HEALTH & DISABILITY COMMISSIONER
TE TOIHAU HAUORA, HAUĀTANGA

Management of signs of postpartum bleeding after a Caesarean section

Executive summary

1. This investigation relates to the standard of care provided to Miss A by Health New Zealand | Te Whatu Ora Te Toka Tumai Auckland (Health NZ) at Auckland City Hospital. Miss A made a complaint to the Health and Disability Commissioner (HDC) after undergoing an elective Caesarean section procedure. She was concerned there had been a delay in the diagnosis and treatment of her postoperative bleeding and postpartum infection.

2. Following my investigation, I have found that Health NZ breached Right 4(1)[1] of the Code of Health and Disability Services Consumers' Rights (the Code) for its lack of timely senior medical review and investigation of a possible haematoma and a resultant infection, delayed postoperative obstetric medical review, and the lack of risk–benefit discussions about medication to prevent the risk of blood clots forming (Clexane).

Recommendations

Changes made

3. Miss A's case was reviewed by the clinical director of obstetrics at Auckland Hospital at the time. After the case review, Health NZ apologised to her and made the following changes to its service:

- Senior midwifery staff and house officers are encouraged to escalate to a senior medical doctor if they have concerns about a patient's results or condition.
- Safety briefings now take place during handover at each shift change. Handover involves the multidisciplinary team, with the safety briefings providing a summary of any risks and recommendations identified during case reviews and incidents.
- There are sufficient senior midwifery staff to oversee all women and babies and ensure all appropriate assessments and reviews are undertaken.
- The obstetric medical team is informed about any patient who is admitted to the neonatal transitional care unit Whitinga ora pēpi (WOP).
- A whiteboard system has been implemented to identify patients at risk who need a review.
- The size of WOP is in the process of being increased to match demand, and this will include employing a dedicated midwife manager to oversee the ward.
- The clinical midwifery specialist in the WOP is now supernumerary to midwives carrying a caseload, which means there will be increased and consistent midwifery support.

[1] The right to have services provided with reasonable care and skill.

Names have been removed (except Health New Zealand | Te Whatu Ora Te Toka Tumai Auckland, Auckland Hospital and the clinical advisor on this case) to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

4. I acknowledge the changes made by Health NZ. In addition, I recommend that Health NZ:

   a) Confirm, within three months of this report, whether a dedicated midwifery manager is now employed to oversee WOP.

   b) Evaluate the effectiveness of the safety measures introduced by reviewing the adverse events reported in the WOP unit in the past six months and provide HDC with the outcome report with any corrective actions to be implemented within six months of this report.

Background

5. At the time of the events, Miss A, aged 24 years, was pregnant with twins following in vitro fertilisation.[2] She had a body mass index (BMI) over 30 (obesity) and a history of endometriosis.[3] Miss A was booked for an elective Caesarean section on 5 May 2022 at Auckland City Hospital.

6. Miss A's multiple pregnancy, elective Caesarean section, and BMI placed her at higher risk of venous thromboembolism (formation of a blood clot that blocks the flow of blood through the veins). As per Health NZ's Venous Thromboembolism in Pregnancy – Prevention guidelines (dated 2019), it was recommended that she be given antenatal and postnatal prophylactic Clexane (a medication to help prevent blood clots forming).

7. At Miss A's preoperative anaesthesia assessment, the electronic maternity record documented that Miss A experienced headaches with Clexane. This was also documented in the preoperative anaesthetic chart. However, there was no further documentation of an alternative plan or discussion with Miss A about the risk–benefit ratio of taking Clexane when an adverse reaction was noted. In addition, this concern was not elevated to the obstetric medical team to resolve the question of whether Clexane should be given at the preoperative or postoperative stages.

8. At 8.34am on 5 May 2022, the Caesarean section was successfully performed, and Miss A delivered her twins. There was an estimated blood loss of 800ml, but no complications were noted. The postoperative note recorded a plan for Clexane to be administered once a day for five days, but this was not charted on the medication chart. Health NZ said this may have been due to the preoperative documentation indicating an adverse reaction to the drug. However, Health NZ also said that there was 'no positive documentation of a decision not to give it, nor of any alternative thromboprophylaxis measures.'

