control, and the need to encourage mobility and deep breathing exercises. Ms A developed pleural effusions and atelectasis (collapse of the lungs). A right pleural aspirate to treat the pleural effusion resulted in the development of a right pneumothorax (collection of air in the space surrounding the lungs), which required the insertion of a chest drain. Dr Menzies stated that the postoperative complications sustained by Ms A were largely the result of the severe peritonitis she had at the time of operation. The most significant complication was the development of the pleural effusions. Dr Menzies advised that the complications were treated appropriately, and that the right-sided pneumothorax that developed following pleural aspiration is a recognised complication.

Recommendations

Dr B
I recommend that Dr B:

- apologise for his breaches of the Code. A written apology should be sent to the Commissioner for forwarding to Ms A:
- review his practice in light of this report.

The DHB
I recommend that the District Health Board review the initial management of acute pain in the Emergency Department in light of this report.

Follow-up actions

- A copy of this report will be sent to the Medical Council of New Zealand and the Royal Australasian College of Surgeons.
- A copy of this report, with details identifying the parties removed, will be sent to the Australasian College of Emergency Medicine and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix 1 — Initial surgical advice from Dr Menzies

4. Expert Advice Required:

1) To advise the Commissioner on whether, in your opinion, received an appropriate standard of care from Hospital Emergency Department on 14 May 2006?

2) Whether it was reasonable, given presenting symptoms, to delay taking her to theatre? And if not, what could / should have been done.

3) suffered a number of postoperative complications; namely excessive pain, atelectasis, pleural effusions and pneumothorax. Please comment on whether these complications were treated appropriately and in a timely manner?

If, in answering any of the above questions, you believe that Hospital did not provide an appropriate standard of care, please indicate the severity of the departure from that standard.

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Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

To assist you on this last point, I note that some experts approach the question by considering whether the providers' peers would view the conduct with mild, moderate, or severe disapproval.

Are there any aspects of the care provided by that you consider warrant additional comment?

5, Supporting Information:

Letter of complaint to the Commissioner from dated 12 June 2006, marked "A". (Pages1-3)

The Commissioner's notification letter to District Health Board dated 26 June 2006, marked "B". (Pages 4-5)

Telephone conversation with on 25 June 2006, marked "C". (Pages 7-8)

Response from Hospital of 14 July 2006, marked "D". (Pages 9-11)

medical records from Hospital including referral from GP, marked "E". (Pages 12-166)

The pages of this supporting information have been numbered from Page 1 up to Page 166 and I intend to refer to specific page numbers throughout my report.

6. Brief Factual Summary:
Background:

From about 2am on Sunday 14 May 2006, had awoken with severe abdominal pain and vomiting. At about 7am she was taken to Hospital. an citizen and she was advised to go the local general practitioner. Her partner, took her to where she was diagnosed with acute appendicitis and was referred back to the Emergency Department at Hospital.

said that they arrived back at . Hospital in the early afternoon. She remained in ED, was given pain medication and antibiotics. When the pain subsided was sent home.

After arriving home began vomiting, experienced severe abdominal pain and collapsed. called an ambulance and she was taken back to Hospital, arriving at about 7pm Sunday evening.

and were informed she would go to theatre the following day, and her operation was scheduled for midday. At about 3pm on 15 May went to theatre where she was found to have a ruptured appendix with peritonitis.

had a stormy postoperative recovery. She suffered extreme pain but was reluctant to use the PCA pump. She developed postoperative atelectasis and bilateral pleural effusions, requiring aspiration. She developed a pneumothorax, requiring an underwater drain.

was eventually discharged from the hospital on 26 May.

7. *Expert Advice Required: Paragraph No. 1 To advise the Commissioner on whether, in your opinion, received an appropriate standard of care from Hospital Emergency Department on 14 May 2006?*

I wish to make a number of comments in relation to this question.

8. There is no documentation relating to the initial presentation of to the Emergency Department of Hospital. Subsequent correspondence indicates that she was not seen by a doctor on this occasion. The letter addressed to *The Commissioner* from dated 12-06-06 states "I was informed by the front desk staff at the Emergency Department that since I was not a New Zealand Resident Visa Holder it would be too expensive to admit me to the ED and then suggested I go to to gain a referral letter from a local GP." In my opinion if any person presents to the Emergency Department of a New Zealand public hospital with abdominal pain they should be seen by a medical practitioner. The medical situation should be paramount and financial considerations should be of secondary importance.

