Auckland District Health Board

A Report by the
Health and Disability Commissioner

(Case 18HDC02321)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. This report concerns the care provided to a woman when she underwent surgery at a public hospital. During the surgery, a swab was left in her abdomen, which was discovered almost four weeks later.

2. Auckland District Health Board (ADHB) conducted a clinical case review but was unable to explain how the swab was retained, given that the surgical count was recorded as correct.

Findings

3. The Commissioner found that due to a swab being retained in the woman's abdomen when it should not have been, ADHB failed to provide services with reasonable care and skill, and therefore breached Right 4(1) of the Code.

4. Although he was unable to make a factual finding as to how and precisely when the swab was retained, he was highly critical that the error occurred, and considered the error the responsibility of ADHB and all the staff involved in the surgery.

5. The Commissioner made adverse comment about ADHB's count policy and discrepancies in the training for different teams in place at the time of events, and considered that improvement in these areas may assist to reduce any unnecessary risk and opportunities for error in regard to swabs in future.

Recommendations

6. The Commissioner recommended that ADHB mandate that all surgical staff read the Count Policy, and ensure that they keep up to date with any changes; consider how new medical surgical staff will be oriented to the Count Policy; provide the results of its yearly directorate-wide audit of 2020, including details of any changes made as a result and any specific targeted education provided to staff; and provide a written letter of apology to the woman.

Complaint and investigation

7. The Health and Disability Commissioner (HDC) received a complaint from Ms B about the services provided to her by Auckland District Health Board (ADHB). The following issue was identified for investigation:

- *Whether Auckland District Health Board provided Ms B with an appropriate standard of care.*

8. The parties directly involved in the investigation were:

Ms B	Consumer
ADHB	Provider

9. Further information was received from:

Dr A	Provider/consultant vascular surgeon
Dr C	Provider/vascular surgery registrar
RN D	Provider/registered nurse
RN E	Provider/registered nurse
RN F	Provider/registered nurse
Medical centre	General practice

Information gathered during investigation

Introduction

10. Ms B (in her forties at the time of events) underwent surgery at a public hospital, during which a swab was left in her abdomen. ADHB conducted a Clinical Case Review (the review). The review noted that inadvertent retention of surgical swabs is a known risk of surgical procedures. To mitigate that risk, surgical counts are performed to count and record all accountable items used during a surgical procedure.

11. The review was unable to explain how the swab was retained, given that the surgical count for Ms B's surgery was recorded as correct.

Background

12. Ms B had symptomatic right iliac artery disease[1] and claudication[2] in the lateral aspect of her right thigh. An MRI performed showed right common iliac artery occlusion.[3] Ms B was scheduled for an elective aorto-right iliac bypass graft[4] (the surgery).

Surgery

13. Ms B underwent the surgery, performed by the vascular service. The members of the surgical team directly involved in the count process were consultant vascular surgeon Dr A, vascular surgical registrar Dr C, scrub nurse Registered Nurse (RN) E, and circulating nurse RN D. There were two relieving circulating nurses.

14. Each staff member described the surgery as uneventful, and the review report noted that the details of the case are not specifically remembered by staff, as there were no triggers at the time of the event that this was anything other than routine surgery. Dr A said that there were no communication issues of note on the day.

15. The ADHB "Count Policy for Surgical Procedures" (the Count Policy)[5] specifies that counts must be completed at the following stages:

[1] The iliac arteries are blood vessels that supply blood to the legs. Iliac artery disease is caused by the narrowing of these arteries.
[2] Pain caused by obstruction/too little blood flow of the arteries.
[3] The blockage or closing up of the right iliac artery.
[4] The placement of grafts on the aorta and the right iliac artery to bypass a blood vessel that is blocked or narrowed, to increase blood flow to the legs.

a) Initial/first surgical count, before the procedure commences.

b) Cavity surgical count — if a cavity within a cavity exists.

c) First closing count, when the wound is closed.

d) Final surgical count, on closing the skin layer or when all countable items are no longer in use.