9. After the surgery, Miss A transferred to WOP but remained under the care of the obstetric team. The WOP unit provides dedicated support to parents of newborn babies born prematurely or with complex medical needs. The WOP unit was newly established around the time of Miss A's care and created a new patient pathway and flow. Health NZ said that usual practice would be for a patient to be reviewed by an obstetrician on the day after an elective Caesarean section. However, Health NZ said that because of a 'lack of visibility,' Miss A's obstetric team were unaware that she had been moved to WOP and needed to be

[2] A fertility treatment where an egg is combined with sperm artificially.
[3] A condition that causes the lining of the uterus to grow outside the uterine cavity.

seen there (rather than on the obstetric ward). Therefore, an obstetric medical review did not occur on 6 May 2022 (the day following Miss A's Caesarean section). Health NZ acknowledged that there was a breakdown in communication that resulted in the lack of obstetric review on 6 May.

10. An anaesthetic review occurred at 12.03am on 6 May, as Miss A reported ongoing nausea as well as dizziness and 'ringing in the ears' with sitting or standing. Health NZ said that fluids and medication were prescribed, but there is no mention of this in the anaesthetist's clinical note. Midwifery reviews at 10am and 1.38pm on 6 May noted that Miss A was 'feeling better,' tolerating fluids and food, and that her dizziness had resolved.

11. Health NZ said that the missed obstetric review on 6 May was identified the next day, and from 7 May onwards obstetric medical review occurred at least daily. This is reflected in the clinical records.

12. Miss A said that, between 7 and 11 May 2022, she experienced dizziness, tiredness, abdominal pain and distension. Miss A said she raised these symptoms repeatedly with staff during this time but is concerned that staff did not take her symptoms seriously. Miss A felt that she was often perceived as an '[anxious] new mother' and this made it difficult to advocate for herself or challenge clinical staff. Clinical records show that an obstetric medical review occurred at least daily from 7 May (detailed below). Midwifery staff regularly checked Miss A's pain levels, lochia,[4] levels of dizziness, and bowel activity and monitored vital signs and escalated them to the medical team when concerned. Over this period, her pain was treated with regular pain medication, laxatives were administered for constipation, intravenous (IV) fluids were given for hydration, and she was supported to mobilise and breastfeed her babies.

13. On 7 May 2022, midwifery staff requested obstetric review as Miss A was feeling dizzy again. On review, an obstetric house officer noted that Miss A's vital signs and lochia levels were stable but that she was tired and dizzy with occasional palpitations. This was attributed to her haemoglobin[5] levels dropping from 134g/L (preoperatively) to 86 g/L[6] (anaemia) and low iron levels at 38mcg/dL[7] on 7 May 2022. Her abdomen was palpated and noted as being soft and non-tender. Subsequently, an IV iron infusion was given with a plan to repeat a blood test the next morning to check her haemoglobin levels along with an obstetric medical review. Health NZ said that, at this stage, Miss A's haemoglobin levels did not meet the criteria for a blood transfusion. Health NZ also said that the 800ml blood loss during the surgery would not have been expected to result in the haemoglobin dropping to 86g/L. Health NZ said that an unexpected drop of haemoglobin of this degree, as well as Miss A's symptoms, 'would usually trigger a review by a senior medical officer and ideally a member of the surgical team.' No escalation to a registrar or senior medical officer is documented.

[4] The combination of mucous, tissue and blood that is shed from the uterus after birth.
[5] A protein that carries oxygen in the blood.
[6] Normal haemoglobin levels are between 121g/L and 151g/L.
[7] Normal iron levels are between 40mcg/dL and 190mcg/dL.

14. At this stage, the house officer also documented 'continue [C]lexane [for 5 days]' after looking at the postoperative plan (see paragraph 8). The Clexane had in fact not been administered over this time for the reasons previously referred to under paragraph 8.

15. On 8 May 2022, Clexane was charted on the medication chart after it was realised that the surgeon had requested this postoperatively. Health NZ said that, at this point, concerns about unexplained anaemia meant that administration of Clexane would not have been appropriate. Miss A declined Clexane as she was concerned about it causing a headache. The obstetric team were not contacted to resolve the question of whether Clexane should be given or not or to discuss the risks and benefits of this with Miss A. Clinical records show her wearing thrombo-embolus deterrent (TED) stockings consistently while in the WOP unit, which was a further strategy for increasing blood flow and reducing the risk of blood clots.

