# Victorian Surgical Consultative Council

# health

Annual Chairman's Report 2014



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# ANNUAL CHAIRMAN'S REPORT 2014

During 2014 the Victorian Surgical Consultative Council (VSCC) continued to engage with surgeons and trainees of all specialties, including gynaecological surgery. Auditing of clinical outcomes, surgical procedures and hospital care has occurred through the Victorian Audit of Surgical Mortality (VASM) and the bi-national Australian and New Zealand Audit of Surgical Mortality system (ANZASM) as well as the VSCC's event reporting, de-identified outcome analysis, and studies reviewing hospital performance. Victoria's public and private hospitals now all contribute to the VASM. Surgeon participation in practice audit with peer review is now a condition of Australian Health Practitioner Regulation Agency (AHPRA) registration, and of Fellowship of the Royal Australasian College of Surgeons (RACS), and accrues Continuing Professional Development (CPD) points.

<u>Highlights of the year</u> have been the February Seminar on Surgical Emergencies and Shared Care, the excellent results of several operations studied across the State's hospitals, again no incorrect operations reported, and further reduction in surgical sentinel events involving retained materials. Three years without reported operations on a wrong patient, side or site follows the statewide implementation of "TimeOut" checking in the operating room before any operation starts, as recommended by the VSCC, the RACS and the World Health Organisation (WHO). This is commended for extension to all hospital proceduralists.

The VSCC increased its profile this year with surgeons and trainees through seminars, meetings and twice-yearly electronic eBulletins (the April and October eBulletins are attached at the end of the report), and continued interaction with other hospital specialties such as emergency medicine and radiology. We continue to explore better ways of harnessing the audit work already being done in the local morbidity and mortality meetings of surgical units, deserving wider dissemination of lessons learned. The VSCC collaborates closely with the VASM in de-identified clinical case assessment and in generating educational material. We value the sustained support of our sibling clinical councils for anaesthetic mortality and morbidity (VCCAMM), and obstetric and paediatric mortality and morbidity (CCOPMM). The Clinical Councils Unit (CCU) within the Health Service Programs Branch of the Victorian Department of Health provides secretariat and project support to the three Consultative Councils.

VSCC 2011-2013 The Triennial Report will be disseminated and available at www.health.vic.gov.au/vscc. Reports of Sentinel Events in surgical care have again diminished. De-identified health service and hospital performance (public and private) came under study through the VSCC's Surgical Outcomes Information Initiative (SOII) in several key areas, confirming generally high levels of patient safety. The results are communicated to all surgeons and hospital CEOs, and appear on our updated VSCC website. New clinical practice guides have been developed in a variety of problem areas, and older guides updated.

#### 1. Council membership.

Council members serving by Ministerial appointment during 2014 included metropolitan and regional surgeons in a variety of specialties, as follows:

- Mr Peter Field, Vascular Surgeon, Melbourne Health & RACS, Chairman of VSCC
- A/Prof David Allen, Obstetrician and Gynaecologist, nominee of Mercy Health
- Mr Malcolm Baxter OAM, ENT Surgeon, Southern Health
- Mr C. Barry Beiles, Director of VASM (RACS), Vascular Surgeon, Western Health
- A/Prof Wendy Brown, Upper GI/ Obesity/ General Surgeon, Alfred Health
- A/Prof Richard Cade, General/ Hepatobiliary Surgeon, Eastern Health
- Mr Lindsay Castles, Breast Surgeon/ Surgical Administrator, Austin Health
- Mr Stephan Clifforth, General Surgeon, Hamilton Hospital

- Dr Ben Connell, Ophthalmologist, RVEEH
- A/Prof Bruce Davis, Cardiothoracic Surgeon, Alfred Health
- Mr Tony Heinz, General Surgeon/ Director of Surgery, Goulburn Valley Health
- Prof Michael Henderson, General Surgeon, Peter MacCallum Cancer Centre
- A/Prof Rodney Judson, General Surgeon/ Director of Surgery, Melbourne Health
- A/Prof John Mackay, General/ Colorectal Surgeon, Epworth Eastern
- A/Prof Ian McInnes OAM, General Surgeon, Alfred Health
- Mr Peter Mortensen, Urologist, Shepparton Hospital
- Mr Michael O'Brien, Paediatric Urologist, Royal Children's Hospital
- Mr John Owen, Orthopaedic Surgeon, Northern Health
- Dr Andrew Rosengarten, Emergency Physician, Western Health
- Prof John Royle OAM, Vascular Surgeon, Austin Health & RACS
- Dr Kevin Siu AM, Neurosurgeon, Melbourne Health
- A/Prof Dominic Vellar, General/ Hepatobiliary Surgeon, St Vincent's Hospital
- Prof Noel Woodford, Pathologist, Victorian Institute of Forensic Medicine.

Dr Grant Brace, Anaesthetist, nominee of Austin Health, attended VSCC meetings and contributed this year by invitation pending Ministerial appointment.

Their expertise and contributions are greatly appreciated.

Ms Vickie Veitch was appointed Manager of the CCU on 11 November 2013, and we thank her for her guidance during her first full year as Manager. Project Officer Mrs Linda Botham effectively coordinates all we do, prepares members for their tasks and sittings, arranges our agendas, minutes of meetings and publications, and is our interface with the Department, other organisations, the public and our surgeons. And the collaborative work of the Department's other officers is greatly appreciated in supporting both the VSCC and the SOII sub-committee.

#### 2. Surgical Mortality

In 2008, the Victorian Audit of Surgical Mortality (VASM) was established to receive notification by surgeons of all deaths in Victorian hospitals under their care (these were previously collated by the VSCC). Participation in this audit of hospital-based surgical mortality is now a practising obligation for Fellows of the Royal Australasian College of Surgeons (RACS). This audit is managed by the RACS and funded by the Department of Health. The VASM forms part of the bi-national audit, the ANZASM. Victoria has had full public hospital participation in the external peer audit of mortality with the exception of one trauma unit, and by 2013 the State's private hospitals had also reached 100% participation. 1,236 surgeons in Victoria participate, plus 399 gynaecological surgeons. A total of 9,344 notifications have now been received, and during November 2014, 75% of the patients were emergencies, 61% were ASA (anaesthetic) category 4, and surgeon before-operation-perception of the risk of death was moderate in 21%, considerable in 57%, and expected in 6% of cases. 87% had at least one operation.

All case notes are de-identified before analysis, and their confidentiality is protected in law. 1,372 surgeons have also enrolled to be first-line or second-line case assessors in this audit process, providing peer review in their own specialties, for which they gain CPD credits. The treating surgeon receives confidential individual feedback.

The VSCC's role in mortality analysis is to consider the VASM assessments that show management areas of concern during the treatment in hospital, or a serious adverse event, or a potentially avoidable death. Multiple concerns are frequent. This has enabled us to communicate on a regular basis with all surgeons and surgical trainees in the State about approaches likely to improve the safety of surgical care. The VSCC provides advice to the Minister for Health, the Department of Health, hospital CEOs and Directors of Surgery. The VSCC also helps with evaluation of the VASM's assessment process, and contributes to the VASM's booklets of illustrative case note reports. For continued close liaison in our mutual efforts, the VSCC

Chairman takes part in the VASM Management Committee, and the VASM's Clinical Director is a member ex officio of the VSCC.

<u>Areas of concern in surgical care identified in deaths during 2014</u> have included the following, often recurring topics:

Clinical Management

- Poor choice of operation
- Decision to operate at all
- Delay to operation, earlier operation desirable
- Failure to use DVT prophylaxis
- Unsatisfactory medical management
- Unsatisfactory management of fluid balance
- Delayed recognition of patient deterioration
- Inadequate suspicion of postoperative complication
- Delayed diagnosis or investigation
- Diagnosis missed on imaging
- Failure to recognise severity of illness
- Postoperative bleeding after laparoscopic operation
- Premature discharge from ITU
- Respiratory deterioration

Health Service or system issues

- Inadequate patient assessment or investigation
- Inadequate preoperative preparation of patient
- Communication failures
- Delay in transfer to tertiary hospital
- Inadequate surgical notes in patient history
- Patient record incomplete at day of surgery admission
- Absence of autopsy to determine operation success or precise cause of death.

These have been highlighted in our newsletters to surgeons and trainees, and in the VSCC Guides to Clinical Practice similarly circulated, which are available on the VSCC website. It is important that case notifications of deaths be made with sufficient detail (operation reports, imaging reports, autopsy findings, levels of experience of decision-maker, operator and supervisor) to facilitate peer assessment.

#### 3. Surgical Morbidity – Tapping into local M&M meetings

The VSCC continues to receive voluntarily reported instances of surgical morbidity including serious adverse events and "near-misses". The VSCC recognises the amount of work already put into hospital unit and specialty morbidity and mortality meetings (M&M), and that conclusions reached during such peer scrutiny and frank discussion are confidential. Yet the lessons distilled there deserve to be made available for sharing with the wider surgical community, including trainees who treated the patients but have since rotated to another job. A pilot scheme to receive *de-identified* experience from two hospitals' surgical M&M meetings was expanded to other surgical and procedural hospitals in Victoria.

Incident and near-miss reports from consultant surgeons, trainees and other specialists are encouraged, either on the the VSCC Report Form 1 or by <u>confidential email to this office, including</u> <u>opinion as to cause of the incident, and recommendation for prevention of a similar incident.</u> All clinical incident and near miss reports received by the VSCC have been de-identified for discussion purposes, and the notifier received feedback. As above, such experiences have been used in the VSCC's development of Clinical Practice Guides.

#### 4. The Department's Sentinel Event and Incident Management Programs

During 2014 only two surgical Sentinel Events have been referred to the VSCC for clinical comment on the notifying hospitals' root cause analyses. This compares with six during 2013, eight during 2012, nine in 2011, and an average of 20 in each of the previous 3 years. The two cases involved one gauze retained at operation, and one drain tube that was incompletely removed postoperatively. An attached table shows the spectrum (Table 1).

The reduced frequency of reports relates in part to the statewide implementation of "TimeOut" checking in the operating room before any operation starts, as recommended by the VSCC, RACS and the World Health Organisation, responsible for reducing wrong operations. It may also relate to the national re-definition of some sentinel events so as to require resultant death or major permanent loss of function, however this Council considers that <u>any</u> operation on the wrong patient or body part is a significant event. "Other catastrophic events" such as fatal intraoperative bleeding are now reported and analysed separately through the Victorian Health Incident Management System (VHIMS).

Of ongoing concern is the occasional retention of a gauze or pack or drain tube requiring reoperation. The high-risk situations for this to occur are well known. Further reduction is possible in coming years by vigilance, attention to surgical principles, operative and surgical care, and improved management systems. The VSCC has sent alerts and clinical practice guides, about counting instruments, equipment and "extras" into and out of the operative field, and about the securing and care of drain tubes.

The Victorian Hospitals Universal Post-Operative Orders checklist, now widely taken up in surgical hospitals across the State, should ensure the nature and intended management of drains is clear and accessible. The surgeon placing a drain remains responsible for supervising its use, dressing, any withdrawal, "shortening" or cutting, and ultimate removal.

Year	Category of Surgical Sentinel Event	Number	Total
2008	Wrong place or part	11	
	Retained material	9	
	Other catastrophic	4	24
2009	Wrong place or part	10	
	Retained material	5	
	Other catastrophic	4	19
2010	Gas embolism	1	
	Retained instruments	11	
	Other catastrophic	7	
	Wrong patient	1	16
2011	Incorrect operations – patient/site/side	1	
	Retained materials – packs/instruments/drain tubes	6	
	Other catastrophic – bleeding/fire	2	9
2012	Incorrect operations – patient/site/side	0	
	Retained materials – packs/instruments/drain tubes	6	
	Other catastrophic – laparoscopic haemorrhage	2	8
2013	Incorrect operations – patient/site/side	0	
	Retained materials – packs/instruments/drain tubes	6	
	Other catastrophic –	0	6

#### Table 1: Surgical sentinel events, Victoria, 2008–2013

#### 5. Surgical Outcomes Information Initiative (SOII)

This important subcommittee of the VSCC uses existing administrative data held in the Victorian Admitted Episodes Dataset (VAED) for statistical analysis of all hospital separations / discharges over a two or three year period. This affords an opportunity to study selected surgical conditions and procedures for variations in outcome across the State. Public and private hospitals are included, all are de-identified for analysis, and their level of performance communicated to them for information.

Hospitals with apparently outlying performance are asked confidentially to investigate their results, validate their data and coding, and seek from their relevant clinicians any explanation of the findings, such as system problems or unusual patient profiles. The health services are invited to notify the VSCC of their conclusions and resultant action they have taken. This enables the VSCC to disseminate valuable experience (again de-identified as to hospital) to the benefit and safety of the State's patients.

In 2014 the SOII subcommittee has looked at Victoria's outcomes in these three studies, they also appear in the VSCC eBulletins which are attached and also available on the VSCC website :

#### <u>Carotid Endarterectomy – mortality and complication rate in Victorian hospitals 1 July 2010</u> – 30 June 2012

The study identified 1,544 patients undergoing carotid endarterectomy in Victorian public and private hospitals. The State average survival rate was 99.55%. Procedures on the intracranial circulation and carotid artery stenting were excluded. All hospitals were de-identified during the study. There were seven post-operative deaths following endarterectomy (State average mortality 0.45%). There was no hospital with statistically significant outlying performance.

The rate of haemorrhage requiring re-operation was 1.23%, with no significant difference between the genders of these 19 patients. There was no hospital with statistically significant outlying performance.

There were 33 cerebrovascular events complicating the 1,544 endarterectomies. It was not possible to distinguish between transient, minor and severe strokes. The State average rate was 2.1%, with no significant difference between the genders, and no statistically significant outlying performance among the hospitals. The study compares favourably with published world results and with Vascular Surgery's own outcomes audit (the AVA).

#### <u>Complication rate following Facial Nerve Sparing Parotid Surgery in Victorian Hospitals, 1</u> July 2010 - 30 June 2012

1,142 facial nerve sparing parotid operations were performed over the two year period, 1,062 for neoplasm and 80 for non-neoplastic pathology. 970 partial parotidectomies were performed, presumably facial nerve sparing, and 174 total parotidectomies with preservation of the nerve.

