

**Midwife, Ms D**

**Midwife, Ms E**

**Midwife, Ms F**

**West Coast District Health Board**

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

**(Case 05HDC16723)**



Health and Disability Commissioner  
*Te Toihau Hauora, Hauātanga*

## Parties involved

Ms A	Consumer/complainant
Baby A	Ms A's baby
Dr B	Locum obstetrician
Ms C	Independent midwife
Ms D	Provider/Midwife
Ms E	Provider/Midwife
Ms F	Provider/Midwife
Ms G	Registered nurse
Dr H	Medical officer
Dr I	Physician
West Coast District Health Board	Provider
Mr J	Quality and Risk Manager, West Coast DHB
Dr K	Neonatologist, Hospital 2

---

## Complaint

On 17 November 2005 the Commissioner received a complaint from Ms A about the services provided to her by Grey Hospital maternity staff. The following issues relating to the care provided to Ms A by midwives Ms F, Ms E and Ms D and West Coast District Health Board (WCDHB) were identified for investigation:

- *The adequacy and appropriateness of the care Ms F provided to Baby A from 5 May 2004 to 7 May 2004.*
- *The adequacy and appropriateness of the care Ms E provided to Baby A from 5 May 2004 to 7 May 2004.*
- *The adequacy and appropriateness of the care Ms D provided to Baby A from 5 May 2004 to 7 May 2004.*
- *The adequacy and appropriateness of the care WCDHB provided to Ms A from 3 May 2004 to 7 May 2004.*
- *The adequacy and appropriateness of the care WCDHB provided to Baby A from 5 May 2004 to 7 May 2004.*
- *Whether WCDHB facilitated the fair, simple, speedy and efficient resolution of Ms A's complaint to the Health and Disability Commissioner.*

An investigation was commenced on 23 June 2006. The investigation was significantly prolonged by delays in obtaining Ms A's clinical records, and by tardy responses from WCDHB.

Ms A was also concerned about the adequacy of the care provided to her by Grey Hospital locum obstetrician Dr B. On 25 August 2006, Dr B was asked to provide a summary of the care he provided to Ms A. He provided this information on 21 September. On 3 March 2007, obstetrician Dr Kenneth Clark provided independent advice on Ms A's obstetric management. Dr Clark advised that the care and treatment Dr B provided to Ms A was of an "adequate and appropriate standard." I therefore decided to take no further action on this aspect of Ms A's complaint.

---

## **Information reviewed**

Information was received from:

- Ms A
- Ms F
- Ms E
- Ms D
- Dr B
- Mr J, Quality & Risk Manager, WCDHB.

Ms A's and Baby A's clinical records and relevant WCDHB policies and procedures were reviewed. Ms A's ACC treatment injury claim documentation was also reviewed.

Independent expert advice was obtained from midwife Nimisha Waller.

---

## **Information gathered during investigation**

### **Introduction**

#### *Grey Hospital midwives*

Midwives Ms D, Ms F and Ms E, who provided care to Ms A and her son Baby A in May 2004, were all employed by Grey Hospital.

Ms D registered as a general nurse overseas in 1993 and completed her diploma in midwifery in the same country in 1995. She commenced employment as a staff midwife at Grey Hospital in 2004.

Ms F graduated as a registered nurse in 1982 and completed her midwifery diploma in 1990. Ms F worked as an independent midwife for two years. For the eight years prior to taking up employment as a midwife at Grey Hospital in 2002, Ms F worked in other health areas.

Ms E graduated as a New Zealand registered nurse in 1983 and completed her diploma in midwifery overseas in 1990. Ms E worked as an independent midwife for five years before joining Grey Hospital as a staff midwife in 2001.

## Background

### *Ms A's pregnancy — 2004*

Ms A was 40 years old and expecting her first baby on 14 May 2004. Ms A was first seen by her Lead Maternity Carer,<sup>1</sup> midwife Ms C, in early September 2003. Ms C ordered two ultrasound scans because Ms A reported abdominal pain and vaginal bleeding early in her pregnancy. The scans, performed on 15 and 18 September, reported normal fetal growth for a five- to six-week gestational pregnancy. Ms A had three further scans at eight, twelve and 19 weeks, which showed normal fetal growth patterns. Ms A's weight, blood pressure and urine tests throughout her pregnancy were recorded within the normal ranges. However, Ms C noted that Ms A was having difficulty in stopping smoking and that she was taking the antidepressant medication Aropax. Ms F was the designated back-up midwife to assist Ms C with Ms A's pregnancy and labour.

### *Labour — 3 May 2004*

At 4pm on 3 May 2004, Ms A contacted Ms C to report that her labour had started. Ms C examined Ms A at Grey Hospital and found that she was in the early stages of labour. Ms C advised her to go home and to return to the hospital if she was concerned. At 9.45pm Ms A returned to the hospital reporting that her contractions were "severe". Ms C noted that Ms A was still in very early labour, her recordings and CTG<sup>2</sup> trace were normal and she had "extreme anxiety". Ms A requested pain relief and was given pethidine at 10.15pm.

Midwife Ms D noted that Ms A spent an unsettled night and was "too uncomfortable to sleep". Ms A asked for, and was given, two Panadol tablets at 2am.

### *4 May 2004*

At 9am on 4 May, Ms C reassessed Ms A and reviewed the CTG trace and found that the fetal heart rate was "reactive with only small decelerations<sup>3</sup>".

In the early afternoon of 4 May Ms C contacted Grey Hospital locum obstetrician Dr B and asked him to assess Ms A for "possibility of labour". Dr B stated:

<sup>1</sup> A Lead Maternity Carer refers to the general practitioner, midwife or obstetric specialist who has been selected by the woman to provide her complete maternity care, including the management of her labour and birth.

<sup>2</sup> A cardiotocograph or CTG is the external electronic monitoring of the fetal heart rate. A CTG can indicate abnormalities in the fetal heart rhythm, which may indicate fetal distress. The Doppler unit converts fetal heart movements into audible beeping sounds and records this on graph paper.

<sup>3</sup> Decelerations or "dips" are periodic decreases in the fetal heart rate resulting from pressure on the fetal head during contractions. The deceleration follows the pattern of the contraction, beginning when the contraction begins and ending when the contraction ends. The tracing of the deceleration wave shows the lowest point of the deceleration occurring at the peak of the contraction. The rate rarely falls below 100 beats per minute (bpm) and returns quickly to 120 to 160bpm at the end of the contraction.

“I assessed [Ms A] by examining her, by evaluating the CTG (the graph printout of the baby’s heart rate pattern) and by performing an ultrasound. My assessment was that the baby’s status was reassuring — the CTG showed normal heart rate pattern, and the ultrasound evaluation showed normal amount of amniotic fluid surrounding the baby. My examination of [Ms A] showed her cervix to only be dilated 1–2cm. I found her to be in early labour; a part of childbirth that can often — especially in a woman having her first baby — be quite long; and I told [Ms A] and the LMC that [Ms A] could go home if she wanted to, in order to await the onset of more active labour.”

Ms A returned to hospital at 10.15pm that evening with stronger labour pains. Ms A was connected to a CTG monitor. At 10.55pm Ms D was concerned about the fetal heart pattern and notified Dr B of her concerns. Dr B stated:

“At 23.15 [11.15pm] I again saw [Ms A] on request of her LMC. [Ms A] had returned to the hospital with stronger labour pains. At this point the CTG showed adequate variability,<sup>4</sup> however, present now were some decelerations of the fetal heart rate during and after some of the uterine contractions. Some types of decelerations of the fetal heart rate are quite normal, but this particular type of deceleration can indicate that the fetus may not be able to tolerate a prolonged, strong labour. On my examination of [Ms A], I found her to be 4cm dilated. Again, this was [Ms A’s] first child. Labour and delivery in a woman having her first child is usually much slower than in a woman delivering subsequent children. The CTG was by no means ominous or indicative of acute fetal distress, but was in my opinion, indicative that the baby did not have adequate reserves to tolerate many hours of strong labour. I therefore recommended that a Caesarean section be carried out.”

On the night of 4/5 May 2004, the Grey Hospital theatre staff and anaesthetist were occupied with a patient who required urgent surgery, which commenced at 10.38pm and concluded at 12.45am.

Dr B stated:

“While waiting for the operating theatre to be ready, I treated [Ms A] with standard obstetrical interventions for situations such as this by placing her on her left side (improving the oxygen flow to the uterus), giving her oxygen (improving oxygenation to the baby) and by giving her intravenous fluids (further improving the blood flow to the uterus and oxygenation of the baby). The fetus responded to this in a very reassuring manner as indicated by the significant improvement in the CTG. In fact the CTG after these interventions

---

<sup>4</sup> Fetal heart rate variability is considered to be one of the most reliable indicators of fetal well-being. Baseline variability (the normal variation of the fetal heart rate within the normal range) increases when the fetus is stimulated, and slows when the fetus sleeps. If no variability is present, it indicates that the natural pacemaker activity of the fetal heart has been affected. The cause may be a response to narcotics or barbiturates administered to the woman in labour, but the possibility of fetal hypoxia and acidosis must be investigated. Decreasing variability indicates the development of fetal distress. Absent variability is considered a severe sign, indicating fetal compromise.

was completely normal. I still decided to proceed with the Caesarean section, since I was concerned that the fetus — although well appearing for the moment — would not have had the stamina or reserves to sustain several hours of hard uterine contractions.”

#### *Delivery*

Ms A was taken to theatre at 1.15am. The anaesthetist administered a spinal anaesthetic to Ms A at 1.28am. However, this did not provide an effective block and he administered a general anaesthetic at 1.40pm. Baby A was delivered at 1.45am on 5 May 2004. Oral and nasal suction was done immediately following delivery and he was transferred to the resuscitaire and given facial oxygen. Baby A’s Apgar<sup>5</sup> scores were 7 at one minute and 10 at 5 minutes. His temperature was 36.8°C, heart rate 100bpm and his weight was 2735gms (6lbs).

The WCDHB stated that following his delivery, Baby A was primarily cared for by the midwife on duty, and that there was not a consultant responsible for his care. No one had overall responsibility for coordinating his care.

#### *Postnatal day one — 5 May 2004*

The clinical records show that Baby A was placed in an incubator in the theatre recovery room. He was pink and warm, his temperature was 36.8°C, his heart rate 152bpm, and his respirations 51pm (per minute). His condition was checked by midwife Ms D. As no abnormalities were found, Baby A and Ms A were transferred to the ward. Ms D noted on the clinical records and the “Feeding Progress Chart” that Baby A was to have four-hourly temperature checks because there had been meconium in the uterine liquor. (A copy of the Feeding Progress Chart is attached as **Appendix 1.**)

At 5.30am Baby A was put to the breast (supervised by Ms D) and had a “few sucks”. One millilitre (ml) of colostrum was expressed and fed to Baby A by syringe. His temperature, respiration and heart rate were again assessed and recorded.