16. There was no medical review in the morning of 8 May 2022. However, at 6.39pm, a midwife noted that Miss A's haemoglobin had dropped further to 69g/L, and this was escalated to the obstetric house officer. The obstetric house officer reviewed her at 7.32pm and noted that, although Miss A was experiencing dizziness and some tenderness on the right side of her abdomen, there were no other concerns. The house officer documented, 'no features on exam to suggest intra-abdominal bleed.' Subsequently, one unit of blood was prescribed with a plan to repeat the haemoglobin levels the next day along with a medical review. Health NZ said that, with the benefit of hindsight, at this stage it may once again have been appropriate for the house officer to have escalated to a senior medical officer.

17. Miss A's haemoglobin levels were checked after the completion of the blood transfusion on the evening of 8 May and were noted to have improved to 81g/L.

18. On the morning of 9 May 2022, the obstetric house officer noted that Miss A had been experiencing worsening abdominal pain overnight, had normal lochia, was feeling cold and shivery, and had pale skin, ongoing dizziness, and an elevated heart rate of 106–116 beats per minute (bpm).[8] The working diagnosis was ongoing symptomatic anaemia with possible overlying infection of the Caesarean section wound, and the abdominal pain was thought to be related to minimal bowel activity as Miss A had not opened her bowels since surgery.[9] A further unit of blood was administered, and a plan was made to increase the frequency of her vital signs monitoring, repeat the haemoglobin level, and administer laxatives.

19. The house officer discussed this plan with the obstetric registrar, who felt an infection was unlikely because Miss A did not have a fever but raised the possibility of an internal bleed or a large bowel obstruction. Further investigations were ordered, but these did not include an ultrasound scan, and no senior medical review was arranged. Health NZ acknowledged that, with the benefit of hindsight, escalation to the obstetric senior medical officer at this stage may have enabled earlier diagnosis and treatment of Miss A's condition.

[8] Normal heart rate for adults is between 60bpm and 100bpm.
[9] Reduced bowel activity is a side effect of some pain medications and anaesthesia.

20. A further review by the house officer in the afternoon of 9 May noted that the haemoglobin levels improved to 91g/L. There was no senior medical review.

21. On the morning of 10 May 2022, the obstetric house officer completed a further review and noted that Miss A was 'feeling much better,' that her bowels were working after laxative use, which had resolved her pain, but that her dizziness continued, her heart rate was elevated, at 100 bpm, and her C-reactive protein (CRP)[10] levels were raised. The plan was to continue laxatives and monitoring of her vital signs.

22. Over the course of 11 May 2022, Miss A's condition deteriorated. Various symptoms were recorded, including severe abdominal pain, which was unrelieved with pain medication, reduced mobility, a fever, a high heart rate, ongoing dizziness, a tender uterus on palpation, and raised CRP and white blood cells.[11] An obstetric specialist reviewed Miss A at 5.22pm (the first senior medical review since her Caesarean section) and queried sepsis from endometritis or peritonitis.[12] Miss A received IV fluids, IV antibiotics, and more frequent vital signs monitoring. An abdominal ultrasound in the evening showed a large haematoma that was confirmed by a CT scan. No other intra-abdominal abnormality, such as a bowel obstruction, was noted on the CT scan. A blood test also confirmed bacteria in the bloodstream.

23. On 12 May 2022, Miss A underwent surgery to evacuate her haematoma; she progressed well postoperatively, and her health improved. She was discharged on 17 May 2022. Miss A told HDC that the management of her postoperative complications resulted in a prolonged recovery and significantly impacted on her ability to care for her newborn twins and her overall postpartum experience. She also said that she subsequently suffered from post-sepsis syndrome, including long-term symptoms of chronic fatigue, muscle and joint pain, 'brain fog [and] memory issues,' a weakened immune system, and anxiety.