The study was unable to determine if a nerve injury was partial or total, and whether temporary or permanent. The recorded total facial nerve injury rate was 1.14%, with no statistical difference between surgery for benign or neoplastic pathology. The overall State average mortality rate was 0.18%, again without difference between pathologic categories.

The overall facial nerve injury rate appears comparable with published large international studies, implying a generally high standard of surgical practice in Victoria. A small number of the (deidentified) health services and hospitals appeared to have a significantly higher nerve injury rate than the State average, and were invited to review the patients' information and inform VSCC confidentially of their findings, and any action required.

#### Mortality rate following Oesophagectomy in Victorian Hospitals, 1 July 2011 to 30 June 2013

The study identified 237 elective adult oesophagectomies during the two year period. The overall State average survival rate was 98.73%, with fewer than 5 deaths in hospital.

The operations were performed at 26 (de-identified) hospitals across Victoria, with no significant difference in mortality rate noted between hospitals despite variation in their frequency of surgery. The current mortality rate of 1.27% compares well with 2.37% recorded in the 2005 to 2007 SOII study, which included paediatric patients.

The current Victorian mortality rate also compares very favorably with 7.8% in a recently published large series of oesophagectomies involving 18,000 patients.

**SOII overview.** It is pleasing to find that Victoria's surgical outcomes are generally in accord with published world standards and clinical indicators. It may soon be possible to link current data systems, and to track patients with a complication occurring beyond the initial hospital or day-centre admission, or requiring readmission to the same or another hospital. The SOII studies to date have been confined to complication or death occurring during the same admission as the operation. Where a (de-identified) hospital has appeared to have outlying performance, occasional mis-coding has been the explanation, or a risk bias in their patient population, or the issue had already been investigated by the hospital and clinicians had instituted appropriate system changes.

#### 6. Victorian Hospitals Universal Post-operative Orders Form

This medical record page was developed in 2010 by the VSCC in conjunction with the Victorian Council of Anaesthetic Mortality and Morbidity (VCCAMM), Alfred Health and other health services, following the recommendation of the State Coroner. It aims to make it safer for nursing, surgical and anaesthetic staff working at several hospitals, or HMOs rotating to several hospitals, by prompting the completion of postoperative orders and their vital accessibility throughout the patient's hospital stay. An example of the form is attached.

The form is a structured checklist, whose format is recognisable and instantly accessible between hospitals. Specific requirements of a specialty, unit, specific procedure or anaesthetic are catered for on the reverse side of the page. It has been adopted into the paper or electronic record of the majority of health services.

The VSCC has continued to emphasise the importance of this checklist to remedy some continuing difficulties being revealed in audit – of omissions in postop orders, lack of clarity and accessibility especially for covering HMOs, agency staff and night staff in unfamiliar wards.

#### 7. VSCC Seminar: "Surgical Emergencies and Shared Care", 19 February 2014 This

Seminar/Webinar was held in the Department of Health auditorium at 50 Lonsdale St, Melbourne, presented jointly by the Victorian Surgical Consultative Council (VSCC, Victorian Dept. of Health), Victorian Audit of Surgical Mortality (VASM, Royal Australasian College of Surgeons), and the Victorian Managed Insurance Authority (VMIA).

• The presentations, panel discussion, de-identified case scenarios and question time raised medical, surgical and nursing staff awareness of (a) current problem areas in the care of surgical emergencies, as revealed in clinical audit, and (b) the risks and challenges posed by shared care, and how surgeons and trainees may improve the safety of patient care in such settings.

- Eight distinguished contributors offered a variety of topics, case examples, research findings, solutions, and took part in panel discussions and question time.
- Some 190 registrants attended, including interns and HMOs; surgeons rural and urban; nurse managers and educators; intensivists; anaesthetists; emergency staff; administrators; health service and hospital CEOs, quality and safety officers. Eight regional centres participated via video- and tele-conferencing: Albury Wodonga Health (Albury), Bairnsdale Regional Health, Ballarat Health Services (Deakin University), Echuca (anaesthetist), Western District Hamilton, SA Audit of Perioperative Mortality (Adelaide), Northeast Health Wangaratta, and Albury Wodonga Health (Wodonga Campus).
- The seminar program was approved by the College of Surgeons for 1 CME/CPD point per hour (maximum 3 points). Registrant feedback rated 80-90% satisfaction with the program, and numerous suggestions for future seminar topics were received.

A summary of the program and speakers' presentations is included in the April eBulletin attached. Question time and discussion were lively, with enthusiasm and suggestions of topics for further seminars. The next joint Seminar in the series is **at the College of Surgeons, Spring Street:** 

#### Seminar: "Perioperative care. How can we do better?" 18 February 2015

#### 8. Liaison with other groups

The VSCC works very closely with the VASM in the assessing of standards and areas of concern in surgical care, and contributing to the VASM case note review publications. VSCC thanks Mr B Beiles, Ms C Retegan and staff.

The VSCC liaises closely with the two other Clinical Councils, in Anaesthetic and Obstetric and Paediatric mortality and morbidity. Legislatively protected and de-identified information is shared when reported cases require comment on inter-related issues. The VSCC thanks Associate Professor L. McNicol (VCCAMM) and Professor J Oats (CCOPMM) and their staff.

The VSCC Members and Chairman continue to liaise with leaders of clinical audit in our public and private hospitals, encouraging peer audit among surgeons. The Chairman spoke at a national nursing conference on "Managing the deteriorating surgical patient".

The State Coroner referred some recommendations (resulting from findings) to the VSCC for dissemination to surgeons and hospital staff.

The VSCC encourages clinical outcome auditing and peer review by other proceduralists such as emergency physicians, intensivists, oral/maxillofacial surgeons, procedural radiologists and interventional cardiologists. There is always scope for improved patient safety and hospital performance, and the VSCC seeks opportunities to share data gathering mechanisms and promulgate lessons from audit experience, especially relating to surgical patient care.

The NHMRC Guidelines Register is kept advised of our new VSCC Clinical Practice Guides, and revisions of guides older than five years. They are also on the VSCC website.

#### 9. Communication with Victoria's surgeons and trainees

During 2014 VSCC members continued to promote the benefits and results of clinical outcomes audit at their hospitals, at the Royal Australasian College of Surgeons Annual Scientific Congress, and at the Victorian Regional Committee meeting in Melbourne.

#### VSCC Reports, "alerts" and clinical practice guides - the "VSCC eBulletin"

In 2014, there were major VSCC eBulletins (formerly mail-outs) e-mailed to surgeons, trainees and hospital CEOs in April and October. The VSCC eBulletin has also been made available to our

Victorian colleagues (specialists and trainees) in the Colleges of Obstetrics & Gynaecology, Ophthalmology and Emergency Medicine to receive the VSCC eBulletin via their own confidential emailing lists.

These VSCC Clinical Practice Guides appeared in the 2014 Bulletins and the VSCC website:

Bariatric Surgery Correct level in spinal surgery Gastrostomy Tube Emergency Replacement with balloon tube Patients who self-discharge or refuse treatment Post-laparoscopy deterioration following Upper GI/Biliary Surgery Risk reduction and prevention of pulmonary aspiration Sepsis following colorectal surgery Support for surgeons following an adverse event or near-miss Tracheostomy management Upper GI bleeding Use of Trans-Oesophageal Echocardiography in Cardiac Surgery

The VSCC website: <u>www.health.vic.gov.au/vscc</u> contains current advisory clinical practice guides, with reference links to reputable formal evidence-based guidelines issued by specialty organisations where appropriate. The following VSCC forms and instructions for their use also appear:

- Victorian Hospitals Universal Post-Operative Orders Form
- VSCC Form 1, used to report morbidity, a case, event or "near miss" to VSCC.

#### 10. Alerts to other topics considered by Council during 2014

These are some of the recurring areas of particular concern to Council members in the course of reviewing case reports and hospital records. The surgical community is alerted to these through presentations at surgical meetings, the VASM case note booklets, and the VSCC e-Bulletin:

- nasogastric tubes are not being used as they should be in ileus or bowel obstruction
- aspiration of gastric contents at induction of anaesthetic contributes to bad outcomes
- fluency at open operating remains vital in the endosurgical and minimal access era
- the established general principles of surgery need emphasis and respect
- the responsibility of supervising consultants is to be involved throughout the admission and more closely supervise their trainees' decision-making, preop and postop care in addition to operations

- "Classic surgical emergencies" need to be taught better in medical school, so ruptured aortic aneurysms will be recognised without delay, neurological deterioration will trigger early action, and post-operative complications will trigger suspicion of a surgical basis

hospital notes need more frequent, legible and dated surgical entries.

Vigilance and team communication must be maintained in several areas:

- Surgical counts during operation
- Retained drain tubes, drain tube "shortening" (progressive withdrawal) and securing
- Stray intravascular guidewires
- Adherence to "Time Out" procedure in theatre
- Laparoscopic pneumoperitoneum device injuries
- Stress ulcer prophylaxis in surgical patients
- Shared care in surgical emergencies
- Prompt attendance by surgical team and early involvement of consultant surgeon
- More clinical detail and operation reports in case notifications to VASM.

#### 11. Conclusion

It is my pleasure to thank all the members of the Victorian Surgical Consultative Council, especially colleagues since 2009 and during my five years as Chairman. Others have given longer service, and all our terms have concluded on 30 November 2014. I now hand over to the new Chairman Associate Professor Trevor Jones, the new Minister will soon appoint the next Council, and I wish them all continued success. Your work is an important contribution to the public good, patient safety and the health of our community and the profession. You can be proud of your achievements and VSCC's respected profile.

I wish you well in times ahead both personally and professionally, and look forward to news of your progress. Have a safe, happy and healthy 2015.

Peter L. Field, FRACS Chairman, Victorian Surgical Consultative Council

28 November 2014

# The Victorian Surgical Consultative Council

#### April 2014

#### Dear Colleague,

Welcome to the April VSCC Surgical Bulletin for 2014. An edition is presented twice yearly, now by email in accord with many surgeons' suggestions, and with the Department of Health's aims.

You are now welcome to notify clinical events and "near misses" to the VSCC by simple email, with brief summary, cause and a suggestion for prevention. They are received confidentially and with the assurance that such communications are de-identified for our discussion and are protected in legislation. Gynaecological Surgeons now take part too. After a pilot study, VSCC is extending to all organisers of **Morbidity and Mortality meetings** an offer to receive any educative messages from their audits, for de-identifying and promulgation.

VSCC's <u>"Intern Manual - Immediate Management of Surgical Emergencies"</u>, 4<sup>th</sup> Edition, was issued to all new Interns via HEAL (formerly VMPF), to help patient and Intern survival.

Here we offer <u>Clinical Practice Guides</u> recently revised or developed by VSCC from your reports, events and outcome studies, and these also appear on the VSCC website:

- Upper GI bleeding
- Sepsis following colorectal surgery
- Patients who self-discharge or refuse treatment
- Support for surgeons following an adverse event or near-miss
- Gastrostomy tube emergency replacement with balloon tube

Here also is a summary of <u>"Surgical Emergencies and Shared Care"</u>, our successful February seminar presented by VSCC, VASM and VMIA at the Department of Health. The speakers' varied themes are of particular interest, based on what audit of clinical outcomes can achieve.

**Surgical Outcomes Information** (SOII) from administrative data is used to study complications following selected procedures in public and private hospitals across the State. A recent 2-year study of **carotid endarterectomies** showed 99.55% survival, with low rates of haemorrhage (1.23%) and stroke (2.1%). Coding of admission data is a basis for funding rather than measuring clinical outcomes, and we depend on treating clinicians to validate hospitals' coding. No statistically significant outlying performance was identified among the 29 hospitals involved.

Happily, reduction of incorrect side/site operations appears sustained, following State-wide uptake of Time Out checking. Surgical hospitals have widely adopted the VSCC PostOperative Orders checklist, which should improve completeness of these orders and their accessibility throughout the admission. However, note these <u>ALERTS:</u>

- nasogastric tubes are not being used as they should be in ileus or bowel obstruction,
- aspiration of gastric contents at induction of anaesthetic contributes to bad outcomes, and
- fluency at open operating remains vital in the endosurgical and minimal access era.

Please take a few minutes to remind your team about achieving safe care of surgical patients.

Yours sincerely,

<u>PETER L. FIELD, FRACS</u> CHAIRMAN, THE VICTORIAN SURGICAL CONSULTATIVE COUNCIL

# The Victorian Surgical Consultative Council Surgical Bulletin No.1, April 2014

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## **VSCC FORM 1**

This is for use when reporting morbidity, a case, event or "near miss" to VSCC .... 20 Reports can also be sent as a simple email, for de-identification, and will be acknowledged. (Note: *Deaths are reported directly to VASM*, and an electronic Fellows interface is now available)

## **VSCC CONTACT DETAILS:**

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# UPPER GI BLEEDING (non variceal) - MANAGEMENT

Bleeding from the upper gastrointestinal tract may be due to ulceration of the stomach, duodenum or oesophageal mucosa. Other causes included tumours of the foregut, varices, AV malformation and Mallory-Weiss Tears. Varices typically present in patients with known liver disease, and are not directly dealt with in this publication.

Patients may present with haematemesis, melaena, or bright PR bleeding. Blood loss leads to a reduced circulating blood volume and haemodynamic instability. Patients presenting with signs of upper GI bleeding need to be treated urgently, firstly receiving resuscitation, and then definitive treatment to stop the bleeding.

Discussion of recent cases and deaths at VSCC revealed concerns about:

- 1. Inadequate resuscitation
- 2. Timing of endoscopy failing to recognise the need for urgent endoscopy
- 3. Poor recognition of the signs that should initiate surgical intervention
- 4. Lack of coordination between medical and surgical team members.

Ideally patients will be managed by a dedicated team consisting of emergency staff, gastroenterologists, surgeons and interventional radiology and ICU staff working together to manage patients according to a locally agreed protocol for haematemesis and melaena (H&M). It is possible that not all team members will be involved in a particular patients care, however, ideally all members should be made aware of an admission.