16. The review report stated that the Count Policy is to be adhered to by all staff involved with the count.

17. RN E told HDC that she performed the first, closing, and final count with the same circulating nurse for all three surgical counts. The circulating nurse, RN D, confirmed this.

Initial count

18. The Count Policy required that sponges[6] (which included abdominal swabs) should be counted on all procedures in which the possibility exists that a sponge could be retained, and a sponge count should be performed before the procedure to establish a baseline. It also stated that the initial count should be recorded in theatre on the count board — legibly documented by the circulating nurse, and then checked by the scrub nurse.

19. RN E said that before the procedure commenced, all consumable items and instruments were counted completely as per the Count Policy. RN D confirmed the same, noting that the consumable count for this procedure included 10 abdominal swabs from the reusable linen pack. The consumable items were recorded on the count board, and the instruments recorded on itemised count sheets for the surgical sets used.

During the procedure

20. The Count Policy stated that the count board should be updated during the procedure, that all extra countable items must be documented on the count board, that if any countable item is cut, then the extra piece is to be added to the count, and any item added by the relief nurse is to be added to the count board and initialled. Abdominal swabs should be counted if used.

21. RN E said that all instruments and consumables[7] subsequently added to the sterile field were counted by her and RN D as they were opened, and then documented on the count board by RN D, or relief staff if they were required to open additional equipment.

<u>Counting of items inserted and removed during the procedure</u>

22. The Count Policy in place at the time of events was silent on what communication was necessary between the surgeon and the nurses in relation to insertion and removal of swabs. In relation to documentation of the same, the Count Policy stated that "if possible,

[5] Last updated December 2010.

[6] In the Count Policy, "sponges" refers to "raytec, abdominal and chest swabs. For the purpose of labelling count bags of swabs raytec swab = small swab. Chest & abdominal swab = large swab."

[7] "Consumables" refers to items used during surgery (often single-use items) such as swabs, sutures, and needles.

swabs placed into abdominal wounds must be documented on the count board identifying 'in' and 'out' of wound", to assist location of swabs and reduce potential for error in subsequent counts.

23. The review report stated that prior to this incident, it was not widely known by surgical staff that intra-cavity swabs required mandatory counting, and "it appears that not all surgeons have been aware of their responsibilities with regards to communicating placement of swabs in cavities".

24. The review noted that although a surgeon usually communicates with the scrub nurse when items are deliberately placed into a wound, this is not always the case, and surgeons may not tell the scrub nurse if the item is only temporarily placed. Similarly, scrub nurses may not advise the circulating nurse if placement of a swab is thought to be temporary. Although scrub nurses watch the surgery, they may not always have a constant visual so swabs may be placed in, and removed from, the cavity without the scrub nurse observing this.

25. Additionally, the review noted that some surgical specialties were more consistent with communication than others. The review identified that it had not been routine practice for vascular surgeons to formally communicate when items were placed in wound cavities, or to document when swabs were placed in and removed from cavities.

26. The review identified that the lack of closed loop communication[8] for placement and removal of swabs in wound cavities was likely to have meant that nursing staff were not aware of, and therefore did not document on the count board, placement of a swab into the abdominal cavity. It was therefore considered likely that this was a contributing factor to the retention of the swab.

27. RN D could not recall whether communication of the insertion and removal of swabs occurred, but RN E told HDC: "[T]here was no communication about swabs being inserted into and removed from the abdomen during this case. Since the incident, it is now recommended practice in that unit."

28. Dr A said that his understanding was that swab counts are routinely documented on the count board, including any specific swabs placed in particular cavities. However, RN D noted that in vascular procedures, swabs are regularly packed into the wound/cavity, and taken in and out of cavities frequently and rapidly, which can be difficult to document.

First closing count

29. The Count Policy stated that a sponge count should be performed before wound closure begins. It stated that a note should be made on the intra-operative record when a count is completed and correct, and that when documenting swabs on the board they should be noted in groups in which they were packaged, and then crossed out as they are counted

[8] A communication technique to ensure that a message is communicated, received, and interpreted correctly.

off the sterile field and bagged. Items counted out are crossed out but not wiped off the count board as they are counted.