9. The letter of referral from General Practitioner dated 14 May 2006 states that had "vomiting plus abdominal pain since yesterday, one episode of diarrhoea during night and rigors". (Page 033) His findings on examination of her abdomen were that she was very tender in the right iliac fossa. (I believe that there is a transcription error in the letter RFI should probably read RIF). He also noted significant rebound tenderness and guarding. He made a provisional diagnosis of acute appendicitis. He recommended that she be seen "stat" by the surgical registrar.

10. arrived at the A & E Department of Hospital for the second time just prior to 1400 hours on 14 May. Observations were taken at 1355 and it was noted that her pulse rate was 104 per minute, her temperature 38.2°C and her pain was estimated to be at 10 on a scale of 0 – 10 (Page 035). On Page 034 it states that at 1400 hours she was given intravenous Morphine and that her pain level subsequently decreased to 4/10.

11. On the drug chart (Page 036) Morphine has been charted and signed for by a doctor. I cannot read the signature sufficiently well to know the name of this doctor. Did this doctor examine If so, there is no documentation of the findings of his clinical examination. If not, in my view, it was inappropriate to prescribe Morphine analgesia without initially examining the patient and prior to her being assessed by the surgical registrar.

12. There is an annotation on Page 034 that was seen by the surgical registrar, at 1430 on 14-05-06. findings are documented on Pages 039 and 040. The date in the margin is 13/5/6. This is obviously an error. did not present on 13 May and was seen for the first time by on 14 May. His findings on examination were "looks dry, temperature 38.7, soft abdomen". I have difficulty in interpreting the diagram at the bottom of Page 039, there are three crosses marked on the abdomen. The significance of this is not clear. There is no documentation that he performed a digital rectal examination. noted that her white blood cell count was 17.9 and he made a provisional diagnosis of gastroenteritis.

13. The evidence suggests that the surgical registrar, examined half an hour after she had been given intravenous Morphine. It seems probable, in my opinion, that 's abdominal signs had been masked by the Morphine, and as a consequence he underestimated the severity of her intra-abdominal pathology. In my opinion it was inappropriate for to be given intravenous Morphine prior to her being assessed by . Unless, if she were

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in severe pain and there was likely to be a significant delay before she could be seen by the surgical registrar, another doctor ought to carefully examine her abdomen prior to her being given any Morphine and his findings should have been documented and conveyed to

14. A white blood cell count of 17.9 in someone with abdominal pain is more likely to indicate a diagnosis of acute appendicitis than a diagnosis of gastroenteritis.

15. r was reviewed by in the A & E Department at 1535 hours. He decided that she was well enough to be discharged home. Severe abdominal pain developed some time after she arrived home. The ambulance was called at about 1830. When they arrived they found her to be in the foetal position on the floor, complaining of severe lower abdominal pain, particularly in the lower right quadrant. She was taken back to the A & E Department by ambulance. The Triage nurse documented at 1855 hours that "patient represents with generalised lower abdominal pain. Patient presents 10/10 pain. Increased pain over RIF." It is recorded on Page 117 that she was given 8mg of Morphine at 1930 hours. Subsequently, at 2000 hours her pain score was documented at 5/10. She was subsequently seen by the surgical registrar, at 2100 hours and his findings are documented on Page 083. From what is documented it is difficult to interpret his findings on abdominal examination. On this occasion he listed a differential diagnosis of gastroenteritis and atypical acute appendicitis.

16. I am concerned that when was assessed by the surgical registrar, , at the time of her third presentation to the A & E Department on the evening of 14 May, that again she had been given a significant dose of Morphine (8mg) prior to his examination. As I mentioned previously the Morphine may well have masked the physical findings on abdominal palpation which could well have resulted in his not recognising signs of peritonitis.

17. I have concern that again the surgical registrar, did not perform a digital rectal examination when he examined at 2100 hours on the evening of 14 May. It may not always be necessary to perform a PR examination in someone presenting with typical symptoms and signs of acute appendicitis. However, in my opinion, if the presentation of acute appendicitis is atypical, then a digital rectal examination is essential.

    Quoting from Bailey & Love's *Short Practice of Surgery* "when the appendix lies entirely within the pelvis there is usually complete absence of abdominal rigidity.....A rectal examination reveals tenderness in the recto-vesical pouch or the pouch of Douglas, especially on the right side."

    If a digital rectal examination had been performed by when he first examined on the afternoon of 14 May, or when he again examined her on the evening of 14 May, the clinical findings of pelvic appendicitis may well have been evident. When operation was performed on 15 May the findings at operation were that she had "perforated pelvic appendicitis".

