A Provincial Hospital

Midwife, Mrs C

Obstetrician, Dr D

Anaesthetist, Dr E

A Report by the

Health and Disability Commissioner

(Case 02HDC11710)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Ms A	Consumer / Complainant
Mr B	Complainant / Father and witness
Twin one	Consumer's son
Twin two	Consumer's daughter
Mrs C	Provider / Lead Maternity Carer
Dr D	Provider / Obstetrician
Dr E	Provider / Anaesthetist
Mrs F	Midwife
Dr G	Obstetrician and Gynaecologist / Advisor to ACC

Complaint

On 8 April 2002 Ms A and Mr B made a complaint to a provincial hospital. Ms A gave birth to twins at the hospital on 20/21 March 2002. Twin two died on 2 April 2002.

The hospital conducted a Sentinel Event Investigation and its report (the Report) was provided to Ms A and Mr B on 17 July 2002. Although the Report identified a number of deficiencies and recommendations about maternity services, Ms A and Mr B disputed some aspects of its findings. They forwarded a complaint to the Health and Disability Commissioner, which was received on 12 August 2002.

The Commissioner reviewed the Report and decided to investigate the actions of midwife Mrs C, obstetrician Dr D, and anaesthetist Dr E in relation to the following issues:

- *The lack of CTG monitoring after 10.30pm on 20 March 2002*
- *The non-placement of epidural anaesthetic following request at about 10.45pm*
- *The absence of a paediatrician and anaesthetist at the birth of twin one*
- *The delay in assembling the full operating theatre team to perform an emergency Caesarean section and the subsequent delay in delivering twin two.*

The Commissioner commenced an investigation on 7 April 2003.

Information reviewed

- Ms A's maternity records
- The provincial hospital's Sentinel Event Investigation Report
- Investigation report from ACC

- Reports from midwife Mrs F and the Clinical Manager of the provincial hospital
- Independent expert advice from midwife Mrs Chris Stanbridge, obstetrician Dr Peter Dukes, and anaesthetist Dr Malcolm Futter.

Information gathered during investigation

Pregnancy and decision to induce
Ms A contracted midwife Mrs C to be her Lead Maternity Carer (LMC) for her fourth pregnancy. A scan performed on 19 October 2001 (approximately 18 weeks' gestation) confirmed that Ms A was carrying twins and estimated to deliver on 22 March 2002.

On 28 December 2001 Mrs C referred Ms A to secondary obstetric services at a provincial hospital because twin pregnancies can be subject to complications and are considered "at risk". At the hospital, Ms A consulted Dr D at the Prenatal Clinic on 29 January 2002. Dr D referred Ms A back to Mrs C to continue prenatal care, with an appointment to see him again on 14 March. In the meantime, Ms A continued to have four-weekly scans to assess the babies' progress. The scans confirmed that both twins were lying in the cephalic position.

At the 14 March consultation, Dr D advised Mrs C that she should complete a vaginal examination on Monday 18 March and, if Ms A's cervix was favourable, he would induce labour on Wednesday (20 March). Ms A's maternity records confirm that she was admitted to a ward at the hospital, at 8.30am on 20 March for an induction of labour.

Mrs C did not inform the secondary care maternity team at the hospital about the induction because it was the usual practice for the obstetrician, in this case Dr D, to inform the secondary care team of planned inductions.

Dr D advised me that when patients are booked for an induction their names are entered in the booking diary. The secondary care maternity team, which consists of an obstetrician, hospital midwives, and paediatrician, but not an anaesthetist unless specifically indicated, is made aware of elective inductions through the booking system. If a patient has a medical problem (Ms A did not) an anaesthetic consultation is requested beforehand. Ms A's name was entered into the booking diary on 14 March, so that the secondary care team was aware of the planned induction but the anaesthetist was not.

Induction
Mrs C commenced the induction at 8.30am and by 9.15am the CTG was showing "frequent niggles". The foetal heart rates for twin one were recorded between 120 and 170, and between 128 and 160 for twin two. Mrs C recorded that the paediatrician was aware that she was inducing Ms A with twins, and that the obstetrician on call was Dr D.

Mrs C inserted an intravenous luer and Ms A was able to be up and about until her labour was established. Mrs C continued to monitor the babies' heart rate with CTG recordings

from 11am until midday. At midday, having satisfied herself that the foetal rates were satisfactory and Ms A's labour had not established, Mrs C went home. In the meantime, Ms A's labour was monitored by the hospital midwife, who recorded that both babies remained in the cephalic presentation; twin one's heart rate was 130, and twin two 125 – both with good variability and no deceleration audible.

Mrs C returned to the hospital at 2.15pm and continued to record foetal heart tracings as Ms A's labour progressed. At 6pm Mrs C assessed Ms A as being 6cm dilated and the foetal scalp electrode attached to twin one showed a foetal heart rate of 126. Within half an hour Ms A's contractions were becoming uncomfortable; both heart rates remained satisfactory; twin one was placed on continuous monitoring and twin two on Doppler sound. At 8.30pm Ms A was unable to pass urine and Mrs C inserted a catheter. She had commenced intravenous fluids one hour previously; both foetal heart rates were satisfactory and strong. Ms A's labour continued with strong contractions, but she was said to be "coping well" at 9pm.

Mrs C advised me that if an obstetrician is on call during the evening and at night time and knows that there is a twin labour in progress, he will usually "pop in" throughout the day just to see how things are going. She usually does not contact the obstetrician unless there is a "physical difficulty", such as a very obese woman in labour, in which case she also notifies the paediatrician and anaesthetist. In doing so, she alerts them to any potential complications. She did not do so in this case because Ms A's labour was progressing normally.

A Clinical Manager at the hospital advised me that midwives cannot contact an anaesthetist except in an emergency. All consultations must go through the obstetrician. If Mrs C wanted an epidural inserted, she would have to gain permission from the obstetrician before ringing the anaesthetist. On doing so, she would advise the anaesthetist that she had the obstetrician's approval. Mrs C assured me that she had delivered twins with Dr D before and this had always been the practice.

At about 10.30pm Dr D was in the ward office when Mrs C entered to get some pain relief for Ms A. She wanted to give her a small dose of pethidine and asked a hospital midwife to check it with her. Dr D heard the conversation and asked about Ms A's progress. Ms A was about 8 or 9cm dilated, but the presenting part was fairly high. Dr D suggested that she should have epidural analgesia and asked Mrs C to arrange it with the anaesthetist. Mrs C placed a call to Dr E and returned to advise Ms A about Dr D's orders and obtain her consent.

Dr E was the anaesthetist on call. He had graduated overseas and undertaken postgraduate studies at a College of Medicine overseas as well, and was employed as a locum consultant anaesthetist at the hospital.

According to Mrs C, when Dr E returned the page, she told him that Ms A was distressed with pain and that Dr D had suggested epidural analgesia. She asked Dr E to insert an epidural for pain management. Dr E asked about the progress of Ms A's labour. When Mrs C replied "about 8 or 9cm", Dr E declined to insert an epidural as he felt it was too late and

thought that Ms A would have delivered by the time he arrived. Mrs C said she was "bowled over" by his response because an anaesthetist had never before refused to attend. She looked at Dr D and understood that he had heard the conversation. She expected Dr D to talk directly to Dr E but he did not. Mrs C stated:

> "When I put the phone down I expressed my bewilderment and told [Dr D] that I couldn't believe he had refused an epidural and I asked [Dr D] to deal with this as I needed to return to the room to be with [Ms A]."

Ms A also recalled Mrs C stating (in Dr D's presence) that Dr E had refused to attend and give an epidural as he believed it was too late in the labour.

