



ROYAL AUSTRALASIAN  
COLLEGE OF SURGEONS

**QASM**

Queensland Audit of Surgical Mortality



**NTASM**

Northern Territory Audit  
of Surgical Mortality

# LESSONS from the AUDIT

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## Introduction

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*Retrospect can be a great teacher.*

**When not to operate** is the theme for *Lessons from the Audit* (Volume 14).

Five short case studies are presented in Volume 14 to reinforce the importance of the College's core competencies, in particular: judgement, collaboration and teamwork, and health advocacy.

We can all learn from these cases and their related outcomes. The management of surgical patients is rarely simple.

See page three for overall recommendations when dealing with the dilemma of **when not to operate**.

As surgeons, we have been trained to assess the patient comprehensively, to investigate in an appropriate manner, to make decisions, and to produce management plans that will best suit all the factors of our individual patients.

I trust that these case studies and the peer review comments will enhance your ability to better achieve appropriate pathways for complex surgical patients.

As always, I welcome your feedback regarding these case studies.

Yours sincerely

John North  
QASM Clinical Director

**Disclaimer:** This booklet is produced for Fellows of the Royal Australasian College of Surgeons. Information is obtained under a quality assurance activity. Detail that may identify individuals has been changed, although the clinical scenarios are based on real cases.



## Shortened forms

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<b>AHD</b>	advanced health directive
<b>CPB</b>	cardiopulmonary bypass
<b>CT</b>	computed tomography
<b>CTPA</b>	computed tomography pulmonary angiogram
<b>EF</b>	ejection fraction
<b>GBM</b>	glioblastoma multiforme
<b>GCS</b>	Glasgow Coma Scale
<b>ICU</b>	intensive care unit
<b>MDT</b>	multi-disciplinary team
<b>MET</b>	medical emergency team
<b>PEA</b>	pulseless electrical arrest
<b>PE</b>	pulmonary embolus
<b>TOE</b>	transoesophageal echocardiogram



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## Overall recommendations:

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- Surgeons should carefully weigh up the possible benefits and the potential risks of a procedure, and give strong consideration to existing patient comorbidities.
- Complex decision making requires excellent use of communication and, sometimes, collaboration with colleagues. Surgery for patients over 90 years mandates a multi-disciplinary team (MDT) approach.
- Comprehensive assessment is critical for a clear diagnosis (which may or may not support the need for surgery).
- Informed consent of surgical patients remains the responsibility of the surgeon, and the decision to operate must be an evidence-based decision.
- Surgeons should, when necessary, aim for a seamless transfer to the palliative care pathway. This seamless transfer is achievable with effective communication and is always commendable (see case study 5 on page 10).
- An Advanced Health Directive (AHD) is to be discussed with all patients over 80 years (surgeons should have honest discussions with patients, family, and caregivers. Surgery may be a 'saviour' but in some patient scenarios it may not be the best course of action).



## Online recommendations:

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\*View online, the College's core competencies:

<http://www.surgeons.org/becoming-a-surgeon/surgical-education-training/competencies/#Communication>

\*View online the Queensland Department of Health's adult deterioration detection system. The related chart and information can be found at <http://www.safetyandquality.gov.au/wp-content/uploads/2012/01/35981-ChartDevelopment.pdf>





## Cardiothoracic surgery

### Case study 1: *Too frail?*

The QASM assessor stated: 'I agree with the view of the treating surgeon. The decision not to operate is often very hard. Endocarditis, with major involvement of the cardiac skeleton, is a challenge at the best of times.'

The treating surgeon reflected on the decision to take this patient to theatre and stated this clearly on the QASM surgical case form.

A summary of the case follows.

#### The patient:

- was male (mid 70s)
- had had a mechanical mitral valve replacement (20 years prior)
- had had an aortic valve replacement and a coronary bypass graft (10 years prior).

(Note: At both operations, the patient had marked calcification in the mitral and aortic annuli with extensive septal calcification).

#### What happened in the hospital?

- After a few weeks of feeling unwell, the patient presented with urosepsis (positive blood culture – enterococcus) and pulmonary oedema.
- The patient had a transoesophageal echocardiogram (TOE) showing severe double valve endocarditis with massive vegetation and valve dehiscence (4/4 mitral regurgitation). The aortic valve had moderate vegetation.