Analysis

24. The key issue for my determination is whether the care Miss A received from Health NZ was reasonable, notwithstanding the delay in recognising and treating Miss A's postpartum bleeding, the development of an underlying haematoma, and the accompanying infection. In making my determination, I have considered independent clinical advice from obstetrics and gynaecology specialist, Dr Sikhar Sircar (**Appendix A**). Below, I discuss my decision and my reasons for it.

Timeliness of medical review and investigation of postpartum bleeding and infection

25. First, I note that there was an absence of an obstetric medical review on day 1 postoperatively, which was not in line with Health NZ's usual process. This was due to a lack of visibility over the patients in the WOP unit, which at the time was newly established with a new patient pathway. Dr Sircar advised that the lack of obstetric review on day 1 postoperatively was a mild departure from the accepted standard of care. Health NZ

[10] A blood marker of inflammation. High levels can indicate inflammation or infection.
[11] A raised white blood cell count can indicate infection, inflammation, or stress.
[12] Endometritis is inflammation of the uterine lining from infection, and peritonitis is inflammation of the inside lining of the stomach.

accepted this view but also noted that an anaesthetic review occurred on day 1 and that there was no clinical reason to suggest that clinical escalation on this day was necessary. I acknowledge Health NZ's reasoning. However, the fact remains that its usual process was not followed when Miss A transferred to WOP, which created a potential area of risk.

26. Regarding Miss A's postoperative haematoma, Dr Sircar advised that haematoma and infection are known complications of a Caesarean section. However, he advised that the possibility of significant postoperative bleeding and infection was not investigated in an appropriate and timely fashion.

27. Between 7 and 11 May 2022, Miss A experienced symptoms indicative of a haematoma and infection. Her symptoms of dizziness and tiredness were initially attributed to the drop in her haemoglobin levels and baseline low iron levels. However, there was no clear cause for the drop in haemoglobin on 7 May 2022, and follow-up to determine the reason for this drop was insufficient. Dr Sircar advised that this drop in haemoglobin was more than expected based on the documented blood loss of 800ml during surgery and that – in the absence of uterine blood loss (with her lochia being reported as normal) – an abdominal source for the blood loss should have been considered. Health NZ said that an unexpected postoperative drop in haemoglobin, combined with Miss A's symptoms, would usually trigger a review by a senior medical officer.

28. Despite an iron infusion, by 8 May Miss A's haemoglobin levels had dropped further. Blood transfusions were administered but she continued to deteriorate. Although a house officer review (in consultation with a registrar) on 9 May considered the possibility of an internal bleed, the necessary imaging was not sought to rule this out, and senior medical review was not arranged.

29. Miss A's concerning symptoms were not escalated or fully investigated until 11 May 2022. By this time, her condition had deteriorated and symptoms become more extreme. She had late indicators of sepsis – including increased CRP levels, unresolved pain, and deranged vital signs.

30. Dr Sircar advised that, other than the lack of obstetric review in the WOP unit on 6 May, medical reviews in the immediate postpartum period were regular and adequate (being at least daily from 7 to 11 May 2022). I accept Dr Sircar's advice to the extent that this would have been adequate if Miss A's postpartum course had been uneventful with no indications of concern.

31. However, Dr Sircar also advised that imaging should have been organised earlier than 11 May 2022 because Miss A's clinical picture suggested a disproportionate and possible ongoing blood loss, and timely imaging and intervention could have limited Miss A's inpatient stay. He advised that the lack of timely imaging and intervention for a possible haematoma and infection represented a moderate departure from the accepted standard of care. I accept this advice. Health NZ also accepted this assessment and noted that earlier escalation to a senior medical officer would have been appropriate and may have led to earlier imaging, diagnosis, and treatment, which could potentially have avoided the development of sepsis.

32. Taking all of this into account, I consider that there was indication as early as 7 May 2022 for Miss A's case to have been escalated to an obstetric senior medical officer and for imaging investigations to have been arranged. Given that a haematoma is a known complication of a Caesarean section, that Miss A's haemoglobin levels suggested blood loss greater than what had been recorded, that on 9 May 2022 the possibility of haematoma was raised but not investigated, and that an undiagnosed haematoma can lead to sepsis, I am critical that her symptoms were not escalated or appropriately investigated until 11 May 2022, four days after there were indications of a possible haematoma.