Ms D stated that she “relayed information” to the morning shift staff at 7am, detailing Ms A’s antenatal history, delivery and the postnatal care provided.

At 9am the records show that Baby A was excessively “mucosy”. The house surgeon checked him and did not find any abnormalities. (The name of this doctor was not recorded.) A midwife recorded that Baby A had “a few licks of colostrum. Code B”. Code B refers to the feeding codes listed on the Grey Hospital “Feeding Progress Chart”. The codes are from A to G with descriptions for each code letter. “B” is the code for “Interested but does not latch”.

At 11.30am, the clinical records show that Baby A breastfed well after a bath. The notes for the afternoon of 5 May record that he was breastfeeding on demand and his feeding was coded as “G — good rhythmical sucking, swallowing — long feed.”

<sup>5</sup> An Apgar score is used to ascertain and record the condition of the baby, looking at colour, respiratory effort, heart rate, muscle tone and reflex response, with a maximum/optimal score of 10.

At 3pm on 5 May 2004, Ms F took over responsibility of the maternity ward, as the senior staff member at the time. The maternity teams in May 2004 consisted of two nurses, one midwife and either a registered obstetric nurse or an experienced enrolled nurse. They also had the back-up of the on-call caseload midwife, an experienced midwife, and there was always an afternoon supervisor who was a senior registered nurse and/or a midwife.

Ms F was not aware that there had been an individualised care plan formulated for Baby A. She stated that the usual care pathway of newborn infants in Grey Hospital's maternity ward was:

“To try and meet the obligations of the Baby Friendly Hospital Initiative including encouragement of breastfeeding; to help mother achieve regular feeding whether it be breast or bottle feeding and documenting any departures from the norm; keeping the feed chart updated; organising top to toe newborn baby checks of baby by medical staff; weighing at birth, day three and day five (and/or discharge); bathing every second day; keeping temperature stable, assessing colour, tone and alertness of baby and generally recording notes with particular note made again of departures from the norm.”

Ms F recorded that Baby A's last feed for 5 May was at 10.30pm for 20 minutes. The records show that he was pink and warm, had passed urine and meconium and his temperature was 36.8°C. He was “sneezing a bit” and Ms A was “reassured”. However, the feeding chart records that Baby A was last fed at “2242” (10.42pm) for “20X0”, which appears to indicate that he fed from only one breast for 20 minutes. His temperature was noted to be 36.9°C.

#### *6 May 2004*

Midwife Ms E noted in the clinical records for the night shift (11pm to 7am) of 5/6 May 2004, that Baby A fed well during the night, “latching, sucking and swallowing”. The breastfeeding chart shows that he fed for 20 minutes on each breast at 3.45am.

During the morning of 6 May, Ms A fed Baby A at 7am, 9am, 10.45am and midday. He was sucking well, and could be heard swallowing.

He fed well again at 1.20pm and 2.15pm. During the late afternoon Baby A was unsettled.

#### *Feeding difficulties*

Ms F recorded that Ms A was worried about Baby A's reluctance to feed. Ms F noted that although Baby A had been feeding well early in the duty, later in the afternoon he showed no interest in feeding and his mother was concerned. As a result Baby A was given 3ml of expressed breast milk (EBM) by syringe at 8.30pm.

The feeding progress chart also notes the 8.30pm feed and that he had a large bowel motion after this feed. The feeding chart records that Baby A was breastfed at 9.15pm for 15 minutes. The note on the chart appears to indicate that he fed from only one

breast at this time. The feeding note for that duty was at 11.30pm, when there was only an attempt to breastfeed.

There are no breastfeeding codes entered onto the feeding progress chart to indicate the effectiveness of the baby's feeding.

Ms F gave a verbal handover to Ms E at 11pm and told her that Baby A needed to be woken and fed three- to four-hourly overnight because he had been unsettled and had difficulty latching onto the breast. Ms F advised Ms E that if they could not get Baby A to feed at the breast then he should be given either EBM or formula. Ms F did not record these instructions in the clinical notes.

Ms F was not involved in Baby A's feeding after 11pm. She went home at 11pm, at the end of the afternoon shift, very tired from being on call for midwife Ms C's clients and staffing the ward.

Ms E stated:

"I recall [Ms A] saying that [Baby A] did not stay awake long enough to feed. I observed him feeding and encouraged him to suck for a longer period. He fed at the breast, but not as vigorously as the previous night, I did not consider this as being unusual for a normal term baby. ... I remember saying babies could go five hours without a feed, but I ensured [Baby A] was put to the breast or had EBM at least every 3–4 hours, due to the shorter less vigorous feeds he had been having. ... I did not consider asking a doctor to assess [Baby A]. I considered his condition stable on the night shift of 6–7 May 2004."

The clinical notes record that Baby A slept soundly "most" of the night and that he was "woken and given 5mls EBM at 0445hrs". The feeding chart shows that at 2.45am an attempt to feed him was not successful. At 4.45am Baby A was woken and given 5ml of EBM via a syringe. There is no indication in the clinical record that Ms E was concerned that Baby A had taken only 8ml of EBM in 10½ hours when she handed over to the morning staff. (A newborn's stomach has around a 5ml capacity. A newborn requires frequent feeding, between 8 and 12 feeds over 24 hours.)

Ms A stated that she approached Ms E twice during the shift, conveying her concern about Baby A's inability to feed. Ms A said, "Not only did [Ms E] not follow instruction from the prior midwife, she also ignored [me], the mother, and did not even follow expected protocol."

*7 May 2004*

At 7am on 7 May Ms E handed over to Ms D and registered nurse Ms G and explained that Baby A's feeding had been "less vigorous" and he would need feeding between 7am and 8am.

At about 8am, Baby A woke for a feed but went to sleep again and would not rouse to feed. At 8.30am, Ms G gave him 4ml of EBM via a syringe. At 9am Ms G noted that Baby A had a "Reflux like episode (lots of swallowing) when laid down after the



4mls". Ms G then called Ms D as Baby A was still sleepy and felt clammy. Ms D tested his blood sugar level and recorded it as "Lo" (Low). This was also noted on the feeding chart. His temperature was taken and found to be 36.1°C.

Ms D then obtained 13ml of breast milk from Ms A and fed it to Baby A via a nasogastric tube. As Grey Hospital does not provide a neonatal medical service, physician Dr I was contacted and informed about Baby A's reluctance to feed. Dr I stated:

"My initial response was to pass a nasogastric tube and to administer EBM as quickly as possible to improve [Baby A's] blood glucose level, place him in an incubator and ascertain baseline recordings.

In retrospect, I should have called the house surgeon prior to initiating any care as [Baby A] was unable to maintain satisfactory blood glucose levels. However, I did not know this at the time and thought his hypoglycaemia was as a result of inadequate feeding."

The feeding chart records that Baby A's blood sugar level was assessed at this time and found to be very low at 1.4mmol/L. (The normal range is 2.5 to 3mmol/L.)

Dr I and house surgeon Dr H saw Baby A at about 10am. The midwives informed the doctors that Baby A's condition had improved a little after he was given 17ml of EBM via the nasogastric tube.

Blood samples were taken from Baby A for a full blood count and CRP (test for infection) and sent to the laboratory for analysis. The laboratory report noted that the blood specimens from Baby A were received in the laboratory at 10.02am.

Dr H recorded that at 10.05am Baby A had a 20-second duration seizure. On examination, Drs I and H found that Baby A was drowsy but not distressed. They recommended that he be given 20ml of formula and that his oxygen levels be monitored. At 10.15am, Dr H recorded the details of the examination and noted that when the results of the blood tests were available, she intended to discuss them with the neonatal team at another hospital, Hospital 2.

The feeding chart shows that Baby A was given 20ml of infant formula at 10.14am. His blood sugar level at that time was 1.4mmol/L and his temperature 36.7°C.

At 10.40am Baby A's blood sugar level was repeated and found to be 1.7mmol/L. He was commenced on humidified oxygen via a "headbox". His temperature was recorded as 37.9°C, and his heart rate and respirations were rapid at 165 beats per minute and 39 per minute respectively. The doctors ordered that the heat lamp be turned off. Ten minutes later, Baby A's temperature was 37.4°C. His condition was monitored and at 10.50am he was noted to have a "dusky episode" (lacking oxygen). He was suctioned because he was very mucousy.

At 11.25am, Dr H administered a 9ml bolus of intravenous (IV) dextrose 10% and ordered the administration of intravenous fluids, 10% dextrose at 5ml per hour.

At midday, Baby A's blood sugar level was again tested and found to be 2.2mmol/L. Hospital 2 neonatologist Dr K advised Dr H to keep Baby A's oxygen saturation above 90% and "reduce O<sub>2</sub> as tolerated".

Following further discussion with Dr K at 12.10pm, the dextrose rate was increased to 13.6ml per hour. At 12.30pm Dr H noted that Baby A "looks much improved post IV bolus and fluids. Good colour, pink ... tone has improved, not distressed." His chest appeared clear at this time but Dr K recommended that Baby A start a course of intravenous antibiotics and half-hourly vital recordings.

At 1.15pm, Baby A's blood sugar level was 2.1mmol/L. Dr K was notified and advised to continue with the therapy regime he had recommended. Baby A was closely monitored over the next hour, but at 2.10pm Dr H noted that his blood sugar was dropping despite therapy.

At 2.45pm Baby A's blood sugar had recovered to 2.8mmol/L and his oxygen saturation via the headbox was being maintained at 96%. However, because there was no neonatal physician at Grey Hospital, Drs I and H decided at 3.10pm to hand over Baby A's care to the neonatal team at Hospital 2, and air transport was organised.

(Dr H returned overseas in 2005 and was not able to be contacted for comment during this investigation.)

### *Hospital 2*

Baby A was admitted to Hospital 2 at 7pm on 7 May 2004 under the care of a paediatrician. The admitting notes record that he had suffered a number of apnoeic (cessation of breathing) attacks. The notes also show that Baby A had experienced some seizure activity just prior to and during transport, and that he had been given a dose of phenobarbitone to control the seizures.

On 25 May, Baby A was discharged home with an apnoea monitor, a prescription for the anticonvulsant Tegretol, and a discharge letter to the LMC re follow-up.

Following Baby A's assessment on 17 February 2005, by a paediatric neurologist, the paediatric neurologist wrote to the paediatrician stating:

"Unfortunately [Baby A] has signs of significant neurological problems. I had a long talk with his mum saying that there [has] undoubtedly been some brain damage which I would attribute to the hypoglycaemia [low blood sugar]. I pointed out to her it is very difficult to predict exactly what the future holds for this boy, but I would say that he was certainly going to have some sort of learning disability and some motor problems. ..."