Resuscitation should be commenced by emergency staff. They should initiate the local H&M protocol as soon as possible. An ICU referral may also be appropriate at this time. Monitoring of the haemodynamic status of the patient should continue throughout treatment.

The first investigation normally indicated when a patient presents with signs of upper GI bleeding is an upper GI endoscopy to examine the oesophagus, stomach and duodenum. The endoscopy must be performed urgently if the patient is unstable with a Blatchford Score  $>4^1$  (appendix 1).

If a site of bleeding is identified, this can usually be managed endoscopically with a combination of coagulative therapies and clipping. Failure to completely control bleeding should initiate an urgent surgical review.

A patient should be considered at high risk of requiring surgery whenever any of the following are present: Transfusion need >5 Units, Forrest I-IIa<sup>2</sup>, Rockall score >8<sup>+3</sup>, rebleeding post-endoscopy, posterior duodenal location of the ulcer, significant co-morbid illness or failure to control endoscopically. These patients should be urgently reviewed by the surgical team.

Embolisation may be an appropriate therapy for an upper GI bleed but should only be considered after endoscopy and surgical review.

The use of proton pump inhibitors (PPI) prior to endoscopic intervention has been demonstrated in a Cochrane review (2010) to reduce the number of proportion of patients with stigmata of recent haemorrhage at index endoscopy and reduces the need for endoscopic intervention however it does not change mortality, re-bleeding rates or need for surgical intervention<sup>4</sup>. Continuous infusion of either PPI or H2RA post procedure significantly improved re-bleed rates (RR 0.4)<sup>5</sup>. Use of PPI is therefore recommended to commence pre procedure and continue as an infusion following endoscopic therapy, although a recent Cochrane review suggests that no particular regime is better than another<sup>6</sup>.

Helicobacter is the most common cause for ulcer disease in our community and treatment should be considered once the patient is stabilised.

#### Continued on page 2.....

#### VSCC approved February 2014

#### Upper GI Bleeding (non variceal) - Management – a VSCC Clinical Practice Guide

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<u>Appendix 1</u>	Blatchford Score		
Risk marker	Score component value	Risk marker	Score component value
Blood urea nitrogen mg/dL (mmol/L)		Systolic BP mm/Hg	
≥ 6.5 and < 8	2	100 to 109	1
≥ 8 and < 10.0	3	90 to 99	2
≥ 10 and < 25	4	< 90	3
≥ 25	6		
Haemoglobin in men g/L		Other markers	
≥ 120 and < 130	1	Pulse ≥ 100/min	1
≥ 100 and < 120	3	Presentation with melaena	1
< 100	6	Presentation with syncope	2
Lloomoglabin in women g/l		Chronic liver disease	2
Naemoglobin in women g/L	1	Cardiac failure	2
2 100 and < 120	1		
< 100	6		

Ap	ppendix 2 Forrest Classification of endoscopic ulcer appearance					
	Grade	Features	Risk of bleeding recurrence	Mortality		
	IA	Arterial Spurting	95-100%	11%		
	IB	Active Oozing	55%			
	IIA	Ulcer non-bleeding visible vessel	43%			
	IIB	Ulcer adherent clot	22%			
	IIC	Ulcer red spot	10%			
	III	Ulcer clean base	2%	2%		

#### Appendix 3

**Rockall Score** 

Variable	Score 0	Score 1	Score 2	Score 3
Age	< 60	60-79	> 80	
Shock	No shock	Pulse > 100	Systolic BP < 100	
Co-morbidity	Nil major		CCF, IHD Major co-morbidity	Renal failure, liver failure, metastatic cancer
Diagnosis	Mallory- Weiss	All other diagnoses	GI malignancy	
Evidence of bleeding	None		Blood found in upper GIT	

# The Victorian Surgical Consultative Council

Sepsis following colorectal surgery – a VSCC Clinical Practice Guide

## SEPSIS FOLLOWING COLORECTAL SURGERY

Anastomotic leak is a serious and potentially fatal complication following bowel anastomosis. (The aetiology is usually ischaemia of the bowel margin or technical failure)

Anastomotic leak may present with obvious signs of peritonitis and the need for emergency laparotomy is obvious.

At the other end of the spectrum, a minor anastomotic leak may produce no ill effects and the leak is only detected by radiological studies or by direct digital or endoscopic examination of the low rectal anastomosis. In general, the sub-clinical anastomotic leak requires observation only.

Often in patients with intra-abdominal sepsis, clinical symptoms and signs may be confusing and misleading, particularly in the elderly, the debilitated patient, the patient on steroids and the immunosuppressed patient.

In this less obvious situation, that is in the absence of peritonitis, when anastomotic leak occurs, there may be fever, malaise, paralytic ileus, chest infection and a general failure to thrive. Abdominal symptoms may be minimal, although distension and mild tenderness are common. These signs may be misinterpreted as being due to the effects of ileus rather than anastomosis leak.

Following bowel resection, when a patient is not progressing well, it is mandatory to rule out the diagnosis of intra-abdominal sepsis due to anastomotic leak. Whilst other problems such as chest infection, urinary tract infection and wound infection are common and may appear to be responsible for the clinical deterioration of the patient, it is prudent to investigate simultaneously for intra-abdominal sepsis, as delay in appropriate treatment can have serious and even fatal consequences.

Decisions should not be left to junior staff. The Surgeon who performed the operation, or in the case of an operation undertaken by a Fellow, the Senior Surgeon responsible should be informed early of any deterioration in the patient's clinical status.

Prompt clinical review followed immediately by appropriate investigations, particularly CT Scan of the abdomen and pelvis with water soluble rectal contrast is required. (Free gas is usually present post initial laparotomy. A negative CT scan does not rule out the possibility of anastomotic leak). General support, intravenous fluids, antibiotics and Intensive Care are often necessary, but they are no substitute for early re-operation.

# In the clinical deterioration of any patient following intestinal resection and anastomosis, it is mandatory to rule out anastomotic leak.

VSCC Approved: May 2005 Revised October 2013 Patients who self discharge or refuse treatment - a VSCC Clinical Practice Guide

# PATIENTS WHO SELF DISCHARGE OR REFUSE TREATMENT

The VSCC has cases for review where a patient has refused to remain in hospital for treatment, discharged themselves on their own volition, and subsequently died.

One example, briefly, involves a male, who may have been a narcotic addict, admitted to hospital with a severe infection. After a short time in hospital as an in-patient, he discharged himself. He returned two days later with an overwhelming septicaemia and died.

Cases where patients refuse recommended treatment, or self-discharge, raise both professional and legal issues. Doctors may not force retention of patients in hospital for vital medical treatment, although it may seem, at an altruistic level, a good idea. Forced retention, either physically or pharmacologically, against the wishes of a competent patient, would be unlawful.

What are the doctor's obligations? What can be done?

A competent patient is entitled to make decisions about their own medical treatment. The threshold for referral for formal psychiatric/ psychological assessment of competence should be very low.

Just as a patient is entitled to be told of the material risks of the treatment proposed, it is important that the doctor convey the material risks of not having the treatment. A patient who refuses recommended treatment, or seeks to discharge themselves from hospital, should be warned and advised of the risks they face in doing so. The patient should sign an appropriate discharge form (Refusal of Treatment Certificate), and detailed notes should be made by the doctor as to the advice provided by the doctor, and the decision made by the patient. The appropriate senior clinician/administrator should be notified of the situation. If the patient refuses to sign the discharge form or if other concerns exist, the detailed notes should be countersigned by the senior clinician/administrator.

Despite the patient insisting on discharging themself, against medical advice, the patient must still be given appropriate medications and instructions, including instructions for return for review.

VSCC Approved: October 2008 Revised September 2013

Support for surgeons following an adverse event – a VSCC Clinical Practice Guide

# SUPPORT FOR SURGEONS FOLLOWING AN ADVERSE EVENT OR NEAR MISS

Unfortunately most surgeons during their career experience an adverse event occurring in patients under their care which may also become the subject of complaints or medico legal claims. These events are always a significant source of distress for the surgeon concerned.

Common experiences include guilt, stress, anger and a deep sense of shame. If these effects are not addressed the surgeon's performance may be adversely affected and can lead to more serious consequences such as substance abuse, physical illness, mental illness, interpersonal conflict at work and abandoning medicine<sup>i</sup>

Immediate social support is encouraged as a means of coping with the stressful experience<sup>ii</sup>. Options available include seeking help from:

- o Head of unit,
- o Mentor,
- o Trusted colleague,
- o Australian Medical Association Victoria Peer Support Service,
- o Victorian Doctors' Health Program,
- o Royal Australasian College of Surgeons, relevant Specialty Society,
- o Medical Indemnity Organisation to which the surgeon belongs, or
- Hospital Chaplain.

Surveys, however, show that willingness to seek support is quite low with barriers including lack of time, uncertainty or difficulty with access, concerns about lack of confidentiality, negative impact on career and stigma.

The most popular, potential source of support which far outnumbers traditional mechanisms such as employee assistance programs is a one-on-one peer support program<sup>iii</sup>.

Surgeons are encouraged to plan their approach to dealing with a serious adverse event well in advance and particularly to formulate their support network.

As surgeons we should be mindful of the needs of our peers and in the event of becoming aware of a major adverse event offer advice to our colleagues as soon as possible as to the importance of seeking help and the appropriate mechanisms to achieve advice and support.

VSCC Approved: May 2007 Revised September 2013

<sup>&</sup>lt;sup>1</sup> Bark P, Vincent C, Olivieri L, Jones A Impact of litigation on senior clinicians: implications for risk management. Quality in Health Care 1997; 6: 7-13.

<sup>&</sup>lt;sup>1</sup> Charles S Medical liability litigation as a disruptive life event. Bulletin of the American College of Surgeons 2005; 90: 17-23.

<sup>&</sup>lt;sup>III</sup> Yue-Yung Hu, MD, MPH; Megan L. Fix, MD; Nathanael D. Hevelone, MPH; Stuart R. Lipsitz, ScD; Caprice C. Greenberg, MD, MPH; Joel S. Weissman, PhD; Jo Shapiro, MD. Physicians' Needs in Coping With Emotional Stressors, The Case for Peer Support. March 2012

VSCC Guidelines / Practice Statements are intended to provide some broad statements of principle to facilitate the improvement and safety of surgical practice. They are not legally binding, nor do they provide a comprehensive analysis of every situation.

Gastrostomy Tube Emergency Replacement Guidelines – a VSCC Clinical Practice Guide

# GASTROSTOMY TUBE EMERGENCY REPLACEMENT WITH BALLOON TUBE

If an existing Gastrostomy tube has fallen out, or been accidentally pulled out, the stoma will close quickly, often in the space of a few hours. The appropriate clinician should be contacted immediately and they may delegate the reinsertion of the tube. It is important that a tube is reinserted as soon as possible to prevent the stoma closing. If a Gastrostomy tube is not available a urinary catheter can be used.

#### How long has the Gastrostomy been in situ?

If this is less than 6 weeks a mature track may not have formed and the risks of inadvertently placing the replacement tube in the peritoneal cavity are high. A mature track can take many weeks to form in a malnourished patient. If there is a mature gastrostomy track, reinsertion of a balloon tube can be attempted. If the tract is less than 6 weeks old, consider re-insertion under image control in the Radiology Department.

#### Assessment of the removed tube and length of the track.

If the removed tube is available:

a. What French gauge is the tube?

b. From the position of the external retaining piece on the tube or the change in texture or colour of an older tube it should be possible to estimate the length of the track.

#### Tube reinsertion

- 1. Place the patient supine with the bed tilted head up.
- 2. Clean the external site with saline.
- 3. Lubricate the track with local anaesthetic gel.
- 4. Gently insert the tube through the track (Do not use any force). The track is often not perpendicular to the skin and if the tube will not pass easily into the stomach the direction of the track can be reassessed using a much narrower urinary catheter. Do not force it in. It should go easily into the track for at least 4-5cms or at least the length of the track as assessed on the removed Gastrostomy tube. For example, if the retaining piece on the old tube is at 3cms the new catheter should be easy to insert to about 4 or 5 cms.
- 5. Once the direction of the track has been identified insert an appropriate size replacement tube using gentle pressure in the direction of the track.
- 6. If the stoma has started to close you may need to use a narrower tube to keep the stoma patent in the short term.

If the track needs dilatation this should only be done by appropriately trained medical or surgical staff.

#### Inflation of the tube

Once the tube has been passed into the stomach it should rotate freely. The tube should be advanced **at least** 2 to 3cms further in than the position of the displaced tube.

1. Inflate balloon with water according to the instructions. Inflation should not cause pain.

Gastrostomy Tube Emergency Replacement Guidelines – a VSCC Clinical Practice Guide

- 2. Gently pull the tube back until there is resistance (when the internal balloon comes up against the stomach wall). The tube should still rotate freely.
- 3. Secure the tube in this position either with the external retaining piece on a Gastrostomy tube or with tape to the skin if a temporary urinary catheter is used. Externally fixing the tube prevents the internal balloon being pulled into the pylorus or duodenum. If this happens it can result in gastric secretions or feeds being vomited or leaking around the tube and/or gastric outlet obstruction.
- 4. Record the length of the tube at the skin level (there are markings on the tube). This will help ensure the tube has not migrated.

#### Check tube position

If there has been any difficulty reinserting the tube, particularly in patients who cannot communicate well, the correct position should be checked with a Gastrografin study or gastroscopy. Water or a test feed should be instilled into the stomach before the patient leaves the hospital.

Because of problems retaining a urinary catheter in the correct position a urinary catheter is not appropriate for long term use as a Gastrostomy tube. If a urinary catheter has been used arrangements should be made for this to be changed to a Gastrostomy tube as soon as possible.