18. In summary therefore the assessment of in the A & E Department was suboptimal in that on the two occasions that she was seen by the surgical registrar she had already been given Morphine by injection and on both occasions there was a failure by the surgical registrar to perform a digital rectal examination. I believe, as a consequence of these factors, that there was a delay in making the appropriate diagnosis. It is probable, though there is no way of proving this, that already had generalised peritonitis by the evening of 14 May.

19 *Expert Advice Required: Paragraph No. 2 Whether it was reasonable, given presenting symptoms, to delay taking her to theatre? And if not, what could/should have been done.*

20. In the letter to the Health & Disability Commissioner from dated 14 July 2006 it states " vas scheduled for a laparoscopy operation, but because she had drunk a cup ot water, and did not have generalised peritonitis, the operation was deferred to the following day."

21. In his letter to the ACC dated 18 June 2006, (Consultant General Surgeon) states ' drank a cup of water in the Emergency Department on the evening of admission which meant that she would be at increased risk of aspiration at induction of anaesthetic if she proceeded to general anaesthetic within six hours of this ingestion.....I made the decision to defer surgery until normal working hours on 15 May."

22. It is documented on Page 083 by the surgical registrar at 2100 on 14-05-06 that "drank ½ a cup of H_2O (water) in ED.

23. On Page 008 which is a transcription of a telephone interview between (Investigator for HDC) and , it is stated "I asked if was given any water when she was in ED. I said "no" – they gave her some ice to suck".

24. In attempting to reconcile all of these statements I believe that the documentation of the surgical registrar that she had had ½ a cup of water to drink in ED is the most significant. This documentation was made contemporaneously at the time of his examination of the patient at 2100 hours on 14 May.

25. I now wish to pose the question – is there a contraindication to giving a general anaesthetic to a patient with acute abdominal pain if that patient has had ½ a cup of water to drink beforehand? I put this question to two of the senior consultant anaesthetists at Wellington Hospital. I spoke to both of them independently. Both said they were willing to be quoted. The anaesthetists are Dr Chris Thorn and Dr Ross Dysart. Both anaesthetists gave almost identical replies to this question. Both anaesthetists stated that the prior intake of ½ a cup of water would NOT significantly increase the risk of aspiration at induction of anaesthesia. Both anaesthetists stated that in any patient with acute abdominal pain that there was a likelihood of delayed gastric emptying and that, irrespective of whether the patient had had some water to drink beforehand or not, they would undertake *a rapid sequence induction* to minimise the risk of aspiration. Both anaesthetists were adamant that the prior intake of ½ a cup of water would not be a contraindication to giving a general anaesthetic for laparotomy or laparoscopy.

26. In my opinion, it would have been in best interests if surgery had been undertaken between 2100 hours and midnight on 14 May.

27. A second reason given by for the patient not going to theatre that evening was that ' did not have generalised peritonitis". There is no documentation that she was in fact seen by himself. It is probable (and in fact usual) that the consultant surgeon is informed by phone of the patient's condition based on the assessment of the surgical registrar. As I have mentioned previously, the surgical registrar's assessment of may have been impaired as a result of her having had 8mg of Morphine prior to his seeing her.

28. There is evidence that had quite severe pain when she was admitted to the surgical ward in that she required 8mg of intravenous Morphine between 2400 hours on 14 May and 0015 on 15 May before her pain started to settle. (Refer Pages 083 and 140)

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29. A third reason given by for deferring surgery until normal working hours on 15 May was "the acute operating policy of which states that acute surgery is not performed between midnight and 0800H unless there are extreme/very serious clinical circumstances." In my opinion, when there is such a policy, there needs to be adequate access to theatre for acute emergencies during the following morning. explained in his letter that surgery did not occur until 1510 hours on 15 May because of four other emergency cases. The delay from 2100 hours on 14 May until 1510 hours on 15 May was obviously detrimental to the outcome for When there is a policy of no acute surgery occurring between midnight and 0800 hours except in extreme clinical circumstances, then, from time to time, it is necessary for a second acute theatre to be opened at 0800 hours when there are multiple acute emergencies needing to be done.

30. *Expert Advice Required: Paragraph No 3. suffered a number of postoperative complications; namely excessive pain, atelectasis, pleural effusions and pneumothorax. Please comment on whether these complications were treated appropriately and in a timely manner?*

31. Laparoscopic Appendicectomy and Lavage was performed by on 15 May. The operative findings (refer Page 120) were as follows: "perforated pelvic appendicitis with early abscess formation and free peritonitis with copious pus in both upper quadrants." In my opinion the postoperative complications which sustained were largely the result of the severe peritonitis which she had at the time of operation. The majority of patients who have a laparoscopic appendicectomy have relatively mild postoperative pain. had severe abdominal pain postoperatively and this I believe was the result of her severe generalised peritonitis.