Looking through his [Hospital 2] discharge summary it is clear that he had a lot of metabolic tests done at the time he was admitted, particularly those

looking for causes of hypoglycaemia. I am not sure whether these were taken at the time he was hypoglycaemic or not. I have never seen his Grey Hospital notes so I am not absolutely certain what we should be blaming the hypoglycaemia on. I wonder if you think this was simply due to lack of feeding or not. If all those metabolic tests were performed at [a] time that he wasn't hypoglycaemic, then I wonder whether you feel we should be repeating these tests after a fast."

Baby A is now aged three years. He has signs of significant neurological problems. The paediatric neurologist advised Ms A that Baby A is "certainly going to have some sort of learning disability and some motor problems".

### **Additional information**

*Ms D*

Ms D stated:

"I am more mindful of the possibility of hypoglycaemia in newborns with borderline low birth weight and/or a history of maternal smoking and/or drug use. I evaluate my practice using a reflective cycle (Gibbs 1998). This enables me to identify my strengths and weakness in a particular situation. I can then work out what I did well or what I could do differently to possibly improve the outcome should a similar situation arise again."

*Ms F*

The Legal Advisor for the New Zealand College of Midwives, stated on behalf of Ms F:

"The greatest change to [Ms F's] practice has come about because of the introduction of the new 'Neonatal hypoglycaemia prevention and management within Maternity Services'. She believes that the 'Baby Friendly Hospital Initiative' and breastfeeding policy which was being introduced at the time would have benefited from the detail provided by the subsequently introduced protocol. [Ms F] says that unfortunately, the West Coast DHB has not carried out any for[m] of debriefing in respect of this event. However, she follows the new protocol now."

Ms F also provided a copy of the Grey Hospital policy "Management of Hypoglycaemia" dated April 2002, the "Breast Feeding Policy" (undated) and a document, "Neonatal hypoglycaemia prevention and management of — within Maternity Services" (also not dated — Ms F advised that this document was created in response to these events). These documents are attached as **Appendices 2, 3 and 4** respectively.

### *West Coast District Health Board*

In April 2002, West Coast District Health Board (WCDHB) developed a policy regarding the management of hypoglycaemia. The policy provides guidance to staff

on the prevention and treatment of hypoglycaemia in high-risk infants, such as those with birth weights of less than 2500gms or greater than 4500gms.

In October 2003, WCDHB ratified a Breastfeeding Policy. The purpose of the policy was to create a supportive environment to “protect, promote and support Breastfeeding”. The policy notes:

“All those conditions requiring medical and paramedical action, either instrumental or pharmacological (induced labour, prolonged labour, operative delivery either vaginal or abdominal, use of local infiltration, use of oxytocic drugs during labour, prolonged general anaesthetic in Caesarean section) may have an unfavourable effect, nearly always significant, on breastfeeding.”

The Policy includes, as Appendix 4, the following coding of infant breastfeeding:

- “A. Offered but does not latch
- B. Interested but does not latch
- C. Latches on and off
- D. Latches — uncoordinated suck
- E. Good rhythmical sucking — short feed
- F. Good rhythmical sucking — long feed”

The policy referred staff to the WCDHB/CHC (Coast Health Care) Breastfeeding Policy Supporting Documents, which are to be found with other policy manuals.

On 14 July 2006, WCDHB Chief Executive Officer advised that the only enquiry into the circumstances of Baby A developing hypoglycaemia was when this case was discussed at a Caesarean Section Review meeting on 11 August 2004. He stated:

“No formal internal review or investigation has been held into this matter. The position of the West Coast DHB is that the clinical care received by [Ms A] and [Baby A] was at all times appropriate. ...

There have been moves to improve links between [the maternity ward] and [the paediatric ward] at Greymouth Hospital. Staff at [the maternity ward] are also seeking to be included in the [Hospital 2] neonatal review process. The West Coast DHB Breastfeeding Procedure and the Sending of Medical Records to other Health Providers Procedure are both currently under review.”

#### *Response to complaint*

On 23 November 2005, the Commissioner’s Investigations Manager wrote to the CEO, to inform him of Ms A’s complaint, enclosing a copy of her letter, and requesting a summary of the care provided and copies of the relevant clinical records. A response was requested by 14 December 2005.

On 19 December, when a response had not been received, the letter was followed up by a telephone call. Further calls were made on 21 December 2005, and 10 and 17 January 2006.

On 17 January 2006, a copy of the 23 November 2005 letter was faxed to the WCDHB CEO with a further request for a response.

On 18 January the CEO's personal assistant faxed a copy of a letter, dated 20 December 2005 and signed by the Quality and Risk Manager, Mr J, acknowledging the request for information and Ms A's complaint. Mr J advised that because the records were at Hospital 2 he was "unable to provide a copy of [Ms A's] medical record, nor are we able to provide a summary of care as you have requested".

On 3 February, copies of the clinical records Ms A provided to HDC were posted to WCDHB to assist with its response.

On 1, 6, 10, 14 and 27 March, and 8, 12, 16 and 17 May, messages were left for Mr J asking him about progress of the response.

On 18 May 2006, the Commissioner telephoned WCDHB CEO about the overdue response. The CEO gave an assurance that a response would be faxed that day. No response was received.

On 22 May, Mr J wrote to the Commissioner's Investigations Manager to inform her that the midwifery responses would be provided by the Midwifery Council's legal advisor.

On 23 June WCDHB was notified in writing that the Commissioner had decided to formally investigate Ms A's complaint.

On 14 July WCDHB responded to the complaint.

The CEO stated:

"I take responsibility for [the delay by WCDHB in responding to Ms A's complaint ... and for forwarding the complaint to the midwives for a response], which [was] unacceptable and I apologise to your office and to other people who have been affected by them. As you know, early attempts to investigate this case by the West Coast DHB were stymied by the unavailability of [Ms A's] medical records. It is fortunate that most of these were recoverable because of the copy [Ms A] had obtained. Receipt of these notes in February this year should have triggered an immediate response from us and did not. By way of explanation the staff member whose task it is to facilitate this work was (more than) fully occupied developing our Pandemic Planning process. This necessitated assigning a lower priority to some of his usual duties, inappropriately so in this case."

ACC

On 2 March 2006, ACC obtained independent advice from a midwife. She stated:

“[Baby A’s] birth weight was 2735gms. Although small, I feel it was not unreasonable to assume a more relaxed approach to his care and not classif[y] him as intrauterine growth retarded or small for dates (SFD). During the first few days of life SFDs babies are particularly prone to related problems such as, hypothermia [low temperature] and hypoglycaemia [low blood sugar]. For this reason a SFDs baby should be closely monitored. Babies that fall into this category are usually <2500gms. One could argue that [Baby A’s] weight was borderline, however, at the time [Baby A] appeared to be a healthy full term infant. In my opinion there did not appear to be any indication to administer invasive treatments, such as, capillary blood glucose monitoring or place him on strict feeding regimes. I feel then that it was reasonable for [Baby A’s] plan of care to consist of 4 hourly temp, heart rate and respirations due to the meconium liquor, and demand breast feeding. ...

I believe that [Baby A’s] treatment was provided appropriately and correctly. ... There was no medical error on the part of the health professionals assigned to his care.”

On 10 March 2006, ACC accepted Ms A’s treatment injury claim.

On 20 March 2006, ACC asked the midwifery advisor to review her advice (the reason for this is not known, or whether she was provided with additional information). She further advised:

“I feel there was a failure by the RHPs [registered health practitioners] caring for [Baby A] to recognise that there was a potential risk for [Baby A] to develop hypoglycaemia. It is understandable that hypoglycaemia may not have been expected given [Baby A’s] good feeding reports in the first 24hrs and one could say that [Baby A’s] initial cares appear reasonable. However, it does appear evident from the notes that [Baby A] was showing signs that things were not right later in the afternoon of the 06/05/2004 (times not documented). From here on [Baby A] presented with poor feeding and was having to be woken and encouraged to feed with no success at the breast. The fact that [Baby A] was showing signs of poor feeding should [have] alerted the staff to be more vigilant. Although not classified as a SFDs baby, [Baby A] was thin, his mother was a heavy smoker and was prescribed and took Aropax during her pregnancy. This, in my opinion, made [Baby A] extremely vulnerable. For this reason it would have been wise to have commenced [Baby A] on a strict plan of care that included, in particular, capillary blood glucose monitoring and 3–4hrly feeds at the first signs or suspicion that [Baby A] was not behaving normally. One could even argue that this plan of care should have been implemented from birth. As this action was not instigated there was, in my opinion, a failure by the staff to recognise the risk and to adequately treat [Baby A] appropriately. ...”

On 4 April 2006, ACC obtained additional independent expert advice from midwife Joyce Cowan. Ms Cowan stated:

“It would seem on the face of things [Baby A’s] injury was caused by failure to recognise and treat his poor feeding and progressive deterioration in a timely manner.”

On 5 May 2006, ACC reconfirmed its decision, stating:

“This claim is accepted on the basis that there was failure to recognise potential risk of illness in a baby that was distressed during labour and delivery, was of a small size and had poor feeding, leading to neonatal hypoglycaemia causing developmental delay. This is considered to be an injury caused by failure to treat in time.”

*Paroxetine (Aropax) in pregnancy*

Ms A was taking paroxetine (Aropax) during her pregnancy. The Medsafe (2006) datasheet lists under “warnings and precautions” that paroxetine (Aropax) should not be taken during pregnancy unless the potential benefit outweighs the possible risks. It states:

“Neonates should be observed if maternal use of paroxetine continues into the later stages of pregnancy because there have been reports of complications in neonates exposed to paroxetine or other SSRIs late in third trimester of pregnancy. However a causal association with drug therapy has not been confirmed. Reported clinical findings have included: respiratory distress ... seizures, temperature instability, feeding difficulty, ... hypoglycaemia, hypertonia ... tremor ... In some instances the reported symptoms were described as neonatal withdrawal symptoms. In the majority of instances the complications were reported to have arisen either immediately or soon (<24 hours) after delivery.”

The 2003 Medsafe datasheet, while providing substantially less detail, also warned that the safety of paroxetine in human pregnancy “has not been established and it should not be used during pregnancy or by nursing mothers unless the potential benefit outweighs the possible risk”.

## Independent advice to Commissioner

The following expert advice was obtained from independent midwife Nimisha Waller:

“My qualifications are RN (included General and Obstetrics), RM, ADM, Dip Ed (UK) and Master in Midwifery (VUW, 2006). I have been a midwife for 22 years, the last 10 years in New Zealand. I have worked in community and hospital tertiary settings as well as in education both here and in the UK. I am currently a Senior Lecturer in Midwifery at Auckland University of Technology and take a small caseload of women as a Lead Maternity Carer.

