SURGICAL AUDIT AND
PEER REVIEW

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1. Introduction

Surgical audit and peer review are important strategies in maintaining standards in surgical care at the clinical level. In February 2001, the Royal Australasian College of Surgeons (RACS) Professional Development and Standards Board (PDSB) elected to establish a Surgical Audit Task Force, to develop models of best practice for surgical audit.

In 2006 the task force became a committee, reflecting the need for continued monitoring and review of standards for surgical audit and peer review. The committee aims to provide resources and tools to improve and support audit activities conducted by individual Fellows, specialty groups, hospitals and the wider Fellowship.

This Surgical Audit and Peer Review Guide is another step forward in the process to upholding the College’s vision to set and maintain the highest standards of surgical care. It is for the guidance of individual surgeons and hospital surgical units. This standard should encourage administrations to provide adequate resources for these important activities.

This guide has been developed following extensive consultation with Fellows, including a series of workshops held at the RACS Annual Scientific Congress. Specialty Societies have also had the opportunity to comment on and provide constructive suggestions for the guide.

The 2008 edition now features standards on minimum reporting for surgical audit.

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Chair, Surgical Audit Committee

Surgical Audit Committee Members (2008)

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2. Surgical Audit – What is it and why do it?

Surgical audit is a systematic, critical analysis of the quality of surgical care that is reviewed by peers against explicit criteria or recognised standards, and then used to further inform and improve surgical practice with the ultimate goal of improving the quality of care for patients. The purpose of audit is to examine whether what you think is happening really is, and whether current performance meets existing standards.

A surgical audit involves:

- collection and measurement of clinical activities and outcomes
- analysis and comparison using standards, performance indicators and outcome parameters and
- a peer review process with a feedback mechanism to redress problems.

The key feature of audit is that it involves reviewing actual surgical performance, including outcomes. This clinical experience and that of your team is compared with accepted standards of what that performance should be. As such, it should be a stimulus and source of material for learning and quality improvement.

The aims of audit are:

- to identify ways of improving and maintaining the quality of care for patients;
- to assist in the continuing education of surgeons;
- and to help make the most of resources available for the provision of surgical services.
2.1 Surgical Audit Definitions

There are a number of different forms that an audit may take:
- A personal surgical audit (total/ practice/ selected); or
- Group/ hospital / specialty audit (focused or generic)

**Total Practice or Workload Audit:** This is an audit that covers all the surgical operations performed.

While this is the goal, it is recognised that in some circumstances it is unrealistic. A total practice audit enables you to identify patterns and trends in your practice by observing changes in throughput (caseload), procedures performed and outcomes. One period needs to be compared with another and needs to be long enough to accrue sufficient cases. A useful general tip is to start small, then gradually increase the scope of your audit.

**Selected Audit from Surgical Practice:** This is an audit that covers all patients who undergo a selected procedure, or an audit that covers all procedures conducted within a selected time-frame.

**A Clinical Unit Audit:** This is an audit conducted by a clinical unit in which individual surgeons may participate.

**Group or Specialty Audit:** This is an audit conducted by or under the auspices of a group or Specialty Society e.g. the RACS National Breast Cancer Audit, Melbourne Vascular Audit, New Zealand Vascular Society Audit

**A Focused Audit:** e.g. This is an audit which looks at one or more Australian Council for Health Care Standards (ACHS) indicators and the factors which influence it: e.g. what is the wound infection rate after large bowel surgery – emergency/ elective procedure, type of surgery, antibiotic prophylaxis blood loss, etc. 1

2.2 Surgical Audit and Continuing Professional Development

As surgical audit is a critical review of a personal, team or hospital’s clinical work, it may be regarded as a cornerstone of professional development. Only by looking objectively at our own practice of surgery will we be able to compare our current proficiency and discover how to improve on this for the sake of our patients. Audit can help identify the difference between what surgeons think they are doing and what they actually do.

1 ACHS Clinical Indicators: www.achs.org.au/ClinicalIndicators
Surgical audit is an educational exercise that is thoroughly grounded in everyday practice. Research shows that audit and feedback is an effective educational strategy and helps participants analyse their performance and plan effective responses to improve their performance.  

All surgical trainees collect data for their logbooks and are involved in unit audits. A small expansion of the logbook data to include outcomes becomes the basis of a lifelong practice of audit.