32. The most significant and unusual complication which she had was the development of a large right pleural effusion as well as a smaller effusion in the left pleural cavity. In my opinion the development of pleural effusions was secondary to the copious pus which was noted to be present in both upper quadrants at the time of her laparoscopy.

33. Bilateral pleural effusions with bi-basal atelectasis, together with some consolidation in the right lower lobe, were first evident two days postoperatively on a chest x-ray taken on 17 May 2006. (Refer Page 057) These findings were confirmed on a CTPA which was performed on 21 May 2006. (Refer Page 064)

34. In my opinion these complications were treated appropriately. did develop an iatrogenic right sided pneumothorax following pleural aspiration, however this is a recognised complication of a pleural tap. The management of pulmonary complications is not within my area of expertise and it may be appropriate for the Commissioner to obtain the opinion of a respiratory physician to advise on this aspect of care.

Appendix 2 — Further surgical advice from Dr Menzies

1. Thank you for asking me to review my original advice which was dated 10 October 2006 in the light of responses from Dr and Dr

2. In relation to the initial presentation of to the Emergency Department of Hospital on 14 May 2006 there appears to be some difference of opinion. Unfortunately, as has been mentioned, there is no documentation in relation to this visit. In his response to the Commissioner dated 5 November 2006 Dr states that the patient was given a choice when she presented to the reception desk. He states that she had a choice of either staying to be seen by the doctor or of going off to see a GP. The information provided to me by the Commissioner does not imply that she was given such a choice but rather she was advised to go to the local general practitioner.

   As I stated in Paragraph 8 of my original report "in my opinion if any person presents to the Emergency Department of a New Zealand public hospital with abdominal pain they should be seen by a medical practitioner".

3. In my original report I raised concern that the surgical registrar, Dr , did not perform a digital rectal examination on on the two occasions that he examined her. In his response Dr states that he did perform a digital rectal examination in the Emergency Department on her second review although this was not documented.

   I therefore accept that a digital rectal examination WAS performed by Dr and I therefore don't feel that this aspect of the management of Ms needs to be pursued further.

4. In my original report I commented on the fact that had been given intravenous Morphine approximately half an hour prior to her being examined by the surgical registrar, Dr at the time of both her second and third presentation to the Emergency Department. I expressed the view that Ms abdominal signs were likely to have been masked by the Morphine, and as a consequence, the severity of her intra-abdominal pathology was underestimated.

   In his response Dr states that he was unaware, at the time of his examination of Ms that she had been given Morphine. He goes on to say "as I was unaware that this medication had been prescribed it did not influence my decision making". I would contend that if he was unaware that she had been given Morphine then he would have presumed that she had not received any narcotic analgesia.

...../2

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

2\.....

There is no doubt that the administration of 10mg of intravenous Morphine to Ms at 1400 hours on 14 May did have a significant effect on her. The nurses' notes on Page 034 indicate that following the administration of intravenous Morphine Ms pain level decreased from 10 (on a scale of 0 – 10) to 4.

When she was examined by the general practitioner, Dr his findings on examination of her abdomen were that she was very tender in the right iliac fossa with significant rebound tenderness and guarding. When she was examined by Dr at 1430 on 14-05-06 he found that she had a "soft abdomen". It seems to me very likely that the 10mg of Morphine which she had been given half an hour previously had indeed masked the physical signs on examination of her abdomen. This scenario was repeated later that evening when she presented to the Emergency Department for the third time.

5. I agree with Dr that if there is to be a delay in a patient with abdominal pain being seen by the surgical team, then analgesia should be administered. However, as I stated in Paragraph 13 of my report, the doctor who prescribes analgesia in such a situation ought to carefully examine the patient's abdomen and document the findings on examination prior to the analgesia being administered.

   There is NO documentation that this in fact occurred. Ideally the surgical registrar should have been made aware that intravenous Morphine had been administered to Ms recently. He ought also, in such circumstances, have been informed of the clinical findings on examination of the abdomen prior to the Morphine being given.

6. In his response Dr states that Ms had "persistent vomiting and diarrhoea". According to the information which has been provided to me she did not have persistent diarrhoea but rather just one episode of diarrhoea which occurred during the night (between the evening of 13 May and the morning of 14 May). This is consistent with a diagnosis of pelvic acute appendicitis.

