

Lessons learnt from the VASM Audit

Peer review assessment

Mr Philip McCahy
Victorian Audit of Surgical Mortality (VASM)
Wednesday, 19th October 2018
Royal Children's Hospital

VASM Audit Flow

Notification

ASM receives notification of death

Surgical case form sent to Fellow for completion

Reflection

Completed surgical case form returned to ASM and de-identified

Assessment

Case form sent for FLA

SLA required?

No

SLA

Yes

Reporting

Feedback to Fellow

Appeal lodged?

No

Case closed

VASM SLA referral

FLA-4.0

Study Number

Office Use

First Line Surgical Assessor's Form

1 Was there enough information to come to a conclusion? Yes No
If NO, what information was lacking?

2 Should this case progress for case note review? Yes No
If YES, which aspects of the case should be looked at in more detail?

3 If NO OPERATION was performed:
Should an operation have been performed? Yes No N/A
If YES, what operation and why?

4 Assessor's view (before any surgery) of overall risk of death
 Minimal Small Moderate Considerable Expected

5 Was this patient treated in a critical care unit during this admission? Yes (go to Q6) No (continue)
Should this patient have been provided critical care in:
Intensive Care Unit (ICU) Yes No
High Dependency Unit (HDU) Yes No

6 Was the decision on the use of DVT prophylaxis appropriate? Yes No Don't know

7 Was fluid balance an issue in this case? Yes No Don't know

GUIDELINES FOR COMPLETION OF VASM FIRST LINE ASSESSMENT FORM

FLA-4.0

Study Number

6 Do you consider management could have been improved in the following areas?

	Yes	No	N/A		Yes	No	N/A
Pre-operative management/preparation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Intra-operative/technical management of surgery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decision to operate at all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grade/experience of surgeon deciding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice of operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grade/experience of surgeon operating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Timing of operation (too late, too soon, wrong time of day)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post-operative care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

An area for **CONSIDERATION** is where the clinician believes areas of care **COULD** have been **IMPROVED** or **DIFFERENT**, but recognises that it may be an area of debate.
An area of **CONCERN** is where the clinician believes that areas of care **SHOULD** have been better.
An **ADVERSE EVENT** is an unintended injury caused by medical management rather than by disease process, which is sufficiently serious to lead to prolonged hospitalisation or to temporary or permanent impairment or disability of the patient at the time of discharge, or which contributes to or causes death.

9a Were there any areas for **CONSIDERATION**, **CONCERN** or **ADVERSE EVENTS** in the management of this patient? Yes (describe below) No

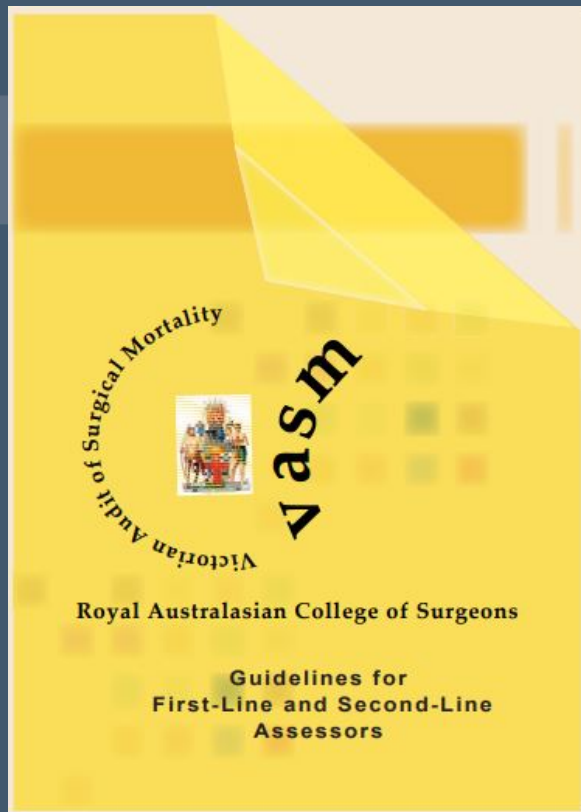
9b Important: please describe the 3 most significant events and list any other events