Group surgical audit also has been shown to improve the quality of surgery and reduce complications from surgery.

**Participation in Surgical Audit**

As part of the College’s Continuing Professional Development (CPD) Program all surgeons who conduct operative procedures in hospitals, day surgery units or private rooms are required to participate in a surgical audit each year, and to submit the audit for peer review (Category One: Surgical Audit and Peer Review).

The audit activity can be a personal surgical, a group audit or an audit approved by the Professional Development and Standards Board. The audit must be submitted for peer review.

**Mortality Audits**

Participation in the Australian and New Zealand Audit of Surgical Mortality (ANZASM) is approved in the CPD Program under Category Three: Clinical Governance and Evaluation of Patient Care.

ANZASM is a bi-national initiative of the College to establish a network of regional audits of surgical mortality throughout Australia and New Zealand. These audits provide a peer review assessment for each death occurring during a surgical admission.

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4 For more information about ANZASM, please contact the Director, Research, Audit and Academic Surgery Division of the College + 61 8 8363 7513 or college.asemip@surgeons.org
2.2  Audit or Clinical Review?

Surgical audit is a comparison against recognised standards of current surgical practice in order to improve the quality of care to patients. Data is collected with defined criteria. Comparisons are undertaken and recommendations for change made and followed up.

A clinical review involves a detailed presentation of one or more cases often with certain objectives and around a specific theme. The objectives may be educational and may focus on how we could have managed this case better (e.g. the clinicopathological case presentation). Some cases may be reviewed during an audit meeting because they are unusual or because of what can be learned from the decision making or complications. However, reviewing one or two cases should be seen as one aspect of audit but not audit in itself.

2.3 Audit or Research?

Audit has similarities with research, but there are also many differences. Unlike research, audit does not necessarily extend the knowledge base of surgery but by critically analysing surgical practice, audit aims to improve the quality of care.

Because the primary purpose of an audit of surgical practice is not to promote scientific enquiry, the requirements and constraints of research do not necessarily apply. However, it can on occasion provide impetus for a related research project. Audit is about review of surgical performance with a view to improving quality of care within a team or practice.

Audit databases may be used to prove or disprove research hypotheses. This is called an ad hoc audit in the Clinician’s Toolkit. The more data in the data base the more feasible it is to do this. It is therefore worth retaining audit data but care must be taken in preserving privacy in building larger databases particularly if more than one hospital is involved.

2.4 Assessing Performance

Although surgical audit data can be used to assess performance it is important to realise that the audit is only one aspect of assessment. It should be recognised that most surgeons perform well and that surgical audit helps to provide evidence of surgical achievements. Specific aspects of performance can be examined by defining outcomes and agreeing a target, though the process of defining and the agreeing may be a challenge for any group of surgeons.

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5 Clinician’s Toolkit
Performance may not just relate to surgical outcomes (audit of outcome). It may also describe access to surgery, throughput or efficiency (audit of structure), or when assessing the process of care the use of investigations, or rates of referring cases for expert opinion (audit of process) e.g. the number/percentage of patients with breast cancer being referred to an oncologist or discussed at a multidisciplinary meeting.

3. The Surgical Audit Cycle

Surgical audit activities are based on a five-step cycle:

Figure 1: The Surgical Audit Cycle

Step 1 Determine scope:
A thoughtful decision about which area(s) of surgical practice to review.
Step 2 Select standards:
A clear description of what is good practice in this area against which the results of the audit will be compared.

Step 3 Collect data:
The collection of relevant data.

Step 4 Present and interpret results with peer review:
Comparison of results to standards and/or those of peers, discussion with peers, decision about what changes may lead to improvement e.g. learning new skills, changes in practice, systems etc.

Step 5 Make changes and monitor progress:
Alteration or confirmation of practice in accord with the results of analysis and consultation with peers, then checking that improvement has occurred.
3.1 Determine Scope

The scope (or topic) chosen for audit should be clearly defined. Failure to clearly define this may result in insufficient or inappropriate data being collected. You can only report indicators if there is a sufficient volume of cases to give a meaningful numerator or denominator.

Common areas in the scope of an audit include:
- 30 day mortality and significant morbidity;
- length of hospital stay;
- unplanned readmission or re-operation rates;
- positive and negative outcomes;
- operation-specific complications;
- process of care, such as pre-operative care;
- time on waiting list;
- numbers waiting for outpatient appointment;
- use of investigations;
- justification of management; and
- patient satisfaction.