> VSCC Approved: January 2008 Revised: September 2013

### Surgical Emergencies and Shared Care

Wednesday 19th February 2014, 12.30 p.m. to 5.00 p.m. Free registration, RSVP 31 January 2014

#### A Seminar presented jointly by

The Victorian Surgical Consultative Council, Victorian Audit of Surgical Mortality, Victorian Managed Insurance Authority and the Victorian Department of Health

#### The Auditorium, 50 Lonsdale Street, Melbourne

Video-conferencing is available by prior arrangement

#### 12.30 - Registration / Light Lunch

#### **Surgical Emergencies**

#### **Chair: Mr Peter Field**

- **1.15 Introduction Clinical audit of care and outcomes The challenges** Mr Peter Field, Chairman, VSCC
- **1.25 Laparoscopic Injuries how can we do better?** Mr Barry Beiles, Clinical Director, VASM
- **1.40 Upper GI Bleeding Prophylaxis and response** A/Prof Wendy Brown, Alfred Health
- **1.55 -Biliary and pancreatic emergencies** A/ Prof Richard Cade, Eastern Health
- 2.10 Streamlining emergency care: Consultant-led Prof Rodney Judson, Director of Trauma, Melbourne Health
- 2.25 Questions and panel discussion
- 3.00 Refreshment

#### Shared Care

#### **Chair: Mr Barry Beiles**

- 3.25 Counts and Drains ins and outs Shared responsibility Prof Ian McInnes, Peninsula Health
- 3.40 Patient Treatment Co-ordination Ms Nola Poulter, Emergency Department Care Coordinator, Ballarat Health
- **3.55 Multidisciplinary care of surgical patients The POST program** Prof David Story, Chair of Anaesthesia, The University of Melbourne
- **4.10** Claims and Challenges in emergency and shared care Ms Anna MacLeod, Claims Manager, VMIA
- 4.25 Questions and panel discussion overall
- 5.00 Close







The Victorian Surgical Consultative Council



Aim: To increase medical, surgical and nursing staff awareness of (a) current problem areas in the care of surgical emergencies, as revealed in clinical audit, and (b) the risks and challenges posed by shared care, and how surgeons and trainees may improve the safety of patient care in such settings. Presenters will offer case examples, research findings, solutions, and panel discussions and question time.

Registrants: may include interns and HMOs; surgeons rural and urban; nurse managers and educators; anaesthetists, intensive care and emergency staff; administrators; CEOs; quality & safety officers Register online: <u>http://www.vmia.vic.gov.au/</u>

To book V**ideo conferencing** email VSCC@health.vic.gov.au by 31 January 2014. VSCC enquiries: 03 9096 2701 CME/CPD approval by Royal Australasian College of Surgeons - one point per hour [maximum 3 points] The Victorian Surgical Consultative Council

# February 2014 Seminar: Surgical Emergencies and Shared Care

This is a summary of the Seminar/Webinar held in Melbourne on 19th February, 2014, presented jointly by the Victorian Surgical Consultative Council (VSCC, Victorian Dept. of Health), Victorian Audit of Surgical Mortality (VASM, Royal Australasian College of Surgeons), the Victorian Managed Insurance Authority (VMIA) and the Victorian Department of Health.

The presentations, panel discussion, de-identified case scenarios and question time raised medical, surgical and nursing staff awareness of (a) current problem areas in the care of surgical emergencies, as revealed in clinical audit, and (b) the risks and challenges posed by shared care, and how surgeons and trainees may improve the safety of patient care in such settings. Eight distinguished contributors offered a variety of topics, case examples, research findings, solutions, and took part in panel discussions and question time.

Some 190 registrants attended the Department of Health auditorium, 50 Lonsdale Street, Melbourne, including interns and HMOs; surgeons rural and urban; nurse managers and educators; intensivists; anaesthetists; emergency staff; administrators; health service and hospital CEOs, quality and safety officers. Eight regional centres participated via video- and tele-conferencing: Albury Wodonga Health (Albury), Bairnsdale Regional Health, Ballarat Health Services (Deakin University), Echuca (anaesthetist), Western District Hamilton, SA Audit of Perioperative Mortality (Adelaide), Northeast Health Wangaratta, and Albury Wodonga Health (Wodonga Campus).

The seminar program was approved by the College of Surgeons for 1 CME/CPD point per hour (maximum 3 points). Registrant feedback rated 80-90% satisfaction with the program, and numerous suggestions for future seminar topics were received.

#### PROGRAM SUMMARY

1. Introduction - Clinical audit of care and outcomes - The challenges.

Mr Peter Field, Vascular Surgeon, Royal Melbourne and Epworth Hospitals, and VSCC Chairman, explained how surgeons' clinical outcomes are audited in Victoria, by their peer surgeons in the same specialty. VASM is the detailed analysis of mortality during surgical and gynaecological care in Victoria's public and private hospitals, and VSCC looks at morbidity, adverse events during care, and outcomes of specific operations across the State. Most surgical care in Victoria is being provided at a world-high standard. Further improvement in the safety of surgical patients is evident since the introductions of mandatory surgeon participation in audit, the "Time Out" checking procedure against wrong side/site operations, and a Statewide form for clear, accessible post-operative orders.

However, today we are here to learn and improve. Clinical audit and recent case reports show there are opportunities for better care in two major areas that this seminar will embrace. First are patients with surgical emergencies on arrival at the emergency department, or occurring during their hospital stay; and second are those

patients whose care and responsibility are shared between several teams or specialties. There are other aspects of surgical care we know could be done better, such as recognising deterioration in a patient, achieving timely operations, communicating and handovers, making entries in the hospital record – we will touch on some of these. We will all take home new ideas and practical advice on improving the safety of our patients.

#### 2. Laparoscopic injuries - how can we do better?

**Mr Barry Beiles**, Clinical Director of VASM, Vascular Surgeon at Western Health, is responsible since 2000 for the highly-regarded Melbourne Vascular Surgical Audit and its successor the bi-national ANZ Vascular Audit. He discussed the high media profile of major vascular and organ injuries at laparoscopy, which relate mainly to the initial establishment of pneumoperitoneum. They continue to bedevil gynaecological procedures, and a typical case was presented. Thin patients are at paradoxical particular risk if the abdominal wall is not elevated before entry, or the proximity of major retroperitoneal vessels is not appreciated. Respected Cochrane and ASERNIP-S reviews show neither entry technique (Veress needle or open cannulation) to be any freer of the complication. It's not just the instrument that matters, it's how it's used.

Modern training of all laparoscopists involves understanding of the several entry techniques. There must also be learnt a rapid and well-rehearsed life-saving response to an exsanguinating injury: immediate long midline incision, initial pressure control of the bleeding, anaesthetist stabilisation of the circulation and transfusion, calling for experienced help if necessary, then aortic clamping to allow arterial suture, and firm venous packing till help arrives. Definitive control of fragile vein injury requires delicate suturing, or packing and closure for 24 hours.

The VSCC Guidelines, RANZCOG/AGES Statement 2012 and National Coronial Inquest data 2000-12 were referenced. An example from the VASM November 2013 Case Note Review Booklet was also recommended for further discussion on risk avoidance and response.

#### 3. Upper GI bleeding – prophylaxis and response.

**A/Prof Wendy Brown,** Director, Monash University Centre for Obesity Research and Education, Upper GI, Bariatric and General Surgeon, Alfred Health, provided perspective on the causes of upper GI bleeding, and risk factors including the stress ulceration seen in up to 15% of ICU patients. Available prophylaxis has evolved from Sucralfate, through H2RA (Zantac) to PPIs (proton pump inhibitors eg Somac), and is now recommended in highrisk patients having major operations or critical care, and to minimise re-bleeds before and after therapeutic endoscopy.

Peptic ulcer disease (PUD) accounts for 28-59% of all episodes of UGI bleeding, with mortality rate of 10%. Hospitals will have protocols for emergency management, to include resuscitation, investigation, PPI before and after intervention, and endoscopic haemostasis is successful in >90% of patients. The gastroscopic appearances were shown, and predictors of re-bleeding (in 10-20%). The fewer surgical interventions now required are later, after more blood loss and in "difficult" ulcers, and surgeons may have less open gastric experience; mortality in these patients is up to 25%. Timing of surgery is critical to outcomes. Angiographic embolisation may be achieved after endoscopy and surgical consultation.

Surgery is thus considered in patients at high risk of re-bleeding – shocked on admission, ulcers >2cms diameter, with co-morbidities, needing >5 units blood transfusion, with repeat, recent or continued re-bleeding. Oversewing or gastric resection are used, not vagotomy and drainage. Helicobacter is the most common cause of ulcer disease and its treatment should be considered once the patient is stabilised. A GE team approach is required, endoscopy should never be overlooked and usually succeeds, otherwise the surgeon should be involved early and urgently.

#### 4. Early Management of Complicated Gallstones and Pancreatitis.

**A/Prof Richard Cade** is VSCC Member, General/Upper GI Surgeon at Box Hill and St Vincent's Hospitals, and Director of HPB/UGI/Bariatric and Thoracic Surgery at Eastern Health where he introduced ERCP in the 1980s. He discussed patients with complicated biliary disorders and pancreatitis especially when associated with uncontrolled sepsis, who are at significant risk of major morbidity if the condition is not recognised, investigated

and treated expeditiously. There have been numerous cases reported to VASM/VSCC where there has been a delay in diagnosis, resuscitation, transfer or definitive treatment.

Urgent ultrasound (U/S) is important in acute cholecystitis. Percutaneous cholecystostomy is safe and effective in frail patients. Common bile duct (CBD) stones may be symptomless, or complicated by cholangitis or pancreatitis; they are detected on U/S, CT scan jaundice permitting, or best by MRCP. The optimum sequencing of ERCP stone treatment and cholecystectomy was presented. ERCP techniques and stenting were shown.

Acute ascending cholangitis and pancreatitis are severe conditions prone to sepsis and rapid deterioration. Cholangitis merits resuscitation, triple antibiotic, imaging and often urgent biliary decompression, which may require transfer to an ERCP facility, or surgical drainage – reference the current VSCC Guidelines and 2013 Study of improved survival with ERCP. The features and management of bile duct leak were presented and its early recognition and surgical response stressed. Severe pancreatitis merits initial fluid resuscitation and ICU/HDU metabolic monitoring.

#### 5. Streamlining Emergency Care: Consultant Led.

**A/Prof Rodney Judson**, General Head and Neck Surgeon, is Director of Trauma Service at The Royal Melbourne Hospital, and a member of VSCC whose Surgical Outcomes Committee he chairs. He is also Chairman of Victorian State Trauma Registry Outcomes Monitoring, and the Ministerial Trauma Coordination Group.

He outlined the rationale for establishing a Consultant Led Emergency Service based on the high proportion (50%) of emergencies in the general/trauma surgical workload, and the known high mortality associated with emergency general surgical problems. Emergency management issues revealed by VASM data include inappropriate operation, delayed treatment and preoperative care issues. Consultant-Led surgical services differ from the traditional management of emergency surgery. The model of care as established at The Royal Melbourne Hospital in 2011 stresses the importance of *continuity* and the importance of an *accurate up to date handover tool*.

The Emergency General Surgical Service (EGS) has a Consultant rostered in-house 0700-1800 hrs, paid, active in handovers, ward rounds of existing emergency and trauma patients, assessment of new ones, theatre, and trauma calls. A Consultant is rostered on night call and backs-up Fellows. Follow-up is by twice-weekly postoperative outpatient clinic or referral to subspecialty units, and a weekly audit meeting. Rather than a dedicated emergency theatre, flexibility allows use of fallow theatre time, such that 50% of cases were operated in-hours.

Effectiveness of the EGS Service was shown in improved <8hrs admission from ED (by 20%), reduced time to operative intervention, reduced length of stay, and reduced surgical complications. Conditions treated in 2011-2013 were shown, and despite increased emergency admissions (62%) and operations (41%), overall complications reduced by 46%, and major complications by 50%.

#### 6. Counts and Drains – ins and outs – Shared Responsibility.

**Prof Ian McInnes**, is a VSCC member, General and Thoracic Surgeon, past Senior Surgeon at Alfred Hospital, and Advisor to Medical Indemnity Protection Society, with longstanding interests in education, patient safety, and responsibility being shared by all members of the surgical team.

Counts in and out of the operation field follow well-established protocols. The risky situations are well-known: emergencies, multiple specialties, change of operation; staff change, distraction and fatigue. Nursing protocols and VSCC guidelines are referenced. "Sentinel Event" reports of retained packs and gauzes in Victorian hospitals have diminished steadily since 2010.

Drain tubes are now the most frequently reported retained objects following operation. VSCC's current recommendations (2013) attempt to prevent these events. Securing all open and closed drain tubes to the skin is safest. Sutures must not damage or fracture the drain. If a drain is withdrawn in stages ("shortened") it must be re-secured to the skin. If suction is disconnected from a closed drain, it drains openly into a bag or dressing, but

must remain secured to the skin.

A drain which is modified or pinned may be less safe, and not proof against dislodgement outwards or into the patient.

The drain is inserted by the surgeon, but becomes a responsibility shared by each successive staff member attending the patient, to document the drain's status, and its eventual total removal. The same applies to extra instruments or equipment introduced into an operation, an airway or an intravascular catheter. Have a clear policy and technique, and do not be distracted from them. Have an environment of communication and shared responsibility.

#### 7. Patient treatment co-ordination and Risk Prediction - the LACE Tool.

**Ms Nola Poulter,** Emergency Department Care Co-ordinator, Ballarat Health Services, has worked in a variety of healthcare settings in oncology nursing, acute and community care across Victoria. In 2012 she was awarded a Ballarat Health scholarship to North America to study models of care to improve patient discharge from acute inpatient care.

The literature shows re-presentations and readmissions to acute hospital EDs within 30 days of discharge occur in some 3-11% of patients, 90% being unplanned, 80% relating to acute medical complications. The Toronto risk prediction program LACE (Length of stay, Acuity, Co-morbidities, and ED visits in past 6 months) was described. Using the tool, 202 Ballarat patient histories were scored at low risk (<10 points), or high risk of readmission (10-19 points) and thus likely to benefit from "Virtual Ward" (VW). This is a care-planning umbrella that incorporates silos or elements of "in hospital" care and provides them at home to prevent later re-admissions. The VW team comprises 24-hour physician access, home-based pharmacy, nurse practitioner access, allied health & nursing care co-ordinators, patient education & key learner, and patient discharge from VW when stable (4-6 weeks). Such risk prediction tools and VWs aim to help prevent rebound and thus improve health outcome by targeted pre-planning of care. References are provided.