1. (Please describe the most significant event)

Area of:	Which:	Was it preventable?	Associated with?
<input type="checkbox"/> Consideration	<input type="checkbox"/> Made no difference to outcome	<input type="checkbox"/> Definitely	<input type="checkbox"/> Audited surgical team
<input type="checkbox"/> Concern	<input type="checkbox"/> May have contributed to death	<input type="checkbox"/> Probably	<input type="checkbox"/> Another clinical team
<input type="checkbox"/> Adverse Event	<input type="checkbox"/> Caused death of patient who would otherwise be expected to survive	<input type="checkbox"/> Probably not	<input type="checkbox"/> Hospital
		<input type="checkbox"/> Definitely not	<input type="checkbox"/> Other (specify) <input type="text"/>

2. (Please describe the second most significant event)

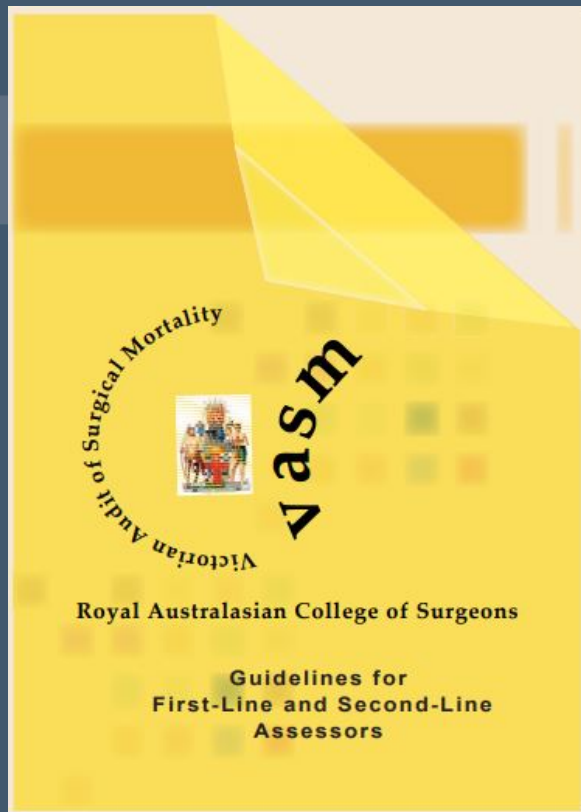
Area of:	Which:	Was it preventable?	Associated with?
<input type="checkbox"/> Consideration	<input type="checkbox"/> Made no difference to outcome	<input type="checkbox"/> Definitely	<input type="checkbox"/> Audited surgical team
<input type="checkbox"/> Concern	<input type="checkbox"/> May have contributed to death	<input type="checkbox"/> Probably	<input type="checkbox"/> Another clinical team
<input type="checkbox"/> Adverse Event	<input type="checkbox"/> Caused death of patient who would otherwise be expected to survive	<input type="checkbox"/> Probably not	<input type="checkbox"/> Hospital
		<input type="checkbox"/> Definitely not	<input type="checkbox"/> Other (specify) <input type="text"/>



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Management issues classification

- An area for CONSIDERATION is where the clinician believes areas of care COULD have been IMPROVED or DIFFERENT, but recognizes that it may be an area of debate,
- An area of CONCERN is where the clinician believes that areas of care SHOULD have been better, and
- An ADVERSE EVENT is an unintended injury caused by medical management rather than by disease process, which is sufficiently serious to lead to prolonged hospitalization or to temporary or permanent impairment or disability of the patient at the time of discharge, or which contributes to or causes death.

