Scottish Parliament Region: Lothian

Case 201204510: Lothian NHS Board

Summary of Investigation

Category

Health: Hospital; surgery

Overview

The complainant (Mrs C) raised a number of concerns that her father-in-law (Mr A) had been subjected unreasonably to a prolonged period of surgery because staff failed to ensure all surgical equipment was available before proceeding, and that a member of nursing staff failed to alert medical staff of a delay in Mr A's being able to move his legs following surgery. Mr A developed a serious complication and became paraplegic.

Specific complaints and conclusions

The complaints which have been investigated are that:

(a) Lothian NHS Board (the Board)'s delay in sourcing appropriate surgical equipment was unreasonable (*upheld*); and

(b) a nurse on duty unreasonably failed to report Mr A's inability to move his legs (*upheld*).

Redress and recommendations

The Ombudsman recommends that the Board:	*Completion date*
(i) provide a detailed action plan identifying the changes they have made to ensure a surgical safety checklist is completed by the surgical team in line with World Health Organisation guidelines;	21 June 2014
(ii) confirm the action plan also ensures that relevant guidance on consent is followed in relation to obtaining consent for surgical procedures;	21 June 2014
(iii) bring the failures in record-keeping to the attention of relevant staff and carry out regular audits to ensure compliance with guidelines;	21 June 2014
(iv) provide evidence that all relevant monitoring charts etc are in place for patients who receive an	21 June 2014

	epidural to document normal return of motor function including a clear outline of actions to be taken if motor function has not returned with an expected timeframe;	
(v)	ensure that the failures identified are raised as part of the annual appraisal process of relevant staff and address any training needs;	21 June 2014
(vi)	ensure protocols are in place which comply with Royal College of Anaesthetists guidelines on management of epidurals and demonstrate to the Ombudsman that they have been widely disseminated to and utilised by relevant staff; and	21 August 2014
(vii)	apologise to Mrs C for the failures identified.	21 June 2014

The Board have accepted the recommendations and will act on them accordingly.

Main Investigation Report

Introduction

1. On 5 September 2011, Mrs C's father-in-law, Mr A, (aged 82) underwent a planned operation to repair an aneurysm under an epidural anaesthesia at the Royal Infirmary of Edinburgh (the Hospital). The epidural was placed at 08:25 and the operation began at 10:05. The repair was concluded by 18:30. The operation was prolonged because of an endoleak and inability to source an additional piece of stent graft (extension cuff) on-site to deal with it. The cuff had to be brought from Dundee to Edinburgh which added approximately three to four hours to the procedure.

2. At 19:30 on 5 September 2011, a nurse (Nurse 1) became aware that Mr A could not move his legs, but did not escalate this. At the start of another nurse (Nurse 2)'s shift at 06:00 the following morning, Nurse 2 noted that Mr A could not move his legs and alerted medical staff. Following investigations, he was diagnosed with an epidural haematoma and transferred to neurosurgery for decompression. This was unsuccessful and he was left paraplegic.

3. Mrs C said that Mr A was paraplegic as a result of Lothian NHS Board (the Board)'s failures. She also complained that this led to Mr A sustaining damage to his left heel while in the hospital which became worse because of his paralysis. He contracted an infection and on 27 February 2012 his lower left leg was amputated. Mr A died on 21 May 2013.

4. Mrs C complained to the Board on 8 December 2011. The Board responded in writing on 16 March 2012 and met Mrs C and her family on 11 December 2012. They sent a copy of their investigation report on 2 May 2012. Mrs C remained unhappy with the response and brought her complaint to my office on 1 February 2013.

5. The complaints from Mrs C which I have investigated are that:

(a) the Board's delay in sourcing appropriate surgical equipment was unreasonable; and

(b) Nurse 1 on duty unreasonably failed to report Mr A's inability to move his legs.

Investigation

6. During the course of the investigation of this complaint, my complaints reviewer obtained and examined a copy of Mr A's medical records and the Board's complaint file. She obtained advice from four advisers to the Ombudsman on the clinical and nursing aspects of the complaint; a vascular surgeon (Medical Adviser 1), an anaesthetist (Medical Adviser 2), a neurosurgeon (Medical Adviser 3), and a surgical nurse (the Nursing Adviser).

7. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. Mrs C and the Board were given an opportunity to comment on a draft of this report.

Clinical background

8. On 8 June 2011, a pre-operative assessment was carried out by an anaesthetist at an out-patient clinic in relation to Mr A's abdominal aneurysm. The note of this assessment outlined Mr A's complex medical history and medication, that he was at increased risk of post-operative complications and that an endovascular aneurysm repair was preferable to treat the aneurysm. The note did not outline what the post-operative complications were or whether they had been explained to Mr A. On 5 September 2011, Mr A underwent an endovascular aneurysm repair under epidural anaesthesia and sedation. The epidural was placed at 08:25 and the procedure began at 10:05. During the procedure, the main body of a stent graft was placed. Upon completion, it was checked by an x-ray which revealed that the stent graft had slipped down leading to an endoleak. The stent graft was ballooned to rectify this, but was unsuccessful. A cuff was sought, but none were available in the Hospital and one had to be brought from Dundee. The repair was concluded at 18:30. After 20 minutes, Mr A was transferred to a recovery room and an entry in the recovery room documentation (not timed) stated that Mr A was unable to move his legs or bend his knees on his discharge to the ward.

9. The next entry in Mr A's clinical records was when he was transferred to the ward and Nurse 1 noted at 19:30 that Mr A could not move his legs, but did not report this to medical staff. At 21:00, he was reviewed by a vascular surgeon and nursing notes stated that they were satisfied with Mr A's condition. At 03:00 on the morning of 6 September 2011, Mr A was reviewed again by a member of the medical team because of low blood pressure. No reference was made in the records to his inability to move his legs. During this period, Mr A was also reviewed by a consultant surgeon who examined the pulse of a leg

artery by lifting Mr A's legs. At 06:00, Nurse 2 noted that Mr A was unable to move his legs and reported this to medical staff. Another consultant anaesthetist reviewed Mr A at 07:45 and immediately suspected an epidural haematoma. A spinal magnetic resonance imaging scan was performed at 09:50 and reported on at 10:20 which confirmed an epidural haematoma extending throughout most of the length of the thoracic and lumbar region. Mr A was referred for urgent neurosurgical decompression at another hospital at 12:09. He was left paraplegic. He developed an infection and on 27 February 2012 underwent a left below knee amputation.

(a) The Board's delay in sourcing appropriate surgical equipment was unreasonable

The Board's investigation

10. The Board carried out an investigation into what happened and interviewed relevant staff. In relation to the procedure, the investigation found that an already complex procedure was more complex than anticipated. The endovascular aneurysm repair was complicated by an endoleak, which developed during placement of the stent graft. The endoleak was recognised during the procedure and members of the team discussed how it should be dealt with. An extension cuff was required to cover the leak identified at the top of the stent graft. No extension cuff was held in stock at the Hospital. This was not known to the radiology team undertaking the procedure. No extension cuff had been required since starting endovascular repairs in 2003. One was located in Tayside and it took approximately three hours to reach the hospital.

The Board's response to the complaint

11. The Board said that it was a prolonged procedure due to a leak at the top of the device after it had been placed and difficulty in sourcing a cuff. The procedure was technically difficult and could take a considerable length of time, but it was longer than usual. The Board acknowledged cuffs should be on site and one had been removed because it was out of date, but was not replaced. The Board agreed that this should have been checked and said that their practice had now changed and all equipment would be checked to ensure availability.