#### 8. Multi-disciplinary Perioperative Care of surgical patients - the POST program.

**Prof David Story**, Chair of Anaesthesia, University of Melbourne, heads the Anaesthesia, Perioperative & Pain Medicine Unit at Melbourne Medical School. He is part-time transplantation and cardiac anaesthetist at Austin Hospital. His research interests include strategies to reduce complications after surgery and anaesthesia; perioperative acid-base disorders; and the Post-Operative Surveillance Team (POST).

Recent Australian research found that for older surgical patients up to 20% have an important complication and 5% die within 30 days. One problem may be "failure to rescue", where patients who develop complications and are inadequately managed have greater mortality. The key to rescue is a combination of surveillance and intervention (recognition and response).

This surveillance and intervention requires skills in several areas that no one medical craft group have: 1. Surgical site management; 2. General medicine applied to the postoperative period; 3.Pain Medicine; 4. Resuscitation; and 5. Rehabilitation. To supply all these skill areas requires collaborative work with the related areas of critical-care outreach and co-management.

Austin Health was funded by the Department of Health to test one model of postoperative care of higher risk patients, using a nursing and medical team who were based on the surgical ward. Ten high risk patients per day were reviewed daily, to 5 days post-op. Unrandomised, 194 POST patients were compared with 1185 controls (results referenced). While this service (POST) was very popular there was no demonstrated clear benefit using length of hospital stay as a primary end point. As part of a clinical governance cycle we think POST can be improved with a modified approach: more senior staff and a more formalised relationship with general medicine; and using different metrics including complications. The ward, not the unit, is central. Collaboration, communication and expansion of critical care skills into wards play an important part. With shared responsibility must come shared authority.

#### 9. Surgical Claims and Challenges – Medical Indemnity Program.

**Ms Anna MacLeod**, Claims Manager, Victorian Managed Insurance Authority, has qualifications in nursing, science and law, with experience in public health sector clinical governance, medico-legal and medical defence roles. Her team processes all the medical indemnity claims for the State public health sector.

Claims recently are fewer, but of increasing complexity, with greater standards of care expected. Surgical adverse incidents occurred predominantly in emergency medicine, obstetrics, general surgery, and orthopaedics; followed by gynaecology. Dominant causes of surgical claims (305 over last 5 years) were post-operative complications, intra-operative complications, diagnosis, consent including failure to warn; followed by procedure failure, delay and post-op infection.

Factors that drive claims costs are: poor documentation/notes, consistent themes in surgery, flawed communication and management of an incident. Few significant claims involve errors of skill or judgment. Increasingly, underlying causes are systemic and multifactorial.

Among the avenues suggested for improved performance were: understanding the causes of litigated claims; team work; co-ordination of patient care; education / orientation / training; documentation; clinical guidelines; transparent reporting and learning culture; early and complete incident reporting; open disclosure; shared lessons from claims experience.

#### 10. Panel discussions.

The two Panels answered questions and discussed some de-identified case scenarios. The full Seminar presentations, by kind permission of their authors, are available on the websites of VMIA, VSCC and VASM. The organisers wish to thank all contributors and participants, and we look forward to presenting another seminar topic to benefit the quality of care and safety of our surgical patients, in 2015.

VSCC February 2014

# Carotid Endarterectomy - mortality and complication rate in Victorian Hospitals

# 1 July 2010 – 30 June 2012

#### Summary and Highlights

This is a Surgical Outcomes Information Initiative two-year study on behalf of the Victorian Surgical Consultative Council (VSCC), using Department of Health administrative data (VAED). The study identified **1544 patients undergoing carotid endarterectomy** in Victorian public and private hospitals. **The State average survival rate was 99.55%.** From the hospitals' own discharge coding of diagnoses and procedures, the study included rates of mortality, haemorrhage needing return to theatre, and post-admission stroke. Elective and emergency admissions, symptomatic and asymptomatic lesions, were all included. Procedures on the intracranial circulation and carotid artery stenting were excluded. All hospitals were de-identified during the study.

There were seven post-operative deaths following endarterectomy (State average mortality 0.45%). There was no hospital with statistically significant outlying performance (Table 1 and accompanying plots). Some intracranial arterial procedures carried out by neuro-interventionists using endoluminal clot-retrieval techniques were discovered among the coded operations, and have been excluded.

The rate of haemorrhage requiring re-operation was 1.23%, with no significant difference between the genders of these 19 patients. There was no hospital with statistically significant outlying performance (Table 2 and accompanying plots). Some codings of post-operative haemorrhage proved on case record inspection by clinicians to be wound oozing, not requiring re-operation, and were excluded.

There were 33 cerebrovascular events complicating the 1544 endarterectomies. It was not possible to distinguish between transient, minor and severe strokes. Patients with strokes present on admission were excluded, however those who had strokes developing in hospital during vascular imaging or while awaiting the operation were included. The State average rate was 2.1%, with no significant difference between the genders, and no statistically significant outlying performance among the hospitals (Table 3 and accompanying plots).

There were 29 hospitals doing at least two procedures in this study, all de-identified. VSCC invites apparent outlier hospitals to validate their coding data, to review the patient records involved, and to inform the VSCC confidentially of their findings and any resulting actions. The VSCC may then be able to advise other hospitals and health services of the actions and recommendations obtained, with the aim of improving the already generally high standard of surgical care across Victoria. The study compares favourably with published world results and Vascular Surgery's own outcomes audit.

Interestingly, in this study, several hospitals initially appeared as statistical outliers, however their surgical and coding staff, as requested, examined the individual case records and ICD codes that had been submitted to the Department of Health. Some patients had other than endarterectomy of the extracranial carotid artery, or had minor bruising or bleeding (not uncommon in this platelet-inhibited population) and not requiring return to theatre. Studies of VAED depend on accurate data input – a responsibility shared by surgeons and coders – and on sufficiently precise ICD codes and interrogation. This study serves as a reminder that many aspects are capable of improvement.

VSCC Approved March 2014

Table 1: Mortality rate of patients who had carotid endarterectomy					
Gender	Number of deaths	Number of cases	Mortality rate (%)	95% CI	
Male	<5	1,056	0.38	0.15 - 0.97	
Female	<5	488	0.61	0.21 - 1.79	
Total 7 1,544 0.45					
Note: There is no significant difference between these two rates ( $z = 0.65$ , $p = 0.52$ ).					



Figure 1: Caterpillar plot of the mortality rate of patients who had carotid artery surgery



Figure 2: Funnel plot of the mortality rate of patients who had carotid artery surgery

Table 2: Post-procedural haemorrhage needing return to theatre rate of patients who had carotid endarterectomy						
Gender	Number of post- procedural haemorrhages	Number of cases	Post- procedural haemorrhage rate (%)	95% CI		
Male	15	1,056	1.42	0.86 - 2.33		
Female	<5	488	0.82	0.32 - 2.09		
Total 19 1,544 1.23						
Note: Haemorrhage (T81.0, T82.8) and 3384200 with prefix C						
Note: There is no significant difference in these two rates ( $z = 0.99$ , $p = 0.32$ ).						



Figure 3: Caterpillar plot of the post-procedural haemorrhage needing return to theatre rate of patients who had carotid artery surgery



Figure 4: Funnel plot of the post-procedural haemorrhage needing return to theatre rate of patients who had carotid artery surgery

Table 3: Post-admission stroke rate of patients who had carotid endarterectomy					
Gender	Number of post-admission strokes	Number of cases	Post- admission stroke rate (%)	95% CI	
Male	23	1,056	2.18	1.46 - 3.25	
Female	12	488	2.46	1.41 - 4.25	
Total	35	1,544	2.27		
Note: Stroke (I60.x or I61.x or I62.x or I63.x or I64, with prefix C)					
Note: There is no significant difference between these two rates (z = 0.34, p = 0.73).					



Figure 5: Caterpillar plot of the post-admission stroke rate of patients who had carotid artery surgery



Figure 6: Funnel plot of the post-admission stroke rate of patients who had carotid artery surgery

#### The Victorian Surgical Consultative Council

#### INSTRUCTIONS FOR REPORTING OF INCIDENTS OF SURGICAL MORBIDITY

Please complete and return to: The Chairman Surgical Consultative Council GPO Box 4923 Melbourne 3001

Report forms may be accessed by contacting the Consultative Councils Secretariat on 9096 1382 or from the website <u>www.health.vic.gov.au/vscc</u>

Identifying information on this document is confidential to the Chairman of the Consultative Council. This enables the Chairman to contact the reporting clinician should additional information on a reported incident be required, and to provide feedback.

Subsequent review by the full Council is by case number only, as all identifying information is deleted prior to the full Council reviewing an individual case of surgical morbidity.

Surgical morbidity refers to injury in association with or as a result of surgery. The Council encourages reports of any significant morbidity.

#### PLEASE COMPLETE DETAILS REQUESTED IN THE REPORTING PROFORMA OVERLEAF.

# **CONFIDENTIAL INITIAL REPORT – FORM ONE**

# On receipt of this preliminary report a member of the Council may either contact you for further information or send you a more detailed form for completion (Form Two).

Date of Report:....

Case No (SCC use only):....

#### IDENTIFYING INFORMATION IS CONFIDENTIAL TO COUNCIL CHAIRMAN

Patient's Name:	Hospital/Health Service:		
Hospital UR No:	Name of person reporting:		
Contact phone number of person reporting:	Qualification of person reporting (please circle one):		
	Consultant	Registrar	Other

#### **EVENT SUMMARY**

Date of Admission:			Date of Operation:					
Date of Recognition of Morbidity:								
Type of hospital: (	circle appropr	iate ca	tegory):			-		
Major teaching hospital	jor teaching spital Major Country hospit suburban/regional hospital		ital Private hospital		e hospital	Other (please specify)		
Age of patient:					Sex of	patien	t:	
ASA risk classifica	ation: (circle a	pprop	riate categ	ory):				
ASA 1 (A normal he	ealthy patient)	ASA : syste	2 (A patient mic disease	t with ∋)	mild		ASA 3 (A j disease)	patient with severe systemic
ASA 4 (A patient wi that is a constant th	th severe syste reat to life)	emic dis	sease	AS/ the	CA 5 (A moribund patient who is not expected to survive without e operation)			
Type of incident (c	ircle appropri	ate ca	tegories):					
MORBIDITY	Pre-operative			Ope	erative			Post-operative
Nature of procedure	e:	ive	🗆 Emerge	ency	Nat	ture of e	vent (tick app	propriate box):
Please specify proc	edure -				□ Expected		ed	□ Unexpected
EVENT DETAILS (please provide a narrative summary of the incident – use back of form if more space is required):								
Opinion as to cause of incident:								
Recommendation for prevention of similar incident:								

Dear Colleague,

#### October 2014

Welcome to the October VSCC Surgical Bulletin for 2014. Presentation twice-yearly by email is now preferred by most of Victoria's surgeons, and accords with the Department of Health's aims.

**SCOPE.** VSCC continues to monitor avoidable clinical events in surgical care across 100% of public and private hospitals in Victoria. Referrals to VSCC are confidential, de-identified as to patient, staff and hospital before discussion, and protected in legislation. Notifications are submitted electronically on Form 1 (see VSCC website) or by simple email. Valuable safety measures derived in hospital M&M meetings are welcomed by this Council for de-identification and wider promulgation. Gynaecological Surgeons now participate in VASM (mortality) and VSCC audit, as do Oral/Maxillofacial Surgeons.

<u>ALERTS.</u> VSCC often sees the need to emphasise **the established general principles of surgery**, and the **responsibility of supervising consultants to be involved** throughout the admission and supervise their trainees more closely. **Classic "surgical emergencies" need to be taught better in medical school**, so ruptured aortic aneurysms will be recognised without delay, neurological deterioration will trigger early action, and post-operative complications will trigger suspicion of a surgical basis. **Surgical notes should be appear more often in records**.

<u>CLINICAL PRACTICE GUIDES</u> are offered herewith, recently revised or developed by VSCC from your reports, events and outcome studies, and they now appear together with all previous Guides on the VSCC website:

- Bariatric Surgery
- Use of Trans-Oesophageal Echocardiography in Cardiac Surgery
- Correct level in spinal surgery
- Risk reduction and prevention of pulmonary aspiration
- Post-laparoscopy deterioration following Upper GI/Biliary Surgery
- Tracheostomy management

**SURGICAL OUTCOMES INFORMATION** (SOII) derived from administrative coding data is used to study complications following selected procedures, comparing hospitals across the State, both public and private. Summaries of two studies recently completed are presented:

- Facial-nerve-sparing parotid surgery – complications of **1142 operations 2010-2012**. The average nerve injury rate was 1.14%. A small number of health services appeared to have a higher injury rate and are being invited to validate their patients' information and inform VSCC confidentially of their findings and actions, if any.

- **Oesophagectomy** – mortality of **237 operations 2011-2013.** Average survival rate was 98.73% across the 26 hospitals. Of the small number of deaths, each occurred at a different hospital. Comparison with previous SOII study (16 Victorian public hospitals, 2005-2007, 169 operations, mortality 2.37%), and with NSW experience of streaming this major operation to a few large centres, was of interest and assurance – despite more operations done and no streaming in Victoria, the current results here appear superior.

Happily, reduction of incorrect side/site operations appears sustained, following State-wide uptake of Time Out checking. Wide adoption of the VSCC PostOperative Orders checklist should improve completeness of these orders and their accessibility throughout the admission. However, retained gauzes and drain tubes continue to appear, and require more team vigilance (see our VSCC Guide).

Please take a few minutes to discuss this Bulletin with your team and achieve even safer surgical care. I thank all VSCC members, contributors and staff over the past 5 years, and wish readers a Happy and Healthy Christmas and years ahead, as I hand over next month to the new VSCC Chairman, Associate Professor Trevor Jones, FRACS.