30. RN E told HDC that all consumables and instruments were completely counted and accounted for in the first closing count, and RN D stated that there was no doubt or hesitation that the count was anything but correct.

31. The Count Policy stated that the surgical team is responsible for checking the operative field prior to closure, and this is communicated to the team as an extra check to prevent unintentional loss or retention of foreign items. The surgeon is notified of the outcome of each closure count and acknowledgement is received.

32. Dr A said that he was inspecting the abdomen during "first count" ensuring haemostasis, returning bowel contents to the usual position, and starting the abdominal wall closure. Vascular surgical registrar Dr C recalled that the nurses verbally communicated to Dr A and herself that the first count was correct. Dr A said that he left the room soon after the first count was confirmed.

Final closing count

33. The Count Policy stated that a sponge count should be performed at skin closure or at the end of the procedure. As noted above, the surgeon is notified of the outcome of each closure count and acknowledgement is received, and a note should be made on the intra-operative record when a count is completed and correct. The scrub and circulating nurses sign the intraoperative record.

34. RN E said that consistent with the Count Policy, only consumables were counted in the final count, and all consumables were accounted for. This was communicated to the surgeon as per the count protocol, and documented electronically in the intraoperative record by the circulating nurse.

35. RN D said that there is a good safety culture amongst the vascular theatre nurses, and the surgical count is not taken lightly.

36. Dr C stated that she understood both the first and final counts to be correct, and said that the final count was clearly communicated by the nursing staff as "final count correct", and that she would have acknowledged this verbally in response to the circulating nurse. Dr C said that Dr A routinely responds by stating "final count formally acknowledged" or words to that effect; however, Dr A stated that he was not present for the final count.

37. Dr C told HDC that following this, the abdominal cavity would have been inspected, the bowel contents returned to the abdominal cavity and repositioned with the greater omentum[9] placed on top, and the wound closed. In response to the provisional decision, ADHB advised that this would have occurred prior to, during, or immediately following the first count being confirmed and announced, and therefore this occurs during the first closing count rather than the final closing count.

[9] A fold of peritoneum connecting or supporting abdominal structures.

38. The intraoperative record from the surgery documented that:

a) The instrument count, swab count, and sharp count were marked as correct.

b) The surgeon was notified of the correct surgical count.

c) RN D and RN E signed the intraoperative record, as the nurses responsible for the initial and final counts.

39. Ms B received postoperative care and was discharged.

Subsequent events

40. Ms B told HDC that three weeks following her surgery she noticed a lump on the left-hand side of her abdomen, and experienced associated pain and unwellness.

41. Ms B was seen by her general practitioner (GP) with increasing abdominal pain. The GP told HDC that on examination, she could feel a soft, tender, fluctuant mass in the upper abdomen, which was not something she would expect in a patient following aorto-iliac bypass surgery. The GP considered that Ms B needed urgent evaluation, and referred her to hospital.

42. Ms B presented to the Emergency Department (ED) at the public hospital on the same day, and was readmitted. A CT scan showed a mass in the left abdomen measuring 7.9x8.3cm, 11.4cm craniocaudal, consistent with a retained surgical swab. Ms B had surgery the next day to remove the swab.

Responsibilities of medical surgical staff

43. The Count Policy stated that all personnel participating in a surgical count must be aware of their professional responsibilities, understand policy and procedure, and be able to recognise and identify accountable items.

44. The review report noted that there was a lack of clarity by surgeons regarding their responsibilities with respect to the Count Policy, and that the Count Policy was not explicit about the responsibilities for each professional group.

45. ADHB advised that accurately accounting for items used during surgical procedures is a primary responsibility of the circulating nurse, but the whole surgical team is responsible for safe practices that prevent the retention of surgical items. However, ADHB also told HDC that surgeons, anaesthetists, and anaesthetic technicians were previously not required to read the Count Policy.