Dr E's response

Dr E advised me that Ms A was admitted for a planned induction under the care of Mrs C and Dr D. Although the induction had been scheduled ahead of time for the birth of Ms A's twins, he had not been advised. He would expect to be informed of an induction for twin pregnancy in advance if he was required as part of the overall management plan. Dr E stated:

> "On the night of 20 March 2002 midwife [Mrs C] telephoned me at approximately 22.35 hours. [Mrs C] requested an epidural block for analgesia. I asked her some questions to establish the stage of labour. [Mrs C] stated that [Ms A] was fully dilated but was not making progress. I suggested to [Mrs C] that as [Ms A] was fully dilated, in my opinion, it was too late for an epidural. At that, [Mrs C] said, they would use another method of analgesia and terminated the conversation. I was not told what [Dr D's] plan for the labour/birth was, and [Mrs C] did not mention him. I was certainly not told that the twins were in any distress."

Dr E made further comments about why he had come to the conclusion that it was inappropriate to insert epidural analgesia when Ms A was fully dilated:

> "(a) I anticipated a 45 minute delay between the telephone call and the epidural being established, and with [Ms A] fully dilated (as I was advised), believed the first twin would have been born, so the placement of an epidural would have been complicated by the delivery. As I understand it, [twin one] was delivered just over one hour after [Mrs C] called me.
>
> (b) [Ms A] notes she was shaking and cramped, which complaint I consider would have made placement of the epidural difficult and increased the risk of spinal damage.
>
> (c) It was not suggested that I attend as part of the overall management of the delivery at any stage (except the late call for analgesia). The conversation was terminated by [Mrs C] saying they would manage without me (use another method of analgesia). [Ms A] notes in her letter of complaint that all in the birthing unit were concerned for me to be called after 22.30, but that concern was not passed on to me.

…

If I was required urgently and they could not manage without me (as was said they would), in my view a further telephone call should have been made immediately, or at least prior to the rupture of the membranes."

Dr D's response
Dr D advised me of the following:

"I had suggested that an epidural anaesthetic be arranged for pain relief and also because it may help with the delivery. The epidural is normally arranged by the LMC and a call was made to the anaesthetist who refused to come out for the epidural. I was not informed that the anaesthetist had refused the request for an epidural. The fact that an epidural was not performed compromised my ability to provide appropriate care to [Ms A]."

Dr D also advised me that he only became aware of Dr E's refusal to attend and insert the epidural when he was recalled to attend the second stage of labour.

Progress of labour
Ms A's maternity records indicate that Dr D performed a vaginal examination at 10.30pm and found Ms A 9cm dilated. He listened to both foetal heart rates and found them satisfactory. He did not see Ms A again until 11.30pm.

Ms A and Mr B advised me that when Mrs C returned to the delivery room after talking with Dr E, they were aware that she was upset. Mrs C knew Ms A needed some pain relief. Mrs C told them that Dr E thought it was too late for an epidural and assured her that there were a few other things they could try. She had assessed that twin one was sitting at the back and the second twin was stopping him from descending. She turned Ms A on her side in the hope that twin two would come forward and allow twin one to descend into the pelvis. Ms A was having good contractions and by encouraging her to concentrate on breathing Entenox gas, she could possibly push the baby out within about 15 minutes.

Birth of twin one
This manoeuvre worked and soon after Ms A was ready to push. In the meantime an assistant midwife, Mrs F, came in to help with the delivery of the first twin, a son, about 20 minutes later. Her role was to receive the baby and resuscitate him if necessary. Mrs F recalls Dr D being in the room during twin one's birth.

Twin one was born at 11.50am. Dr D recalled:

"The foetal heart rates of both twins during the labour were normal and the liquor of the first twin was clear. There was no evidence of any foetal compromise and therefore a paediatrician was not called.

[Twin one] was born with a one minute Apgar score of 4 due to secretions and mucous in the oropharynx. Once the secretions and mucous were aspirated, the Apgar score

improved to 9 at 5 minutes. In terms of long-term prognosis, the five-minute Apgar is more important.

The anaesthetist was not called to the birth of [twin one] because the anaesthetist had already refused to attend earlier and a problem was not anticipated with his birth. In the three years that I have worked at [the] hospital, when I was called to attend a twin birth where both twins were cephalic, both the anaesthetist and the paediatrician were informed of the labour and asked to be on standby in the event of any problems. In all other instances both the paediatrician and anaesthetist were asked to attend the delivery."

Birth of twin two

After twin one's birth Mrs C turned her attention to the second delivery. She assessed Ms A to ascertain the position and condition of the second twin. Although the baby had been lying in the cephalic position all through the pregnancy, it is not uncommon for the baby to move around and adopt a different position once the first twin is born.

Mrs C had some difficulty locating twin two's heartbeat and was not totally sure of her position on palpation. She thought that the baby was lying in the oblique position but above the pelvis. She could hear the baby's heart rate very briefly, although it was difficult to locate. She recorded a rate of 120 shortly before she performed the vaginal examination. On vaginal examination the pelvis was empty but she could feel the forewaters bulging.

Mrs F advised me that the scanner was outside the door but Dr D did not use it to locate the position of the second twin. She had her back to the bed looking after twin one and therefore did not see what was going on.

Dr D also performed a vaginal examination to determine the position of the baby. He could feel the presenting part and thought it was her head, but high in the pelvis. He could feel the bulging forewaters but no umbilical cord or limb. He decided to rupture the forewaters to allow the baby to descend into the pelvis. When the forewaters broke, copious amounts of amniotic fluid saturated the bed. With the fluid an elbow descended in front of the baby's head and the umbilical cord was felt on the left side and the baby's shoulder to the right. Dr D displaced the umbilical cord upwards and asked Mrs F to call the anaesthetist and the theatre team for an emergency Caesarean section. Once he was certain that he had displaced the cord, he asked Mrs C to place her hand into the vagina to prevent the baby descending into the pelvis and compressing the cord. Dr D filled Ms A's bladder with normal saline to keep the baby's head away from the cervix.

Twin two's birth became an obstetric emergency. Mrs C listened for her heart rate, but was finding it increasingly difficult to locate and hear. She was unable to attach an electrode because there was no presenting part to attach it to.

Mrs F telephoned the hospital telephonist to call in the theatre staff. Dr E advised me of the following:

"I assumed all was well, as there was no further contact until 0008 hours.

> At 0008 hours, the hospital telephonist called me to attend the operating theatre, as [Ms A] required an emergency Caesarean section. From the telephone log it is apparent that the other theatre staff were contacted nine minutes earlier at 2359 hours; I am unsure why this occurred. I immediately drove to the hospital, and commenced anaesthetic at 0030 hours. When I enquired as to the foetal heart rate, none was present, and I was unable to be told when it had ceased."

Mrs F assumed that the anaesthetist would be called because she asked for the theatre team for an emergency Caesarean section and the theatre team included the anaesthetist. The telephonist rang back soon after to ask whether they needed an anaesthetist and she then realised the anaesthetist had not been called and he lived in a town some distance away.

The telephone log for 21 March documents the following:

> "23.59 Theatre staff paged for [Dr D] for an emergency Caesarean section
>
> 00.01 All (3) responded. Also paged b/up h/s […] – responded – 0007 [12.07am]. Connected maternity nurse to [Dr E] – forgot to inform him earlier – 0017 [12.17am] […] in – 0018 […] in – 0019 [Mrs F] in.
>
> 0007 Theatre keys to […] – 0226 now leaving – keys to drawer
>
> 0035 [Ms A] to theatre.
>
> …
>
> 0229 From [Dr E] – ring Dr [Y] at 06.15 to advise him that Mr [X] a theatre case at 07.45 – abscess on fit 6 yr old boy – he will be in at 08.30 to do his shift – just finished theatre case – on message passed to Dr [Y]. "

Dr D advised me that at about 12.15am he went to theatre to prepare for the operation. While Ms A was being prepared for the theatre, the midwives had difficulty locating the foetal heart rate with the foetal Doppler, but Dr D was not told. He could have commenced the salbutamol infusion to stop uterine contractions and prevent cord compression during contractions. The only time the midwife informed him that she could not detect the foetal heart rate was when Ms A was about to be anaesthetised.