In general, outcomes should be simple, well defined, easily measurable, relevant and have a valid relationship to performance. It has been traditional for audits to focus on adverse events, e.g. death and complications, reflecting an underlying assumption that adverse events are a consequence of poor quality of clinical care. A review of adverse events should aim to identify system errors to enable improvements in patient care.

Audit of the outcome of a disease process for surgical intervention may require a measure of the quality of life, activities of daily living or objective assessment of the symptoms the operation was intended to reduce e.g. Visick Grading.

Audit should recognise what is done well and the achievements of a surgeon/ unit / service. Comparing 6-12 month time periods may allow improvement to be demonstrated as a result of changes in practice.

Lothian Surgical Audit

Aitken et al (1997) demonstrated that audit and its associated peer review do lead to changes and improvements in surgical practice. In order to achieve the outcomes the audit cycle should concentrate on areas of clinical importance, continue over time and involve a cycle of analysis, reflection, dissemination and education. Changes in practice will be gradual but over time will occur.

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3.2 Select Standards

Decide what the standards of good practice are for the selected topic/practice area. Decide what information you need and what is irrelevant. You may want to use one or more methods to do this:

- use evidence-based research and guidelines;
- adapt existing local guidelines for local relevance;
- use an accessible library for evidence about effective practice and develop new guidelines; and/or
- look to your specialty group to define standards.

Clearly describe any existing standards or the process you will use to develop your standards. When reviewing existing standards or developing your own, remember to consider whether the standards are measurable, specific and realistic:

Will you be able to collect information that can be compared with the standards? Are you as clear as possible about what constitutes good practice in your chosen area? Can you foresee any reason that you cannot achieve these standards?

You may decide to use ideal standards, e.g. 100% compliance with national or RACS guidelines or from a literature review. Alternatively, you may use minimum standards - the very least you think acceptable, based on current practice and consensus or personal standards; or somewhere in between which seems the best you can imagine given the constraints of practice.

For the purposes of self-education and change, the most useful standards are those relevant to the particular circumstances in which you are working.

Key Performance Indicators

These are set by Australian Council for Healthcare Standards (ACHS) and though there has been RACS involvement, the established Indicators are inadequate to assess performance comprehensively. As 'indicators' they indicate that there may or may not be an issue in a particular institution or service and adverse indicators are often generated by coding errors. Other key performance indicators may be set by Departments of Health, hopefully with surgical input.

A clinical indicator is simply a measure of the clinical management and/or outcome of care. A well-designed indicator should 'screen', 'flag' or 'draw attention' to a specific clinical issue. Usually rate based, indicators identify the rate of occurrence.

of an event. Indicators do not provide definitive answers; rather they are designed to indicate potential problems that might need addressing, usually demonstrated by statistical outliers or variations within data results. They are used to assess, compare and determine the potential to improve care. Indicators are therefore, tools to assist in assessing whether or not a standard in patient care is being met.  

Gastrointestinal Endoscopy Indicators
1.2 Post polypectomy perforation
1.4 Post polypectomy bleeding
2.1 Perforation related to oesophageal dilatation

Day Surgery Indicators
3.1 Unplanned transfer or overnight admission
4.1 Unplanned delay in discharge of a patient following operative procedure

Surgical indicators
1.2 Paediatrics - preoperative diagnosis of acute appendicitis
1.3 Paediatrics - childhood appendicectomy with normal histology but significant other intraabdominal pathology
2.2 Urology - total number of patient days for all patients having a TUR for benign prostatectomy
2.3 Urology - total weight of tissue removed from all patients undergoing TUR for benign prostatectomy
2.5 Urology - patients having an unplanned readmission within 28 days following TUR for benign prostatectomy
5.1 Cardiothoracic - deaths in same admissions as having CAGS
5.2 Cardiothoracic - deaths in same admissions as having elective CAGS
5.3 Cardiothoracic - patients aged 71 years or greater who die in the same admission as having CAGS
7.1 Laparoscopic cholecystectomy patients with a bile duct injury requiring operative intervention
8.1 Elective AAA repair deaths
9.1 Otolaryngology - significant reactionary haemorrhage following tonsillectomy