33. Dr Sircar advised that once the haematoma was identified on 11 May 2022 it was managed appropriately and in a timely fashion. I accept this advice.

Thromboprophylaxis

34. Dr Sircar advised that antenatal thromboprophylaxis was indicated for Miss A because she had undergone a Caesarean section and her BMI was more than 30, as is also stated in Health NZ's Venous Thromboembolism in Pregnancy – Prevention guidelines 2019. The guidelines state that Clexane is also indicated for postpartum thromboprophylaxis, but no alternative is listed. TED stockings are listed as an adjunct but not as an alternative to Clexane.

35. Clinical information suggests that the team was aware of the importance of thromboprophylaxis in Miss A's circumstances. Although she is documented as consistently wearing TED stockings postoperatively, she did not receive antenatal or postoperative Clexane. The medical team noted her adverse reaction to Clexane; however, this did not appear to be escalated to the obstetric team preoperatively, and the risks and benefits of Clexane were not discussed at any stage.

36. While Dr Sircar acknowledged that TED stockings were initiated and maintained as alternative thromboprophylaxis, he advised that 'perhaps [Clexane] needed to [be] considered' given the lack of pharmacological alternatives and that headaches are not listed as a known symptom of Clexane. Dr Sircar advised that the lack of a discussion about the 'cautious use of Clexane' was a mild departure from the expected standard of care. I accept this advice.

Conclusion

37. In my view, several aspects of Health NZ's care of Miss A fell below an appropriate standard. These include a lack of appropriate obstetric review the day after her Caesarean section, no discussion about the risks and benefits of Clexane, and, critically, a failure to arrange timely and appropriate senior medical review and imaging investigations when there were indications of a postoperative haematoma and emerging sepsis. For these reasons, I find that Health NZ failed to provide Miss A with services with reasonable care and skill, and, accordingly, breached Right 4(1) of the Code.

Follow-up actions

38. A copy of the final report with details identifying the parties removed, except Auckland City Hospital and Health New Zealand | Te Whatu Ora Te Toka Tumai Auckland, will be placed

on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Rose Wall
Deputy Health and Disability Commissioner

Appendix A: Independent clinical advice to the Commissioner

The following independent advice was obtained from Dr Sikhar Sircar:

Complaint:	**[Miss A] / Te Whatu Ora – Te Toka Tumai Auckland**
Our ref:	**C22HDC01277**
Independent advisor:	**Dr Sikhar Sircar**

I have been asked to provide clinical advice to HDC on case number **C22HDC01277**. I have read and agree to follow HDC's Guidelines for Independent Advisors.

I am not aware of any personal or professional conflicts of interest with any of the parties involved in this complaint.

I am aware that my report should use simple and clear language and explain complex or technical medical terms.

Qualifications, training and experience relevant to the area of expertise involved	MBBS, MD, DFFP, FRCOG, FRANZCOG Current and past employment as consultant in obstetrics and gynaecology for over 15 years.
Documents provided by HDC	1. Letter of complaint 2. **Te Whatu Ora – Te Toka Tumai Auckland's** response dated 18 October 2022 3. Clinical records from **Te Whatu Ora – Te Toka Tumai Auckland** covering the period 3–17 May 2022. 4. Further medical report emailed 2 April 2024 and 9 May
Referral instructions from HDC	As below

Please review the enclosed documentation that relates to the care provided to Miss [A] at Auckland Hospital and advise on:

1. The appropriateness of thromboprophylaxis administration both before and after suspicion of a postoperative bleed.

2. Standard of clinical review and monitoring following Miss A's lower segment caesarean section (LSCS) and following the observed drop in haemoglobin on 8 May 2022.

3. Whether the possibility of a significant postoperative bleed/collection was investigated in an appropriate and timely fashion.

4. Once a collection was identified, whether this was managed in an appropriate and timely fashion.

5. Any additional comments, recommendations, or matter that you consider warrant comment.

Factual summary of clinical care provided complaint:

Brief summary of clinical events:	As below

Summary of complaint

Delay in diagnosis of postoperative bleeding.

Delay in diagnosis of postpartum sepsis.

Summary of provider's response

The provider accepted that there was delay in reviewing the client postoperatively. The provider also accepts that imaging was not done prior to the signs of sepsis, and therefore the option of appropriate conservative management or timely surgical intervention was missed.