Automatic inclusion

Automatic inclusion as adverse event:

- Anastomotic leaks
- Aspiration pneumonia
- Falls in hospital resulting in significant morbidity or mortality.
- Iatrogenic perforation of a viscus
- Post operative hemorrhage
- Pulmonary embolus
- Wound dehiscence



Principles of a SLA

- Summarise history and course of treatment,
- Comment on quality of record keeping,
- Provide **constructive** comments on how the outcome might have been improved, specifically responding to the FLA comments and 'ACONS', and
- Suggest changes in future practice.



Substandard SLA report

This case is an unfortunate situation. I feel strongly that children with syndromes with conditions affecting the head and neck regions should be in a HDU care for the first post-op night, where special care is available, and if stable overnight to be transferred to a paediatric ward. This ward will have care and experience of nurses who can monitor intake, fluid balance and pain care; also to make sure that these kids are replicating what their conditions are when discharged to their home situations.

I believe the adenotonsillectomies were done competently, however I am not privy to whether the indication was absolute or relative.

The most likely cause of his brain hypoxia is most likely aspiration, but we will never know without ~~a~~ *the* post-mortem *report*.

I wish calm and strength to all concerned.

Inappropriate SLA report

“The case demonstrates an appalling lack of judgement by the treating surgical team”

“It was poor judgement in the extreme to subject this patient to such a large operation that was obviously unnecessary, and in no way could this be considered a justified procedure. As such, the recommendation in this case is that the case be referred to the hospital medical director for further investigation, and/or referral to AHPRA”

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Comments from SLA report

“significant concerns for the medico-legal culture of the involved hospital”

“difficulties obtaining IV access,CT scan, inpatient bed,
Obtaining assistance in resolving these issues. This suggests a hospital
under stress”

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Comments from SLA report

“anterior operations were ill-conceived and likely to fail and should never have been done.....One wonders whether the surgeon had undertaken the appropriate level of training for such major and extensive surgery..... If the patient had been managed in a decisive fashion with carefully managed analgesia, mobilization in an appropriate brace, and rehabilitation, she would not have died.”

Gold standard SLA report

VASM 40504

Clinical details:

Diagnosis: Type A aortic dissection.

Operations: Type A aortic dissection repair, thoracotomy and clip intercostal artery.

Cause of death: Exsanguination causing hypoxic brain damage.

Course to death:

Pleural effusion causing breathlessness and oxygen requirement in the postoperative period after Dacron graft repair of a type A dissection. An ICC was inserted on the ward at 6:30 pm on day 7 for drainage of a pleural effusion. Initially good drainage of the pleural effusion was seen on CXR at 6.55 pm; however, the patient developed massive haemorrhage from a lacerated intercostal artery at 8.30 pm while in ED radiology (seen on CXR). Haemorrhagic shock developed and the patient went into cardiac arrest. They were resuscitated with cardiopulmonary resuscitation for 1 minute; blood products and adrenaline were used in the ED. The patient was transferred to the operating theatre for thoracotomy to repair the bleeding intercostal artery. As a consequence of the bleeding, low blood pressure and cardiac arrest, the patient sustained a severe (hypoxic ischaemic) brain injury that was nonsurvivable. There was no significant past medical history prior to the type A aortic dissection.

The patient received 80 mg of enoxaparin at 2:00 pm on day 7 post-surgery for suspected pulmonary embolus, which was ruled out on subsequent computed tomography (CT) scanning of the chest. Initial surgery for type A aortic dissection proceeded smoothly, with very good progress postsurgery. The patient was almost ready to go home when the above event occurred. ICC insertion was performed by a resident under registrar supervision without any prior discussion with the consultant..