The following source[s] of information that were sent have been reviewed prior to the advice being given:

- Letter of complaint to the Commissioner received from [Ms A] on 17 November 2005, marked with an ‘A’. (Pages 1 to 3).
- [Baby A’s] Grey Hospital clinical records received from West Coast Health Care, marked with a ‘B’. (Pages 4 to 27).
- Letter of response and supporting documentation from the CEO, West Coast District Health Board, dated 14 July 2006, marked with a ‘C’ (Pages 28 to 45).
- Letter to response and supporting documentation from midwife [Ms E], received 14 August 2006, marked with a ‘D’. (Pages 46 to 51).
- Letter to response and supporting documentation from midwife [Ms F], received 13 September 2006, marked with an ‘E’. (Pages 52 to 76).
- Letter to response and supporting documentation from midwife [Ms D], received 28 November 2006, marked with an ‘F’. (Pages 77 to 80).
- Letter to response and supporting documentation from midwife [Ms D], received 22 December 2006, marked with a ‘G’. (Pages 81 & 82).
- Letter to [Baby A’s] GP, from [Hospital 2’s] Paediatric Department, dated 12 July 2004, marked with an ‘H’. (Pages 83 & 84).
- Letter of response and supporting documentation from the CEO, West Coast District Health Board, dated 14 September 2006, marked with an ‘I’ (Pages 85 to 88).

I have been asked to provide expert advice to the following:

1. [Ms F]:

Please comment generally on the standard of care that [Ms F] provided to [Baby A]. In particular:

- (a) Whether [Ms F] should have asked for a paediatrician/medical officer to assess [Baby A] when he was reluctant to feed on the evening of 6 May 2004.
- (b) Whether [Ms F] should have conducted any assessment/ investigations on [Baby A] at this time.



(c) Was [Ms F's] documentation of a reasonable standard? If not please comment.

2. [Ms E]:

Please comment generally on the standard of care that [Ms E] provided to [Baby A].

3. [Ms D]:

Please comment generally on the standard of care that [Ms D] provided to [Baby A]. In particular:

- (a) Advise whether [Ms D] acted appropriately when it was noted that [Baby A] was not rousing to feed. If applicable, please advise what additional measures [Ms D] should have carried out.
- (b) Was [Ms D's] documentation of an adequate standard?

...

**My response to the advice required is as follows:**

1. [Ms F]:

Please comment generally on the standard of care that [Ms F] provided to [Baby A]. In particular:

- a. **Whether [Ms F] should have asked for a paediatrician/medical officer to assess [Baby A] when he was reluctant to feed on the evening of 6 May 2004.**
- b. **Whether [Ms F] should have conducted any assessment/investigations on [Baby A] at this time.**

From the clinical records (page 00006) it appears that [Ms F] first met [Baby A] on the afternoon shift of the 5<sup>th</sup> May 2004. She has documented that [Baby A] was pink and warm, breast fed on demand, was latching and sucking well and that at the last feed at 22.30hrs (22.42hrs on feed chart — ...) he fed for 20 minutes. [Baby A] had passed urine and meconium (though only meconium is ticked on the feed chart) and his temperature was 36.8°C (36.9°C on feed chart). [Baby A] was sneezing a bit and mum was reassured.

In the afternoon shift of the 6<sup>th</sup> May 2004 [Ms F] has documented that [Baby A] was unsettled. He had breast fed in the early part of the shift but did not want to feed later. [Baby A's] mum was worried about this so 3mls of EBM was given via a syringe at 20.30hrs. [Baby A] had a large bowel motion and settled after this. From the feed chart it appears that [Baby A] was put to the breast forty five minutes later at 21.15hrs and sucked for 15 minutes.

The overall care provided by [Ms F] to [Baby A] is reasonable. [Ms F] was aware that [Baby A] was not feeding as well as he should on the later part of the shift on 6<sup>th</sup> May and that [Baby A's] mum was worried about this. She gave [Baby A] EBM 3mls at 20.30hrs. Until this time [Baby A] had been feeding well since birth and there was a good feeding pattern (feed chart ...) since birth. [Ms F] would also have been reassured by the number of wet and dirty nappies that had been seen and charted by staff on the feed chart. Therefore not calling the paediatrician/medical officer to assess [Baby A] who was beginning to show reluctance to feed was reasonable at this stage. Ideally as [Baby A] was low birth weight and [Baby A's] mum was a smoker and was on Aropax it may have been useful to have the baby reviewed by the paediatrician/medical officer.

[Ms F] also attempted [Baby A] to feed 45 minutes later (21.15hrs) by offering him a breast feed and he did suck for 15 minutes. This would have provided further reassurance about his feeding/responsiveness and therefore she would not have considered assessment or investigation such as blood sugar on [Baby A] at that time. If [Baby A] had not fed at 21.15hrs then [Ms F] would have had to conduct a full assessment/investigation on [Baby A] as there would have been a change in the feeding pattern that was significant to warrant such an assessment.

**c. Was [Ms F's] documentation of a reasonable standard? If not please comment.**

There is a single documentation by [Ms F] during the two shift[s]. This is usually what happens in most hospitals by majority of staff. It is important to document when there is a significant change in care or plan of care, however documentation in clinical records doesn't always give a full picture.

In [Ms F's] documentation there is discrepancy between clinical records and feed chart. Though these are minor such as different times (eg clinical records the time of feed is 22.30hrs while the feed chart has 22.42hrs) and temperature charted is different by 0.1°C it does create confusion in relation to which time or temperature is the correct one. Such discrepancies though minor can raise issues about credibility particularly when the outcome is not favourable.

[Ms F] in her response to the Deputy Commissioner ... states that she suggested to [Ms A] that the baby be [bottle] fed. This should have been documented in the clinical records as the suggestion has potential to impact on plan of care already in place and for other practitioners it would highlight the mother's wish regarding introduction of supplementary feeds.

[Ms F] in her response ... says that she gave a verbal handover stating that [Baby A] required 3–4 hourly feeds overnight because he was having difficulty latching. Though verbal handovers do occur at the change of

shift in most hospitals and are often not documented those instructions need to be documented in clinical records or feed charts. The verbal handover ideally should reflect what is documented in clinical records regarding the care being provided.

2. **[Ms E]:**

Please comment generally on the standard of care that [Ms E] provided to [Baby A].

[Ms E] was first involved in care of [Baby A] on the night of the 5<sup>th</sup> May and early morning of the 6<sup>th</sup> May 2004. He breast fed once during her shift on the 5<sup>th</sup> May at 03.45hrs for 20 minutes on each side of the breast as the feed chart has 20x20 charted under that time. She has documented in clinical records ... that he fed well and settled between feeds. [Baby A's] next feed was at 7am on the morning 6<sup>th</sup> May when [Ms E] would have finished her night shift. The care provided by [Ms E] during this shift is reasonable as there was a good feeding pattern evident for [Baby A] at this stage.

The second contact [Ms E] had with [Baby A] was on the night shift of the 6<sup>th</sup> May and early morning of the 7<sup>th</sup> May 2004. At this shift [Baby A] attempted to breast feed at 11.30pm and 02.45am with little success. At 04.45hrs he was given 5mls of EBM via a syringe by [Ms E]. [Ms E] has documented in clinical records that [Baby A] slept soundly most of the night apart from EBM at 04.45hrs. From Ms F's handover [Ms E] would have received a verbal handover stating [Baby A's] reluctance to feed well in the later part of the afternoon shift of the 6<sup>th</sup> May. The verbal handover and [Baby A's] reluctance to feed at 11.30pm and 02.45am should have alerted [Ms E] to a possibility of a baby that is gradually becoming unresponsive and consider a full assessment/investigation or call a paediatrician/medical officer to assess [Baby A].

If the full assessment or a review was not considered by [Ms E] as she felt this was a normal newborn behaviour then she needed to at the least consider attempting a breast feed an hour after the unsuccessful attempt at 11.30pm. There was a change in pattern occurring from an earlier shift and this should have made a practitioner think why a baby that was feeding well before was suddenly not waking up for a feed. Newborn babies have a small stomach that has a capacity of about 5mls and they feed frequently (8–12 feeds over 24 hours) particularly on day 2 following birth. Even after an unsuccessful attempt at 02.45hrs the EBM of 5mls was not offered to [Baby A] till 04.45hrs. When the baby does not feed successfully at the breast then the usual practice is to encourage skin to skin contact and offer the breast an hour later or at the maximum two hours later. Following the first unsuccessful attempt at the breast at 11.30pm the breast was not offered till 02.45hrs which is 3 hours and 15 minutes later. The feeding was unsuccessful at 02.45hrs and the EBM

was offered 2 hours later at 04.45hrs. As there had been a change in a feeding pattern there needed to be a consideration about what was physiologically happening with [Baby A] and whether an investigation such as blood sugar may be warranted. The standard of practice relating to postnatal period mentions a need to consider additional care, if there are feeding problems (NZCOM, 2005).

At 08.30hrs [Baby A] was not sucking, was floppy and clammy with urates in the urine. In a normal newborn, that had a birth weight at lower end of the normal, had fetal distress and had been meconium exposed but was feeding well previously a change in pattern should be investigated or assessed. Peers would view this departure from the standard of care with moderate disapproval.

**3. [Ms D]:**

Please comment generally on the standard of care that [Ms D] provided to [Baby A].

[Ms D] was first involved in [Baby A's] care at 5.30am (5<sup>th</sup> May 2004) when she helped put [Baby A] to the breast. At this first feed [Baby A] had a "few sucks". One ml of colostrum was expressed and fed to [Baby A] by syringe. His temperature, respiration and heart rate were assessed and recorded. [Ms D] noted on the clinical record—"4hly temp (mec liq)".

A Feeding Progress Chart was commenced which also noted the request for four hourly temperature recording. Where the instructions of "4hrly temp (mec liq)" have come from is unclear as the NNP at the first examination of [Baby A] in theatre has not documented this though it may have been given as a verbal instruction. However the instructions are appropriate as there was meconium in the liquor as baby's colour at the first examination is charted as yellow showing that the baby's skin has been exposed to meconium for a while. There are instructions regarding a low birth weight baby in relation to frequency of feeds and blood sugar monitoring. The care provided by [Ms D] to [Baby A] on this day was of reasonable standard.

The next time [Ms D] was involved in [Baby A's] care was on the morning of the 7<sup>th</sup> May 2004. At 08.30hrs [Baby A] woke up for a feed but went to sleep again and would not rouse for a feed. 4mls of EBM was given by syringe by [Ms G]. The BM was "Lo" (signifying that it was unreadable) and [Baby A] was clammy. He had reflux like episode when he was laid down and his temperature was 36.1°C. At 09.00hrs [Baby A] was given 13mls of EBM via nasogastric tube and the doctors were notified. In particular:

- a. Advise whether [Ms D] acted appropriately when it was noted that baby [Baby A] was not rousing to feed. If applicable, please advise what additional measures [Ms D] should have carried out.
- b. Was [Ms D's] documentation of an adequate standard.