Summary of events

The consumer delivered twins via caesarean section. She suffered with dizziness two days post her delivery as well as a drop in haemoglobin levels, which was treated with an iron infusion and then two units of blood across two days. The doctors mentioned she could possibly have an internal bleed, and they did an external exam; however, no further tests were done. Her abdomen became painful and more distended, for which she was given laxatives and advised she may have a bowel blockage. She started to struggle with mobility and pain while breathing. She then developed severe pain, fever and tachycardia. She was treated with antibiotics with a question of endometritis and then, in the evening after being seen by another doctor, she was sent for an X-ray, ultrasound, and a CT scan. Her bloodwork showed bacteria growth, and she had sepsis and internal bleeding requiring emergency surgery.

[Discussion of relevant clinical details from the clinical notes].

Question 1: The appropriateness of thromboprophylaxis administration both before and after suspicion of a postoperative bleed	
List any sources of information reviewed other than the	1. Venous Thromboembolism in Pregnancy - Prevention 2. https://nzf.org.nz/nzf_1453 3. https://www.medsafe.govt.nz/consumers/cmi/c/clexane.pdf

documents provided by HDC	4. nzf_1451_dalteparin sodium_01-08-2021.pdf
Advisor's opinion	Thromboprophylaxis was indicated as Miss [A] had a caesarean section and her BMI was more than 30. I note the above guidance (Ref number 1, dated 2019) is relevant for the health board. In that case, [Miss A] could have qualified for antenatal thromboprophylaxis in view of being an inpatient and having one major risk factor (BMI >30). I do not see that being instituted (ref page 7). For postpartum thromboprophylaxis: The above guideline states that Clexane™ is to be administered. However, it has no other alternative listed if for some reason Clexane cannot be administered. It mentions Flowtron™ (calf compression boots) or TEDS (thromo-embolic deterrent stockings) as adjunct but not necessarily as alternatives. It is apparent that thromboprophylaxis was indicated for [Miss A]. It is also apparent that a good drug history was taken and recorded in the appropriate place. However, no further action was taken to document an alternative plan or to discuss the risk–benefit ratio when an 'adverse reaction' to Clexane was noted, namely headache. Looking at the New Zealand Formulary and Medsafe, headache is not reported as a known adverse effect from Clexane (reference 2 and 3). However, in my opinion, the risk–benefit of the use of thromboprophylaxis with Clexane should have been discussed and alternatives planned. For example, use of Clexane with monitoring, or use of Flowtron boots until mobile, etc. Please also note alternatives like dalteparin sodium (Fragmin™) is not available in New Zealand, which otherwise would have been a pharmaceutical alternative to Clexane. For clarity, one needs to note that [Miss A] had inappropriate (inadequate) thromboprophylaxis, therefore the postoperative bleeding could not be attributed to the lack of Clexane administration.
What was the standard of care/accepted	Routine antenatal thromboprophylaxis to be administered while as an inpatient due to BMI >30.

practice at the time of events? Please refer to relevant standards/material.	Routine postpartum thromboprophylaxis to be administered because of risk factors of caesarean section and BMI >30. Reference 1 as above. (*Please note that I have considered the above to be the valid and updated guidance at the time of event.)*
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	Yes. Antenatal thrombo-prophylaxis: Mild departure. I say so as it is not unusual for an otherwise low-risk woman with BMI of 33.5, who is mobile NOT to have Clexane. However, it still would be a departure from the local protocol. Postnatal prophylaxis: moderate departure. The risk of thromboembolism is greatest in the postpartum period. In my opinion, alternative thromboprophylaxis measures (TED stocking, Flowtron boots) or administration of Clexane with caution, after discussing the risks and benefits, should have been considered. There is no documented evidence that such discussion or alternatives were offered. Therefore, it is a departure from the standard and accepted practice of postpartum thromboprophylaxis.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	I am of the opinion that peers would have similar views.
Please outline any factors that may limit your assessment of the events.	I have not sighted the original guidance in the bundle and relied on an internet search to locate the document (hyperlinked as Venous Thromboembolism in Pregnancy - Prevention).
Recommendations for improvement that may help to prevent a similar occurrence in future.	Clarity on alternative thromboprophylaxis options, if Clexane cannot be administered for any reason, would be useful to avoid similar issues in future.