Orientation and training

46. ADHB advised that all new nursing staff employed into the Perioperative Directorate follow a structured orientation plan, which includes familiarisation with DHB policies and guidelines. Nurses who are new to working in the operating theatre, including new graduate nurses, follow a 10-week orientation programme which, in addition to didactic education sessions on responsibilities (such as the surgical count), includes practical

hands-on education sessions. These practical sessions include demonstration of correct counting techniques for both the circulating nurse role and the instrument nurse role.

47. All nurses are provided with a preceptor who supports their orientation and guides them in the practical application of policy and guidelines, including the Count Policy. The orientation period is tailored to the individual; however, all nurses who are new to the operating theatre are supernumerary for the first 10 weeks, and have a preceptor for up to the first year of practice. All nurses are assessed during their orientation, including audits of practice. No nurses work independently until they are signed off to do so by the Nurse Educator, Charge Nurse, and preceptor.

48. The nurses involved in Ms B's surgery confirmed to HDC that they received such training and demonstrated a thorough understanding of the Count Policy. On the other hand, Dr A advised that he was not aware that there were specific count policies that were updated or required review. Similarly, Dr C does not recall being required to be orientated to the Count Policy prior to the incident, and has familiarised herself since the incident.

Clinical Case Review

49. As mentioned above, ADHB conducted a review of the incident, which was finalised in November 2018. Further to the findings outlined above, the review team identified the following:

a) There were no concerning factors such as fatigue/workload/stress concerns, and no concerns relating to scheduling, equipment, performance, or the consumer being at high risk for retention of an item.

b) It had been identified prior to Ms B's surgery that the wording in the Count Policy needed to be revised — to clarify that any item placed in any wound was to be communicated and documented on the count board, including placement and removal times.

Further information — ADHB

50. ADHB sincerely apologises to Ms B for her surgical experience at the hospital, which resulted in a very painful and protracted journey following what should have been a straightforward surgical procedure. ADHB advised that its clinical teams strive to provide the best quality of care to all its patients, and the surgical team is deeply saddened about what happened to Ms B, and feel very disappointed that its investigation did not provide a clear outcome.

51. RN D said that personally she struggles not to have a definitive answer as to why an abdominal swab was retained in this count, and expressed her sincerest apology to Ms B.

ADHB's measures to ensure adherence and consistent application of the Count Policy

52. ADHB stated that the (revised) Count Policy is based on international best practice guidelines, such as the Association for PeriOperative Registered Nurse's Guideline for Prevention of Retained Surgical Items (2019), and that ADHB's practices are in alignment with their recommendations.

53. However, ADHB advised that surgeons, anaesthetists, and anaesthetic technicians were previously (prior to 2019) not required to read the Count Policy.

54. ADHB advised that Count Policy compliance auditing has been completed previously, although no directorate-wide audits had been completed since 2008. Following review of Ms B's incident, it was agreed that yearly directorate-wide audits will be completed in February each year, with specific targeted education to be arranged for any areas where non-compliance has been identified.

55. RN E said that she was aware of the requirements in the Count Policy, and that her count practice always followed ADHB policy. She was orientated and familiar with the policy, and knew how to access it.

56. RN D confirmed that she received training during orientation, and that the policy is easily accessible. She also familiarised herself with the updated Count Policy.

Revised Count Policy

57. ADHB subsequently updated its Count Policy. This policy became current after the incident with Ms B but before the review was completed. ADHB noted that the updated policy clarifies staff responsibilities, including expectations about communication and documentation of items placed in wounds and cavities.

58. The responsibilities for the surgeon and surgical assistant now include:

a) Maintaining an awareness of all surgical items and their location when on the surgical field;

b) Communicating the placement of items in the wound so that this can be written on the count board where all team members can visualise; and

c) Communicating items intentionally left in the wound, e.g., packing.

59. ADHB stated that the policy clarifies that both large swabs and small gauze swabs that go into any wound/cavity should be documented on the count board when they go in and when they come out, so that the team knows where to search for swabs if a subsequent error occurs in a count. The updated policy also clarifies that in laparoscopic surgery, all disposable items that may go into the cavity through a port and have the potential for retention must be counted and documented on the count board.