Advice received

12. Medical Adviser 1 said that effective team communication was recognised in guidelines as a critical component of safe surgery and prevention of major

complications[1]. Just before the operation, the surgical team is expected to review the operation and consider critical or unexpected steps, the duration of the operation and anticipated blood loss. During this phase, the surgeon (the Surgeon) should also have reviewed the endovascular aneurysm repair procedure, the potential for unexpected steps and the availability of additional pieces of extension cuffs. Medical Adviser 1 said that the Surgeon's failure to ensure that there was a cuff on-site before the operation was unacceptable and that this, together with failing to anticipate all potential problems, was contrary to the aforementioned guidelines. Furthermore, Medical Adviser 1 reviewed the pre-operative scans, which showed that there was a potential for an endoleak (a recognised risk of the procedure). This was a further reason for the Surgeon to check that all additional pieces of equipment were available to deal with a complication such as an endoleak. Medical Adviser 1 also found that there was no evidence from the medical records Mr A had been given an information leaflet outlining the risks when he was counselled for the endovascular aneurysm repair in the out-patient clinic. The consent form had no specific section for risks/complications and benefits of a particular procedure. The consent form failed to document the risks or any potential and rare complications of surgery or anaesthesia.

13. In relation to the length of time Mr A was on the operating table, Medical Adviser 1 said it was undesirable to keep patients on the operating table under anaesthetic any longer than necessary. However, when an endoleak was encountered in the middle of the operation, the procedure could not be concluded without resolving it. If it had not been resolved, then the aneurysm would not have been addressed and Mr A would have had the same (serious) risk of rupture before the procedure began. At that time, the Surgeon had no option but to source a cuff from a nearby hospital. In this context, the Surgeon's actions were reasonable although Medical Adviser 1 repeated that commencing the operation without checking that all necessary pieces of equipment available was unacceptable. If the cuff had been available locally, then the operation should have been concluded within four hours. My complaints reviewer asked Medical Adviser 1 what impact the length of the procedure had on Mr A. In response, he said that if the operation had not been prolonged, it was reasonable to surmise that the epidural haematoma could have been detected at an earlier stage with a fairer outcome. In his view, the prolonged surgery had a negative impact on the final outcome.

[1] World Health Organisation surgical safety checklist.

14. Medical Adviser 2 said that in Mr A's case, the preferred option for an epidural combined with sedation was reasonable. However, the most serious risks of epidurals were infection and the development of an epidural haematoma, which was rare but potentially catastrophic and well recognised. Its significance was such that it should always be discussed with patients who should be made fully aware of the chance of occurrence. This was low, but the catastrophic nature warranted full discussion. There was no evidence that these risks were fully discussed with Mr A during the consenting process contrary to guidance[2]. Turning to the management of the epidural from insertion and throughout the operation, Medical Adviser 2 said there was no evidence in the records that suggested this was unreasonable. The epidural was used throughout the operation with a continuous infusion of local anaesthetic which kept Mr A pain-free. There was no reason to suspect a problem at this stage and immobility would be reasonably ascribed to the continuous epidural infusion and the level of sedation; while the infusion was running it was impossible to assess Mr C's motor function.

(a) Conclusion

15. Mrs C complained that the Board's delay in sourcing surgical equipment was unreasonable. The advice I have accepted is that there were several very serious failings, which led to a significant personal injustice to Mr A. First, there was an unreasonable failure to ensure all necessary equipment was available before proceeding with the operation. This should never have happened. The advice I have received is that this was the responsibility of the Surgeon and surgical team and is an essential check to ensure safe surgery and prevent major complications. Second, there were unreasonable failures in the consent process relating to explanation of risks of the procedure. I am extremely concerned about both these failures. The failure to check that all surgical equipment was available led to a significant injustice to Mr A in that he was subjected to an unacceptably prolonged procedure, which had a negative impact on the final outcome. Moreover, Medical Adviser 2 said that while it was reasonable to perform an epidural (combined with sedation), there was no evidence that the rare but potentially catastrophic risks were fully discussed with Mr A. This meant Mr A did not properly consent to a procedure that ultimately had devastating consequences for him. I uphold the complaint. I make a number of recommendations to address the failures identified.

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[2] NHS Scotland - A Good Practice Guide on Consent; General Medical Council- Consent Guidance.