7. It is well known that the diagnosis of acute appendicitis can be extremely difficult. Nevertheless the findings at laparoscopy on 15 May indicate that the pathology of her acute appendicitis was in fact well advanced. In the operation report dictated by the operative findings included the following "free peritonitis with copious pus in both upper quadrants". This is a quite unusual finding in patients with acute appendicitis. It is quite unlikely that such an advanced state of peritonitis would have developed within a matter of hours. More than likely peritonitis would have been present for at least twelve hours. As I stated (in Paragraph 31) of my report Ms postoperative complications were the result of the severe generalised peritonitis which she had at the time of her surgery.

8. Ideally surgery on should have been performed on the evening of 14 May. However because of a perceived risk in giving a general anaesthetic to someone who has had half a cup of water to drink in ED, together with the clinical impression that she DID NOT have generalised peritonitis, surgery was deferred until 8am on the morning of 15 May.

   I accept the explanation of Dr that on the morning of 15 May Ms had her planned acute theatre time delayed by two unforeseen, urgent, clinical scenarios. Clinical priority judgement has to be made in these circumstances and unfortunately, from time to time, an individual patient will be disadvantaged.

Appendix 3 — Additional surgical advice from Dr Menzies

"You have requested that I provide you with an answer to the following three questions:

1. You indicated that appendicitis can be very hard to diagnose. [Dr C], consultant on call, said that surgical registrars are expected to assess and manage this correctly. In your opinion, is [Dr C] correct?
2. Is a registrar with two years' experience, as [Dr B] had, adequately experienced?
3. Should [the Hospital] have a protocol in place for the diagnosis of appendicitis?

It is not possible to answer these questions with a simple yes or no answer. Therefore I will discuss the issues you have raised.

No Specialist General Surgeon has a 100% record in the accurate diagnosis of Acute Appendicitis. Everyone has a significant rate of:

1. false positive diagnosis and
2. false negative diagnosis.

It is generally accepted that the false positive rate is of the order of 20%. In other words if I diagnose Acute Appendicitis in 100 patients, 80 will indeed have Acute Appendicitis and 20 will have a normal appendix.

Likewise there will be a false negative rate. It approximately 5% of patients who do indeed have Acute Appendicitis, the diagnosis is missed or delayed.

The diagnosis of *Acute Pancreatitis* is made on the basis of one blood test, ie, *Serum Amylase*. However the diagnosis of acute appendicitis is principally a *clinical diagnosis.* There is no blood test or radiological investigation which can categorically diagnose Acute Appendicitis.

The clinical diagnosis is based on the *History* obtained from the patient and the findings on *Physical Examination.* The findings are NOT *black and white*, there is a large element of SUBJECTIVITY and this is to some extent determined by EXPERIENCE.

There are some investigations which may aid in making the diagnosis of Acute Appendicitis, e.g., the white blood cell count. Radiological investigations such as ultrasound and CT may be useful but are not used routinely.

In the female it can be difficult to differentiate between acute appendicitis and some acute gynaecological conditions such as *Acute Salpingitis.*

In a young female adult such as [Ms A] the usual management in the New Zealand public hospital setting is as follows:

1. The patient is assessed by the on-call surgical registrar
2. The surgical registrar subsequently contacts the general surgery consultant on call – usually by phone
3. The condition of the patient, as assessed by the surgical registrar, is discussed. A joint decision is then made as to how the patient will be managed

   a. If the diagnosis of Acute Appendicitis is convincing a decision is made to operate, i.e., Appendicectomy

   b. If it is not possible to differentiate between a diagnosis of Acute Appendicitis and a diagnosis of an acute gynaecological disorder (ie, Acute Salpingitis) it is likely that a decision will be made to proceed to operation – with the plan being to do an initial Diagnostic Laparoscopy with the view to proceeding to Appendicectomy if Acute Appendicitis is confirmed at laparoscopy.

   c. If the diagnosis of Acute Appendicitis appears unlikely, the decision is usually that the patient will be kept under observation and reviewed (by the surgical registrar) at four to six hourly intervals.

So to answer Question 1
You indicated that appendicitis can be very hard to diagnose. [Dr C], consultant on call, said that surgical registrars are expected to assess and manage this correctly. In your opinion, is [Dr C] correct?

The surgical registrar is expected to ASSESS the patient admitted as an emergency with Acute Abdominal Pain. The subsequent management is determined by consultation (usually by phone) between the Registrar and the Consultant.