- The patient deteriorated with pulmonary oedema, pitting oedema to knees.
- The patient was in acute renal failure (creatinine over 0.30 mmol/L\*).
- The patient was initially stable in the intensive care unit (ICU) and then taken to theatre for salvage surgery.
- The risk of this operation, 60 to 70 per cent mortality and 60 to 70 per cent morbidity, was quoted to the patient.
- *Findings at operation:* vegetative involvement of both the aortic and mitral valves (both on the superior and inferior surfaces of these valves). There was massive calcification of the whole septum below the right aortic coronary annulus and also extending into the non-coronary annulus which made re-implantation of the valves impossible.
- *Operation:* able to open, to divide adhesions, and to get the patient on aortobicaval cardiopulmonary bypass (CPB). Valves explanted, but due to the extensive calcium and infection/abscess activity it was not possible to place sutures through the annulus to seat new valves; also, unable to patch annulus due to calcium. It was apparent that implantation of valves would not be possible.
- The surgeon unscrubbed and had a discussion with the medical superintendent, the patient's family, and the coroner to explain the situation.





- The CPB machine was turned off, and the surgeon decannulated the heart and closed the chest. The patient died soon after.
- The case was referred to the coroner but an autopsy was not required as it was not a reportable death.

### **What issues are highlighted by this case?**

- Was surgery or salvage surgery necessary? Would having a discussion with a surgical colleague have resulted in this operation not being done? Communication and collaboration are always critical elements when making complex surgical decisions, especially when surgery is high risk and the patient's death is almost certain.
- The importance of clearly communicating the risks of surgery to patients, relatives, and carers. Evidence-based surgery drives patient consent.

\*Ref range serum creatinine: Adult male:  
0.06-0.12 mmol/L.

Ref: <http://www.rcpamanual.edu.au/>  
accessed 03.10.2014



## General surgery

### Case study 2: Take a multidisciplinary approach.

The QASM assessor asked three questions when reviewing this case:

Was non-operative management discussed?

Why was anastomosis performed in a setting of a comorbid nonagenarian with feculent peritonitis?

Was the abdomen imaged when the patient developed dysrhythmia?

A summary of the case follows.

### The patient:

- was male (mid 90s)
- was in poor general health
- had comorbidities (dementia, depression, anaemia, atrial fibrillation, ischaemic heart disease, and previous coronary artery grafts)
- was a non-insulin dependent diabetic with poor control (blood sugar > 25 mmol/L\*).

### What happened in the hospital?

- The patient was assessed on admission and suspected to have an obstructing sigmoid colon mass with evidence of perforation (this was evident on scan).

- A decision was made not to offer intensive care placement.
- The patient and family requested surgery.
- Surgery was performed late at night and consisted of a total colectomy with ileostomy and rectal oversew.
- The patient seemed to be recovering while in the ward but suffered an acute cardiorespiratory decompensation and died (three days post operation).
- Prior to surgery, a verbal advanced health care directive for no cardiac resuscitation and ventilation had been put in place.

### What issues are highlighted by this case?

- Whether or not to operate and how best to manage an elderly, frail patient are questions which require a MDT approach.
- The importance of balanced counsel for patients, relatives, and caregivers regarding the surgical scenario as it relates to the patient (risks and benefits for patients).

\*Ref range blood glucose: 'Random': 3.0-7.7 mmol/L

Ref: <http://www.rcpamanual.edu.au/>  
accessed 03.10.2014



## Vascular surgery

### Case study 3: Comorbidities kill.

The QASM assessor stated that ‘this patient had five endovascular interventions in the last days of life which failed to have any significant meaningful effect on the patient’s outcome’.

A summary of the case follows:

#### The patient:

- was male (late 80s)
- was diabetic
- had cardiovascular, respiratory and renal comorbidities
- had been a recent inpatient at a small regional hospital for long-term intravenous antibiotics.

#### What happened in the hospital?

- The patient was admitted to a tertiary referral hospital with right leg critical limb ischaemia and infection.
- Diagnostic angiograms were performed (one week apart), both under local anaesthetic. Therapeutic angioplasty resulted in superficial femoral artery, popliteal and peroneal angioplasty. There were no intra-procedural complications.
- The nursing staff entry stated ‘stable’ observations on the ward at 2300.
- The patient was found unresponsive at 2400 and a MET call was made.
- The post-MET call, the patient was transferred to an ICU.