Question 2: Standards of clinical review and monitoring following Miss [A]'s LSCS and observed drop in haemoglobin on 8 May 2022	
List any sources of information reviewed other than the documents provided by HDC	Emailed correspondence dated 9 May 2024, consisting of screen shots.
Advisor's opinion	Medical review took place on 4 May and 5 May. Both reviews discussed the proposed surgery and, in my opinion, there were no departures from standard and accepted practice. There is no documentation of any further medical review after the caesarean section notes of 09.34 am on 5 May 2022 until 12 May 2022 at 22.53 hrs, just before the second procedure. The other clinical review as available in the documents relates to midwifery and nursing notes. It is not within my remit to opine on the adequacy of nursing and midwifery review. However, I will comment on the overall care.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	<u>Nursing and Midwifery review</u> Within the above limitation, the standard of postoperative care seems to be appropriate. Basic observations were carried out and recorded. [Miss A]'s concerns about not being listened to regarding her pain and discomfort (as per her complaint letter) have not been reflected in the medical notes. However, when the MEWS (Maternity Early Warning Score) changed, appropriate actions, such as escalation to the medical team, were taken. <u>Medical review</u> Usual and accepted clinical practice, which would involve 'regular' medical review. It is difficult to define what would be considered as 'regular' medical review, but the most accepted view would be daily review. The standards of medical reviews are appropriate when it happened.

Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	In my opinion, this is a moderate to severe departure from accepted standards. I say so, as the accepted practice would be to have medical reviews postoperatively, normally within 24 hrs and then manage as per clinical condition. It is acceptable to have no further medical review if no concerns were raised. The postpartum care is then often handed over to midwifery or nursing staff, based on local resource allocation/constraints. There are no documentations of any medical review after the caesarean section notes of 09.34 am 5 May 2022 until 12 May 2022 at 22.53 hrs, just before the second procedure. In my opinion, to be admitted as an inpatient for 7 days with multiple nursing reviews, abnormal ultrasound and CT scans and being diagnosed with sepsis would have mandated documented regular medical clinical review. I would consider a daily review as a minimum standard. It is possible medical reviews took place and have not been documented. However, in absence of documentation, I have considered that this (regular medical review) did not happen. There is only one documented postoperative review after the second surgery. This would be considered inadequate and insufficient. The accepted practice would be to plan discharge, debrief, and follow-up. None of this seems to have been discussed.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	I have suggested moderate to severe as the course of events is unlikely to have changed with documented medical review. It appears proper nursing review took place and was escalated when needed. Therefore, it has been difficult (for me as reviewer) to 'grade' this departure. I am of the opinion that my peers would have similar views. I accept some of my peers could consider this lack of documented medical review as a severe departure.
Please outline any factors that may limit your assessment of the events.	
Recommendations for improvement that may help to	Timely review and documentation of the same.

prevent a similar occurrence in future.	

Question 3: Whether the possibility of significant postoperative bleeding/collection was investigated in an appropriate and timely fashion.	
List any sources of information reviewed other than the documents provided by HDC	None
Advisor's opinion	In my opinion, the possibility of significant postoperative bleeding/collection was not investigated in an appropriate and timely fashion. This is because [Miss A]'s documented symptoms of feeling unwell (as per nursing notes) and unresolved pain (as per [Miss A]'s complaint letter) does not explain the anaemia. The drop in haemoglobin was more than expected based on documented blood loss of 800ml. In the absence of uterine blood loss (lochia being reported as normal), an abdominal source should have been considered. The clinical picture suggests disproportionate and possible ongoing blood loss. In my opinion, this should have alerted and prompted the team to arrange appropriate imaging (ultrasound or CT scan) earlier than 11 May 2022.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	Usual and accepted clinical practice.
Was there a departure from the standard of care or accepted practice? • No departure;	In my opinion, there has been a moderate departure from accepted clinical practice.

