

Patient suffered burn, requiring skin graft to heal, when undergoing surgery

Introduction

1. This report discusses the care provided to Mrs A by Braemar Hospital Ltd. (referred to as Braemar Hospital).
2. On 20 January 2024, the Health and Disability Commissioner (HDC) received a complaint from Mrs A, who raised concerns about the care she received from Braemar Hospital. She sought a thorough investigation and an appropriate apology from Braemar Hospital.

Background

3. Mrs A underwent a mastectomy¹ on 26 July 2023 at Braemar Hospital. During the surgery, she was positioned on a warming mattress. At the end of the surgery, Mrs A was transferred onto a ward bed and irritation was noted across her right hip, buttock and thigh. On further examination, it appeared to be a burn approximately 15 × 10cm. The anaesthetist immediately contacted a plastic surgeon, who agreed to review the injury. The plastic surgeon established that Mrs A had sustained a thermal burn, which would require a skin graft to heal. Mrs A underwent skin graft surgery on 10 August 2023 with a different provider.

Information from Braemar Hospital

The warming mattress

4. Braemar Hospital advised HDC that the warming mattress is a pad placed between the patient and the operating table surface. It is designed to provide safe warming of the patient at a temperature of 35–39°C to maintain a person's normal core body temperature during surgery.
5. The patient's skin must be in direct contact with the mattress sensors. The control unit, which operates the mattress, has several alarms (both audible and visual) to indicate issues with the mattress and/or control unit. If an alarm is triggered, an error code appears on the screen and the heating function automatically turns off. According to Braemar Hospital's standard processes, any triggering of the alarms must be investigated.
6. When the mattress is set and/or reset, it starts a gradual 'warming-up process', during which it can 'spike' up to a temperature of 43°C before settling at 39°C.

The event

7. Braemar Hospital told HDC that it was unable to determine the exact cause of Mrs A's burn. However, their internal investigation found that the most likely reasons for the burn were:
 - the placement of a saline bag under Mrs A's armpit, which could have occluded or otherwise affected the heat regulation sensor on the mattress, causing it to alarm,

¹ Surgical removal of one or both breasts, often performed to treat or prevent breast cancer.

which, when reset and reheating, caused a spike in temperature briefly to 43°C and/or;

- a combination of heat and pressure from Mrs A's hip area, when positioned in the right lateral position for an extended period, which could have heated that area above the usual 39°C.

8. It is relevant to note that the mattress was not malfunctioning, as evidenced by examination and testing of the specific mattress conducted by both the manufacturer and Braemar Hospital.
9. Braemar Hospital noted that the mattress alarm was triggered twice during the surgery and that, instead of determining why the alarm had gone off, the staff overrode and reset the alarm and turned the mattress back on. Braemar Hospital advised that this was common practice and had previously not led to any problems. However, Braemar Hospital acknowledged this was concerning and that theatre staff did not follow standard process.

Resolution proposal

10. On 18 September 2025, I notified Braemar Hospital of HDC's investigation of this matter. I proposed that HDC find Braemar Hospital in breach of Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code)² based on a review of the complaint, Braemar Hospital's response, and in-house clinical advice from Dr Fiona Whitworth.
11. On 30 September 2025, Braemar Hospital agreed to the proposed finding of a breach of the Code.

Responses to provisional decision

12. Braemar Hospital was given an opportunity to respond to the provisional decision and confirmed that it does not have any further comments to make.
13. Mrs A was given an opportunity to respond to relevant parts of the provisional decision. She reiterated her view that Braemar Hospital did not provide her with an appropriate standard of care and would like a further apology. I acknowledge Mrs A's desire for a fresh and proper apology to be provided as part of her resolution needs.

Decision: Braemar Hospital Ltd – breach

14. Braemar Hospital had a duty to provide an adequate standard of care to its patients while adhering to its internal processes and to the Code, which unfortunately did not occur and is discussed further below.
15. I have obtained clinical advice from Dr Whitworth regarding the standard of care Braemar Hospital provided to Mrs A. The full advice is attached as Appendix A.

² Right 4(1) states that '[e]very consumer has the right to have services provided with reasonable care and skill'.

Names have been removed (except Braemar Hospital Ltd 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.

16. Dr Whitworth advised:

It would appear that there was a possible culture of turning the equipment for which an alarm sounded on and off again to reset them. I would conclude that this is not acceptable practice – and hence it is likely that all precautions were not taken to prevent the burn.

17. I accept Dr Whitworth's advice, and I am critical that the mattress was reset twice after the alarm sounded during Mrs A's surgery. It is concerning that the reason for the alarm sounding was not interrogated, particularly noting that the alarm system is designed to ensure patient safety, and that such interrogation may have identified an overheating problem. Braemar Hospital has acknowledged that there was a culture of resetting the warming mattress after the alarm had been triggered, without determining the cause of the alarm, which, in my view, demonstrates a lack of appreciation and/or understanding of the core safety function of such a system.
18. I acknowledge that Braemar Hospital has been unable to determine the exact cause of the burn, and I agree with the plausibility of both possibilities identified in paragraph 7.
19. In summary, I am not satisfied that all precautions were taken to prevent the burn, and it was not acceptable to have ignored the alarms and reset the warming mattress. This failure involved several people within the theatre team, and it is appropriate for Braemar Hospital to be held accountable for that failure. On this basis, I am satisfied that Braemar Hospital did not provide Mrs A with an adequate standard of care. Accordingly, I consider that Braemar Hospital breached Right 4(1) of the Code.
20. I note that Braemar Hospital has accepted this finding.