Mrs F took Ms A to theatre and thought it was about 20 minutes after their arrival that the operation commenced. She tried to record the foetal heart rate but it was difficult to find and she had to differentiate between the foetal and maternal heart rate. She thought it was about 100 bpm.

Mrs C recorded the following in Ms A's maternity records:

> "2355hours ARM performed by [Dr D]. Copious clear liquor drained. + ? presenting part. Leg or arm + cord prolapse as baby has been ux throughout labour. Possibly an elbow or shoulder. IV Syntocinon discontinued. [Ms A]

encouraged to breathe the contractions. OT called at midnight for EM. [LSCS] Through on Entenox. Preparations for OT.

21/3/02 FH located with difficulty 0010 hours. [Ms A] having strong contractions reduced baby movements. Baby had been moving throughout the 1 stage of labour IV fluids in progress. Bladder filled with normal saline as [Dr D] had felt the cord which had come down as he ruptured the membranes. Pressure taken off the cord which went back up again. Difficulty in picking FH again strong contractions have started up again.

0025 hours [Ms A] transported to theatre for emergency LSCS."

Mrs F recorded the following:

"21.3.02 0415 written in retrospect.

Attended delivery of first twin. Born at 2350 hours. Unresponsive and flaccid. Mucous plug ? show in mouth – suctioned & O2 given by positive pressure – Apgars 4 at 1 and 9 at 5 mins. Membranes of second baby ruptured by [Dr D]. … Theatres called in at 2359 hours […] and [Dr D] filled bladder with normal saline via catheter at 0005 hours. [Mrs C] attempted to feel foetal heart but unable to. Syntocinon infusion turned off at 0008 hours. … 0020 hours transferred from Ward to theatre 0025 hours arrival in theatre. 0030 hours attempted to obtain foetal heart rate very difficult. Eventually heard placental beat less than 100 bpm.

0035 prepped for Caesarean section. 0040 hours knife to skin. 0047 hours female infant delivered. Taken immediately to resuscitate and [Dr …]."

Dr E thought that if he was required urgently or they could not manage without him after his telephone conversation with Mrs C earlier in the night, they would have telephoned him immediately to advise him of this, or at least prior to Dr D rupturing Ms A's membranes.

Twin two

Twin two's Apgar scores were 3 at 10 minutes and 4 at 5, 10, 15 and 20 minutes. The time taken for her to breathe spontaneously was 35 minutes. She was intubated and placed on artificial ventilation in ICU. She is reported to have had a very good central vascular system response, but very poor neurological response. The paediatrician telephoned a public hospital to discuss the case with a neonatologist and arrange her transfer. The retrieval team arrived at the provincial hospital at 9.50am. Twin two was transferred to the public hospital's Neonatal Intensive Care Unit. Ms A and twin one travelled to the public hospital the following day. Twin two did not respond to treatment and died on 2 April 2002.

ACC medical error finding

Ms A's claim to the Medical Misadventure Unit of ACC was accepted with a finding of medical error by Dr D and Dr E. In reaching its decision ACC considered expert advice from obstetrician Dr Peter Dukes and anaesthetist Dr Malcolm Futter, both of whom

provided independent expert advice to the Commissioner. Dr G, obstetrician and gynaecologist, also provided advice to ACC. Dr Dukes advised ACC:

> "[Dr D] therefore examined her and noted that he could feel the head beyond the intact membranes. He therefore elected to rupture the membranes. Once the membranes had been ruptured a compound presentation was noted with cord prolapse and Caesarean Section was decided upon forthwith. However, under normal circumstances one would have expected that membrane rupture of the second sac in this situation would not have been undertaken unless there was anaesthetic assistance immediately available within the Delivery Suite to deal with such an eventuality as cord prolapse. The inability to be able to expedite the delivery, either abdominally or vaginally, with the assistance of anaesthesia would be considered error. It would have been appropriate for the Anaesthetist to have been on site for the second stage."

Dr G advised ACC:

> "In the circumstances that he was presented with, that is the second twin with intact membranes and high presenting part not palpable vaginally, there are two possible safe options. The first is that the patient could have been transferred to the operating theatre with the anaesthetist present and then rupture the membranes. If the cord prolapses then one could immediately proceed to Caesarean section. The other option would be to go straight to Caesarean section.
>
> The fact that the membranes were ruptured with a high presenting part which was not palpable vaginally is an error."

The ACC panel accepted Dr Dukes' and Dr G's advice and stated that "membranes should never be ruptured in these circumstances unless there is an Obstetric Anaesthetist on site".

Independent advice to Commissioner

Midwifery advice
The following expert advice was obtained from Ms Chris Stanbridge, an independent midwife:

> "I consider [Mrs C] provided a good standard of midwifery care, generally acted in accordance with accepted practice, and discharged her professional obligations appropriately.
>
> This includes:
>
> *What standards apply in this case?*
>
> The standards of the New Zealand College of Midwives that are particularly applicable are the

– third (the midwife collates and documents comprehensive assessments of the woman and / or baby's health and wellbeing),

– sixth (midwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk) and

– seventh (the midwife is accountable to the woman, to herself, to the midwifery profession and to the wider community for her practice).

Did the care provided by [Mrs C] meet those standards and, if not, how were midwifery services inappropriate?

Overall [Mrs C's] midwifery care of [Ms A] appears to have been very good. Her antenatal care included appropriate referral for a woman with a twin pregnancy, appropriate investigations, birthplan {pg 118}, and assessments, care and documentation through an induction of labour {pgs 53 - 55}.

I think [Mrs C's] notes written in the latter stages of first stage and the second stage are adequate and meet the standard. Unfortunately the notes are adequate but not as full as would be helpful given we now want to have more detail of events, in particular in relation to the anaesthetist not attending when requested and involvement of the obstetrician around this time.

[Mrs C's] care in second stage appears appropriate from her notes written at the time (or presumably soon after events as [Dr D's] entries of 2230 hours and 2330 hours {pgs 55 - 56} are written before [Mrs C's] notes of 2215 hours to 0025 hours {pgs 56 - 57}).

Further issues relating to the standards are addressed under the following questions.

In the circumstances did [Mrs C] have any responsibility to notify the anaesthetist before she began the induction?

It is normally the responsibility of the various specialists to communicate with one another about the care of any particular woman. It is not uncommon for the LMC (Lead Maternity Carer) to make contact as well, and often s/he is the one who actually makes, or delegates, the contact when the obstetrician / anaesthetist / paediatrician is actually needed once the decision is made (as in ringing the anaesthetist when he was required for an epidural in labour {pg 56}).

I believe it was not the LMC's responsibility to ring the anaesthetist, but having done so on the obstetrician's behalf, it would be appropriate for her to pass on to the obstetrician the anaesthetist's refusal to attend.

Her notes do not specify this but her letter to you {pg 21} states her phone conversation with the anaesthetist was in the presence of the obstetrician and her

'... told [Dr D] that I couldn't believe he had refused an epidural ...'.