In her response to the Deputy Commissioner [Ms D] has already reflected on being more mindful of the possibility of hypoglycaemia in breast fed babies with borderline low birth weight and history of maternal smoking and/or drug use ... . Under point 11 she further reflects that she should have called a house surgeon prior to initiating any care as the blood sugar was low or unreadable. She should have called for paediatrician/medical officer sooner so that she could have been supported in managing [Baby A's] hypoglycaemia including ensuring early administration of glucose/dextrose. [Ms D] should have also called an LMC or a supervisor as she was the only midwife on the shift on [the maternity ward] that morning and the other member of the staff was a registered nurse.

The documentation on the 5<sup>th</sup> May following birth of [Baby A] is reasonable. From the documentation in clinical records of the 7<sup>th</sup> May at 08.30hrs it is unclear whether [Ms D] or [Ms G] documented the events of the early morning as there is no signature following the documentation. There is no documentation of the insertion of a nasogastric tube though it is documented that EBM was given via the tube.

#### ***Further comments***

Though there have been comments in the clinical records of the baby in utero having limited reserves, being distressed and presence of meconium in liquor, [Baby A] once born was treated as a normal full term infant. The protocol that was put in place was of a baby with meconium liquor who needed four hourly observations of temperature, respirations and heart rate. As [Baby A] weighed 2735gms and was therefore above 2500gms, which is still in 2007 considered to be a cut off for small for gestational age or low birth weight baby in lots of hospitals, he was treated as a normal newborn infant though his weight was at the lower end of normal. Weight of 2500gms would have been used as a cut off in 2004 rather than customised growth charts to assess individual growth. Customised growth charts are not a normal assessment tool in all hospital/units within NZ even in 2007. He therefore was not considered to be at risk of hypoglycaemia and a need for regular blood glucose monitoring. His feeding pattern on 5 May and early part of 6 May was good so even if he had been considered for hypoglycaemia protocol it is likely that the first three blood sugars would have been equal to or above 2.6mmol/l which is the usual criteria used in most units though the West Coast had a cut off of 2.8mmol/l at that time.

All the midwives involved in [Baby A's] care mention the lack of care plan for [Baby A]. Though there may have been a lack of written care plan from the paediatrician or NNP at birth midwives have a responsibility on day to day basis to formulate a plan of care for the mother and baby they are providing care to. The documentation by all midwives involved in [Baby A's] care lack the development of plan of care for [Baby A] on a daily basis.

All three midwives mention that the baby friendly hospital initiative was being introduced at the time of [Baby A's] care however the codes that should be used for breast feeding have not been used by any of the midwives either in clinical records or on the feed chart. The feeding chart instead documents the time [Baby A] fed for, for example 20 minutes. Without the use of the code it is difficult to know if the feeds were of good rhythmic sucking or uncoordinated during that 20 minutes. When unrestricted breast feeding is advocated the timing can lead to mixed messages and confusion for the women.

Policy and protocols at the time (2004) appear not to have the detail that would enable the midwives in the DHB to recognise babies that may be at risk of hypoglycaemia so that an appropriate plan of care could have been formulated.

It is not known at which level of hypoglycaemia a baby will go on to develop neurological problems (Cornblath, 2000). There is no doubt that hypoglycaemic brain damage does occur but the severity and duration of low blood glucose levels required to cause lasting harm varies between babies. Brain damage is related to the ability of each baby to produce alternative fuel such as ketone bodies. Evidence from studies of humans and other animals suggests that brain damage and long-term sequelae occur after prolonged hypoglycaemia sufficiently severe to cause neurological signs (Hawdon, 1999). [Baby A] was exhibiting neurological signs when he sustained 20 seconds of seizure activity at 1015hrs on 7 May 2004.

### **Summary**

There has been a lack of development of a plan of care on a daily basis for [Baby A] and a failure to recognise a change in pattern of feeding resulting in a hypoglycaemic event.

### **References**

Cornblath et al. (2000) Controversies Regarding Definition of neonatal Hypoglycaemia: Suggested Operational Thresholds. *Paediatrics*. Vol.105 No. 5 May 2000, pp. 1141–1145.

Hawdon, J. (1999). Hypoglycaemia and the neonatal brain. *European Journal of Pediatrics* Publisher: Springer Berlin/Heidelberg Issue: Volume 158, Number 13 Date: November 1.”

*Additional expert advice*

On 23 April 2007 Ms Waller was asked if it was reasonable for WCDHB, in May 2004, not to have a neonatal hypoglycaemic policy that used customised growth charts to assess individual growth rather than the cutoff weight of 2500gms. Ms Waller stated that in 2004 the customised growth charts were not in common usage and even now few DHBs would be using them.

On 21 June 2007 Ms Waller was asked for further clarification of her advice. With regard to the care provided by [Ms D] on the morning of 7 May she advised that in an urban setting, a midwife would be expected to contact the paediatrician immediately. However, the Grey Hospital does not have a neonate medical service and, while it may have been preferable for [Ms D] to have contacted a medical officer prior to inserting the nasogastric tube and feeding [Baby A], her actions were reasonable in the circumstances.

Ms Waller also advised that “in 2004 knowledge of the potential effects of paroxetine (Aropax) on neonates was not as extensive as it is now. However, enough information was available for it to be known that this was a risk factor to take into account. The fact that [Ms A] was taking paroxetine should have alerted those responsible for [Baby A’s] care to possible problems. A care plan reflecting this should have been prepared and there should have been some discussion about what this might mean for [Baby A]. Although this was not necessarily the responsibility of [Ms D], [Ms E] or [Ms F], the failure to have an appropriate care plan in these circumstances reflects a lack of care coordination.”

---

## Responses to Provisional Opinion

*Ms A*

Ms A acknowledged the “reflective” responses provided by Ms F and Ms D, but was concerned about Ms E’s “lack of acknowledgement and her significant part” in the care of Baby A.

In relation to the West Coast District Health Board’s involvement in this case, Ms A requested:

“[A] review of procedures to ensure that persons who make complaints to the WCDHB are dealt with in an appropriate time frame. I would like to see this monitored and reviewed on a regular basis.”

Ms A also stated that she would like the parties involved in this matter to have some understanding of the loss that has occurred for her and her son, “which does not just include the present time, but also future loss. The damage that has been caused will last [Baby A’s] and my lifetime.”

*West Coast District Health Board*

The CEO stated:

“[W]e accept entirely that we repeatedly failed to respond to your office’s enquires and other communications about [Ms A’s] complaint in a timely manner, and sincerely regret the additional stress and frustration that this must have caused her. ...

I have attached a letter of apology to [Ms A] to your office to forward to her.

...

I note your adverse comment on the adequacy of WCDHB’s policy on the detection and treatment of hypoglycaemia that was in operation in May 2004, and which has subsequently been revised. As your report has found, this inadequacy was not unusual in New Zealand hospitals at the time, but the ubiquity on the inadequacy does not make it acceptable. Your recommendation of an audit concerning neonatal breastfeeding recording and staff awareness of policies regarding assessment and monitoring of the nutritional requirements of low weight/at risk infants will be undertaken.

While this set of failures to meet appropriate standards clearly involved individual employees’ personal failure to perform to an adequate standard, West Coast DHB believes a more appropriate focus is on the complaints management systems used by the DHB, which did not ensure good outcomes, or detect and correct failure to meet the standards required.

To this end the DHB endorses your recommendation for an independent review of our complaint management system. In fact, partly as a result of our own concerns about the adequacy of our system we had asked our internal auditor, Deloitte Ltd., to conduct a review of our performance against our policy and procedure. ...

In addition I have arranged for Barbara Crawford, Quality and Risk Manager for Waikato DHB, to also undertake an independent review of our policy and procedures to help us bring them into line with best practice and to meet the requirements of your recommendation.”

*New Zealand College of Midwives*

The legal advisor for the New Zealand College of Midwives responded on behalf of midwives Ms F, Ms E and Ms D. She advised that her clients have reviewed their respective practices in light of the report and provided written apologies to Ms A.



## **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.*

### *RIGHT 10*

#### *Right to Complain*

- (3) Every provider must facilitate the fair, simple, speedy, and efficient resolution of complaints.*
- 

## **Relevant Standards**

New Zealand College of Midwives *Midwives' Handbook for Practice* (2002) states:

“Standard three

The midwife collates and documents comprehensive assessments of the woman and/or baby's health and wellbeing.

*Criteria*

The midwife:

...

documents her assessments and uses them as the basis for on-going midwifery practice.

Standard six

Midwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk.

*Criteria*

The midwife:

- plans midwifery actions on the basis of current and reliable knowledge and in accordance with Acts, Regulations and relevant policies
  - ...
  - identifies deviations from the normal, and after discussion with the woman, consults and refers as appropriate.”
- 

## Opinion

### *Overview*

Baby A was born by Caesarean section at 1.45am on 5 May 2004 following CTG evidence that he was in distress and concern on the part of the obstetrician that he did not have adequate reserves to tolerate hours of strong labour. At birth, Baby A weighed 2735gms (6lbs) and had a satisfactory Apgar score.

My independent midwifery advisor, Nimisha Waller, advised that at 2735gms, Baby A was above 2500gms (5lbs 8oz) which most New Zealand hospitals still consider to be the cut-off weight for low weight babies or small for gestation age/dates. Because of this the Grey Hospital midwives considered Baby A was not at risk of hypoglycaemia and therefore there was no need for regular blood glucose monitoring.

An independent midwife advised ACC that because Baby A had a combination of risk factors — he was thin and his mother was a heavy smoker who took Aropax during her pregnancy — he was vulnerable. It would have been wise for the staff to have commenced him on a strict plan of care that included capillary blood glucose monitoring and three- to four-hourly feeds at the first sign that he was not behaving normally. Ideally, this plan should have been implemented from birth. Ms Waller agrees that the fact Ms A was taking paroxetine (Aropax) should have alerted those responsible for his care to potential problems.

Baby A and his mother had the right to receive midwifery services provided with reasonable care and skill, and that complied with the relevant standards set out in the New Zealand College of Midwives' *Handbook for Practice*. In most respects, the Grey Hospital midwives, Ms F, Ms E and Ms D, provided adequate midwifery care. However, some aspects of their care was not of an appropriate standard.

## Ms F

### *Standard of care*

Ms F first cared for Baby A on the 3pm to 11pm shift on 5 May 2004. She noted that he was exhibiting all the signs of being a normal baby.