Yours sincerely,

<u>PETER L. FIELD, FRACS</u> CHAIRMAN, THE VICTORIAN SURGICAL CONSULTATIVE COUNCIL

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#### VSCC FORM 1

This is for use when reporting morbidity, a case, event or "near miss" to VSCC. .....21 Reports can also be sent as a simple email, for de-identification, and will be acknowledged. (Note: *Deaths are reported directly to VASM*, and an electronic Fellows interface is now available)

## VSCC CONTACT DETAILS:

VSCC email address:	vscc@health.vic.gov.au
VSCC website:	www.health.vic.gov.au/vscc
VSCC postal address:	GPO Box 4923, Melbourne VIC 3001
Telephone:	+61 3 9096 2701
Fax:	+ 61 3 9096 2700

# **Bariatric Surgery**

Bariatric surgery is an effective and safe therapy for patients who suffer from severe obesity (BMI>35). Operations commonly performed in Australia include Laparoscopic Sleeve Gastrectomy (LSG), Laparoscopic Adjustable Gastric banding (LAGB) and Roux-en Y Gastric Bypass (RYGB). Weight loss appears to be durable beyond 10 years in all procedures, and with the weight loss there is an improvement in well-being, health and mortality<sup>1,2</sup>.

Obese patients pose particular challenges in the perioperative period due to the frequency of associated co-morbidities such as diabetes, hypertension, cardiovascular disease and obstructive sleep apnoea. The body habitus can lead to challenges in positioning patients as well as recognising early signs of clinical deterioration.

Recent cases reported to the VSCC highlight three issues in the care of patients undergoing bariatric surgery:

#### 1. Inadequate pre-operative assessment

Prior to undertaking bariatric procedures, patients should have the causes and the complications of obesity fully investigated. Of particular importance for the peri-operative period is consideration of diabetes, hypertension, cardiovascular disease, asthma and obstructive sleep apnoea. If identified, these diseases must be stable prior to undertaking anaesthesia.

Preoperative weight loss has been shown to reduce liver size prior to surgery and reduce the morbidity of the procedure<sup>3</sup>. Preoperative weight loss should therefore be considered in all patients, especially patients with a BMI >50 or central adiposity.

#### 2. Failure to recognise early signs of complications

Bariatric procedures may have the general complications of surgery (bleeding, infection, DVT) however early signs may be difficult to measure unless appropriate equipment is available on the ward, e.g. large BP cuffs, the ability to position patients appropriately for examination.

A special complication risk of all bariatric procedures is leak from the oesophago-gastric junction. These can occur because of a leak from a staple line (RYGB and LSG) or from inadvertent injury to the OGJ at the time of placement of the LAGB. Patients can present late – up to two weeks after the initial surgery. The first signs are pulmonary with the patient splinting the diaphragm leading to reduced oxygen saturation. There may be no abdominal signs due to the leak being contained or difficulty interpreting the abdominal examination. It is critical that leaks are investigated and treated aggressively. The first investigation is usually a CT scan with oral contrast or a gastrografin swallow. If these are negative and clinical concern persists the patient should have an urgent diagnostic laparoscopy.

Treatment of these issues requires appropriate specialist back-up with an experienced ICU and a radiology department able to accommodate larger patients.

Special consideration should be given to patients who excessively vomit after bariatric procedures, especially LSG. These patients are at higher-than-normal risk of thiamine deficiency, and glucose should not be administered if they present collapsed unless this diagnosis has been considered.

#### 3. Deep Venous Thromboembolism prophylaxis requirement

Two deaths from massive pulmonary embolism following bariatric operations were referred to VSCC by the Coroner recently. Both patients had some Heparin in hospital, poor medical documentation in the notes, and died after discharge home. Requirements for intra-operative, post-operative and continued post-discharge measures at home are greater in these bariatric surgery patients, who are at high risk of DVT and PE.

#### <u>References</u>

1. O'Brien P E, Macdonald L, Anderson M, Brennan L, Brown WA. Long-term outcomes after bariatric surgery: fifteen-year follow-up of adjustable gastric banding and a systematic review of the bariatric surgical literature. Ann Surg 2013;257:87-94.

2. Sjostrom L, Peltonen M, Jacobson P, et al. Bariatric surgery and long-term cardiovascular events. JAMA (Chicago, III) 2012;307:56-65.

3. Colles SL, Dixon JB, Marks P, Strauss BJ, O'Brien PE. Preoperative weight loss with a very-low-energy diet: quantitation of changes in liver and abdominal fat by serial imaging. Am J Clin Nutr 2006;84:304-11.

VSCC Approved: May 2014

Use of transoesophageal echocardiography in cardiac surgery

# Use of transoesophageal echocardiography in cardiac surgery

Over the past few years the Victorian Surgical Consultative Council (VSCC) has received reports of complications arising from the use of transoesophageal echocardiography (TOE) in cardiac surgery.

The issue was referred to the Victorian Consultative Council on Anaesthetic Mortality and Morbidity (VCCAMM), whose detailed study on the matter is briefly summarised here. The work was published in the Journal of Cardiothoracic and Vascular Anaesthesia (reference listed below<sup>1</sup>).

#### Conclusion from VCCAMM:

A handful of international studies had defined the incidence of TOE-related complications as very low, of the order of 3-4 per 10,000 cases. Using the <u>Australian Society of Cardiac and Thoracic</u> <u>Surgeons database</u> between 2001 and 2007 financial years, the authors sought to define the local incidence and outcome from major oesophageal injury (tear or perforation) related to the intraoperative use of TOE, and assess any possible risk factors, such as age or sex.



#### Injuries / 10,000 patients

The above figure summarises the key findings. Overall, the incidence of TOE-related complications was: 9 per 10,000, with a mortality rate of 2 per 10,000.

Patients aged over 70 years had a relative risk of 3.7 compared to those under 70 (95% CI 1.2-11.7). Women had a relative risk of 6.5 compared to men (95% CI 2.0-21.1).

Women over 70 had a relative risk of 22 compared to men under 70 (95% CI 2-182).

It was concluded that older patients, particularly women, have a substantially greater risk of TOErelated injury. Therefore in this group of patients the use of TOE during cardiac surgical procedures should be not be routine. The operator should also be cognisant of the contraindications for TOE as listed in the JASE guidelines (below<sup>2</sup>), in particular the presence significant oesophageal disease.

#### References:

1. Piercy M, McNicol L, Dinh DT, Story DA, Smith JA. Major complications related to the use of transesophageal echocardiography in cardiac surgery *J Cardiothorac Vasc Anesth* 23:62-65, 2009

2. Hahn et al .Guidelines for Performing a Comprehensive Transesophageal Echocardiographic Examination: Recommendations from the American Society of Echocardiography and the Society of Cardiovascular Anesthesiologists, (J Am Soc Echocardiogr 2013;26:921-64.)

#### VSCC Re-approved: May 2014

# **Correct level in Spinal Surgery**

The VSCC previously reviewed a number of cases where the operation occurred at the incorrect level, mainly at the lumbar spine level but also in the cervical spine.

Neurosurgical cases continue to top the list of surgical malpractice suits in the USA, in particular spinal surgery. In a recent study by Mody et. al. a survey was sent to all members of the American Academy of Neurological Surgeons. Of the respondents, 50% reported one or more wrong level surgeries during their career. 15% had prepared the incorrect site at the beginning of the operation but rectified the problem prior to making the incision.

A prospective study (Ammerman et. al.) examined a single surgeon's technique with 100 consecutive patients. The expected spinal level for surgery was prepared and draped. Intraoperative imaging was then utilised to correlate the spinal level. The wrong level was prepared 15% of the time.

Factors predictive for incorrect site of surgery include increasing patient age, and pathology above the L5/S1 level. Other factors identified in the literature include the surgeon's experience, fatigue, unusual anatomy (e.g. lumbarised sacrum) and emergency operations.

Guidelines for ensuring correct site surgery have been in place for many years. The recommendations from Mody et. al. are:-

- direct pre-operative communication between the surgeon and the patient
- marking of the intended site
- use of an image intensifier

Multiple studies have identified intra-operative x-ray as the gold standard for preventing wrong level surgery. However, intra-operative x-ray has its limits:-

- congenital malformations e.g. lumbarised sacrum
- incorrect counting of relevant vertebral levels
- inadequate radiological visualisation (especially in large patients)
- failure to recognise the absence of the expected lesion at operative level

Mohanial et. al. audited the use of pre-operative localisation of spinal level in lumbar microdiscectomy. Placement of a pre-operative marker and the use of intra-operative lateral fluoroscopy to identify this marker is gold standard for lumbar microdiscectomy.

#### The following recommendations are made:-

**1.** Plain x-rays of the spine should be displayed in the theatre. Discussion of the need for plain xrays in additon to imaging such as an MRI affords an additional safeguard against the possibility of wrong level surgery. MRI alone is not sufficient to clarify congenital abnormalities, and CT scans can be confusing in this regard.

**2.** The spine should be marked before surgery commences, preferably with the patient positioned and the area prepared and draped but before the incision is made.

# 3. A needle is placed into the most likely spinous process (in the lumbar spine) and a lateral image intensifier used to confirm the level.

4. In the cervical spine with an anterior approach it is recommended that a needle be splaced in the disc at the presumed correct level and an image intensifer used to check it is the correct level.

**5. Preoperatively as part of informed consent**, the surgeon should discuss with the patient and document the possibility of a mistaken level of operation, especially in the thoraco-upper-lumbar spine. Reports are now rare, but the risk endures.

**6. Postoperatively check** that there has been an appropriate relief of symptoms. If in doubt, arrange x-ray before discharge.

#### References:

- 1. Mody M. G. et. al., The prevalence of wrong level surgery among spine surgeons, Spine. 33(2) (pp. 194-198), 2008.
- 2. Jhawar B.S., Mitsis D., Duggal N., Wrong-sided and wrong-level neurosurgery: A national survey, Journal of Neurosurgery: Spine 7(5) (pp.467-472), 2007.
- Ammerman J.M. et. al., A prospective evaluation of the role for intraoperative x-ray in lumbar discetomy. Predictors of incorrect level exposure, Surgical Neurology. 66(5) (pp/ 470-473), 2006.
- Mohanial P., Pal D., Timothy J., Locatisation of spinal level in lumbar microdiscectomy, European Journal of Orthopaedic Surgery and Traumatology 16(3) (pp. 207-209), 2006.

VSCC Approved 2009, revised 2014

# Risk reduction and prevention of pulmonary aspiration.

Death from pulmonary aspiration continues to remain a risk, albeit small, for the population requiring surgery. Rates of death from pulmonary aspiration, taken from computerised medical records from the 70's and 80's in the USA are of the order of 1:40,000- 50,000 procedures. However, several cases seen recently by the VSCC involve aspiration at induction of anaesthetic or postoperatively.

Historically the approach to risk reduction of pulmonary aspiration in surgical patients has been ad hoc, due in large part to the lack of strong evidence related to interventions employed to reduce pulmonary aspiration. There have been few randomised studies in this area, due in large part to ethical considerations with such trials.

#### **Clinical practice guidelines**

These guidelines will focus on recommendations shown to be worth implementing in the surgical patient identified as being at higher risk of pulmonary aspiration. Unfortunately approximately 50% of pulmonary aspirations occur in patients without an identifiable risk factor.

Risk factors are listed and available interventions are examined. An approach to anaesthesia in the higher risk patient is presented in the form of an algorithm.

#### 1. Recognition of the patient at risk

#### **Risk factors**

#### Some common associations

Extremes of age, emergency procedures, the time of night (1800-0600 hrs), upper gastro-intestinal procedures, Caesarean section and obesity. Specific anaesthetic associations include the *difficult airway* and *repeated instrumentation of the upper airway*.

#### Specific conditions associated with increased risk of aspiration

- Pharynx, e.g. pharyngeal pouch
- Oesophagus, e.g. achalasia, gastro-oesophageal reflux disease
- Stomach, e.g. outflow obstruction due to disease or surgical
- Intervention, e.g. laparoscopic gastric banding, pyloric stenosis
- Jejenum and colon, e.g. malignant obstruction

#### General measures that can be employed in risk reduction

There are general measures that may be of assistance in reducing aspiration risk. Some of these measures may involve other specialities therefore early consultation if possible, will be required.

#### Tailored fasting regime.

Patients with a pharyngeal pouch for example, will require both a dietary alteration and mechanical measures to assist with emptying pouch prior to surgery.

#### Neuraxial anaesthesia

There is good evidence to show that neuraxial anaesthesia in an appropriate setting can reduce the risk of pulmonary aspiration. If a patient is medicated with anticoagulants these will need to be ceased at a suitable interval prior to anaesthesia

#### Antacid medication

Proton pump inhibitors or H2 blockers should be continued prior to surgery. If aspiration occurs the resulting injury depends on both pH and bile salts in the aspirate.

#### Position of patient

#### Risk reduction and prevention of pulmonary aspiration

Obtunded patients should be nursed in the lateral position and transported to the operating room in a similar position. There is evidence to show that patients with a naso-gastric tube are best nursed supine in a semi-recumbent position.

#### Insertion of a nasogastric tube

The insertion of a nasogastric tube prior to anaesthesia should always be considered in a patient with significant gastric distension. The correct placement of a naso-gastric tube should be confirmed and its effectiveness assessed by a reduction in gastric volume. In some centres this is done using radiological techniques. There will be some patients, those with an impaired conscious state, in whom pre-operative insertion of a nasogastric tube is relatively contraindicated.

#### The post-operative period

It is important to remember that higher risk patients may continue to be higher risk in the postoperative period. Data shows that around 25% of aspirations occur in the post-operative period.

# 2. Algorithm outlining specific management decisions for the patient requiring anaesthesia, at higher risk of pulmonary aspiration\*



Key: DI Difficult intubation DMV Difficult mask ventilation NGT Nasogastric tube OGT Orogastric tube RSII Rapid sequence induction and intubation

\*Chart reproduced with kind permission of Dr M Ramez Salem, Department of Anesthesiology, Advocate Illinois Masonic Medical Center, 836 West Wellington Ave, Chicago, II 60657

Risk reduction and prevention of pulmonary aspiration

#### 3. Advice highlights for surgeons.

- Awake intubation is an option for the higher risk patient, as noted from the above chart. It is an option that has been used very successfully in North America to prevent aspiration. Implementation of an appropriate anaesthetic technique is critical in many specific situations where aspiration is a potential complication. It is difficult to be dogmatic about the management of every patient at higher risk of aspiration. As always the tenet holds, every case should be managed on its merits.

- **Early anaesthetic consultation** allows time for the implementation of an appropriate strategy, and is important to minimise aspiration risk.