It is usual practice that all those emergency patients (admitted 'overnight') are assessed, in person, by the Consultant (together with his registrar) as part of the morning ward round at about 8 – 8.30am.

The answer to Question 2
Is a registrar with two years' experience, as [Dr B] had, adequately experienced?

Is as follows:
As in all walks of life there is great variability in the ability of surgical registrars. The current system in New Zealand (though it is changing in 2008) is that some registrars are known as '*basic trainees'* and those accepted for surgical training by the Royal Australasian College of Surgeons are known as *'advanced trainees'*. I don't know if [Dr B] was a basic trainee or an advanced trainee in 2006.

It is the responsibility of the Consultant Surgeon to try and form an opinion as to the competence of each registrar in the Team. Usually one would expect that a surgical registrar with two years' experience would be able to make an adequate assessment of

a patient admitted with Acute Abdominal Pain, and that he could then convey those findings to his consultant so that a plan of management could be determined.

In regard to Question 3
Should [the Hospital] have a protocol in place for the diagnosis of appendicitis?

My response is as follows:
As I explained in the foregoing, the diagnosis of Acute Appendicitis is not clear cut. There can be quite a lot of subjectivity involved in the interpretation of the clinical findings. I would not personally be in favour of a rigid protocol. At the beginning of each new registrar run, the consultant in the team will indicate his preferred management of patients admitted as emergencies with acute abdominal pain."

Appendix 4 — the DHB 'After-hours Acute Surgery' Policy

Doc. Code: *AHTL1*

POLICY

AFTER-HOURS ACUTE SURGERY (TIME LIMIT)	
Applicable to: **Operating Theatre**	Issued by: **Operating Theatre**
	Contact: **Team Leader**

1.0 PURPOSE

To define a policy that will ensure that the limited theatre resources are not used inappropriately after-hours, bearing in mind that there are potential clinical risks associated with working between 2300-0800.

2.0 SCOPE

This policy applies to all Medical staff who will carry out surgical procedures after 2300 hours.

3.0 ROLES & RESPONSIBILITIES

All surgical medical staff are responsible for judging the need of surgery, after-hours, based on the risk to the patient and available resources.

4.0 POLICY

Surgery from 2300 hours will be performed if a patient's life / limb / significant viscera / organ is threatened, or the patient is at major risk of their condition worsening if surgery is postponed.

5.0 KEYWORDS

Acute surgery, After-hours, After hours, Afterhours

Appendix 5 — The DHB 'Registration of ED Patients' Policy

POLICY

REGISTRATION OF EMERGENCY DEPARTMENT PATIENTS	
Applicable to: **Emergency Department**	Issued by: **Emergency Department**
	Contact: **Service Leader Emergency Department**

1. PURPOSE

To ensure that **all** patients are registered upon their arrival.

2. SCOPE

Applies to Emergency Department Nursing and Reception staff.

3. ROLES & RESPONSIBILITIES

It is the responsibility of nursing and reception staff to ensure that all patients who present to the department are registered.

4. POLICY

All patients who present to the Emergency Department (ED), either by ambulance or through the reception area, will be registered on to the ED computer system as an attendance.

Arrival by ambulance

- The nurse undertaking the triage role will greet the patient; take a handover from the ambulance crew.
- At the same time, the Receptionist will obtain details from the ambulance transfer sheet and confirm the details with the patient or their relative / carer as appropriate.
- If the patient is sent to an area prior to the arrival of the Receptionist, the nurse triaging must ensure that the ambulance transfer sheet is passed to them at the earliest opportunity.

Arriving via the Reception Area

- Unless there is a clear clinical need not to proceed, the Receptionist will gain details from the patient and register them as an attendance. Clinical need will be due to the severity of their presenting complaint preventing details being obtained or a delay in treatment will be detrimental to the health of that patient.
- The Receptionist will inform the nurse triaging of the arrival of a patient.
- The nurse will assess them and assign to them a triage category.
- If there is a clinical need for the patient to be seen immediately by the triage nurse and taken through into the department prior to details being obtained it is the responsibility of that nurse to inform the Receptionist of their area allocation so that details can be obtained.

Page 1 of 2

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Cautions

- No patient will be sent away from the Emergency Department by nurse or the Receptionist.
- All patients will be seen by a doctor if the patient requests to see one. The patient will be advised as to the length of time that they may expect to wait and that this time might change.
- If appropriate, the patient may be advised of alternative centres where they may receive treatment. If the patient chooses to leave then it must be because they have chosen to do so and not because a nurse or receptionist has advised them to do this.