- In ICU, the patient was found in pulseless electrical arrest (PEA).
- The patient was given 10 minutes of cardiopulmonary resuscitation and 2mg adrenaline to return to spontaneous circulation. The patient was intubated during arrest.
- A computed tomography (CT) of the head excluded haemorrhagic stroke. A computed tomography pulmonary angiogram (CTPA) excluded pulmonary embolus (PE).
- The patient did not wake after sedation and support was weaned (Glasgow Coma Scale (GCS) 6–7 with some focal seizure activity which was thought to be due to hypoxic ischaemic encephalopathy).
- Treatment was removed in agreement with the family and the patient.
- The patient was transferred to the ward for palliative care.

#### What issues are highlighted by this case?

- Was surgery indicated? Despite best efforts to deal with real pathology, other comorbidities claimed this life independent of the surgery.
- Consenting every patient with multiple comorbidities must always include the risks as well as the potential benefits, if it is to be truly informed consent. An Advanced Health Directive (AHD) is to be discussed with all patients over 80 years. A dignified death pathway can avoid complex interventions.



## Orthopaedic surgery

### Case study 4: *Look before you leap?*

The QASM assessor stated that it is important 'whenever there is a difficult clinical decision to be made, the treating surgeon must involve and consult with either the multidisciplinary team or a senior colleague before making any difficult operating decisions. In my view, the outcome could not have been avoided but a lesson should be learnt from this case.'

The treating surgeon stated on the QASM surgical case form that, in retrospect, 'I would probably not operate. The decision to operate was marginal and the patient improved considerably but only for a short period. This patient had too poor cardiac output to survive.'

A summary of the case follows.

### The patient:

- was male (late 80s)
- had cardiovascular and advanced malignancy comorbidities
- had a large soft tissue malignancy (pleomorphic sarcoma).

### What happened at the hospital?

- The patient was admitted with pleomorphic sarcoma on the buttocks.
- The patient had a low ejection fraction (15%).
- It was felt that the patient would benefit from a reduction of the tumour and therefore the 'toxicity' of the tumour.
- A resection of the tumour on the buttocks took place.
- There was a major wound dehiscence as a significant post-operative complication. This, coupled with poor cardiac status, led to the patient's death within a week of surgery.

### What issues are highlighted by this case?

- What were the chances of assisting this patient by doing a palliative resection?
- Was the operative trauma or complication more likely to cause this patient's demise?



## Neurosurgery

### *Case study 5: When death is certain, careful communication is essential.*

The QASM assessor stated: 'Deteriorating patient with extensive likely glioblastoma multiforme – biopsy does not change clinical management. It is understood why the surgical team offered it in this case though strictly speaking it was not necessary.'

The treating surgeon reflected on the QASM surgical case form that 'patient's preoperative function was such that adjuvant therapy felt unlikely to be offered and it was felt that to operate would be unethical.'

A summary of the case follows.

### **The patient:**

- was male (mid 60s)
- had no other significant comorbidities.

### **What happened in the hospital?**

- The patient was admitted for investigation of confusion and weakness.
- Imaging showed brain lesion (query glioblastoma multiforme or lymphoma).
- Biopsy was delayed and further imaging was sought to confirm diagnosis.
- The imaging was not helpful.
- The biopsy was offered so that the patient's family could have confirmation of diagnosis, with the understanding that treatment would not be offered. This course was understood and accepted by the family.

- The biopsy confirmed glioblastoma multiforme.
- The patient gradually deteriorated.
- The patient received palliative care and died within days of diagnosis.

### **What issues are highlighted by this case?**

- Progression from admission to assessment to diagnosis was professional and showed a comprehensive yet careful approach. The dignified death pathway avoided complex interventions and this is to be praised.
- Communication by, and planning from, the treating surgical team was excellent and respectful. It is important that family and carers are kept informed and are considered a significant part of the decision-making process.











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**QASM**

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Northern Territory Audit  
of Surgical Mortality

Telephone: 07 3249 2971

Facsimile: 07 3391 7915

Email: [qasm@surgeons.org](mailto:qasm@surgeons.org)

Post: PO Box 7476  
East Brisbane QLD 4169

Web: [www.surgeons.org/qasm](http://www.surgeons.org/qasm)

Telephone: 07 3249 2973

Facsimile: 07 3391 7915

Email: [ntasm@surgeons.org](mailto:ntasm@surgeons.org)

Post: PO Box 7385  
East Brisbane QLD 4169

Web: [www.surgeons.org/ntasm](http://www.surgeons.org/ntasm)