(a) Recommendations

16. I recommend that the Board:	*Completion date*
(i) provide a detailed action plan identifying the changes they have made to ensure a surgical safety checklist is completed by the lead clinician line with World Health Organisation guidelines;	21 June 2014
(ii) confirm the action plan also ensures that relevant guidance on consent is followed in relation to obtaining consent for surgical procedures; and	21 June 2014
(iii) ensure that the failures identified are raised as part of the annual appraisal process of relevant staff and address any training needs.	21 June 2014

(b) Nurse 1 on duty unreasonably failed to report Mr A's inability to move his legs

The Board's investigation

17. The Board's investigation found that there were no verbal or written instructions as to when an epidural block could be expected to wear off. Patients not receiving an on-going epidural infusion were not routinely placed on an epidural infusion chart, therefore, there was no chart in which to record observations around power and sensation. Mr A's respiratory rate, pulse and blood pressure checks were carried out at 30 to 60 minute intervals throughout the night (on 5 and 6 September 2011) and Nurse 1 said she checked his ability to move his legs every hour during her shift, but did not document that they were not moving or report it to anyone. Nurse 1 said she reported this to Nurse 2, but Nurse 2 did not corroborate this. There was a verbal and written handover from procedure to recovery and a verbal handover from recovery to the ward. All staff involved were aware that the effects of the epidural (which was terminated at 18:30) had not worn off and that Mr A could not move his legs, which was an expected finding. Mr A was moved to a ward where staff were less experienced in dealing with patients following an endovascular repair than staff in two other wards (there were no beds available in these wards).

18. In relation to post-procedure review, the Board found that Mr A was reviewed by a consultant surgeon who did not document his findings. This was an unsolicited ad-hoc review as the consultant was in hospital to see another patient. At the time of this review, the epidural had stopped and the consultant surgeon examined the pulse in Mr A's legs by lifting them. Mr A was conscious

and no comment was recorded or recalled. The night team had been extensively educated about bleeding as a cause of low blood pressure and they did not consider a motor block (due to the epidural haematoma) as an underlying cause of the low blood pressure when Mr A was reviewed at 03:00 on 6 September 2011. The nursing staff saw members of the medical night team coming through the ward and asked them to review Mr A regarding their on-going concern about his low blood pressure.

19. The investigation concluded that there were two main problems: staff were unaware of when to expect motor power to return following an epidural; and the lack of understanding of the significance of no motor power. The Board said this was because of the lack of guidance regarding care of epidural when the catheter remained in situ and that Nurse 1 appeared to lack awareness of the significance of loss or no motor function and the requirement to escalate this fact.

The Board's complaint file

20. In relation to the nursing notes which recorded that the vascular surgeon who reviewed Mr A at 21:00 appeared satisfied with the circulation in his legs (see paragraph 9), Nurse 1 took this to be overall satisfaction and, therefore, did not comment on the lack of movement in the legs. Nurse 1 also told the Board medical staff were aware from the review at 03:00 that Mr A could not move his legs. Nurse 1 said that it was apparent Mr A was unable to move his legs indicating a motor block from the medical reviews during her shift.

The Board's response to the complaint

21. The Board said that Nurse 1 should have escalated that she was aware that Mr A was not moving his legs. The Board offered their sincere apologies that Mr A endured a very rare complication (epidural haematoma) and that there was a delay in identifying it. The Board went on to say that it was difficult to be sure about the consequences of the delay as it was a very serious complication even when identified promptly.

Advice received

22. The Nursing Adviser said that there appeared to have been contributing factors and system failures that resulted in a lack of escalation on the part of Nurse 1. The Nursing Adviser referred to the entry by a member of staff under the recovery notes that Mr A was unable to move his legs on discharge to the ward. The designation of the staff member was not noted (and not referred to in

the Board's investigation and the comment above this stated 'anaesthetist happy'). This should have been raised as a concern at the time; a motor block should immediately be reviewed by an anaesthetist. There was also a lack of documentary evidence that this was handed over as a concern, or as an issue that required further monitoring. Furthermore, there was a lack of a medical instruction regarding when the effects of the epidural would wear off and, therefore, there was a failure to provide an indication for when lack of mobility or sensation would require escalation. The Board recognised that the epidural observation chart was not used in this instance. An early warning score system was in place for detecting deterioration in patients but that and the general observation chart used to monitor Mr A post-operatively did not contain space to document motor and/or sensory block. The Nursing Adviser also pointed out that the Board accepted that Mr A's transfer was a sub-optimal ward placement for him because the staff were less experienced in the care of patients following the procedure he underwent.