IF A PATIENT LEAVES THE DEPARTMENT PRIOR TO BEING SEEN BY THE DOCTOR, THE NURSE OR THE RECEPTIONIST MUST DOCUMENT WHEN THIS OCCURRED AND IF KNOWN, WHY THE PATIENT LEFT.

5. **REFERENCES**

Triage Guidelines

6. **KEYWORDS**

Registration
Triage

Appendix 6 — The DHB Emergency Surgery — Opening of 'Extra Theatres Afterhours' Policy

Doc. Code: *ES1*

POLICY

EMERGENCY SURGERY – OPENING OF EXTRA THEATRES AFTERHOURS	
Applicable to: **Operating Theatre**	Issued by: **Operating Theatre**
	Contact: **Team Leader**

1.0 PURPOSE

- To ensure that emergency cases and situations are appropriately catered for, with responsibility for decision making clearly specified.
- To ensure that the department maintains an ability to respond to emergency situations.
- To ensure that the department's resources are appropriately and efficiently utilised, with staff being called from off duty for emergency situations only.

2.0 SCOPE

Applies to all staff working after hours in the Operating Theatre

3.0 ROLES & RESPONSIBILITIES

Consultant surgeon is responsible for :
- Discussing the emergencies with the Consultant Anaesthetist on duty.
- Notifying the nurse in charge that the case or situation is designated as an emergency.

The nurse in charge is responsible for :
- Opening an extra theatre, calling in extra staff as required.
- Maintaining a list of staff who can be called in these situations.

4.0 POLICY

The number of theatres open for acute surgery after hours will be dependent on the number of staff on duty at the time and the surgery requirements. It will be decided collaboratively by the Consultant Anaesthetist on Duty, and the nurse in charge.

Extra staff can be called in by the Nurse in Charge to open an extra theatre to cater for emergencies in addition to the above.

Page 1 of 3

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

Doc. Code: ES1

Policy for Emergency Surgery – Opening of Extra Theatres Afterhours

5.0 DEFINITION:

Emergency case: A procedure that is designated as an emergency.
Responsibility for so designating: The Consultant Surgeon responsible

Emergency situation: A situation where the volume and mix of the scheduled acute cases is such that it compromises patient safety.
Responsibility for so designating: The Consultant Anaesthetist on duty and Consultant Surgeon/s

6.0 RELATED MCH DOCUMENTS

After hours acute Surgery (Order of Cases) | DHB-295]

7.0 APPENDIX 1

Booking Acute Surgery

8.0 KEYWORDS

Emergency surgery

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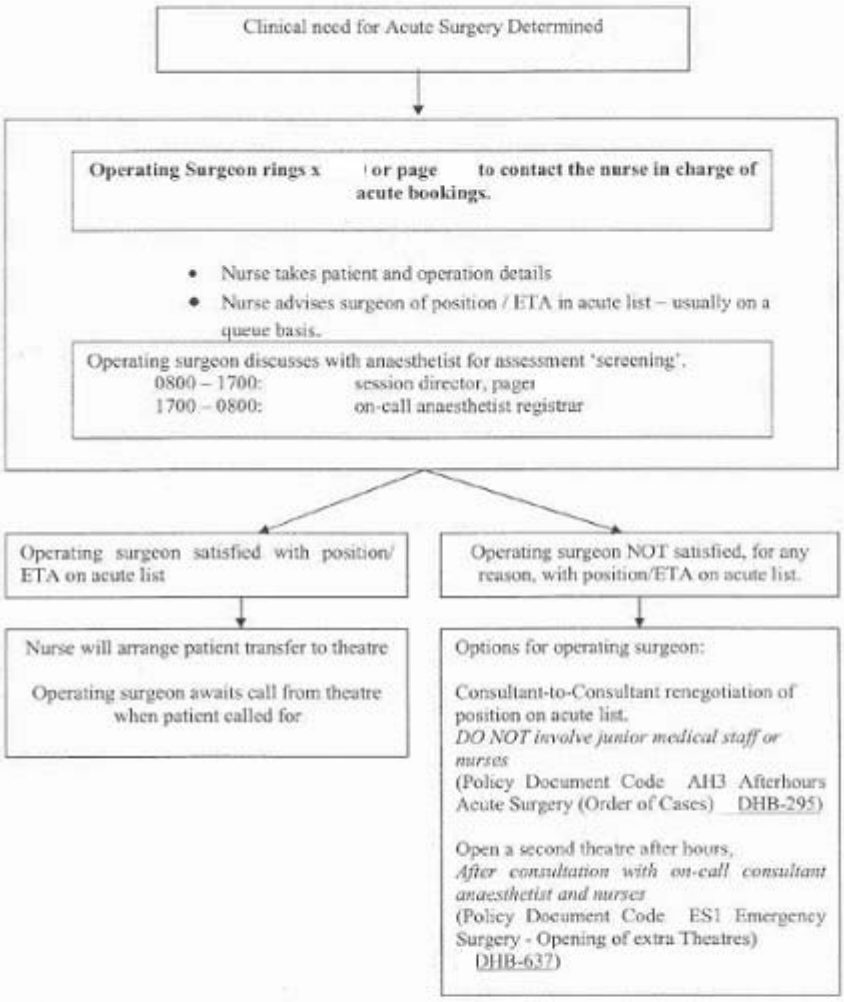
Doc. Code: ES1