Assessor's comment:

This was truly a most tragic case of a patient surviving a life-saving operation for a condition that is almost universally fatal if left untreated, who then undergoes a 'minor' procedure on the eve of their discharge from hospital 1 week later and dies as a result. Mortality for the condition of aortic dissection is high, with less than 40% of patients making it to a hospital with the appropriate surgical facility, and up to half of those who do make it not surviving. The mortality for those who are able to be operated on can be as high as 40%, depending on the experience of the individual surgical units involved. This patient received prompt diagnosis, management and early surgical correction of his dissection and both his initial management and documentation were exemplary. The patient was in the operating theatre within a couple of hours of confirmation of the diagnosis, survived the surgery despite the usual complication of postoperative coagulopathy, woke without neurological deficit and was able to be extubated within 24 hours. The issue in this case revolves around the decision making regarding the treatment of a postoperative right pleural effusion and the communication with the consultant surgeon.

Firstly, there was the decision to drain at all - the bilateral pleural effusions were not that large in the first place (radiologically estimated at 690 mL on the right and 450 mL on the left). It seemed from the notes that the patient was sent to radiology for ultrasound examination and drainage of the effusions should they have been significant enough. The patient had been sent for a CT pulmonary angiogram earlier that day to exclude pulmonary embolism as the cause for exertional dyspnoea and had received a therapeutic dose of subcutaneous enoxaparin prior to the scan. The radiologist correctly declined therapeutic thoracentesis due to the presence of the anticoagulation, and this should have been like a red flag to the medical officers involved. Thus, secondly, there was the poor decision to insert the ICC in an anticoagulated patient. The medical officers were obviously aware of this potential complication as the consent form acknowledged the possible complication of haemothorax. The thoracentesis was apparently undertaken by the resident medical officer under registrar supervision, and appears to have been done following the appropriate protocol and caution. The result (720 mL haemoserous fluid initially) and the postprocedure CXR seemed to indicate that the drainage had been successful.

The third breakdown in good management was the slowness in recognising the evolving blood loss and haemothorax. The clinical indicators were all there, such as worsening dyspnoea and severe pain, including shoulder tip pain. Even the patient's partner, in the open disclosure dialogue document, felt that they "were not listened to", that the response to the patient's severe pain was "too casual" and that the medical staff were too slow to recognise something was wrong. These are all valid and pertinent points. The fact that the patient developed haemorrhagic shock while having the confirmatory CXR in the ED radiology, just 2 hours after the ICC was inserted (and subsequently removed for pain and dyspnoea) points to a lack of good clinical assessment of the patient. Surely the indications of massive haemothorax and blood loss would have been obvious. Finally, failing to discuss the proposed thoracentesis with the consultant surgeon was the other major issue. It is almost certain that the consultant would not have approved such a procedure, particularly as the effusion was not large and the patient was anticoagulated.

In summary, death in this case was preventable and the issues were:

- decision to drain the effusions
- decision to insert an ICC in an anticoagulated patient
- poor clinical assessment of a patient experiencing a major complication (haemothorax and incipient haemorrhagic shock)
- failure of communication with the consultant surgeon.

The hospital had excellent documentation and the openness with which they conducted their dialogue with the patient's partner is to be commended, particularly the use of the open disclosure dialogue document. This is an excellent tool and well serves the interests of transparency and accountability.

Surgical lessons:

Communication is one of the nine RACS competencies that all surgeons and trainees should be familiar with. [\[2\]](#)