An up to date list of ACHS Clinical Indicators are obtained from http://www.achs.org.au/ClinicalIndicators/

8 ACHS Clinical Indicators: www.achs.org.au/ClinicalIndicators
**Adverse Events**

An adverse event is defined as unintentional harm arising from an episode of healthcare and not due to the disease process itself. Major adverse events, such as bile duct injury, anastomotic leakage, and unplanned re-operations should also be discussed. However there will be many minor adverse events such as pneumonia or UTI that should be listed but would not normally be discussed. Adverse outcomes may be to some extent predictable but at a certain accepted rate which should be within agreed standards. They may arise as a result of technical error, patient comorbidity, progression of pathology, or reflect an accepted complication rate for a particular condition or operation. The various adverse outcomes that might be reported would include some of those listed below. An alternative is to use Limited Adverse Occurrence Screening (LAOS) to identify the major adverse outcomes. An initial screening for events can often be done by someone with a nursing clinical background with medical/ surgical input reserved for problem cases. Some of the adverse events listed are already reportable or monitored in a number of hospitals.

Reportable adverse events include:

- Death in a surgical patient
- Unplanned readmission within 28 days
- Unplanned readmission to ICU from ward
- Unplanned reoperation
- Unplanned blood transfusion
- Transfer for more complex care
- Complication (Grade 3)
- Complication prolonging anticipated hospital stay by more than 7 days
- Inadvertent perforation of a viscus
- Serious drug reaction or interaction
- Medication error
- Cardiac or respiratory arrest
- Medical Emergency Team (MET) call
- Fall
- Pressure Sore
- Reportable infection
- Booked for theatre and cancelled
Limited Adverse Occurrence Screening

Limited Adverse Occurrences Screening (LAOS) attempts to review a proportion of case notes and from them to identify adverse events that will enable systems and techniques to be reviewed. As LAOS does not record whole practice, it is not a complete surgical audit. Efficient complete capture of adverse outcomes data can work in almost all hospital settings. It requires education of medical and nursing staff to be vigilant in remembering to record all adverse/sentinel events, preferably contemporaneously, in a manual or electronic register. It can enable external peer review and comparisons of similar hospitals.

LAOS screening may include:

- unexpected patient death
- unplanned return to theatre within seven days
- unplanned readmission within 28 days of discharge
- unexpected transfer to another health service
- patient length of stay greater than 35 days
- any record that has been recommended by a doctor or other health professional for review.

Sentinel Events

All sentinel events should be listed and discussed. A sentinel event is a relatively infrequent, clear-cut event that occurs independently of a patient's condition; it commonly reflects hospital systems and process deficiencies; and results in outcomes for a patient. Surgical examples include: catastrophe, operating on the incorrect patient, incorrect side or incorrect site or leaving a swab.

These events and recommendations to avoid them will require a response by the hospital authorities, not just the surgeon involved. In some jurisdictions, specific sentinel events require reporting within five days to a Health Authority. This is followed by early investigation. The findings arising from an investigation (root cause analysis) into a sentinel event are likely to be known before a surgical audit meeting takes place.

Incident Reports, Complaints and Compliments

It is useful to include those incident reports, complaints and compliments that are clinically relevant in a surgical audit. Those that relate to behaviour and other aspects of performance should not be part of a surgical audit and peer review meeting. Some process for linking the issues identified through surgical audit to the clinical governance system of the hospital should be established. The local incident

reporting system (e.g. Riskman - www.riskman.net.au) should be supported and interact with the process of surgical audit. Some issues deserve a multidisciplinary solution beyond what can be derived by a group of surgeons.

**Risk Stratification**

Outcomes cannot be adequately assessed without an understanding of the complexity of the pathology, the comorbidity of the patient and the resources/environment available for treatment. For this reason various methods of stratifying these influences on outcome have been devised. Pathology is often staged, comorbidities expressed in an ASA (American Society of Anaesthetists) score. Age of the patient and the urgency of presentation are other key factors that affect treatment and outcome. POSSUM is a risk stratification method used in General surgery but the data required is time consuming and normally beyond the resources of the average surgical unit to collect unless special funding is obtained. Every specialty must agree and adopt its own method of risk stratification to presents its results. These will form part of a specialty audit dataset.