The following afternoon, Ms F recorded that Baby A was unsettled. He had fed well at the breast in the early part of the shift but did not want to feed later. Ms A expressed her concern about Baby A's lack of interest in feeding and at 8.30pm, he was given 3ml of expressed breast milk (EBM). The feeding chart records that five minutes later he fed for 15 minutes at the breast.

Ms Waller stated that Ms F was aware at the end of the shift that Baby A was not feeding as well as he should and that Ms A was concerned. However, he was reluctant to feed on only one occasion on her duty on 6 May, and she would have been reassured by the number of wet and dirty napkins noted on the feeding chart throughout the day. Under these circumstances, her decision not to notify the medical staff about Baby A's reluctance to feed was reasonable at that stage, and her overall care was reasonable. In my opinion, in relation to the care she provided to Baby A, Ms F did not breach the Code.

### *Care planning and documentation*

Ms F made only one entry each day in the clinical records for Baby A on 5 and 6 May 2004. Ms Waller noted that Ms F's documentation demonstrated a discrepancy between the clinical record and the feed chart. On 5 May she noted that Baby A's last feed was at 10.30pm and his temperature was 36.8°C. The feeding chart records the last feed at 10.42pm and Baby A's temperature as being 36.9°C. These are only minor points but I agree with Ms Waller's advice that "discrepancies, though minor can raise issues about credibility particularly when the outcome is unfavourable".

In her records for the afternoon of 6 May, Ms F noted that Baby A was unsettled, had breastfed earlier in the shift but did not want to later. The notes record that "mum worried so EBM 3ml given via syringe. Large BM++ [bowel motion], settled after this". No time is recorded in the clinical record, only "pm". The feed chart records that this occurred at 8.30pm. Another breastfeed is recorded on the feed chart, but not in the clinical records, at 9.15pm for 15 minutes, and it is unclear whether he fed from both breasts at this time. The last note on the feed chart that evening was at 11.30pm, when it is recorded that Baby A made only an attempt to breastfeed. This is also not recorded in the clinical records. However, Ms F was not on duty at this stage as her duty finished at 11pm. Ms F did not use the breastfeeding codes recommended by WCDHB. Ms Waller stated that without the use of the appropriate code, it is difficult to know whether the feeds were effective or not. Ms F also informed me that on the afternoon of 6 May she suggested to Ms A that Baby A be fed with a bottle. However, this is not recorded in the clinical records.

Ms F stated that at handover at 11pm on 6 May she told Ms E that Baby A needed to be woken and fed three- to four-hourly because of concerns about his feeding.

Ms Waller advised that it is common practice for verbal handovers to occur at the change of shift, but these instructions should reflect what has been written in the clinical records. On this occasion there was no written record of any concern about Baby A or of the need to ensure that he received regular feeds. While verbal handovers are important to ensure the efficient and effective exchange of information, they do not negate the need for accurate and complete written documentation.

As noted below, during the night of 6/7 May the seriousness of Baby A's condition was not identified. He did not receive sufficient nutrition until 9am on 7 May, a period of over 12 hours. Although Ms F did record when Baby A fed, and advised Ms E of the need for him to be woken, she failed to record the appropriate code on the feeding chart, which would have provided an indication of the quality of the feeds; she did not record her offer to bottle feed Baby A; nor did she record her handover instructions.

I note that, like her colleagues, Ms F did not formulate a plan of care for Baby A. Ms Waller advised that even if a paediatrician or neonatal practitioner does not write a plan of care at birth, it is the responsibility of the midwives to formulate a plan on a day-to-day basis. Grey Hospital does not have a neonatal medical service, and care is provided by the physicians. This situation makes it all the more important that the midwives, who have specialist knowledge in the care of neonates, formulate, monitor and revise a plan of care, particularly for babies such as Baby A who have more than one risk factor. This was not done in Baby A's case.

In my opinion, by virtue of her inadequate documentation and failure to formulate a care plan, Ms F did not meet professional midwifery standards and breached Right 4(2) of the Code.

---

## **Ms E**

### *Standard of care — 5 May 2004*

Ms E's first contact with Baby A was on the night of 5 May 2004. Baby A's only feed that night occurred at 3.45am when he fed for 20 minutes at each breast. Ms E's recording both in the nursing notes and the clinical record was consistent and indicated that Baby A's behaviour was that of a normal newborn. Ms Waller commented that Baby A had a good feeding pattern at this stage, and the care Ms E provided to him during this shift was reasonable.

### *6/7 May 2004*

The second contact Ms E had with Baby A was on the following night. As discussed below, Ms F stated that when she handed over to Ms E at 11pm on 6 May she told her that Baby A had been reluctant to feed over the latter part of the evening and would need to be fed every three- to four-hours. Although Ms E recalls that she observed him feeding less vigorously than the previous night and encouraged him to suck for a longer period, she did not consider Baby A's feeding to be unusual. However, her contemporaneous record on the feeding chart shows that there were three unsuccessful

attempts to feed Baby A that night at 11.30pm, 2.45am and 4.45am. At 4.45am he was given 5mls of EBM.

At 7am on 7 May, Ms E handed over the care of Baby A to Ms D. She stated that he had been “less vigorous” feeding during the night and advised that he would need feeding again in the next hour. She believed his condition to have been stable overnight. However, this was not the case. Ms Waller advised that there was a clear change in pattern occurring from earlier in the shift, and this should have made Ms E ask herself why a baby who was feeding well previously was now not waking for a feed.

Newborn babies have a small stomach capacity of about 5ml and need to feed frequently, having eight to twelve feeds over 24 hours, particularly on the second day. Ms Waller stated, “When the baby does not feed successfully at the breast then the usual practice is to encourage skin to skin contact and offer the breast an hour later or at the maximum two hours later.” When Baby A failed to feed at 11.30pm there was no attempt to feed him again until 2.45am — three and a quarter hours later. This attempt was also unsuccessful and no further attempt was made until 4.45am — two hours later.

Ms Waller advised that Ms E needed to consider what was happening physiologically to Baby A and whether further investigations such as an assessment of his blood sugar level was warranted. Standard practice when there is a feeding problem in the postnatal period is to consider whether additional care is needed. A change in the feeding pattern should be investigated or assessed. Ms E did not recognise that there had been a change in Baby A feeding pattern, and did not consider assessing his blood sugar level or asking a doctor to assess Baby A. Ms Waller advised that this was a departure from the accepted standard of care and would be viewed with moderate disapproval by Ms E’s peers.

In my opinion, in relation to the care she provided to Baby A, Ms E breached Right 4(1) of the Code.

#### *Care planning and documentation*

Ms E’s notes in the nursing report for the night duty of 6 May 2004 indicate that Baby A slept soundly and gave the appearance of a normal baby, although her recording on the feeding chart indicates otherwise. It is difficult to understand how she could have recorded Baby A’s repeated failed attempts to feed and obviously deteriorating feeding pattern on the feeding chart but failed to indicate this in the nursing report.

The New Zealand College of Midwives *Handbook for Practice* specifies that the midwife must document her assessments and use them as the basis for her ongoing practice. If Ms E had accurately documented that Baby A had failed to feed three times in her duty, this may have led her to critically evaluate the situation and investigate the cause. In my opinion, Ms E’s inadequate documentation on 6 May was a contributing factor in Baby A’s condition not being identified in a timely manner. I note that, like her colleagues, Ms E did not formulate and document a plan of care for

Baby A. In my opinion Ms E did not meet professional midwifery standards and therefore breached Right 4(2) of the Code.

---

## **Ms D**

### *Standard of care — 5 May 2004*

Ms D was first involved in Baby A's care at 5.30am on 5 May 2004 when she helped Ms A put him to the breast to feed. Baby A fed briefly at the breast. Ms A expressed some breast milk and fed Baby A 1ml by syringe. Ms D assessed and recorded Baby A's temperature, respirations and heart rate and noted on the Feeding Progress Chart that because there had been meconium present in the uterine liquor when he was delivered, his temperature was to be taken every four hours.

Ms Waller advised that these instructions were appropriate and that Ms D's care of Baby A and her documentation on 5 May 2004 was of a reasonable standard.

### *7 May 2004*

Baby A's feeding pattern had apparently been good on 5 May and the early part of 6 May. However, there were no feeding codes recorded and only limited information about the effectiveness of the baby's suck and swallowing. Although there is some discrepancy in the information recorded about the time and nature of Baby A feeding, the feeding progress chart clearly shows that there was a change in his feeding pattern from 8.30pm on 6 May 2004. At 9.15pm he fed for 15 minutes, but at 11.30pm, 2.45am and 4.45am he refused to feed. He was administered 5ml of EBM by syringe at 4.45am.

At 8.30am on 7 May, registered nurse Ms G found that she could not rouse Baby A to feed. She gave him 4mls EBM by syringe. Ms G noted that he had a low temperature of 36.1°C, was clammy and appeared to have a "reflux-like" episode after being given the 4mls of EBM. Ms G alerted Ms D (who had come on duty at 7am) and Baby A's blood sugar level was tested and recorded as "Lo" (signifying unreadable). In an attempt to raise his blood sugar level, Ms D inserted a nasogastric tube and gave Baby A 13mls of EBM via the tube before the medical staff were notified about his condition.

Ms Waller noted that Ms D was the only midwife on the maternity ward on the morning of 7 May 2006. The feeding record shows that Baby A had not been feeding well over the preceding seven hours, and when Ms D assessed Baby A's blood sugar level at about 8.30am it was unreadable. Ms Waller advised:

"In an urban setting, a midwife would be expected to contact the paediatrician immediately. However, the Grey Hospital does not have a neonate medical service, and, while it may have been preferable for [Ms D] to have contacted a medical officer prior to inserting the nasogastric tube and feeding [Baby A], her actions were reasonable in the circumstances."

I note that the Grey Hospital policy in 2004 regarding the management of neonatal hypoglycaemia referred to high-risk infants having birth weights of less than 2500gm or greater than 4500gm, and that the policy did not fit the circumstances Ms D encountered on 7 May.

Ms D stated that, apart from the notation on the feeding chart about four-hourly temperature assessments, there was no care plan in place for Baby A. She acknowledged that given Ms A's antenatal history and Baby A low birth weight, she should have been more mindful of the possibility that Baby A had developed hypoglycaemia and that she should have sought medical advice earlier. In my opinion, while it would have been preferable for Ms D to have contacted a medical officer immediately, the care she provided was of a reasonable standard in the circumstances.

#### *Care planning and documentation*

My advisor, Ms Waller, was mildly critical of Ms D's documentation as she failed to document the insertion of the nasogastric tube (although it is documented that EBM was given via a nasogastric tube). With that exception, Ms D's documentation on 7 May is of a reasonable standard. However, like her colleagues, Ms D did not formulate and document a plan of care for Baby A. In relation to this aspect of her care, Ms D did not meet professional midwifery standards and therefore breached Right 4(2) of the Code.