• Mild departure; • Moderate departure; or • Severe departure.	I say so because lack of timely imaging led to infection of the haematoma, ultimately leading to sepsis and/or a secondary operation. I have not considered this a 'severe departure' as haematoma and infection are known complications of caesarean section, but timely imaging and intervention could have limited the inpatient stay and/or a second operation for [Miss A].
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	I am of the opinion that peers would have similar views but accept some peers could suggest this as a 'severe' departure.
Please outline any factors that may limit your assessment of the events.	Lack of documented medical review.
Recommendations for improvement that may help to prevent a similar occurrence in future.	

Question 4: Once the collection was identified, was it managed in an appropriate and timely fashion?	
List any sources of information reviewed other than the documents provided by HDC	None
Advisor's opinion	In my opinion, once the collection was identified, this was managed appropriately and in a timely fashion.

	I say so as the monitoring frequency was increased, bacteraemia service was involved, and appropriate surgical procedure was performed.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	Usual and accepted clinical practice.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	In my opinion, there was no departure from the standard or accepted practice.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	I am of the opinion that peers would have similar views.
Please outline any factors that may limit your assessment of the events.	None
Recommendations for improvement that may help to prevent a similar occurrence in future.	None

By signing this report, I agree to HDC correcting any formatting, spelling, or grammar issues on the proviso that the substance of the report and any quoted material remains unchanged.
Signature: 
Name: Dr Sikhar Sircar
Date of Advice: 18 May 2024

Further advice was provided on 31 May 2025:

This is based on receiving further information from HDC (email dated 14 May 2025, response from Te Whatu Ora).

Documents provided by HDC:	1. Letter of complaint 2. **Te Whatu Ora – Te Toka Tumai Auckland's** response dated 18 October 2022 3. Clinical records from **Te Whatu Ora – Te Toka Tumai Auckland** covering the period 3–17 May 2022. 4. Further medical report emailed 2 April 2024 and 9 May 5. Further medical report, including Te Whatu Ora's response, guidelines, etc. emailed on 14 May 2025

Question 1: The appropriateness of thromboprophylaxis administration both before and after suspicion of a postoperative bleed

Postnatal prophylaxis: Upon receiving further information from HDC (email dated 14 May 2025, response from Te Whatu Ora), I can confirm that *I have changed my opinion to mild departure.*

Upon receiving further information from HDC (email dated 14 May 2025, response from Te Whatu Ora), I am of the opinion that TED stockings as alternative prophylaxis was initiated and maintained. I have still considered the event as 'mild departure' as it would be reasonable to have the discussion regarding cautious use of Clexane. Headache is not a known documented side effect of Clexane, and perhaps its use needed to considered, considering the lack of any other pharmacological alternatives.

Upon receiving further information from HDC (email dated 14 May 2025, response from Te Whatu Ora), *I can confirm that I have now sighted the original document regarding Venous Thromboembolism in Pregnancy - Prevention Policy 26 June 2019.*

Question 2: Standards of clinical review and monitoring following Miss [A]'s LSCS and observed drop in haemoglobin on 8 May 2022

Upon receiving further information from HDC (email dated 14 May 2025, response from Te Whatu Ora), I can confirm that *I have changed my opinion to mild departure, compared to previous moderate to severe departure.*

This is because 'regular' medical review did take place during the immediate postpartum period. The response letter suggests that this information was previously not available for review and was related to access to BadgerNet.

Based on the new information, I am of the opinion that regular and adequate medical reviews took place.

I would still suggest mild departure due to a lack of obstetric review in the neonatal transitional area, which has been acknowledged in the response letter.

Question 3: Whether the possibility of significant postoperative bleeding/collection was investigated in an appropriate and timely fashion.

My opinion remains unchanged (moderate departure).

This has been substantiated by the response from Te Whatu Ora that 'With the benefit of hindsight, it is possible that if your internal bleed had been recognised earlier, the clinical course would likely have been different. We acknowledge and are sorry that the delay in recognising this was a major worry and distress for you.'

Question 4: Once the collection was identified, was it managed in an appropriate and timely fashion?

My opinion remains unchanged that there was no departure from the standard or accepted practice.

By signing this addendum, I agree to HDC correcting any formatting, spelling, or grammar issues on the proviso that the substance of the report and any quoted material remain unchanged.
Signature: 
Name: Dr Sikhar Sircar
Date of Advice: 31 May 2025

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