Changes made as a result of this event

21. Following this incident and an internal review, Braemar Hospital undertook and will undertake, the following:
- a. Provided an apology about the incident to Mrs A.
 - b. Supported Mrs A to lodge a treatment injury claim with ACC.
 - c. Disposed of the mattress in question after incident testing.
 - d. Updated and communicated the Equipment Disposal Procedure to all managers.
 - e. Attached a hard copy of the reference key related to the alarm codes to every mattress.
 - f. Ensured that anaesthetists now keep records of all alarm codes.
 - g. Provided refresher training related to the use of warming mattresses, including any risks associated with use and alarm code causes, to all theatre staff.
 - h. Clinical managers will complete root cause analysis and actions training.
 - i. All clinical equipment will be reviewed to ensure that appropriate key alarm codes and user information is available at each machine.

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j. Any normalising of machine alarms culture will be addressed.

22. It was appropriate for Braemar Hospital to have considered how it could mitigate the risk of this type of adverse event occurring again, and I am satisfied that Braemar Hospital has taken and is taking steps to ensure that systems are in place to prevent an event like this reoccurring.

Recommendations

23. I recommend that Braemar Hospital provide a written apology specifically related to the identified failings and the breach of the Code identified in this report. The apology should be provided to HDC, for forwarding to Mrs A, within three weeks of the date of this decision.
24. In addition, I recommend that Braemar Hospital provide evidence to HDC within three months of the date of this report, to confirm that actions (h) – (j) (inclusive) from the list above in paragraph 21 have been completed. I note in particular that I would like to be assured that staff have been trained on the appropriate management of machine alarms as well as the management of pressure relief for patients when positioned in a certain way for extended periods.

Follow-up actions

25. A copy of this report with details identifying the parties removed, except Braemar Hospital Ltd and my clinical advisor, will be sent to HealthCERT and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Morag McDowell
Health and Disability Commissioner

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Appendix A: In-house clinical advice to the Commissioner

The following in-house medical advice was obtained from Dr Fiona Whitworth, practicing general practitioner.

CLINICAL ADVICE – MEDICAL

FROM : Dr Fiona Whitworth

CONSUMER : Mrs [A]

PROVIDER : Braemar Hospital

FILE NUMBER : C24HDC00181

DATE : 27 April 2025

1. My name is Dr Fiona Whitworth. I am a graduate of Oxford University Medical School, and I am a practicing general practitioner. My qualifications are MA 1991, BM BCh 1994, DCH 1996, DCRCOG 1996, MRCGP 1999, PGCMed Ed 2011, FRNZCGP 2013, PGDip GP 2016, FAEG 2020. Thank you for the request that I provide clinical advice in relation to the complaint from Mrs [A] about the care provided by Braemar Hospital. In preparing the advice on this case, to the best of my knowledge I have no personal or professional conflict of interest. I agree to follow the Commissioner's Guidelines for Independent Advisors.

2. **Documents reviewed**

5/4/2024 S14 Response and Notes

3. **Complaint**

Mrs [A] suffered a thermal burn to her right hip/thigh/buttock during a mastectomy from an Augustine warming mattress, which she believes should not have happened. The causation of the burn sustained during surgery is unclear, and Mrs [A] would like clarification that a thorough investigation has been undertaken and an apology from the hospital.

4. **Provider response(s)**

Letter 21/11/2023

Noted they were unable to determine the exact cause of her burn.

An apology given for the manner in which she was notified that several alarms had been turned off during surgery (at the end of meeting re the burn).

It is noted that the machine did alarm twice, although it remained unclear why this occurred. It is noted that staff did not determine the alarm code when it went off;

instead, they turned the machine off and on again, which was common practice and had previously not led to any problems.

It is noted that the mattress has been fully tested since the incident, and it has been found to be working normally and no fault found.

It is specifically noted that the repairs undertaken to it earlier in the year were shown to have had no impact on its function or safety.

Whilst no definite cause has been found, it has been suggested that it is possible that the placement of saline under her right armpit occluded the sensor on the mattress, which set the alarm off. Another possibility was that the temperature of the mattress combined with the dependant pressure of her hip caused the burn. Or a combination of both these possibilities.

A number of actions have been taken – the mattress has been disposed of, refresher training has been undertaken to all theatre staff responsible for the use of warming mattresses – including emphasising associated risks, alarm code causes, and the need to investigate these, and also use of pressure relief to avoid a burn.

A hard copy of the alarm codes is now attached to every warming device.

5. Comment and Clinical advice

I have been asked to

(A) Review the clinical notes and response and advise if all precautions were taken to prevent the burn.

It would appear that there was a possible culture of turning the equipment for which an alarm sounded off and on again to reset them. I would conclude that this is not acceptable practice – and hence it is likely that all precautions were not taken to prevent the burn.

(B) Advise if the subsequent investigation was sufficient and whether we need to seek further information, eg, from the company providing the device or if it was human error.

A thorough analysis of the events leading to the burn has been reviewed by Braemar Hospital, and I would conclude that their report is comprehensive.

I note that the warming blanket automatically turned itself off once an alarm had been triggered. I also note that, once turned on again, it is possible for the temperature to rise to 43 degrees prior to settling at 39 degrees.

I note that the alarm is noted to have gone off only twice.

However, a definite cause for the burn has not been identified.

No further review by the manufacturing company is needed – I note they are aware of the incident.

As a result of this, the specific blanket is not in use, even though testing of this showed it was working normally. Additional training has been undertaken by staff, and physical copies of the alarm codes have been placed in the theatre.

I note that an ACC claim has been lodged and Braemar Hospital has offered to support this if this is needed.

The hospital has offered an apology to Mrs [A], and their CEO [...] has offered to meet Mrs [A] to convey her apology on behalf of their board.