23. Turning to Nurse 1's assertion that with the medical reviews of Mr A during her shift it was apparent he was unable to move his legs indicating a motor block, the Nursing Adviser said it was reasonable to assume that this should also have been detected as a concern by the medical staff. Nurse 1 said she performed motor sensation observations hourly (but did not document these) and had recently updated her epidural care competencies. This implied that she possessed the correct knowledge and skills with regard to observing epidural care and monitoring, yet it was unclear whether she understood the difference between sensory and motor block. The Nursing Adviser concluded that contrary to standards[3], she did not provide a reasonable level of care with regard to escalating concern about loss of motor function, which may be due to lack of knowledge and/or competence. She also failed to provide a reasonable level of care in relation to the documentation of patient observations.

24. The Nursing Adviser also identified further failures in record-keeping and documentation of Mr A's post-operative nursing care from when he was transferred to the ward from recovery on 5 September 2011. The observation chart was missing. There was also a lack of chronological entries. There were two entries in the notes by Nurse 1 at 23:30 on 5 September 2011 and 08:00 on 6 September 2011, presumed to have been written retrospectively. Mr A had endured a prolonged operative procedure involving considerable risk. It would,

[3] Nursing and Midwifery Council: Standards of conduct, performance and ethics (2008)

therefore, be reasonable to expect to find a comprehensive record of care in real-time in line with guidelines[4] reflecting the high degree of intervention and care that he would have required during his first post-operative night. There was a lack of detail regarding the assessment of Mr A and escalation of concerns. Moreover, the documentation of Nurse 1 and Nurse 2 failed to comply with the aforementioned guidelines; they both stated that they verbally raised concerns to medical staff but there was no documentation to evidence this. Further missing documentation included fluid intake/opiate charts, patient controlled analgesia monitoring and observation charts and patient care records relating to nursing care such as hygiene and positioning. These were key elements to record safe nursing care that was of a reasonable standard. Some of the entries in the charts available did not include the time of entry and designation of staff. Finally, there appeared to be no record of handover from recovery to the ward and between shifts of nursing staff. There was a lack of assessment and care plan documented for Mr A on return to the ward, which was an unreasonable level of record-keeping given his condition at this time.

25. Medical Adviser 2 also said that the post-operative instructions - limited to instructions as to the timing of the removal of the catheter - were not reasonable. These instructions implied there was an assumption by an anaesthetist of the surgical team (the Anaesthetist) that the post-operative care should follow a prescribed pattern with appropriate nursing observations on the management of a patient who has had an epidural in place. This assumption was unfounded. Medical Adviser 2 said there was clearly a lack of awareness by all ward and medical staff as to the significance of a prolonged lower limb weakness several hours after the epidural was discontinued. For example, when Mr A was transferred to the ward, it was significant that the epidural was mentioned as being the catheter only (which meant that the epidural anaesthesia had been switched off so there should not have been a delay in return of power), but no reference was made to muscle power or any basic neurological assessment. Medical Adviser 2 went on to explain that there is a wide variation in the rate of expected return of function, but there should be consistent signs of the gradual progression to a return of motor power within a few hours. This was not an on/off process. There should have been an observation of gradual return of neurological functions through a range of symptoms and signs such as a gradual return of some sensation associated with incremental restoration of leg power. It would be reasonable to expect

[4] Nursing and Midwifery Council: Records and record-keeping (2009)

early signs of movement within four hours with a progressive recovery to full power by 12 hours.

26. Medical Adviser 2 was clear that there should have been clear instructions and charting available for patients such as Mr A who had received an epidural to document normal return of function. Medical Adviser 2 explained this case reflected a complacency that where there was an 'inactive' epidural infusion, it was assumed that the situation was static and stable until such time as it was safe to remove it. However, guidelines[5] were very clear about the monitoring of motor block to detect impending neurological problems and they did not distinguish care given for an 'active' or 'inactive' epidural infusion so Mr A should have been monitored for a return of motor function. Medical Adviser 2 further explained that there was clearly a relationship between the timing detection of a potential problem in connection with the ability to salvage the spinal-cord function. It was his view that a lack of awareness and assessment and a low threshold of suspicion reduced the chances of salvage. He believed that this fault lay directly with the staff who observed Mr A in the ward and indirectly with those relying on the assumptions that adequate training and awareness was in place to safely care for such patients.