Audit

60. ADHB told HDC that it performed a week-long audit of compliance with the Count Policy in February 2019.

61. ADHB stated that the audit showed good compliance, with key areas demonstrating a high safety culture. It found no significant concerns, but identified areas for improvement, including that not all staff involved with surgery had read the Count Policy; the order in which items are counted varied; and the documentation of relief staff, and documentation in the intraoperative record when there is an incorrect count could be improved.

62. The audit also identified that communication of items being placed into wounds/cavities and the documentation of these on the count board was an area for improvement. It noted that this was a new addition to the Count Policy as a direct recommendation from the review into Ms B's incident. ADHB also advised that at the time of the audit, nursing staff were aware of this being added to the Count Policy, but it was not clear how well this had been communicated to the surgeons. The findings and recommendations from the review of Ms B's incident have been communicated to all procedural senior medical officers, to ensure that they are aware of the Count Policy and their responsibilities regarding communication of swabs placed into cavities/wounds. As part of the review of this case, an education round was undertaken to update every procedural directorate in ADHB.

63. The recommendations from the audit were to review the process of assigning the order in which items are counted, and either re-write count boards to align with count policy, or re-write the count policy to align with current practices; audit results to be communicated to departmental nursing teams, and nursing staff to be reminded of their responsibilities regarding the revised policy and the completion of accurate documentation; and a re-audit of compliance with the Count Policy to be completed yearly, beginning February 2020.

Responses to provisional decision

Ms B

64. Ms B was given an opportunity to comment on the "information gathered" section of my provisional decision. She stated that she understood that the policies were being updated, but remains dissatisfied that there was a retained swab despite a correct swab count. She said that she is still traumatised by this surgery, and is still suffering with the outcome.

ADHB

65. ADHB was given an opportunity to comment on my provisional decision, and advised that it acknowledges and accepts the breach finding and recommendations.

66. However, ADHB requested that context be provided to assist a reader of this report to understand that in a complex socio-technical system, which is heavily reliant on human factors and the implementation of policies, there will always be an error rate. ADHB noted that retained surgical items is a well-known problem, and referred to a study in which in a large percentage of cases with retained surgical swabs, the swab counts are documented as correct.

Opinion: Auckland District Health Board

Introduction

67. As a healthcare provider, ADHB is responsible for providing services in accordance with the Code of Health and Disability Services Consumers' Rights (the Code), and Ms B had the right to have services provided to her with reasonable care and skill. ADHB needed to ensure that its system provided Ms B with safe care of an appropriate standard. Somehow, during Ms B's surgery, that system failed Ms B, and a swab was left inside her abdomen.

Retained swab — breach

68. Ms B's surgery was reportedly performed in accordance with the vascular service's standard procedure. All relevant counts were performed, and determined to be correct. The surgeons were notified of, and acknowledged, the correct count. The nurses stated that they took this process seriously.

69. From the information gathered during the investigation, I am unable to make a factual finding as to how and at what precise point in time the swab was retained. I note that:

a) The counts were determined to be correct.

b) The recollections of events by staff members involved are limited.

70. Notwithstanding the above, it is not disputed that a swab was retained in Ms B's surgical site when it should not have been. There was a failing at some point during the surgery, in which a swab was placed into Ms B's abdomen and was unaccounted for.

71. This error is the responsibility of all staff involved in the surgery who were meant to ensure that this did not occur, and is also the responsibility of ADHB, who provided the overall service to Ms B. I am highly critical that this error occurred. As a result of this, the surgery caused unnecessary harm and a protracted recovery process for Ms B.

72. Due to a swab being retained in Ms B's abdomen when it should not have been, I find that ADHB failed to provide services to Ms B with reasonable care and skill, and therefore breached Right 4(1) of the Code.

Policy and training — adverse comment

73. As noted above, routine practice at the time for the vascular service was to not communicate or document when swabs were inserted into, and removed from, the surgical site. I am concerned about the lack of clarity in the Count Policy regarding the counting of swabs during a procedure, and relevant training provided to staff. These areas should be improved to prevent unnecessary risk.