[Dr D's] letter {pg 14} states: 'I was not informed that the anaesthetist had refused the request for an epidural.' However, it would be expected he would be keeping close contact given [Ms A] was a multip (had had previous babies and so was likely to dilate the last centimetre of cervix and birth quite quickly) and certainly would have been aware of the absence of an epidural when he documents seeing [Ms A] at 2330 hours {pg 55}.

[Mrs C's] notes {pg 56} state: '[Dr D] called into room' suggesting he may have been within delivery suite.

Was the CTG monitoring of [Ms A] after 10.30pm adequate and, if not, was there anything [Mrs C] could have done to ensure more appropriate monitoring?

[Mrs C's] notes / CTG tracing do not record the babies' heart rates from 2230 hours {pg 107} onwards. Her letter to you {pg 19} states she listened to observe both babies heart rates until twin one was born. [Dr D's] letter {pg 14} says audible monitoring was used in this latter part of labour. Ideally the fact the hearts were being listened to and heard should have been recorded at the time. However it seems reasonable to assume they were in fact being observed or [Mrs C], [Dr D] and [Mrs F] (staff midwife) who were present through this time, would all have been negligent.

Once the first twin was born things were probably moving quickly. [Mrs C] records twin two's heart being heard with difficulty at 0010 hours {pg 57} and later 'difficulty in picking up FH (foetal heart) again' {pg 57}. In her letter {pg 20} she states: 'We were listening to twin two and I recall we initially heard her heart rate but then there was increasing difficulty in picking it up.'

Once difficulties were being experienced with twin two and a decision was made for Caesarean Section, spending time trying to find the baby's heart rate would have been secondary to:

– providing physical, mental and emotional care and support for [Ms A] who was still labouring strongly and aware all was not going according to plan

– providing resuscitation and ongoing care for the first twin

– keeping the presenting part of twin two off the cord and cervix which involved internal control, and filling the bladder which included finding and assembling the appropriate equipment

– stopping the syntocinon (used to augment contractions)

– calling theatre staff and preparing the Caesarean theatre, baby resuscitation trolley etc and communicating with other staff

– preparing [Ms A] for theatre (checking intravenous line and catheter, checking blood cross matched, pubic shave, oral antacid, consent, theatre clothing, jewellery removed or covered, family aware / involved, checking name bracelet).

Enough work to keep four to five staff very busy.

All these activities demand full attention from staff and ideally extra staff would be brought in in such a situation so that the extras (like maternal and foetal recordings, noting them and other actions / procedures) can occur.

Given the need for urgent Caesarean was obvious, the prime task was to expedite this, and even if twin two's heart rate was noted, and of concern, the most important action would be to deliver the baby – by Caesarean Section.

[Dr D] mentions using salbutamol to attempt to lessen contractions {pg 16} and this is action that could have been taken at any stage, regardless of the baby's heartrate.

I believe the attempts to hear twin two's heartrate a number of times were commendable and not a first priority, and believe the midwives prioritised and implemented appropriate midwifery action as expected by standard six.

From the information available was there anything [Mrs C] could have done to reduce the delay in taking [Ms A] to theatre for an emergency Caesarean Section?

When a decision is made for Caesarean Section there should be a system that is routinely used by the secondary care team to ensure a smooth running process leads to a prompt and safe delivery. It was not [Mrs C's] responsibility to call the theatre team, which would normally include the anaesthetist.

It seems unusual not to have the anaesthetic and paediatric staff immediately available (if not actually in the delivery room) when delivering twins, especially as an epidural was not in situ. This was not [Mrs C's] responsibility.

From the information given I think [Mrs C's] care was appropriate with the possible exception that it would have been wise to notify the obstetrician of the anaesthetist's refusal to come in for an epidural for a woman with a twin labour, if in fact she did not. This would be a minor lack of judgement."

Obstetric advice

The following expert advice was obtained from Dr Peter Dukes, an independent obstetrician:

"Thank you very much for asking me to review the file of [Ms A] with regard to the management of her twin pregnancy, which unfortunately resulted in the death of her daughter [twin two].

I am a Consultant Obstetrician and Gynaecologist and I enclose a copy of my Curriculum Vitae. As noted in your letter, I have reviewed this file extensively in the past for the ACC. I note within the file as presented that there is:

- The complaint letter to the Commissioner marked 'A'.
- Commissioner's investigation letter to [Dr D] marked 'B'

- [Dr D's] response to the Commissioner marked 'C'.
- [Mrs C's] response to the Commissioner marked 'D'.
- [Dr E's] response to the Commissioner marked 'E'.
- [Ms A's] maternity records marked 'F'.
- [The provincial hospital's] sentinel event investigation report marked 'G'.
- Interview notes from Midwife [Mrs F] marked 'H'.
- Additional questions answered by [Dr D] marked 'I'.

In addition to the included file there are copies of my own reports to the ACC dated 26 February 2003 and 18 August 2003.

As the clinical history is dealt with in detail in my reports to the ACC I will not repeat this within this current advice but proceed directly to your requested advice.

APPLICABLE STANDARDS

The attendance of an Anaesthetist at all multiple pregnancy deliveries throughout the second stage has long been an accepted tenant in management. Donald, in his textbook 'Practical Obstetric Problems' in 1969 starts his comments on the management of twin labour as follows:- 'An Anaesthetist should always be present throughout the second and third stages of all viable twin deliveries and prepared to induce an anaesthetic at a minute's notice'. This is no less relevant today. This was of course before epidural anaesthesia was widely available and this has allowed the anaesthesia to be provided by continuous epidural techniques during the first stage of labour so that the 'anaesthetic' is already present at the onset of second stage. Taylor and Fisk, in their review article on multiple pregnancy in the RCOG Journal, 'The Obstetrician and Gynaecologist', make the following statement about anaesthesia for delivery. 'Epidural anaesthesia is recommended in all twin pregnancies delivering vaginally. This is to facilitate intrauterine manoeuvres for delivery of the second twin, which may be required urgently. General anaesthesia should be on standby for any woman with twins who declines epidural anaesthesia'. However, it could not be considered mismanagement to elect to deliver twins without epidural analgesia providing an Anaesthetist was immediately available.

Mention is made in Section I, the supplementary questions answered by [Dr D], of Pacific Health Protocol 928 – Management of twin Labours. Specifically, in point 6 this notes: 'Obstetrician, following assessment of the woman, to notify the Paediatrician on call and also the Anaesthetist, then to update process and allow time to attend delivery'. In association with this portion of the protocol there is an associated note: 'Epidural is generally useful. Sufficient analgesia/anaesthesia to facilitate labour/delivery. Paediatrician to attend delivery'. Action point 7 notes: 'When delivery of the first twin is imminent – the Obstetrician must call the Paediatrician and the Anaesthetist'. The associated note with this point states: 'All personnel should be in attendance for the delivery of the first twin and be prepared if an "emergency" situation develops for the delivery of the second twin'.

While both of these statements are explicit with regard to the notification and calling of the Paediatrician and Anaesthetist, the use of epidural analgesia is optional but with a bias towards epidural anaesthesia.

However, as far as the responsibility for notification is concerned it is clear that in many circumstances, and this one included, that the responsibility for notification of the Anaesthetist and Paediatrician would clearly need to be delegated to another member of the team. In this particular instance [Dr D] was examining the patient when the cord prolapsed and it would therefore have been inappropriate for him to discontinue this and personally notify the Anaesthetist and Paediatrician. Likewise, if the Obstetrician is being called from home to attend the delivery, it would again be inappropriate for him to directly call the Anaesthetist and the Paediatrician as the time involved might well create a significant delay in his ability to arrive in the Delivery Suite. Therefore, while the protocol is explicit there are clearly going to be times where this duty will need to be delegated. It may be that the delegation could be done on a case by case basis by the Obstetrician personally to someone within the Delivery Suite, although it would probably be better if the institution had a clear protocol as to who should, from within the Delivery Suite, call the staff required at a particular emergency. This should be done by somebody with a clinical responsibility and not delegated to the telephonist as is suggested as a possibility within the file.