---

## **West Coast District Health Board**

#### *Resolution of complaint*

On 23 November 2005 WCDHB was advised of Ms A's complaint and was provided with a copy of the complaint. It was asked to provide my Office with a response to Ms A's concerns, a summary of the care she received and copies of her clinical records, in accordance with section 14(1)(m) of the Health and Disability Commissioner Act 1994. WCDHB failed to provide this information as requested, despite 16 follow-up contacts either in writing or by telephone. It was not until after WCDHB was formally notified of my intention to investigate Ms A's complaint, on 23 June 2006, that the requested information was received, on 17 July 2006.

WCDHB Chief Executive acknowledged that the delay in the Board's response was unacceptable. Apparently the responsible staff member was fully occupied developing the Board's Pandemic Planning process and inappropriately assigned a lower priority to his usual duties, including responding to complaints.

Under Right 10(3) of the Code every provider must facilitate the speedy and efficient resolution of complaints. This legal obligation applies whether the complaint is made directly to the provider, to a health and disability consumer advocate, or to the Health and Disability Commissioner. While I accept the CEO's apology for the Board's failure to respond to Ms A's complaint in a timely manner, the delays were extreme and cannot simply be excused as "prioritisation". Delays continued even after the

CEO was personally contacted by the Commissioner. I note that delay also occurred in WCDHB's response in another recent case. I record my concern that WCDHB has a very poor record of responding to complaints, as evidenced in earlier cases.

WCDHB failed to meet its obligation to resolve Ms A's complaint to the Health and Disability Commissioner. Its response was neither speedy nor efficient. In these circumstances, WCDHB breached Right 10 of the Code.

---

## **Other comment**

### *Standard of care*

In May 2004 West Coast District Health Board had a breastfeeding policy, the purpose of which was to promote breastfeeding. An earlier policy produced in 2002 provided direction to staff on the management of hypoglycaemia in the newborn, but this policy specified the condition as a risk factor associated with infants born weighing less than 2500gm or greater than 4500gm. Baby A did not fit the criteria as he weighed 2735gm. However, he was thin and had other risk factors given his mother's antenatal history. Ms A had taken paroxetine (Aropax) during her pregnancy. While knowledge about its potential effects on a neonate was not as extensive in 2004 as it is now, there was sufficient information available about possible adverse effects that it should have been recognised as a risk factor. While Baby A may have appeared to have been a healthy (if slightly small) term baby, staff should have been alerted to the possible problems that could arise as a result of his exposure to paroxetine.

The three midwives involved in this case state that the "Baby Friendly Hospital Initiative" and Breastfeeding Policy, which were being introduced at the time of Baby A's birth, lacked the detail required to provide guidance on the management of neonatal hypoglycaemia. Ms Waller agreed that the policies and protocols available to staff in May 2004 did not have sufficient detail for the midwives to recognise that babies, other than those identified as being of high risk, may also be at risk of hypoglycaemia, so that an appropriate plan of care could be formulated. It appears that this was the situation in many New Zealand maternity facilities.

As a result of these events, WCDHB reviewed its breastfeeding policy and introduced the "Neonatal hypoglycaemia prevention and management of — within Maternity Services". The purpose of this policy is to inform staff about the need to "prevent, identify, monitor and maintain baby's blood sugar levels".

In summary, in May 2004 WCDHB did not have adequate policies and procedures to guide midwifery staff in the detection and management of hypoglycaemia in other than a defined group of high-risk infants. This may have contributed to the unfortunate circumstances that resulted in Baby A developing this serious condition. However, I am advised that the customised growth charts, which are a more reliable guide for staff, are even now not in common usage throughout New Zealand. I recommend that WCDHB review its neonatal hypoglycaemic management policies in light of Ms Waller's comments.



### **Actions taken**

- Ms F, Ms E and Ms D have reviewed their practice in light of this report and provided written apologies to Ms A for their breaches of the Code.
  - WCDHB has provided a written apology to Ms A.
- 

### **Actions to be taken**

- WCDHB is to undertake an audit of neonatal breastfeeding recording and staff awareness of its policies regarding assessment and monitoring of the nutritional requirements of low weight/at risk infants. The Board has also arranged two independent reviews of its complaint management system.
  - The Board has undertaken to advise my Office of the outcome of the audit result of the neonatal breastfeeding policies and independent review of its complaint management system by **31 August 2007**.
- 

### **Recommendation**

I recommend that WCDHB advise my Office by **31 August 2007** of:

- (1) The results of
  - (a) the planned audit of neonatal breastfeeding recordings and staff awareness of its policies regarding the assessment and monitoring of the nutritional requirements of low weight/at risk infants; and
  - (b) the two independent reviews of its complaint management system; and
- (2) the steps being taken to remedy any identified shortcomings.

### **Follow-up actions**

- A copy of this report will be sent to the Midwifery Council of New Zealand.
- A copy of this report, identifying Grey Hospital and West Coast DHB, but with details identifying all other parties removed, will be sent to the New Zealand College of Midwives, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, the Maternity Services Consumer Council, the Federation of Women's Health Councils, Aotearoa, and the Chief Executives of all District Health Boards, and placed on the Health and Disability Commissioner website, [www.hdc.org.nz](http://www.hdc.org.nz), for educational purposes.

## Appendix 1

## FEEDING PROGRESS CHART

Name: \_\_\_\_\_ Date of Birth: 5/5/04  
 Birth Weight: 2735 Feeding Details: B/F  
 Relevant Birth Detail: Emergency LUSCS

4/ly Temp

DATE & DAY of	PRESENT WEIGHT	TIME	METHOD	MIXTURE	AMOUNT	PU	BO	COMMENTS
5/5/05		50		A little colicky by			✓	
①		0800	B/F	Intermittent		-	-	Checked by 4/5 w/ macosey / A few ticks
		11.30	B/F	20 x 0				T36.6 Barke
		1500	B/F	0 x 7 x 5		-	-	
		1830	B/F	10 x 10		-	-	small ✓
○		2242	B/F	20 x 0			✓	+ T36.9.
		0345	B/F	20 x 20		✓	-	
6/5/04		0700	B/F	20 x 20		-	-	Clean & dry
		0900	B/F	15 x 15		-	-	
		1045	B/F	20 x 20		✓	✓	very tiny amount of mec.
		1200	B/F	20 x 10				
		1:20	B/F	10				
		2:15	B/F	20 x 20		✓	✓	very small bowel movement
		8:30	EBM 3ml				✓	Large Bowel motion
		9:15	B/F	15				
		11:30	attempt B/F				✓	
7.5.04		245	Attempt B/F			✓	✓	Large amount
		4:45	EBM 5ml	with syringe				
		0530	EBM 4ml	unsyringe		✓	✓	Not sucking water. Happy.
		0900	EBM 13ml	N/G				BM Lo Temp 36'
		1014	N/G	Kangaroo	20mls			Blood Sugar / 4 T36.7
		1040						bm 1.7 mls.
		11:25	IV	10% 10% 10% 10%				
			IVI	10% 10% 10% 10% commenced @ 5ml/hr				
				↑ to 13.6ml/hr.				- See fluid balance sheet.

THIS DOCUMENT CONTAINS PRIVATE AND CONFIDENTIAL INFORMATION. IT IS NOT TO BE DISSEMINATED OUTSIDE THE HEALTH CARE PROVIDER'S OFFICE. A HEALTH AUTHORITY TO A TERN: NUMBER TO BE ENTITLED TO HAVE UNDER THE PROVISIONS OF THE HEALTH INFORMATION PRIVACY CODE 1997, THE PRIVACY ACT 1993 AND/OR THE OFFICIAL INFORMATION ACT 1982.

## Appendix 2

17/05/2005 06:24 64-3-7582598  
 Wairarapa DHB

MURKREARY WARD

PAGE 10

### Other Intensive Care Problems

*IUGR = Infant at term less than 2500gms*  
*hypoglycaemia: Large for dates = Infants @ term more than 4500gms*

Data suggests that there may be sequelae from blood sugar values  $< 2.6$  mmol/L, however, there is no clear consensus as to what threshold to use in treatment of hypoglycaemia.

Hypoglycaemia may be asymptomatic or symptomatic, and probably, both can result in adverse outcomes.

Symptoms are wide ranging, and include jitteriness, apnoea, tachypnoea, irritability, and hypotonia.

Hypoglycaemia needs to be suspected and actively investigated, prevented and treated in any unwell baby, or in one who is "not quite right".

#### Causes

##### Transient

Decreased glucose production or increased utilisation:  
 Asphyxia, starvation, sepsis, congenital heart disease, hypothermia, IUGR

Transient hyperinsulinism:  
 Infant of a diabetic mother, rhesus haemolytic disease, Beckwith-Wiedeman syndrome.

##### Persistent

Insulinism: Nesidioblastosis, pancreatic adenoma, leucine sensitivity.

Decreased production of glucose:  
 Glucagon deficiency, congenital hypopituitarism, cortisol deficiency (CAH), inborn errors of metabolism.

#### Management of Hypoglycaemia

• Prevention: Identify high risk patients, e.g. IUGR, BW, IDM.

Admit to Intermediate Nursery or NICU as appropriate.

Capillary blood sugars should be performed at approximately 1, 2, 4, 6 hours then before feeds for the first 24 hours in at risk babies. **IUGR infants should be fed at 90 ml/kg/24 hours from birth.**

• Treatment:

If asymptomatic, give the next feed due and check the sugar 1 hour post feed; if still  $< 2.6$  mmol/L then treat as for symptomatic.

If symptomatic, insert IV, and give a bolus of 2 ml/kg 10% dextrose at 2 ml/min. Continue IV infusion of 10% dextrose to meet complete fluid requirements (see previous section). Enteral feeds can then be increased as rapidly as tolerated, with gradual reduction of IV intake. The dextrose solution may need to be concentrated (by addition of 50% dextrose to make 12.5% or higher) to elevate the blood sugar without causing free water overload. Since many growth retarded babies have a total body sodium deficit at birth, they are at particular risk of hyponatraemia.

• Additional Measures:

If glucose requirement exceeds 12 mg/kg/min then consider measuring plasma insulin, cortisol and growth hormone. Steroids may be required, i.e. hydrocortisone 1-5 mg/kg IV 12 hourly.

In infants of diabetic mothers consider glucagon 0.03-0.1 mg/kg/IV or IM stat, and then hydrocortisone as above. Glucagon infusion can also be used.