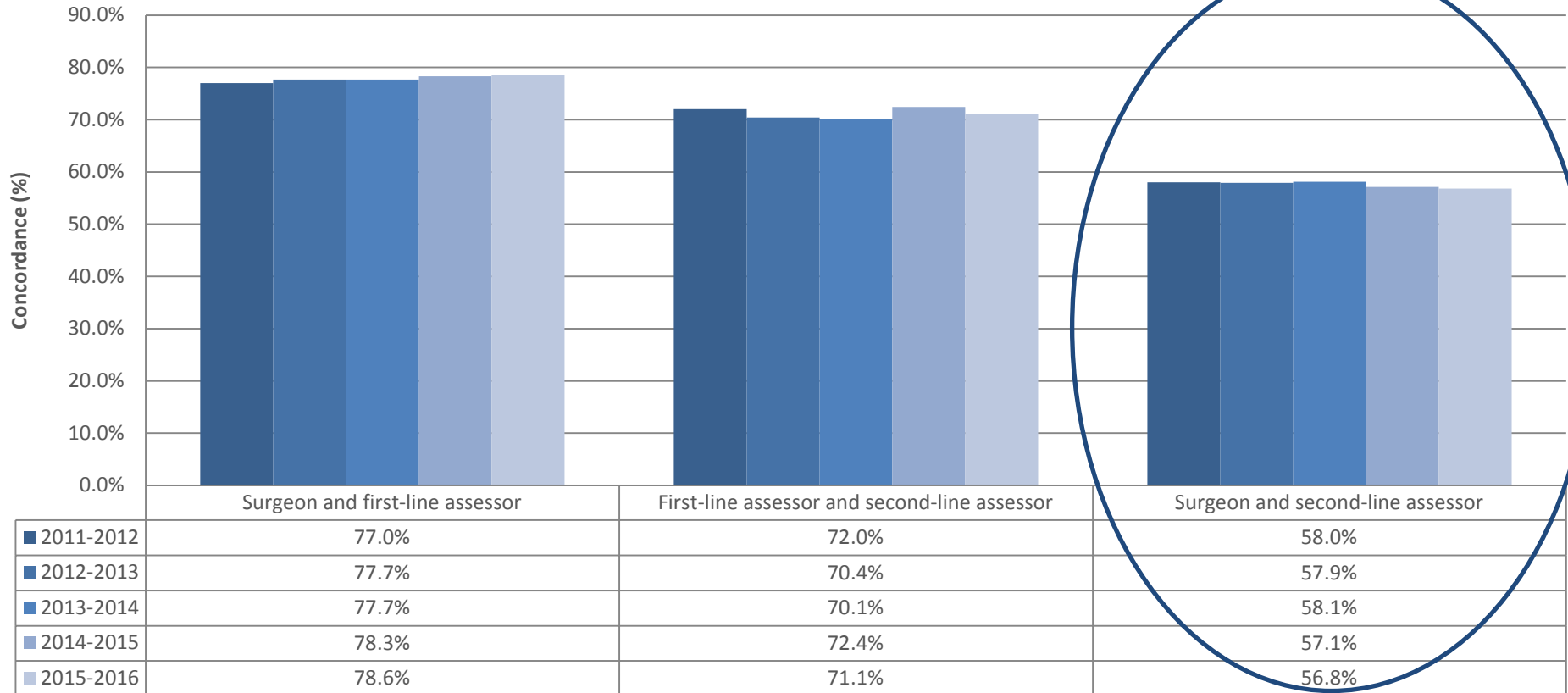
Good communication is essential across all levels of surgical care to ensure the delivery of the highest standards of care to patients.

Failure to communicate can often lead to poor outcomes.