I would also note that within the protocol under paragraph 2 that the Lead Maternity Carer was to notify the Obstetrician of the admission and that the LMC was to attend an admission for the initial hand over of information. It also noted: 'Obstetrician and Midwife to plan care – Obstetrician to take responsibility for management of care – transfer to secondary care'. This clearly indicates that the Obstetrician was to take over management at the time of admission. If this situation existed then recommendation 2 of the sentinel event report was already in place, according to the protocol.

[Dr D] draws attention to the fact that the protocol was not signed by either Obstetrician before being entered into the Protocol Manual and, by implication, he was unaware of this protocol. I would also note that, in the copy of the protocol subsequently forwarded to me, the issue date is not recorded. The only possible reference to a year is within the file name and this does not necessarily indicate the year in which the protocol came into effect, if at all. The lack of an issue date is a significant deficiency in this situation and casts some doubt on its validity.

WAS CARE APPROPRIATE?

Given that there are significantly divergent views between [Dr D], [Mrs C] and the Anaesthetist, [Dr E], concerning the phone call at 2230 hours with regard to the request for epidural analgesia, it is not possible to be certain when [Dr D] first became aware that epidural analgesia was not in-situ. However, [Dr D] has recorded that he was called for second stage at 2330 hours, some 20 minutes before the delivery of the first twin. It must have been apparent to him at that stage that the requested epidural was not in-situ and that the twin delivery was likely to be undertaken without the benefit of epidural anaesthesia. It would therefore have been appropriate, at least at this juncture, to call the

Anaesthetist and the Paediatrician so that, as far as possible, they could be available at the time of the delivery of the first twin. Given the difficulties immediately following delivery of the first twin, with regard to the second twin, general anaesthesia could have been instituted to allow delivery to be expedited when the cord prolapsed, either by internal podalic version and breech extraction or Caesarean Section. However, in the event, the Anaesthetist was not called until after the cord had prolapsed and this was clearly inappropriate. Anaesthetic assistance should have been immediately available within the Delivery Suite at the time when the membranes of the second twin were ruptured. Compound presentation and cord prolapse are predictable possibilities in this situation and the baby was clearly safer in-utero with the membranes intact when anaesthetic assistance was not immediately available. This intervention would have been more appropriately delayed until the Anaesthetist was present.

ADEQUACY OF MONITORING FROM 2230 HOURS

Cardiotocographic monitoring had been used intermittently and then subsequently continuously through until 2230 hours when [Dr D] attended and he was told the cervix was 9 cm. He also noted the foetal hearts were satisfactory. However, thereafter there is no further cardiotocograph tracing nor any other recording of the foetal heart through until 0010 hours when it was noted that the foetal heart was difficult to hear. [Mrs C] noted that the monitoring was undertaken thereafter with the first twin still being monitored by the scalp electrode and the second twin with the cardiotocograph. She indicated that the scalp electrode was removed immediately prior to delivery. However, from 2230 hours there is no evidence of recording and it is therefore impossible to assess its adequacy although one would normally have expected, particularly where the labour was a twin labour and was a little slow, that continuous CTG monitoring would have been maintained through until the delivery of the first twin. However, the lack of monitoring was more of a midwifery deficiency as [Dr D] was not present again until after 2330 hours.

As far as foetal distress is concerned, there was no evidence of meconium staining of the liquor for twin 1 and at the time of membrane rupture for twin 2 the liquor was clear. This would suggest that previous hypoxia was unlikely.

The College Review article, noted previously, also recommends continuous electronic foetal monitoring as a routine in twin labours. I suspect also that the protocol 928 in paragraph 10 indicates that continuous foetal monitoring should be undertaken although it is not absolutely explicit.

POSSIBLE UNNECESSARY DELAY IN PERFORMING CAESAREAN SECTION

The cord prolapse/delivery interval was some 52 minutes which was certainly excessive. However, this was not [Dr D's] fault other than the fact that the Anaesthetist had not been called to be present for the delivery. The further delay was occasioned by the fact that the Anaesthetist was not called until 8 minutes after the Theatre Staff due to an oversight at some level, and further, by the fact that the Locum Anaesthetist was billeted in another town, some 6½ km distant from the provincial hospital. While this does seem

a fairly small distance, the extra 5 minutes or so required to drive this distance may be critical in terms of urgency with obstetric emergencies. If these two factors are removed from the cord prolapse/delivery interval then the theatre response time of somewhere between 30 and 40 minutes is appropriate, given that it was midnight at the time of the cord prolapse and it was likely that many of the staff would have had to be called from home.

OTHER RELEVANT MATTERS

Section 88

There is little doubt that the giving of all responsibility for the management of patients to the Lead Maternity Carer has created difficulties in responsibility where patients with significant complications requiring secondary oversight are being managed by primary Lead Maternity Carers. [Dr D] has suggested that in this situation it was the Lead Maternity Carer's responsibility to approach the Anaesthetist with regard to the provision of epidural analgesia. It is, however, clear that he felt it was appropriate to insert an epidural at 2230 hours and said so to [Mrs C]. The fact that it was not in-situ when he returned at 2330 hours should have immediately signalled to him that the Anaesthetist needed to be contacted again and asked to attend. Given [Dr E's] apparent previous refusal it would have been appropriate for [Dr D] to deal with this himself as he was not otherwise directly occupied with the delivery at that stage.

The protocol 928 does indicate that the Obstetrician is in charge and that the patient is in secondary care and therefore, the responsibility to ensure the appropriate care rests with the Obstetrician. However, given the uncertainty about the application of the protocol at the time and Section 88, there may have been some uncertainty about whose responsibility it was to call the Anaesthetist. Nevertheless, where it was likely that the Obstetrician would have to intervene, then it was his responsibility to ensure that the conditions were appropriate.

…

REFERENCES:

1. Donald I. Practical Obstetric Problems, 4th Edition published by Lloyd-Luke, Chapter X1, Page 323 'Labour'.

2. Taylor MJO & Fisk NM. The Obstetrician & Gynaecologist, October 2000, Volume 2, No IV, Page 4. Multiple Pregnancy."

Anaesthetic advice

The following expert advice was obtained from Dr Malcolm Futter, an independent anaesthetist:

"Thank you for referring this case and relevant copies of notes, interview transcripts and reports. Because my current practice does not include obstetric anaesthesia, in addition

to the usual 'literature search', in providing advice concerning this case I have sought advice and comment from colleagues. Such advice has been sought in confidence without any disclosure of details that could identify individuals or location. Many of my comments are a reiteration of what I have placed in my advice to ACC but may reflect the contents of additional documentation you have provided.

When cited, page numbers are those added by your office to the various documents that comprise the file I have received.

With regard to the summary of the complaint as shown on your sheet 03/11710/SR:

The request was for placement of an epidural catheter to provide second stage analgesia for the birth of [twin one], which does not equate with providing adequate anaesthesia for the subsequent birth of twin two.

The absence of an anaesthetist at the birth of [twin one] (as opposed to [twin two]) did not appear to result in any adverse outcome.

In view of the above, the following comments are based on the assumption that it was primarily the standard of care that was available when [twin two] was being born that has given rise to the complaint.