In Nesidioblastosis, insulin levels will be inappropriately high e.g. 10 mU/l with a blood glucose of 2 mmol/l. Treatment: Do not feed protein until the hypoglycaemia has been corrected (may exacerbate). Use glucagon 0.1 mg/kg/IM while inserting/replacing IV. Consider diazoxide 15-20 mg/kg/day (3 doses). Somatostatin 0.25 mcg/kg/hr IV infusion and reducing over 24-48 hours may also be useful.

WHD/Ref/662

Page 36 of 63

April 2002

## Appendix 3

17/05/2006 06:24 64-3-7682598

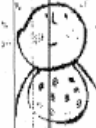
MURKIN WARD

PAGE 04

# Breast Feeding Policy

## Policy Statement

All Coast Health maternity facilities will comply with their obligations to the "Ten Steps of the Baby Friendly Hospital Initiative". The staff will consult with mothers and discuss these obligations.



## Purpose

This policy aims to:

- \* create an awareness of the Baby Friendly Hospital Initiative
- \* provide optimal breast feeding outcomes

## Scope

Coast Health maternity facilities

## Responsibilities

- Step 1* - have a written breast feeding policy that is routinely communicated to all health care staff;
- Step 2* - train all health care staff in skills necessary to implement this policy;
- Step 3* - inform all pregnant women about the benefits and management of breast feeding;
- Step 4* - help mothers initiate breast feeding within half an hour of birth;
- Step 5* - show mothers how to breast feed and how to maintain lactation even if they are separated from their infants;
- Step 6* - give newborn infants no food or drink other than breast milk unless medically indicated;
- Step 7* - practice rooming in - allow mothers and infants to remain together 24 hours a day;
- Step 8* - encourage breastfeeding on demand;
- Step 9* - give no artificial teats or pacifiers to breast feeding infants;
- Step 10* - foster the establishment of breast feeding support groups and refer mothers to them on discharge from the hospital or clinic.

## Procedures

- \* The lead maternity carer midwife will know what the woman wishes;
- \* The ward staff will consult and communicate with the lead maternity carer and the woman about decisions related to breast feeding;
- \* Lactation consultancy services will be utilised;
- \* All consultation and decisions will be documented.

## References

World Health Organisation  
Family & Reproductive Health  
WHO-CHD-98.9

Guidelines for Health Breast  
Feeding Women - Ministry of  
Health

C:\Documents and Settings\jmcroarty\WESTCOAST\HR\Local Settings\Temporary Internet Files\OLK168\breast feeding policy.doc

## Appendix 4

### Neonatal hypoglycaemia prevention and management of – within Maternity Services

#### 1. Purpose

For staff to understand hypoglycaemia in order to prevent, identify, monitor and maintain baby's blood sugar levels.

#### 2. Application

All staff working in Maternity Services

#### 3. Definitions

For CHC hypoglycaemia is defined as a blood sugar level below below 2.8 mmol/L

#### 4. Staff Authorised to Perform Procedure

All nursing, midwifery and medical staff.

#### 5. Resources Required

- Superglucocard II
- Lancet
- Glucocard test strip
- Cutiplast strip

#### 6. Process

Explain to mother/family the need to measure blood glucose and obtain verbal consent.  
Follow standard hygiene procedures for taking blood sample.  
Select correct heel area to prevent trauma to the calcaneae to obtain blood sample.  
Document all findings and actions taken in baby's notes and on the feeding chart.

#### Diabetic mothers

**The baby of an insulin dependent diabetic mother** – Breastfeeding is initiated as soon as possible. Feed and check blood sugar within one hour of birth.

**The baby of a gestational diabetic mother** – Breastfeeding is initiated as soon as possible. Feed and check blood sugar within 1 hour of birth. If blood sugar level < 2.8 mmol/L – see Management of Hypoglycaemia.

#### At Risk Babies (see 'Precautions and Considerations')

Monitor blood glucose 4 hourly before feeds

Monitor temperature and maintain at more than 36.5.

### Blood glucose levels and actions

Take the following actions according to the blood glucose levels

#### If Blood Glucose < 2.0 mmol/l

1. Contact Neonatal Registrar (dial 1 ) for advice.
2. Contact LMC and house surgeon.
3. Explain situation to mother/family.
4. Feed baby immediately then give supplementary feed of approximately 10ml/kg of expressed breast milk or formula.
  - The Registrar may prescribe an IV bolus dextrose. **This is a medical decision only**
  - In this case commence 10% dextrose infusion as charted
  - Check blood glucose level 30 mins post commencement of IV therapy.
  - If blood sugar is still less than 2.0 mmols, continue IV therapy and titrate oral feeds (if baby's condition allows).
    - Inform Registrar who may consider giving another bolus of 10% dextrose. **This is a medical decision only.**
    - Repeat, until blood glucose is greater than 2.5 mmols.
  - Check blood glucose as directed by medical staff usually 2-3 hourly, before feeds, until stabilised.
  - Always check blood glucose levels when decreasing IV fluids and increasing oral feeds.
5. Document all findings and actions taken in baby's notes and on the feeding chart.

#### If Blood Glucose 2.0 – 2.8 mmol/l

1. Notify the LMC of the blood glucose result
2. Breastfeed the infant, observing breastmilk transfer.
3. If adequate breastmilk transfer does not occur express and give colostrum to the baby.
4. If there is not adequate colostrum, supplement with formula @ 90mls/kg/day 3 hourly.
  - Some babies may need feeds 2 hourly @ 90mls/kg/day if they spill or vomit the larger amount. Feeding small amounts 2 hourly may mean it is easier to obtain adequate colostrum instead of using formula.
5. Repeat the blood glucose 30 minutes after the feed and before the next feed. If the blood glucose is 2.8 mmol/l or greater continue feeds 3 hourly, earlier if demanded, no longer than four hourly or as ordered by the Registrar. Continue to check the blood sugar before feeds (pre-feed) until stable.

If the blood glucose is less than 2.6mmol/l notify the Registrar.

Feed the baby expressed breastmilk or formula.

6. Document all findings and actions taken in the baby's notes and on the feeding chart.

38 2735 9

**If Blood Glucose 2.8 mmol or above**

1. Continue demand breast feeds with a four hour limit and re-check blood sugar prior to the next feed.
  2. If blood sugar > 2.8mmol/L on **three consecutive occasions**, then discontinue blood sugar monitoring
- The decision to discontinue blood sugar monitoring or return to demand feeding is made by the LMC and documented accordingly.

**7. Precautions and Considerations****Importance of maintaining blood sugar**

Glucose is an essential nutrient for the brain. Persistent or abnormally low levels of glucose may cause brain injury.

Current evidence suggests that repeated blood sugar values below 2.6 mmol/L may be associated with long-term neuro-cognitive deficits (WHO, 1997).

**Neonatal physiology**

Glucose is transferred to the foetus via the placenta and the energy stores, after metabolism, as fat and glycogen. Human subcutaneous and body fat is deposited from 28-30 weeks gestation onwards and glycogen reserves from 36 weeks.

Blood glucose falls in the first two hours of life when it is the main energy source. Simultaneously the enzymes of glycogenesis are active and the hepatic glycogen stores fall rapidly. If, for some reason, the baby has a low glycogen store, the blood sugar will fall more rapidly. This includes premature and intra uterine growth retarded (IUGR) babies.

Both term infants and IUGR or premature infants should maintain a blood sugar level of 2.6 mmol/l or more in the first week of life. If the blood sugar level is less than 2.6 mmol/l the baby is said to be hypoglycaemic. Whether the brain can cope with the hypoglycaemia depends on the availability of other fuels

**Prevention of Hypoglycaemia**

CHC staff providing care for mothers and babies should take the following actions to avoid hypoglycaemia:

1. Promote early breastfeeding for babies at risk of hypoglycaemia
2. Maintain infant temperature (skin to skin care where appropriate) > 36.5°
3. Ensure a second breast-feed within 3 hours of the birth - earlier if demanded
4. Check **all high-risk babies'** blood sugar levels at 4 – 6 hours post-delivery prior to the third feed.
5. If a baby has symptoms of hypoglycaemia perform an immediate blood sugar. Notify the LMC if the result is below 2.8mmol/L.



### Risk factors of hypoglycaemia

- Gestation less than 35 weeks gestation
- Small or large for gestational age – see table 1
- Hypothermia (temperature < 36.6°)
- Infants of diabetic mothers – gestational and insulin dependent.
- Perinatal asphyxia (eg 5 minute Apgar score < 7)
- Sepsis
- Dysmaturity
- Inborn errors of metabolism

Table 1

Abnormal weight ranges for gestational age

Small for gestational age Less than 3 <sup>rd</sup> percentile		Large for gestational age More than 97 <sup>th</sup> percentile	
Gestation	Birth weight	Gestation	Birth weight
37 weeks or less	< 2300g	36 weeks	>3600g
38 weeks	< 2500g	37 weeks	>3900g
39 weeks	< 2700g	38 weeks	>4100g
40 weeks	< 2900g	39 weeks	>4300g
41+ weeks	< 3000g	40+ weeks	>4500g

## 8. References

Capital & Coast District Health Board, Canterbury District Health Board and Queen Mary, Wellington, Neonatal Hypoglycaemic Policies,  
Which include the following references:

- Aynsley-Green A, Hussain K, Hall J, et al. 2000. Practical management of hyperinsulinism in infancy. *Arch Dis Child Fetal Neonatal Ed.* 82: F98-F107.
- Christensson, K, Siles, C., Moreno, L., Belaustequi, A., De La Fuente, P., Lagercrantz, H, Puyol, P. and Winberg, J. 1992. Temperature, metabolic adaptation and crying in healthy full-term newborns care for skin-to-skin or in a cot. *Acta Paediatr.* 81: 488-493
- Cornblath, M., Hawdon, JM., Williams, AF., Aynsley Green, A., Ward Platt, MP, Schwartz, R., Kalhan SC. 2000. Controversies regarding definition of neonatal hypoglycaemia: Suggested operational thresholds. *Pediatrics.* Vol 105. No.5. p. 1141-1145
- Duvanel CB, Fawer C-L, Cotting J, Hohfeld P, Matthieu J-M. 1999. Long-term effects of neonatal hypoglycaemia on brain growth and psychomotor development in small-for-gestational-age preterm infants. *J Pediatr*;134: 492-8.
- Bidelman AI. 1999. Hypoglycaemia and the breastfed neonate. *Pediatric Clinics of North America.* 48, 2 April 2001. 377. -388
- Glaser B, Thornton P, Otonkoski T, Junien C. 2000. Genetics of neonatal hyperinsulinism. *Arch Dis Child Fetal Neonatal Ed.* 82: F79.
- Hawdon JM, Ward Platt MP, Aynsley-Green A. 1994. Prevention and management of neonatal hypoglycaemia. *Archives of Disease in Childhood* 70:F60-P65