Policy for Emergency Surgery – Opening of Extra Theatres Afterhours

APPENDIX 1: BOOKING ACUTE SURGERY



Clinical Director of Surgical Services
30/7/2002

Page 3 of 3

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Doc Code: *OL1*

POLICY

OPERATING LIST SUBMISSION	
Applicable to: **Operating Theatre**	Issued by: **Operating Theatre**
	Contact: **Perioperative Service Nursing Manager**

1.0 PURPOSE

To ensure:

- adequate time is allowed for:
  - setting up equipment needed and arranging appropriate assistants.
  - typing and distribution of the list prior to staff going off duty mid afternoon.
- notification of patients to be treated in isolation so that they can be treated in accordance with the Infection Control Policy.
- efficient use of Theatre resources is maximised.

2.0 SCOPE

Applies to all medical staff who are submitting an arranged list.

3.0 ROLES & RESPONSIBILITIES

3.1 TYPIST IN OPERATING THEATRE

1. At 1400 Typist organising list will **text page** the H/S for list if not arrived
2. At 1500 if list still not arrive text page Registrar or Consultant.

3.2 OPERATING THEATRE

1. Once the patient has been admitted, the house surgeon will notify the surgeon of the admissions and any problems that have been identified during examination of the patient.
2. The surgeon will determine the order and times for the operations.
3. The house surgeon will then complete a theatre list, identifying, and placing last on the list, any patients who:
   - have a blood alert condition (ie Hepatitis B antigen +, HIV +)
   - have been in other hospitals listed in the CDNZ weekly MRSA report
   - are in isolation

   Place first on the list if patient has a Latex allergy

   and will sign the list, include his/her pager number and will submit or fax it to operating theatre by **1400** the day preceding surgery.

Page 1 of 2

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4. Notify the Theatre Charge Nurse if any patient on the list is a staff member. (This is so extra privacy provisions can be made.)

3.3 THE ANAESTHETIST

The house surgeon will:

- notify the anaesthetist of the patient's names, ages and any significant conditions. eg hypertension, asthma etc.)
- check with the anaesthetist whether any special tests are required

3.4 OTHER RELEVANT DEPARTMENTS

When another department's assistance is required during the theatre list, the house surgeon should advise them. (For example: Pathology in the case of frozen section, Radiology for operative cholangiograms (or other use of the image intensifier), Plaster Room staff when required.)

3.5 EMERGENCY SURGERY

The house surgeon is to:

1. Advise the surgeon of the clinical details immediately. The decision to operate urgently is the surgeon's.

2. Contact the Operating Theatre Staff, pager 'normally the nurse in-charge of OT4 or nurse in charge after hours.) They will advise at what time the theatre will be available and can arrange for staff and support services.

3. Call the anaesthetist and advise them of the nature of the case, and they will specify the exact time within the period indicated by the theatre staff. Check that this time is acceptable to the surgeon and then confirm with theatre staff when all details are finalised. Clarify any special tests which may be required.

3.6 CANCELLATION OF CASES

In this eventuality, the surgeon, anaesthetist and theatre staff need to be advised and informed of whose decision it was to cancel the operation, and why.

The Charge Nurse or deputy will inform DOSA and/or the ward of the cancellation and other services that involve in patient care, e.g. SSU or Radiology.

4.0 POLICY

Operating Theatre is to be advised by the House Surgeon by **2.00pm** the day preceding surgery of the list of patients to be operated on, including details of patients to be treated in isolation.

Monday Operating Lists are to be submitted by **2.00pm** on the proceeding Friday.

5.0 KEYWORDS

House Surgeon, Operating Theatre list, Operating list, Submit, Submission

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