In answer to your specific questions:

1. What particular standards apply in this case?

a. In a hospital offering the level of obstetric care required for a twin delivery in a multiparous mother whose pregnancy had been uncomplicated there ought to be an anaesthetist available with appropriate obstetric anaesthetic experience. The anaesthetist need not necessarily be vocationally registered or resident on site. With regard to the latter, whilst the immediate availability of such an anaesthetist at any time might be the counsel of perfection it is a 'standard' that many obstetric units in New Zealand would be unable to meet.

b. The standards describing the use of epidural analgesia in labour are essentially those contained in the attached policy document PS14 (1998) of the Australian and New Zealand College of Anaesthetists (ANZCA). In New Zealand in order to allow patients under the care of independent midwife practitioners to have access to epidural analgesia many units do not require that the request for the epidural comes from a medical practitioner. However an arrangement must exist that will ensure that such a practitioner is available and would attend, should urgent operative delivery be required. The policy or 'standard' (see 1b above) practised at [the provincial hospital] with regard to midwife requests for epidural placement is not explicitly stated in the documents I have seen. In the reports by [Dr D] (p. 014) and [Mrs C] (pp. 021 & 022) it is suggested that an LMC/midwife would normally initiate contact with the anaesthetist and request placement of an epidural. The exception to this being a request to provide analgesia/anaesthesia

for complex/emergency delivery where the patient's management has been passed to 'secondary' care providers (ie an obstetrician). However the comment of [the Clinical Manager] concerning non emergent requests, made in [Mrs C's] presence (interview, page 029 line 16 et seq), is contradictory.

c. No professional standard exists regarding the 'availability' of an anaesthetist for twin deliveries or other 'complex' deliveries. [Dr D's] report (p. 015 section c, para.3) suggests there was a local 'policy'. In several standard texts it is suggested that for twin deliveries an anaesthetist should be immediately available (in case of the need to expedite the birth of the second twin). Canvassing opinion amongst anaesthetists in Auckland (whose experience ranged from those practising obstetric anaesthesia in a tertiary referral centre to those who 'covered' obstetrics as part of a general hospital's work load and some who had worked in 'smaller' hospitals), the majority believed an anaesthetist should be 'immediately' available.

2. *Did the care provided by [Dr E] reach those standards and if not how were anaesthetic services inappropriate?*

a. [Dr E's] previous experience is not detailed in the documents I have seen. However it is assumed he had some obstetric anaesthesia experience since he had been employed to cover obstetrics as well as the other services offered at [the provincial hospital]. Furthermore, in his report to your office his comments also suggest appropriate previous experience. I am uncertain of his registration status. Presumably he was granted temporary registration of some form by the New Zealand Medical Council and was working with oversight. Until 1995 his specialist qualification (FF ASA) was considered by ANZCA as equivalent to a specialist qualification gained in New Zealand. More recently the Medical Council, subject to referees' reports, has granted vocational registration to the holders of this qualification.

b. It is difficult to determine if [Dr E] knew of the 'local' standard with regard to epidural requests although from the transcript of the interview with [Mrs C] and [the Clinical Manager] it is possible he did not (p. 042 lines 3-7 & 28-30). It is in dispute whether [Dr E] was told that [Dr D] had initiated the request ([Dr E's] report p. 46 para. 4 cf. [Mrs C's] report p. 021 line 2 and interview p. 081 1ine 10).

Regardless of whether [Dr E] was aware of local policy or the origin of the request for the epidural, his reason for not attending seems to have been based on the 'timeliness' of the request (his report p. 046 para 4). Again there is a discrepancy between what he claims he was told and what [Mrs C] claims to have said (her interview p. 081 line 12).

c. With regard to the 'local' standard concerning an anaesthetist's availability for a twin delivery – In this case, until rupture of the second twin's membranes, both were thought to be cephalic ([Mrs C's] records of 20/3/02 p. 053 lines 3&4 and

[Dr D's] report p. 015 section d, para. 1), thus the anaesthetist was supposed to be on 'standby' but not asked to attend. It is not clear what [Mrs C] believed the policy to be. In her report she states (p. 021 para. 3): 'It was not hospital policy at the time to have an anaesthetist actually present at the birth of twins.' She notified (ie put 'on standby') the paediatrician in the morning (her report p. 018 para. 3) but not the anaesthetist. This would have been in contravention to the practice/policy that [Dr D] says had previously been applied whereby the anaesthetist was supposed to be put 'on stand by'. Certainly her subsequent management plan appears to have made no provision for an anaesthetist's presence – the phone call she made was at the suggestion of [Dr D], [Mrs C] had intended to give pethidine to [Ms A] ([Mrs C's] report p. 020 para. 5). In contrast to what she thought or did, she subsequently claimed to have been 'bowled over' and to have suffered 'shock' that [Dr E] did not attend ([Mrs C's] interview pp. 081 & 083 lines 14 & 21).

Clearly [Dr D] did not request [Dr E's] attendance although the reason for this is unclear. [Mrs C] initially claims she specifically asked [Dr D] to 'deal with' [Dr E's] response (her report p. 021 para. 1) but subsequently it is implied that he may have had to rely on overhearing the phone conversation or seeing the expression on her face to know what [Dr E] had said ([Mrs C's] interview p. 081 line 15). [Dr D] categorically denies that he was informed at the time of [Dr E's] response ([Dr D's] report p. 014 section b).

To complicate further an assessment of whether [Dr E's] services were 'inappropriate' it should be noted that from the documentation it is not clear whether [Mrs C] specifically requested [Dr E] to attend to provide possible assistance with a twin delivery as opposed to providing epidural analgesia.

Similarly there is no evidence he directly refused to attend, [Mrs C] appears to have left the issue of his attendance unresolved at the end of the phone call (her interview p. 081 line 33).

As a personal view, regardless of the contradictory evidence regarding hospital policy and any possible deficiencies of patient management and communication displayed by others, once [Dr E] became aware that a twin delivery was in progress he should have overcome any (understandable) 'annoyance' and either attended the hospital or kept in close contact. This would have been consistent with his own expectations regarding management of twin deliveries ([Dr E's] report p. 047 section 3).

As I noted in my second report to ACC, although the comments above reflect the views of [urban] obstetric anaesthetists, depending on how this investigation proceeds it may be advisable to obtain comment from someone whose practice more closely corresponds to that of an anaesthetist in [a provincial town]."

Responses to Provisional Opinion

Dr D advised, in response to my provisional opinion, that he did not accept my opinion. He made the following observations:

"(1) Obstetricians working in an urban environment do not appreciate the difficult conditions under which rural obstetricians work without the support structures available in a large urban hospital. I[t] was therefore a disadvantage to me that both ACC and the HDC appointed an urban obstetrician to evaluate this case.

(2) Statements written or given in retrospect will obviously be engineered to protect oneself and to deflect blame onto others. … [T]his is part of New Zealand's 'blame culture'. It is therefore unfortunate and unfair that these statements were relied upon implicitly and not corroborated with the clinical notes, the only proper evidence available.

(3) The provision of maternity care is a team effort. It is therefore surprising that an immigrant doctor and a foreign locum doctor were found to have breached Right 4(1) but the two pakeha midwives who shared responsibility for the patient's care were found to be blameless. …

Midwives are excellent at recording in patient notes 'doctor informed' or 'doctor aware of patient's condition'. It is therefore rather strange that neither the hospital midwife nor the LMC informed me of their difficulty in locating the fetal heart of the second twin. Did they not breach the patient's rights by not informing me of this important finding? The only conclusion is that this part of the notes [was] written in retrospect after the poor outcome, in order to protect themselves.

In conclusion, I do not agree with your provisional opinion that I have acted in breach of the Code of Patient Rights."

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.