Policy clarity and review

74. The Count Policy at the time did not outline the specific responsibilities for each professional group. It was also silent or lacked clarity in relation to what communication and documentation was required in relation to the counting of swabs inserted and removed during a procedure. ADHB's review identified this as an area for improvement.

75. In my view, clarity is key for policy — to ensure that staff are appropriately guided to provide consistent care across services, and avoid divergence in practice between services. In my opinion, the lack of clarity in the Count Policy was evident in local practice diverging between specialties, and inconsistent routine practice between services.

76. I am also concerned by the lack of regular review of the Count Policy between 2010 and the date of Ms B's surgery. This is particularly concerning given that ADHB was on notice (see paragraph 49b) that its Count Policy may have required revision and clarification prior

to Ms B's surgery, but had not taken steps to remedy it. Similarly, no directorate-wide audits of Count Policy compliance had been completed since 2008.

77. I acknowledge that ADHB has now updated its Count Policy to outline responsibilities for each professional group, and requirements for communication and documentation of items inserted and removed during a procedure. Following review of Ms B's incident, yearly directorate-wide audits will be completed, with specific targeted education to be arranged for any areas where non-compliance has been identified. These are positive courses of action to help ensure that any non-compliance is remedied.

Discrepancy in training for, and awareness of, count procedures

78. A key purpose of policy is to ensure that staff members are aware of what is expected of them, and that their responsibilities are clear. ADHB advised that the whole surgical team is responsible for safe practices that prevent the retention of surgical items, and that the Count Policy is to be adhered to by all staff involved with the count. The Count Policy also states that all personnel participating in a surgical count must be aware of their professional responsibilities, understand policy and procedure, and be able to recognise and identify accountable items.

79. Nurses appear to receive thorough and comprehensive training and orientation on practical application of policies and guidelines. The nurses involved in Ms B's surgery confirmed this and outlined a thorough understanding of the Count Policy to HDC. On the other hand, this thorough training on Count Policy does not seem to extend to medical surgical staff members, particularly surgeons. ADHB stated that surgeons, anaesthetists, and anaesthetic technicians were not previously required to read the Count Policy. The surgeons involved in Ms B's surgery confirmed this, stating that they were not aware that there were specific count policies that were updated and required review, and did not recall being required to be orientated to the Count Policy.

80. It concerns me that all staff involved in surgery are required to adhere to the Count Policy, but only nurses were required to read it and be orientated to it, and that there has not been a consistent approach to the training and orientation of nursing and medical staff on the Count Policy. In my opinion, this likely contributed to key surgical staff lacking awareness of the Count Policy and clarity of their responsibilities in the count process.

Conclusion

81. I consider that the lack of clarity in the Count Policy, and discrepancies in training on the Count Policy, are areas for improvement. I note that some work has already been undertaken, and I have made further relevant recommendations below. In my opinion, improvement in these areas may assist to reduce any unnecessary risk and opportunities for errors in regard to swabs in future.

Recommendations

82. I recommend that ADHB:

a) Provide a written letter of apology to Ms B for the breach of the Code identified in this report. The apology should be sent to HDC within three weeks of the date of this report, for forwarding to Ms B.

b) Mandate that all surgical staff read the Count Policy, and ensure that they keep up to date with any changes. I note that knowledge of the Count Policy is a credentialling requirement for surgical senior medical officers, and that RMOs have this included in service orientation. Evidence of this becoming a requirement at ADHB should be provided to HDC within three months of the date of this report.

c) Consider how new medical surgical staff will be oriented to the Count Policy, and report back to HDC on the outcome of its consideration within three months of the date of this report.

d) Consider implementing periodic revision of the Count Policy, and report to HDC on the outcome of its consideration within three months of the date of this report. In response to the provisional decision, ADHB advised that this is in place and the policy is updated three yearly.

e) Provide HDC with the results of its yearly directorate-wide audit of 2020, including details of any changes made as a result and any specific targeted education provided to staff. This should be sent to HDC within six months of the date of this report.

Follow-up actions

83. A copy of this report with details identifying the parties removed, except ADHB, will be sent to the Health Quality & Safety Commission and the Royal Australasian College of Surgeons, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.