27. While Medical Adviser 2 agreed that the fact Mr A was unable to move his legs on discharge from recovery to the ward should have been raised as a concern with the Anaesthetist at the time, he considered that the failure to do so was reasonable. Even if concerns had been raised, there would have been no requirement for a computerised tomography (CT) scan at that point. Recovery ward staff were apparently confused about the monitoring of motor block in Mr A's case because he did not have an epidural in place. The Anaesthetist should have clearly instructed recovery staff about this. An anaesthetist is ultimately responsible for patients until their recovery. This meant that the Anaesthetist should have provided clear instructions so that their responsibility could have been delegated to other healthcare professionals in a responsible and appropriate way. Medical Adviser 2 further clarified that Nurse 1's failure to raise concerns at 19:30 was reasonable, but given there should have been a gradual and consistent return of sensation and motor power after that point, then concerns should have been raised with medical staff in the period leading

[5] Royal College of Anaesthetists: Best practice in the management of epidural analgesia in the hospital setting (Faculty of Pain Medicine, November 2010)

up to the medical review at 21:00. Improved monitoring of Mr A's motor function would soon have necessitated escalation of treatment starting with a CT scan.

28. Finally, Medical Adviser 2 said that medical staff who reviewed Mr A (at 21:00 and 03:00 the following morning) including the consultant surgeon, failed to document their examination and findings, which was contrary to good and standard practice and guidance[6]. However, whether documented or not, Medical Adviser 2 reiterated that this was clearly a missed opportunity to diagnose and accelerate treatment for spinal cord compression.

29. My complaints reviewer asked Medical Adviser 3 to outline the impact on Mr A of the delay in identifying the epidural haematoma. Medical Adviser 3 said that Nurse 1 should have escalated that Mr A was unable to move his legs. While Medical Adviser 3 said they could not state with any certainty that had the epidural haematoma been diagnosed at this point there would have been a different outcome, it was possible. Early diagnosis and management could have resulted in a better outcome, but such potential was lost by the subsequent delay of over 12 hours. The effect of the delay could have been to deny Mr A the possibility of complete recovery ranging down to modest recovery. Even if there was no possibility of recovery at that stage (if the haematoma had caused irreversible damage during the operation), the failure would have caused psychological and emotional complications for Mr A and his family. Medical Adviser 3 went on to say that the delay in identifying the epidural haematoma was not reasonable in that an MRI scan should have been performed that evening, which would have identified the haematoma. Protocols should have been in place for the post-operative assessment of patients undergoing spinal epidural anaesthesia with clear indication as to when the anaesthetic should wear off and so alerting nursing staff to the potential complication.

(b) Conclusion

30. Mrs C complained that Nurse 1 unreasonably failed to report that Mr A was unable to move his legs. The advice I have accepted is that there should be consistent signs of a gradual progression of power within a few hours of the discontinuation of the epidural and that it was reasonable to expect early signs of movement within four hours. I am, therefore, critical of the failure by Nurse 1 to escalate that Mr A was unable to move his legs during that evening and to

[6] General Medical Council: Good medical practice

document that she had done so. The Board told Mrs C that Nurse 1 should have escalated this. However, I found that the failures in monitoring Mr A's motor block also extended to the medical staff who reviewed Mr A from 21:00 until 03:00 (including the consultant surgeon) and I am extremely concerned about their lack of awareness and assessment of Mr A's condition. I agree with the Nursing Adviser and Medical Adviser 2 that it was reasonable to assume that medical staff should have detected Mr A's lack of motor function and acted accordingly. I am also very critical that the failures in assessment and communication by medical staff were not addressed by the Board's investigation given the seriousness of the failures.