Other Relevant Standards

The provincial hospital's *Protocol 928 – Management of twin Labours* (undated) states:

PROTOCOL 928	MANAGEMENT OF TWIN LABOURS

STANDARD

Due to high risk factors associated with twin deliveries that there are quidelines for the management of the case.

	ACTION	RATIONALE
1	In all cases of a multiple pregnancy the woman is to be referred to the obstetrician early in pregnancy	Guidelines for Levels of Referral. Maternity Services. Section 88. Notice of the Health and Disability Act 2000. Increased risk factors with a twin pregnancy
2	On admission to the maternity unit the obstetrician is to be notified of the admission. The LMC to attend an admission for the initial Hand-over of information	Obstetrician and Midwife to plan care-obstetrician to take responsibility for management of care – transfer to secondary care.
3	The LMC Midwife under the management / supervision of the obstetrician may attend the woman in labour – a DHB Midwife will also attend and support the LMC Midwife and the Obstetrician	Two midwives should be in attendance for management of twin labour.
4	On arrival to unit the "twin monitor' CTG is to be used. Routine Observations are to be made. (Temp, pulse, BP, urinalysis, palpation)	Establish Baseline Recordings.
5	If woman is in labour. Bloods to be taken CBC, Group & Hold if BP elevated HOP Bloods to be taken IV leur insitu	Procedures all in place should the situation then become an emergency.
6	Obstetrician following assessment of the woman to notify the Paediatrician On Call and also the anaesthetist. Then to update process and allow time to attend delivery.	- Epidural is generally useful. Sufficient Analgesia / Anaesthesia to faciliitate labour / delivery/ - Paediatrician to attend delivery.

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Authorised by: Director of Nursing Practice	Protocol Steward:

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

PROTOCOL 928	MANAGEMENT OF TWIN LABOURS

	ACTION	RATIONALE
7	When delivery of first twin is imminent – the Obstetrician must call the Paediatrician and the Anaesthetist.	All personnel should be in attendance for the delivery of the first twin and be prepared if a 'emergency ' situation develops for the delivery of the second twin.
8	Delivery of the first twin to be delivered by the Obstetrician or the Midwife under the direction of the Obstetrician.	Obstetrician to maintain responsibility at all times.
9	The Obstetrician to direct where he / she would like this delivery to take place.	Increased risk to twin two – increased risk of second twin being an assisted delivery or caesarean section.
10	Close monitoring of the twins at all times throughout labour and delivery.	
11	Syntocinon infusion at Obstetricians request be prepared.	Contractions may need to be stimulated between first twin delivery and the second. Also increase risk of PPH.
12	Portable ultrasound be available to confirm presentation of second twin.	

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Authorised by: Director of Nursing Practice	Protocol Steward:

Opinion: No breach – Mrs C

This case concerns the adequacy of the care Ms A received at the provincial hospital while labouring with twins and, in particular, during the birth of her second twin.

My midwifery advisor considered that Mrs C's overall midwifery care was very good. She confirmed that it is normally the responsibility of specialists to consult with one another but it is not uncommon for midwives to contact a specialist directly once a decision is made that the services of a specialist are needed, as occurred in this case.

Foetal heart monitoring
Although Mrs C's notes do not record foetal heart rates after 10.30pm, she states that she listened to both foetal heart rates until twin one was born. Dr D and Mrs F were also in attendance. Once the first twin was born the pace in the delivery room would have been rapid. Following the decision to proceed to emergency Caesarean section, attention would have shifted to preparing Ms A for delivery and keeping the baby's head off the cord. The prime task was to deliver the baby regardless of her heart rate.

My obstetric advisor considered that there was no evidence of hypoxia in twin one before his birth or in twin two before the rupture of her membranes. Complications occurred when Dr D performed the ARM and the cord prolapsed. After twin one's birth, twin two changed her position and it was impossible to attach the scalp electrode. Cord prolapse is an obstetric emergency and the first responsibility of the team was to deliver twin two as rapidly as possible regardless of her heart rate.

In my opinion Mrs C appears to have monitored the foetal heart rates appropriately in the circumstances, and therefore did not breach Right 4(1) of the Code.

Absence of anaesthetist
Mrs C knew at 10.35pm that Dr E was not coming to the hospital to commence epidural analgesia. My midwifery advisor indicated that once Mrs C knew Dr E was not coming to insert an epidural she had a responsibility to inform the obstetrician. Dr D said that he was not given this information.

Mrs C was surprised by Dr E's response. Because Dr D was within ear-shot of the call, she expected Dr D to talk to Dr E directly. Dr D states that he did not become aware of Dr E's refusal. Mrs C advised me that she specifically told Dr D that Dr E had refused to attend. Ms A also recalled Mrs C recounting her phone call to Dr E, in Dr D's presence. I am satisfied that Mrs C discharged her responsibility to inform Dr D that Dr E was not coming to the hospital to commence epidural analgesia.

Dr D certainly knew that Ms A did not have epidural analgesia in situ by the time he returned (at 11.30pm) and found Ms A in the second stage of labour. The secondary care team was responsible for Ms A's delivery and it was Dr D's decision as obstetrician in charge not to call Dr E again.

In these circumstances, Mrs C is not responsible for the failure to have epidural anaesthesia in place for the birth of the twins.

Assembling team – delivery and theatre
A Caesarean section following cord prolapse is an obstetric emergency and, according to my midwifery advisor, "a system should be routinely used by the secondary care team to ensure a smooth running process leads to a prompt and safe delivery". It was not Mrs C's responsibility to ensure an anaesthetist and paediatrician were in attendance at the delivery.

Opinion: No breach – Dr D

Foetal heart monitoring
The DHB protocol recommends continuous foetal heart monitoring, although it is not explicit. It appears that both foetal hearts were adequately monitored until after twin one was born. My obstetric advisor indicated that Dr D was not responsible for monitoring the foetal hearts until after twin one was born and he took over Ms A's care, by which time a number of the maternity team were in attendance. The second twin appears not to have been distressed until after the rupture of the membranes, as the liquor was clear on rupture.

In practical terms, in the 20 minutes or so between twin one's birth (at 11.50pm) and Dr D leaving to prepare for theatre (at 12.15am) he was preoccupied with interventions designed to hold the baby's head off the cord and away from the cervix, to lessen the impact of Ms A's contractions. These actions took priority over trying to find and record the foetal heart rate. Mrs C said that she found the heart rate of the second twin before Ms A was taken to theatre, and Mrs F thought she heard the foetal heart rate in theatre.

I am satisfied that Dr D provided services that were reasonable in the circumstances and did not breach the Code in relation to recording the foetal heart rate of the second twin.

Opinion: Breach – Dr D

Absence of anaesthetist
My obstetric advisor indicated that the attendance of an anaesthetist "prepared to administer anaesthesia at a moment's notice" throughout the second and third stages of a multiple delivery is the accepted obstetric standard. It was the accepted standard in 1969 and remains so today. However, the introduction of epidural techniques has allowed continuous anaesthesia to be administered during the first stage of labour and be maintained until delivery and, in fact, may make delivery easier because it facilitates inter-uterine manipulation in cases of malpresentation.

The DHB's Protocol 928 requires that the obstetrician assume responsibility for the labour and delivery from the time the woman is admitted. It is the obstetrician's responsibility to confirm the stage of labour and authorise the need for specialist intervention. The protocol requires the obstetrician to call the paediatrician and anaesthetist when delivery of the first twin is imminent, allowing them time to travel to the hospital. This guideline applies to all personnel needed should an emergency arise.