- Early anaesthetic consultation and time for correction of coagulation abnormalities may allow the use of regional anaesthesia.

- An anaesthetist of adequate level of experience should manage high risk patients.

- **Cricoid pressure during rapid sequence induction (RSI)** must be certain to ensure the compression is adequate and sufficiently maintained until the airway is secured.

- Allow an increased fasting interval where time permits. This is helpful for the patient without gastro-intestinal pathology or who has slow emptying of the gut, e.g. pharyngeal pouch.

- Techniques to reduce gastro-intestinal tract fluid volume may also include:

Pharmacological reduction of gastric acidity,

Mechanical - naso-gastric tube (note: although evidence supporting its efficacy is debated, nonuse of a naso-gastric tube was associated with several poor outcomes seen recently by the VSCC)

#### 4. Lateral Thinking:

Nursing an obtunded patient in lateral position prior to surgical intervention is important in preventing pre-operative aspiration. Nursing patients in the lateral position while they recover from anaesthesia and post-operatively is also important in minimising post-operative aspiration.

#### Reference:

VCCAMM Statement on Rapid Sequence Induction of Anaesthesia www.health.vic.gov.au/vccamm

VSCC Approved: August 2014

# Post-Laparoscopy Deterioration Following Upper GI/Biliary Surgery

#### <u>Background</u>

Laparoscopic injuries relate either to access, i.e. port insertion, or to the procedure itself. Several cases recently referred to VSCC have involved haemorrhage from major vessel injury during the induction of pneumoperitoneum, or ischaemic bowel, and are already the subject of VSCC clinical practice statements. Others have involved a bowel or vessel injury unrecognised during the procedure, or an anastomotic leak developing postoperatively, with delayed recognition and poor outcome.

Note that when the patient deteriorates post-laparoscopy:

- 1. An apparently safe technique does not preclude an injury.
- 2. It is the unrecognised injury that causes most morbidity and litigation.

#### Making the diagnosis after Upper GI/Biliary laparoscopy

<u>Suspect when:</u> post-op hypotension occurs (do not assume it is due to the anaesthetic or analgesics)

> even when drain tubes drain little or nothing (a significant haemoperitoneum can be present with minimal blood in the drain tube, a significant bile leak can occur with little or minimal bile in the drain).

Fever develops or patient does not thrive.

<u>Confirm by:</u> routine blood tests, but most importantly an abdominal CT scan that is sensitive for small volumes of free gas and for fluid.

Ultrasonography is less helpful.

#### Management of Complications

The default option for a laparoscopic complication is return to theatre. Be aware of the psychological barriers that may prevent *you* from recommending a return to theatre, i.e. denial, admission of sub-optimal outcomes, tired, inconvenient, etc. *Therefore do not hesitate to involve a senior colleague.* 

Many laparoscopic injuries can and should be managed laparoscopically rather than by laparotomy. Exceptions however are anastomotic leaks and ischaemic bowel.

#### The advantages of early return to theatre for bleeding include:

- a. identifying the source of bleeding
- b. stopping the bleeding
- c. washing out the peritoneal cavity
- d. avoiding prolonged convalescence and potential intra-abdominal infected haematoma

#### Bile leak following cholecystectomy

The first priority is not ERCP but ensuring the patient does not have bile peritonitis. If a CT scan shows free fluid, i.e. not all the bile is draining, then the appropriate treatment is laparoscopic washout. Percutaneous drainage has a role in the management of localised collections but not in the early post-operative period.

ERCP to hasten the closure of the biliary fistula may be required but is non-urgent.

#### Alerts for surgeons

Suspect a technical surgical problem if the patient deteriorates or fails to thrive soon after laparoscopy.

Don't be deluded by lack of drainage (bile, blood) via drain tubes.

Early recognition and response to a complication affords the best outcome.

The default option for a laparoscopic complication is return to theatre.

Many laparoscopic injuries are managed laparoscopically rather than by laparotomy.

Anastomotic leaks and ischaemic bowel call for open laparotomy.

VSCC Approved: September 2014

# Tracheostomy Management

Several cases were referred to VSCC recently with airway problems of displaced tracheostomy tubes, difficult tube exchanges or reintubations. Although tracheostomy is an old procedure with known life savings benefits, it does have these and other significant complications (haemorrhage, blockage, surgical emphysema, recurrent laryngeal nerve injury, oesophageal injury, bleeding granulations, tracheal stenosis), and some prove fatal.

If tracheostomy is present for some time it does affect the quality of life. There has been a move away from it in recent years towards airway control by other means. Nonetheless, it remains an integral part of management of airway problems given the right indications.

Tracheostomies may be **permanent** (laryngectomy, end stoma), or more commonly **temporary** (**reversible** - larynx is intact) which this guide deals with unless otherwise mentioned.

Tracheostomy may be done by the traditional open surgical technique or by percutaneous technique (usually in the ICU setting).

#### Timing of Tracheostomy

#### Emergency

True emergency tracheostomy is very rare. In the event of the need to get emergency access where intubation is impossible, (e.g. an inability to intubate in an anaesthetised patient, severe upper airway injury or swelling due to anaphylaxis), a cricothyrotomy is the usual procedure either by an emergency open or cannula approach, with conversion to true tracheostomy shortly thereafter.

#### Semi-Elective

#### a. Prolonged Intubation for Airway Management

Patients that are intubated for an extended period of time for any reason are usually considered for a semi-elective conversion to tracheostomy to avoid the complications of prolonged intubation and to allow better airway toileting. The decision when to do this is variable, but generally should be considered at five to seven days if there is no real prospect of extubation within the immediate future.

#### b. Surgery on the Upper Airway (including ENT, Maxillofacial Procedures)

This is the area where there has been some movement away from tracheostomy to postoperative management by intubation or non-intubated natural airway. The situation is potentially fraught with hazard unless there is close post-operative observation and confidence in being able to re-establish the airway rapidly in case of emergency.

Pre-operative factors such as difficult intubation, trismus, gross obesity, neck stiffness, wide tumour resection, should alert the surgical team to the possibility of difficulties in re-establishing the airway in a post operative emergency.

Difficult intubation at time of surgery should be a red flag warning of potential post operative risk. It is vital to seek the Anaesthetist's opinion about the anticipated ease of re-intubation postoperatively. Where there is any doubt that an airway emergency post-operatively, from a blocked or displaced tube, could not be dealt with expeditiously via intubation, an intraoperative temporary tracheostomy should be seriously considered.

It should be noted that the first responders to such an emergency are often nursing staff or junior doctors without the same skills as senior staff such as anaesthetists.

#### Tracheostomy Tubes

These come in a variety of styles and types to suit the adult and paediatric patient, and differ between manufacturers. Individual institutions should consider uniformity in the style and make of tracheostomy tube that is made available. Tracheostomy tubes may be cuffed or uncuffed, fenestrated or non-fenestrated, and some have an inner cannula to aid toileting of the tracheostomy. Apart from choosing the appropriate lumen size to suit the adult, it should be remembered that some tubes may only just penetrate the trachea in the very obese neck and a longer tube should be considered in these situations. Longer tubes with adjustable flanges are available.

"The diameter and length of the tube used should match the patient's needs and provide excellent continuity of care appropriate for the size and anatomy of the individual." (1)

#### **Other Equipment**

Any institution managing tracheostomies must have adequate equipment always readily to hand. This is usually in the ICU situation, but must also be remembered when the tracheostomy tube patient moves to the general ward. Essential are adequate suction, a variety of sizes of soft suction catheters, tracheostomy dilators, spare tubes in a variety of sizes and lubrication jelly. Capnography is a valuable instrument for assessing airway and should always be available where possible.

#### First Change of the Tracheostomy Tube:

If this is necessary for any reason it should (unless an emergency blockage dictates otherwise) be delayed for at least 5 days to allow formation of a definite track. Percutaneous tracheostomies may not have a well-formed track until much later, and should be left longer, if changed at all.

This is a potentially hazardous procedure usually done outside the operating theatre environment, however it should always be treated almost as a second operation and optimal conditions should be obtained prior to commencement, i.e., there should be good positioning, good lighting, with an assistant present. Adequate suctioning should be available, as should facilities for cardiorespiratory support and re-intubation from above if necessary. The operator should not hesitate to call on further help if any difficulties are anticipated or encountered.

The operator should cut all sutures and tapes, and when all is stable, withdraw the tube gently to minimise bleeding. Gentle suctioning before and after withdrawal, with a soft catheter in a curved downward direction is done without force. The new tube is placed similarly, again without force, to avoid creation of a false passage. Often a cuffed tube is changed for an uncuffed tube at this stage.

#### **Emergency Management of the Obstructed Tracheal Airway**

#### Temporary Tracheostomy

The patient may become distressed or found hypoxic or unconscious.

- Attempt to ventilate from above. In most cases (probable exceptions being major surgical resection or injury) the airway above will be patent and the patient can be ventilated with a face mask, or even intubated if unconscious. Oxygen should be applied from above and via the tube. Remember it may be necessary to change or remove the blocked tube below before this can be effective, manually occluding the stoma to aid ventilation.

- **Deflate the cuff**. This may be enough to reverse the obstruction as sometimes the cuff occludes the lumen.

#### - Remove the inner cannula if present.

- **Assess tracheostomy patency**. Gently pass a soft suction catheter through the outer tube without force. It should pass easily in a curved downward direction and some secretion should be aspirated.

- \* If obviously patent continue ventilation via the tube.
- \* If the catheter does not pass easily the tube is displaced or in a false passage.

- **Remove the tube**. The stoma should then be visualised and again, a soft catheter may be passed gently through to test the patency and exclude a false passage.

- **Re-establish the Tracheostomy** using a tube one size smaller, passing it gently under vision. The patient and the Capnograph, if available, should improve. Tracheal dilators may be helpful and, if available, fibreoptic examination.

If there is difficulty or a false passage is obvious, or there is heavy bleeding, continue to ventilate from above if possible and await further expertise or transfer back to the operating theatre.

Where a tube cannot be passed, it is often possible to pass an oxygen catheter through the stoma and give oxygen via this route while the airway is being further stabilised.

If this is not possible and the patient deteriorates, it will be necessary to explore the stoma at the bedside in an attempt to place a new tube in the correct position. In an emergency a gloved finger may help identify the true lumen. Again tracheal dilators are useful.

#### Special Case: Permanent Tracheostomy (Laryngectomy)

Although laryngectomies have traditionally used tubes in-situ in the post operative phase, many are now managed without a tub, so the end stoma is open and can be easily observed and suctioned. If blockage occurs remove any tube or cap immediately and the stoma and upper trachea should be easily observable. Any obstruction is usually obvious and can easily be removed by gentle suction. If this is ineffective, there may be a foreign body or thick plug in the trachea and this can sometimes be seen with a headlight or fibreoptic scope and an attempt made to remove it. Oxygen should be applied to the end stoma NOT the face via mask!

The question of tracheostomy airway emergency has been extensively considered by a multidisciplinary committee in the UK, The National Tracheostomy Safety Project (2). This describes the problems that may arise in tracheostomy and their management. It recommends algorithms for the management of tracheostomy, both in the intact larynx and in laryngectomy patients.

The Project has developed for each situation a card that is recommend to be attached to the head of the bed of such patients to guide the management of an emergency. This useful initiative could be adopted here, although ICU and Ward staff education must remain the mainstay of management.

#### References:

(1) On the Right Trach? A review of the care received by the patients who underwent a tracheostomy. National Enquiry into Patient Outcome and Death (2014) <u>www.ncepod.org.uk</u>

(2) McGrath et al, Multi-Disciplinary Guidelines for the Management of Tracheostomy and Laryngectomy Airway Emergencies. Anaesthesia 2012. 67:1025-1041

#### VSCC Approved September 2014

### Complication rate in patients who underwent Facial Nerve Sparing Parotid Surgery in Victorian Hospitals 1<sup>st</sup> July 2010 to 30th June 2012

#### Summary and Highlights

This is a Surgical Outcomes Information Initiative (SOII) 2 year study on behalf of the Victorian Surgical Consultative Council (VSCC), using Department of Health administrative data (VAED). The study identified elective admissions for facial nerve sparing partial or total parotidectomy for benign or malignant pathology. Admissions coded as otherwise unspecified total parotidectomy were excluded on the assumption that the facial nerve would be included in the resection. Facial nerve injury rate and mortality were studied.

1142 facial nerve sparing parotid operations were performed over the 2 year period (Table 1a), 1062 for neoplasm (Table 1b) and 80 for non-neoplastic pathology. 970 partial parotidectomy operations were performed (Table 1c), presumably facial nerve sparing, and 174 total parotidectomies with preservation of facial nerve (Table 1d). The overall mortality rate was 0.18% (Table 3a) with no statistical difference noted between those undergoing partial or total parotidectomy for either neoplasm or benign pathology.

The recorded total facial nerve injury rate was 1.14% of the 1142 operative episodes (Table 2a). There was no statistical difference in the facial nerve injury rate between those undergoing surgery for benign or neoplastic pathology (Table 2b). There was also no statistical difference in the facial nerve injury rate between those undergoing partial parotidectomy or total parotidectomy with preservation of the facial nerve (Table 2c, 2d).

A limitation of the study was an inability to determine if the nerve injury was partial or total and whether temporary or permanent.

All Health Services and private hospitals were de-identified for the study. A small number of health services and hospitals appeared to have a significantly higher facial nerve injury rate than the State average (Figure 1). These de-identified health services and hospitals were invited to review the patient's information and inform VSCC confidentially of their findings, and any action required. VSCC will then be able to inform hospitals and educate staff about appropriate measures to maintain and improve safety of surgical patient care.

The overall facial nerve injury rate appears to be comparable with published large International studies implying a uniformly high standard of surgical practice.