31. In addition, the shortcomings in record-keeping by both medical and nursing staff compounded the errors; they were significant failings that placed Mr A at risk. Related to this, the Board accepted that Mr A was placed in a sub-optimal ward and that charts were not fit for purpose, which was also highlighted by my advisers.

32. The final failure relates to the Anaesthetist and the lack of clear instructions to recovery and ward staff. Medical Adviser 2 told my complaints reviewer that the Anaesthetist was ultimately responsible for Mr A until his recovery, but failed to clearly instruct recovery and ward staff about monitoring Mr A's motor block to detect any neurological problems. This was a serious failing and needs to be addressed by the Board.

33. Turning now to the injustice to Mr A, Medical Adviser 3 said that had the epidural haematoma been diagnosed earlier, then potentially the diagnosis and management could have resulted in a better outcome. Therefore, while I cannot say definitively that the avoidable delays to detect the haematoma resulted in Mr A's paralysis, at the least a potential opportunity to successfully treat the condition was missed and Mr A and his family endured extreme emotional and psychological distress.

34. In conclusion, there were multiple serious failings, which not only led to a significant personal injustice to Mr A, but also suggest systemic failures. These included unreasonable failures in communication and record-keeping, and in particular unreasonable failures to ensure that ward staff were adequately trained and/or experienced to care for patients such as Mr A and to instruct staff about the post-operative assessment in addition to an unreasonable delay in identifying the epidural haematoma. The failures I have found under both of

Mrs C's complaints demonstrate that the Board failed Mr A at every level and provided him with an unacceptable standard of care and treatment. I make a number of recommendations to address this.

(b) Recommendations

35. I recommend that the Board:	*Completion date*
(i) bring the failures in record-keeping to the attention of relevant staff and carry out regular audits to ensure compliance with guidelines;	21 June 2014
(ii) provide evidence that all relevant monitoring charts etc. are in place for patients who receive an epidural to document normal return of motor function including a clear outline of actions to be taken if motor function has not returned with an expected timeframe;	21 June 2014
(iii) ensure that the failures identified are raised as part of the annual appraisal process of relevant staff and address any training needs;	21 June 2014
(iv) ensure protocols are in place which comply with Royal College of anaesthetists guidelines on management of epidurals and demonstrate to the Ombudsman that they have been widely disseminated to and utilised by relevant staff; and	21 August 2014
(v) apologise to Mrs C for the failures identified.	21 June 2014

36. The Board have accepted the recommendations and will act on them accordingly. The Ombudsman asks that the Board notify him when the recommendations have been implemented.

Annex 1

Explanation of abbreviations used

Mrs C	the complainant
Mr A	the complainant's father-in-law
Nurse 1	a nurse at the hospital
Nurse 2	a nurse at the hospital
The Board	Lothian NHS board
Medical Adviser 1	one of the Ombudsman's advisers who specialises in vascular surgery
Medical Adviser 2	one of the Ombudsman's advisers who specialises in anaesthetics
Medical Adviser 3	one of the Ombudsman's advisers who specialises in neurosurgery
Nursing Adviser	one of the Ombudsman's advisers who specialises in surgical nursing
the Anaesthetist	an anaesthetist at the hospital
the Surgeon	a consultant vascular surgeon at hospital
MRI	magnetic resonance imaging
CT scan	computerised tomography scan

Annex 2

Glossary of terms

Aortic aneurysm	a bulge or dilatation of the aorta (main artery in the body)
Endovascular aneurysm repair	procedure to repair an aneurysm before it bursts
Endoleak	leakage of blood around a graft (a complication following an endovascular aneurysm repair)
Epidural haematoma	a collection of blood in the epidural space which results in pressure on the spinal cord or nerves
Lumbar region	low-back region of the spine
Neurosurgical decompression	procedure to relieve pressure on the spine
Paraplegic	complete paralysis of the lower half of the body including both legs, usually caused by damage to the spinal cord
Stent graft	a metal mesh-work tube usually divided into two limbs at its lower end, like trouser legs, inserted into the aorta to seal the aneurysm
Thoracic region	upper region of the spine