Dr D was the obstetrician in charge. Accordingly, he was responsible for ensuring that appropriate personnel were available for the birth of the twins. He had every opportunity to contact Dr E, either directly or by delegating the task to the LMC or a hospital midwife once he knew the on-call anaesthetist had not attended to put in the epidural. My obstetric advisor noted that Dr D had two opportunities to contact Dr E once he was aware he had not come to put in the epidural. He could have called the anaesthetist and paediatrician directly at 11.30pm when he arrived for twin one's birth, which did not occur until 11.50pm. The second opportunity came when he made the clinical decision to perform the ARM. There was no indication of foetal distress at that point and if he had called then it would have allowed time for the paediatrician and anaesthetist to attend the delivery of twin two. Compound presentations and cord prolapse are predictable in this situation and the baby was "clearly safer in-utero with the membranes intact when anaesthetic assistance was not available".

I do not accept Dr D's claim that it was Mrs C's responsibility to contact the anaesthetist or that he was not told Dr E would not be coming to place the epidural. It is not supported by the evidence. Dr D's clinical decision to rupture the membranes in the absence of an anaesthetist, when he and Mrs C were uncertain of the baby's presentation and the pelvis was empty, was risky and inappropriate.

I accept my obstetric advice that cord prolapse was a "predictable possibility" in these circumstances. When Dr D ruptured the membranes, he precipitated an obstetric emergency. He had not taken the precaution of ensuring that other specialists, such as the paediatrician, anaesthetist and theatre team, were on site first.

Dr D submitted that he was disadvantaged by the fact that ACC and HDC obtained expert advice from an urban obstetrician. I accept that my advisor, Dr Dukes, practises in an urban setting. However, I note that Dr G, who advised ACC, does not work in an urban setting. Dr G's advice was consistent with that of Dr Dukes in his view of the key issue in this case, ie, of Dr D's decision to rupture the membranes without an anaesthetist present.

I agree with Dr D's observation that maternity care is a team effort. However, I am concerned by his suggestion that he and Dr E, as immigrant and foreign locum doctor respectively, are being held responsible while "two pakeha midwives [are] found blameless". Unlike the midwives, Dr D did not fulfil his professional responsibility. In my opinion, Dr D failed to provide obstetric services with reasonable care and skill, and therefore breached Right 4(1) of the Code.

Opinion: Breach – Dr E

Response to call for assistance
My anaesthetist advisor discussed the issue of availability of an anaesthetist for a twin delivery. In a hospital such as the provincial hospital, which provides obstetric services to multiparous women (ie, women who have previously had a baby) and women with twin pregnancies, an anaesthetist with obstetric experience should be "available". Some texts suggest that, for twin deliveries, an anaesthetist should be "immediately available". There is no set standard on the immediacy of availability of an anaesthetist for twin or complex deliveries, but Dr D suggested it was local policy that the anaesthetist and paediatrician were informed of the labour and asked to be on standby in the event of any problems. However, neither he nor Mrs C informed Dr E, the on-call anaesthetist on the evening of 20 March 2003, of the planned birth of the twins until delivery of the first twin appeared imminent. Dr E said that usually he would expect to be informed of an induction of a multiple pregnancy if he was required to be part of the overall management plan.

Dr E was called at 10.30pm by Mrs C to administer an epidural for pain relief. This was the first he had heard about Ms A, even though Dr D's birth plan of 14 March entered in the booking diary included an induction on 20 March. When Mrs C called she explained that the epidural was required for analgesia. Dr E ascertained that Ms A was fully dilated and expected to deliver soon. In his view insertion of an epidural at that stage would have hindered rather than helped the progress of labour. The midwife indicated that she would use another form of analgesia, before terminating the call. Dr E made a clinical judgement that he would be called again if needed, and could get to the hospital within 20 minutes.

My anaesthetic advisor considered that even if Dr E was unaware of the local policy (that the anaesthetist be on standby for twin deliveries) and despite the failure to include him in the management plan, once he became aware that a twin delivery was in progress he should have been more proactive and either attended the hospital or kept in contact. Dr E made no effort to speak to Dr D or to contact Mrs C again. Rather, he relied on the hospital to call him, if required.

In my opinion, Dr E's passive response to Ms A's labour, once he had been put on notice that a twin delivery was in progress, did not meet the standard expected of an anaesthetist in such circumstances. Accordingly, Dr E breached Right 4(1) of the Code.

Opinion: Breach – District Health Board

District Health Boards have a responsibility to provide maternity services of an appropriate standard. The services provided to Ms A did not meet an appropriate standard. The anaesthetist was not called to the hospital before twin one was born or later when Ms A needed an urgent Caesarean section. His absence caused an unacceptable delay in delivering twin two.

The hospital's protocol required the obstetrician to alert the paediatrician and anaesthetist when a woman is admitted to the labour ward with twins, and notify both in time to attend the birth of the first twin.

Dr D apparently did not know about the relevant protocol. As a consulting obstetrician at the hospital for three years and one of two obstetricians who had some input into the protocol's development, Dr D should have been well aware of it. However, Dr D said that it was unusual that the document had not been signed by himself or the other obstetrician at the hospital before it was placed in the protocol folder. The date it became operational is also not recorded and it is not clear whether it had been implemented in 2002.

The hospital failed to ensure that the relevant protocol was properly implemented and that staff were educated about it. Accordingly, the hospital must accept some responsibility for Dr D's failure to ensure that an anaesthetist was notified at the appropriate times.

Further delay occurred when Dr E was not called for the emergency. My obstetric advisor indicated that notifying the anaesthetist at the same time as other members of the team would have reduced "the theatre response time to somewhere between 30 and 40 minutes", which would have been an acceptable timeframe, instead of 52 minutes, which was "excessive".

The hospital's telephonist's instruction sheet clearly states that an anaesthetist is to be called in cases of an "obstetric emergency". As it happened, the telephonist initially "forgot" to call the anaesthetist. However, the term "obstetric emergency" is ambiguous. There are different types of obstetric emergencies, some of which require a paediatrician but not an anaesthetist. The hospital has now changed its instruction sheet to cater for such situations.

The hospital had also arranged for the on-call anaesthetist to be housed at another town, up to 20 minutes' drive from the hospital. This arrangement did not minimise potential harm to patients in situations when anaesthetic assistance was urgently required.

In failing to have failsafe systems in place at the hospital for ensuring the prompt availability of an anaesthetist, the hospital failed to ensure that Ms A received services of an appropriate standard, and breached Right 4(1) of the Code.

Action taken

Dr E has apologised to Ms A and Mr B for breaching the Code of Health and Disability Services Consumers' Rights.

Recommendations

- I recommend that Dr D apologise in writing to Ms A and Mr B for breaching the Code. The apology is to be sent to the Commissioner and will be forwarded to Ms A and Mr B.

- I recommend that the provincial hospital apologise in writing to Ms A and Mr B for breaching the Code. The apology is to be sent to the Commissioner and will be forwarded to Ms A and Mr B.

Follow-up actions

- A copy of this report will be sent to the Medical Council of New Zealand with a recommendation that it consider whether a competence review in relation to Dr D and Dr E (should he return to New Zealand) is warranted.

- A copy of this report and two other reports highlighting problems with maternity services at the provincial hospital (02HDC01476 and 03HDC16282) will be sent to the Director-General of Health with a request that the Ministry of Health audit maternity services at the hospital and, if any deficiencies are identified, recommend necessary changes. I request that the Ministry send me a copy of its audit report and recommendations within three months of the date of this report.

- A copy of this report will be sent to the Nursing Council of New Zealand, the Midwifery Council of New Zealand, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, the Australian and New Zealand College of Anaesthetists, and the New Zealand College of Midwives.

- A copy of this report, with details identifying the parties removed, will be sent to the Chief Medical Advisors of all District Health Boards and to Quality Health New Zealand, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.