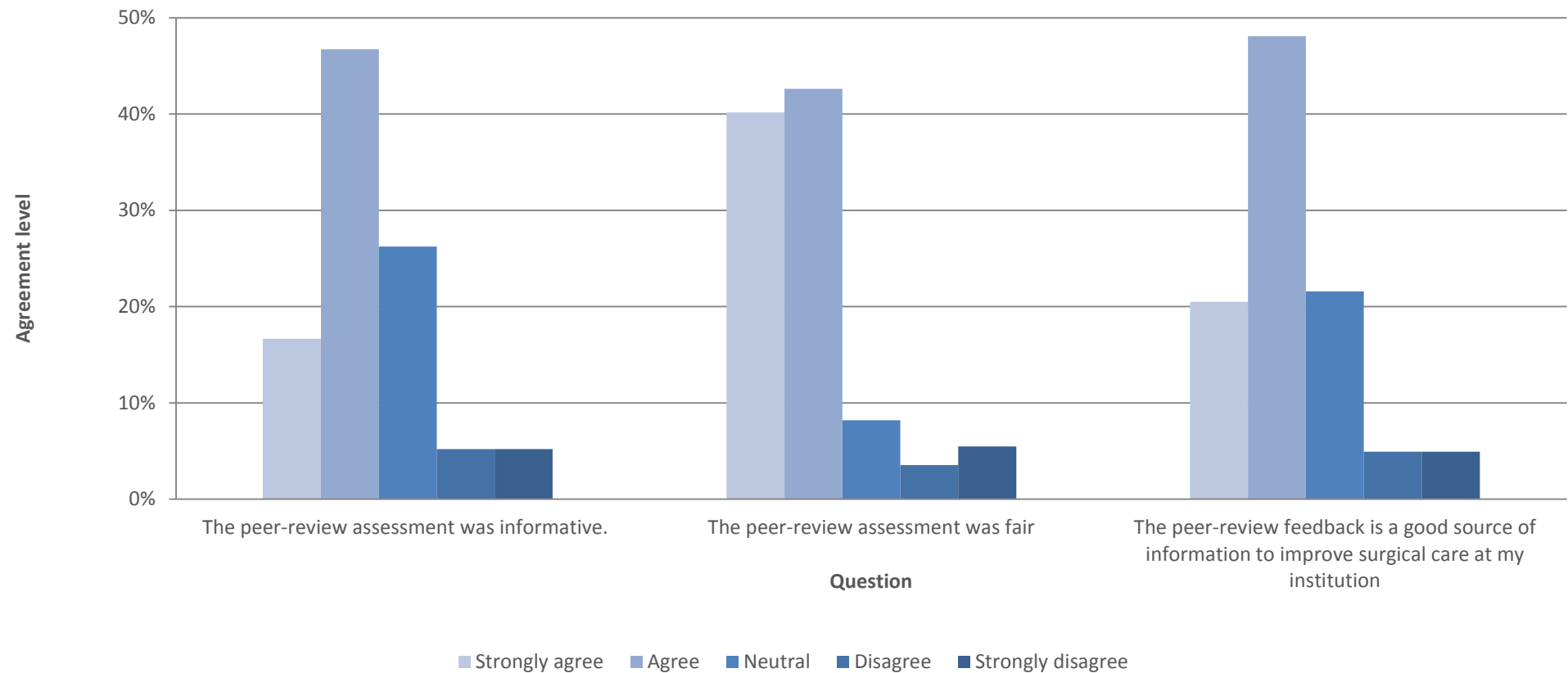
Reference:

Royal Australasian College of Surgeons. Nine RACS Competencies. East Melbourne: *Royal Australasian College of Surgeons*; 2016 [cited 2016 7 December 2016]; Available from: <http://www.surgeons.org/becoming-a-surgeon/surgical-education-training/competencies/>.

Concordance



Treating surgeon's appraisal



Surgeons comments

- The feedback has been taken on board and will influence future management,
- I agree the assessment was entirely fair. I cannot disagree when it validates my practice! If there are deficiencies in care in a case it is much more educational. We learn through our mistakes,
- The decisions were a shared process and responsibility between the cardiologist, anaesthetist, intensivist and myself as surgeon. I agree that the decision was taken too late, and the process of decision making although democratic was overly complex,
- I concur with the assessor's review and certainly on reviewing the case soon after the event I had already considered all the points mentioned. A very fair and useful assessment, and
- In this case, although I and other treating clinicians felt that there was more that we could do, the patient elected to limit treatment after the superficial haematoma wound washout (secondary to hip replacement). The patient's family supported the decision.

Conclusions

- High levels of concordance percentages were observed,
- The first-line assessors are reliant on the treating surgeon's account of the case, and
- The second-line assessors have access to the full medical record.

Future directions

- Enhance current processes and collaboration with SCV,
- Update Assessment Guidelines,
- Increase educational activities,
- Improve patient care and surgical experience, and
- Monitor the audit quality loop.

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