Figure 1: Caterpillar plot of the facial nerve injury rate in patients who underwent nerve sparing parotid surgery

VSCC Approved October 2014

# FACIAL NERVE SPARING PAROTID SURGERY 2010-2012

Table 1a: Number of patients who underwent parotid surgery (elective admission only)						
He miles I toma	Financ	m e l				
Hospitai type	2010-11	2011-12	Total			
Private Hospital	229	231	460			
Public Hospital	348	334	682			
Total	577	565	1,142			
Note: Parotidectomy coded as 3025300, 3025000						
Note: Elective admission (EMNL = "L") and Acute (CARE = "4")						

 Table 1b: Number of patients who underwent parotid surgery for a neoplass (elective admission only)

 Financial year

 Total

 2010-11
 2011-12

 Private Hospital
 205
 206
 411

Note: Parotidectomy with neoplasm is coded as 3025300, 3025000 and C00-D48							
Total	536	526	1,062				
Public Hospital	331	320	651				

Note: Elective admission (EMNL = "L") and Acute (CARE = "4")

11	Financ			
Hospital type	2010-11	2011-12	Total	
Private Hospital	190	195	385	
Public Hospital	308	277	585	
Total	498	472	970	

Note: Elective admission (EMNL = "L") and Acute (CARE = "4")

Table 1d: Number of preservation	oatients who underw of facial nerve (elect	ent total parotid tive admission or	ectomy with lly)			
and the family sectors	Financ	-				
Hospital type	2010-11	2011-12	Iotal			
Private Hospital	39	36	75			
Public Hospital	40	59	99			
Total	79	95	174			
Note: Parotidectomy coded as 3025000						
Note: Elective admissio	n (EMNL = "L") and A	cute (CARE = "4"	)			

Table 2a: Facial nerve injury rate in patients who underwent nerve sparing parotid surgery (elective admission only)					
Number of injuries	Number of cases	Facial nerve injury rate (%)	95% CI		
13	1,142	1.14	0.67 - 1.94		
	Ve injury rational rotid surgery Number of injuries 13	Number of injuries     Number of cases       13     1,142	Number of injuries       Number of cases       Facial nerve injury rate (%)         13       1,142       1.14		

Note: Parotidectomy coded as 3025300, 3025000

Table 2b: Facial nerve injury rate in patients who underwent nerve sparing parotid surgery for a neoplasm(elective admission only)					
Type of injuries	Number of injuries	Number of cases	Facial nerve injury rate (%)	95% CI	
Injury of facial nerve (S04.5)	11	1,062	1.04	0.58 - 1.85	
Note: Parotidectomy	with neonlas	m is coded as	3025300, 302500	0 and COO-	

Note: Parotidectomy with neoplasm is coded as 3025300, 3025000 and C00-D48

Table 2c: Facial nerve injury rate in patients who underwent partial parotidectomy (elective admission only)					
Type of injuries	Number of injuries	Number of cases	Facial nerve injury rate (%)	95% CI	
Injury of facial nerve (S04.5)	11	970	1.13	0.63 - 2.02	
Note: Partial parotidectomy coded as 3025300					

Table 2d: Facia parotidectomy wit	ıl nerve injur h preservatio	y rate in patie on of facial ne	nts who underwe rve (elective admi	nt total ssion only)	
Type of injuries	Number of injuries	Number of cases	Facial nerve injury rate (%)	95% CI	
Injury of facial nerve (S04.5)	< 5	174	1.15	0.32 - 4.09	

Note: Total parotidectomy coded as 3025000

Number of deaths	Number of cases	Mortality rate (%)	95% CI	
< 5	1,142	0.18	0.05 - 0.64	

## Mortality rate of patients who underwent Oesophagectomy in Victorian Hospitals 1 July 2011 - 30 June 2013

#### Summary and Highlights

This is a Surgical Outcomes Information Initiative (SOII) 2 year study on behalf of the Victorian Surgical Consultative Council (VSCC), using Department of Health administrative data (VAED). The study identified elective episodes of oesophageal resection in adult patients. Cervical and Thoracic resections involving access through the neck, chest or abdomen with a variety of reconstructive techniques were included. Paediatric cases were excluded.

237 patients were identified as having undergone surgery involving resection of the oesophagus. Fewer than 5 deaths were recorded giving a State mortality rate of 1.27% (Table 1).

This mortality rate of 1.27% compares favorably with the previous SOII study titled Mortality Rate, All Elective Oesophagectomy Procedures, May 2005 to April 2007 reporting an overall mortality rate of 2.37%. These two studies are not strictly comparable as the latter study included paediatric patients. The mortality rate in the current study also compares very favorably with published mortality from the Nationwide Inpatient Sample published in Gastrointestinal Surgery 2014 Molena et al, John Hopkins 18:310-317 involving 18,003 patients, which reported a 7.8% mortality.

Oesophagectomy procedures were performed at 26 de-identified hospitals throughout Victoria (Figure 1). No significant difference in mortality was noted between hospitals in spite of a variation in the frequency of surgery performed amongst the hospitals (Figure 2). These mortality figures suggest a uniformly high standard of surgical technique and peri-operative care within Victorian hospitals.



Figure 1: Caterpillar plot of the mortality rate in patients who underwent oesophagectomy

VSCC Approved October 2014

## Mortality rate of patients who underwent Oesophagectomy in Victorian Hospitals 1 July 2011 - 30 June 2013

Table 1: Mortality rate in patients who underwent oesophagectomy (elective admission only)							
Hospital type	Number of cases	Mortality rate (%)	95% CI				
Private Hospital	97	1.03	0.18 - 5.61				
Public Hospital	140	1.43	0.39 - 5.06				
Total	237	1.27					
Note: Oesophagectomy is coded as 3054500, 3054501, 3055000, 3055001, 3054100, 3054101, 3053500, 3053600, 3053601, 3029400, 3055400, 3055401							
Note: Elective admission (EMNL = "L") and Acute (CARE = "4")							
Note: There is r	10 significant differe	nce between the morta	llity rates (Z = 0.27,				

P = 0.79).



Figure 2: Funnel plot of the mortality rate in patients who underwent oesophagectomy

VSCC Approved October 2014

# Perioperative care. How can we do better?



# Wednesday, 18 February 2015, 12.30pm to 5.00pm The Royal Australasian College of Surgeons Level 2 Training Area, 250-290 Spring Street East Melbourne

A seminar presented jointly by the Victorian Audit of Surgical Mortality, Victorian Surgical Consultative Council, the Victorian Department of Health and Victorian Managed Insurance Authority.

#### Program

#### 12.30 – Registration / Light Lunch

- **1.15 Perioperative care. How can we do better?** *Mr Barry Beiles, Clinical Director, VASM*
- 1.25 Perioperative mortality rate (POMR) What does it actually mean?

Prof David Watters, Head of Dept of Surgery, Barwon Health and Vice President, Royal Australasian College of Surgeons

1.40 – How to conduct a focused pre-operative anaesthetic assessment

Dr Grant Brace, Anaesthetist, FANZCA and Austin Hospital

- **1.55 Time-critical emergencies Lessons learned in Vascular Surgery** *Mr Bernard Allard, Head of Vascular Surgery, Western Hospital*
- 2.10 Time-critical emergencies Lessons learned in General and Trauma Surgery

Assoc Prof Rodney Judson, Director of Adult Major Trauma Service, Melbourne Health

#### 2.25 – Questions and panel discussion

#### 3.00 – Refreshment

- **3.25 ERAS: How has it improved postoperative recovery?** Assoc Prof Richard Cade, Director HPB, Upper GI, Bariatric, Thoracic Surgery, Eastern Health
- **3.40 Lessons from anaesthetic mishaps** Assoc Prof Larry McNicol, Director of Anaesthesia, Perioperative and Intensive Care Services, Austin Health
- **3.55 Orthogeriatrics A proven model of care for fracture NOF** *Mr John Owen, Orthopaedic Surgeon (Melbourne's Northern suburbs)*
- **4.10 Lessons from pre- and postoperative insurance claims** *Kylie Thitchener, Medical Indemnity Risk Consultant, VMIA*

#### 4.25 – Questions and panel discussion

#### 5.00 – Close





The Victorian Surgical Consultative Council

**Aim**: To focus on improvements in pre-operative and post-operative care of the surgical patient.

**Registrants:** May include interns and HMOs; surgeons (rural and urban); nurse managers and educators; anaesthetists, intensive care and emergency staff; administrators; CEOs; quality & safety officers.

**Website:** The seminar will appear later on the VASM webpage.

**CME/CPD:** 1 point per hour as approved by The Royal Australasian College of Surgeons.

Register: Complete attached form OR <u>Download Form</u> Video conferencing available (Booking essential) RSVP: 5 February 2015 Email: vasm@surgeons.org VASM Office Phone: 03 9249 1153





#### The Victorian Surgical Consultative Council

#### INSTRUCTIONS FOR REPORTING OF INCIDENTS OF SURGICAL MORBIDITY

Please complete and return to: The Chairman Victorian Surgical Consultative Council GPO Box 4923 Melbourne 3001

Report forms may be accessed by contacting the Consultative Councils Secretariat on 9096 2701 or from the website <u>www.health.vic.gov.au/vscc</u>

Identifying information on this document is confidential to the Chairman of the Consultative Council. This enables the Chairman to contact the reporting clinician should additional information on a reported incident be required, and to provide feedback.

Subsequent review by the full Council is by case number only, as all identifying information is deleted prior to the full Council reviewing an individual case of surgical morbidity.

Surgical morbidity refers to injury in association with or as a result of surgery. The Council encourages reports of any significant morbidity.

#### PLEASE COMPLETE DETAILS REQUESTED IN THE REPORTING PROFORMA OVERLEAF.

# **CONFIDENTIAL INITIAL REPORT – FORM ONE**

# On receipt of this preliminary report a member of the Council may either contact you for further information or send you a more detailed form for completion (Form Two).

Date of Report:....

Case No (SCC use only):....

#### IDENTIFYING INFORMATION IS CONFIDENTIAL TO COUNCIL CHAIRMAN

Patient's Name:	Hospital/Health Service:				
Hospital UR No:	Name of person reporting:				
Contact phone number of person reporting:	Qualification of person reporting (please circle one):				
	Consultant	Registrar	Other		

#### **EVENT SUMMARY**

Date of Admission:					Date of Operation:					
Date of Recognition	on of Morbidity	/:								
Type of hospital: (circle appropriate category):										
Major teaching hospital	Major suburban/reg hospital	gional Country hospi			ital Private hospital		e hospital	Other (please specify)		
Age of patient:					Sex of	patien	t:			
ASA risk classifica	ation: (circle a	pprop	riate categ	ory):						
ASA 1 (A normal healthy patient) ASA 2 (A patient wi systemic disease)				t with e)	mild		ASA 3 (A j disease)	patient with severe systemic		
ASA 4 (A patient with severe systemic disease A that is a constant threat to life)				AS/ the	SA 5 (A moribund patient who is not expected to survive without e operation)					
Type of incident (	circle appropri	ate ca	tegories):							
MORBIDITY	Pre-operative			Ope	Post-operative			Post-operative		
Nature of procedure	e:	ive	🗆 Emerge	ency	Na	ture of e	vent (tick app	propriate box):		
Please specify proc	cedure -				□ Expected		ed	□ Unexpected		
EVENT DETAILS (please provide a narrative summary of the incident – use back of form if more space is required):										
Opinion as to cause of incident:										
Recommendation for prevention of similar incident:										

# Victorian Hospitals **Post-Operative Orders**

Surgeon & Anaesthetist to complete

#### Patient sticker here

# Alerts: Patient Co-morbidities &/or Operative Events

Please tick  $\checkmark$  and list co-morbidities &/or operative events

See Patient History

List:

No

for details)

**Escalation of Care** 

- Make DIRECT contact with junior medical staff of the managing unit if reportable limits are met
- If no response, contact the unit registrar
- If no response, contact the consultant
- · Discussion & outcome must be documented in the patient history
- If the patient's condition declines rapidly or meets MET criteria phone: for the MET team

Please tick  $\checkmark$ 

Managing Unit

Patient Specific Reportable Criteria If left blank default to met criteria $\rightarrow$						Example MET criteria			
Standard	WARD: Every	30 m	inutes	until	stab	le		Airway	Threatened
Recovery as per hospital	Then Hourly for next 4 hours						Breathing	Resp Rate <6 or >36	
protocol	4 Hourly for the next 24 hours								SpO < 90% on Oxygen
	HR <	>		RR	<		>	Circulation	Systolic BP < 90
	SBP <	>		Т	>				Heart Rate <40 or >140,
Oxygen	commence	commence						Neurology	Sudden fall in GCS $> 2$ points
	□ NP						L/min	Neurology	Brolongod poizurop
	Mask						L/min	Other	Serious concern about a
SaO2	Report <		-				%		patient uncontrolled pain
Blood Loss	Report if bl	Report if blood loss >							If in doubt as to call a Code Blue or MET
Urine Output	Report <						ml/hr		- CALL A CODE BLUE
Specific Observations	Neurologica	al (MF		)				Acute Pain	Service (MR)
	🗌 Vascular (N	R	)					Diabetic Tre	atment (MR)
	Chest Drair	n (MF		_)				Other	

Please tick  $\checkmark$  N/A = Not Applicable

(		T									
Surgical Care	N/A	Wounds/Dressings:									
		Leave intact until review	1		Complex (see over)						
		Drains type/site	Drains type/site								
		Suction		Free Drainage							
			Free drainage		Aspiration /24	Other					
Restrictions related to		Unrestricted			Spinal precautions (see over)						
this Procedure		Restricted (see over)			Head up: Degrees						
DVT Prophylaxis		Chemoprophylaxis documented on current medication chart									
		Compression stockings			ic Calf Compressors	🗌 Nil					
Medication		Antibiotics	Steroids		🗌 Regional analgesia	Anticonvulsant					
medication chart		🗌 Analgesia	Antiemetics		Recommence pre-op anticoagulant						
IV Fluids		As per IV Fluid Chart									
Nutrition	Full diet INil by mouth		outh	/24 then							
		Feeding tube			Oral fluids						

MR-

1

Specific orders				
Post Operative tests/referral	s ordered Please tick $\checkmark$			
Pathology	Radiology		Allied Health	
Specific surgical orders				
			o	
		-	Completed by:	 
		-	Designation:	 Time
Specific appentiatio ordere				
Specific anaesthetic orders				
			Completed by:	
		-	Designation:	 
		-	Date:	 Time:
Day Procedure Discharge Pl	onning Diagon tick			 
	anning Please lick v			
		Modical Cartif	icate	  an Instructions