### 3.3 Collect Data

It is now time to give some thought to what data you will collect, and how you will collect it. The most important principle here is to ensure that you collect quality data. Consider the following questions to help decide on the best quality assessment method:

- What information is necessary to answer the audit question(s)?
- From whom will it be collected?
- Should it be collected prospectively or retrospectively?
- How will it be collected?
- During or after the operation, on a PDA, on a computer, on a form, or by questionnaire, and by whom?
- How will follow up data be collected?
- By record review, by patient follow-up questionnaire, through the GP, by phone call, or by review of routine data, and by whom?
- How will the cases for review in a prospective project be identified or selected?
- All patients, random selection, consecutive operations, all patients on the same day each week, or checklist to determine eligibility?
- How will the cases in a retrospective review be identified or selected?
- From a register, medical records data, review of referrals, or from previous appointment schedules?

Ensure that you have adequate support people e.g. medical, nursing or clerical staff and medical records/ information system staff to collect and input all the data you require and that it is complete. Will you collect/ input the data yourself or review it...
before entry? It is wise to consider the accuracy of data – who has the final say in for example, an accurate diagnosis or grade of complication?

Can the data required be collected at least in part by downloading from a hospital information system? Can you rely on the accuracy of downloaded data? – this will depend on who was responsible for entering it.

Before going on, pause to think how the data will look, how you will compare it to any standards and how you will analyse the results of this comparison.

• Is the data to be collected relevant to the objective(s) of the surgical audit?
• Do you need to modify, expand or limit the objective(s)?
• Will the data you collect adequately assess how well the standards have been met?
• Do you need to modify the standards?
• Do you need to modify the data collection methods?

3.4 The Minimum Data Set, Expanded Data Set and Trainee Data Set

To give guidance in collecting data that is essential for effective surgical audit, the Surgical Audit Committee have developed Recommended Data Sets which will allow some consistency of data and easier comparison of outcomes. The Minimum Data Set, which is the bare minimum of information, is particularly suited for large volume low risk procedures.

The Minimum Data Set is described in Appendix 1 (page 35).

For more effective audit, additional data is important. A further list of fields has been recommended as the Expanded Data Set. This, for example, is especially geared towards general surgery and its specialties as well as for rural surgery. Additional recommended data requirements for specialty groups will be developed in conjunction with the specialty groups. There are also fields within this recommended data set which will be particularly relevant for trainees.

The Expanded Data Set is described in Appendix 2 (page 36).

The Extra Trainee Dataset fields are described in Appendix 3 (page 38).
3.5 Present and Interpret Results with Peer Review

Audit is about continuously improving by learning from experience and making changes, not just collecting data. It is the changes you can produce rather than the data collection itself, which are ultimately the most rewarding.

The results of your audit should be presented at a clinical meeting that is designed to discuss clinical outcomes. This constitutes the peer review of the audit and is an integral part of performing a surgical audit.

Peer Review

Peer review is a learning exercise. Whilst rights, responsibilities, apportionment of blame, punishment, compensation and access to justice can be valid processes, they should not be confused or interfere with the processes of education, risk management and quality assurance. Peer review is not an opportunity to blame or brag.

Peer review involves an evaluation of one’s work by one’s peers. Peers are other surgeons with comparable training and experience. It can often also be helpful to include other non-surgical members of the team in the review group e.g. surgical trainee or senior nursing staff. The review should be conducted in an atmosphere of confidentiality, of trust and teamwork, and be seen as an evolving process.

One form of peer review takes place through morbidity and mortality meetings, providing the participants include the presenter’s peers. However, this type of peer review can be unstructured and informal. If morbidity and mortality meetings are used for audit peer review, they should be formally constituted and documented as described below.

Grand rounds as the name suggests are hardly confidential peer review - but cases should be presented as an educational exercise. They are good opportunities to learn from one or more cases but do not replace formal surgical audit meetings.

A peer review meeting should allow a frank, non-confrontational discussion between colleagues. This discussion should focus on perceived problems and successes, resulting in a practical plan for positive change if needed.

Confidentiality of the information used for and resulting from the audit is essential, both from the point of view of the rights of patients and of the individual surgeon. It should reassure those surgeons present that the discussion is confidential professional peer review.
An outcome of peer review may be a well-planned educational workshop (or a grand round to educate a wider audience), that takes account of the results of the audit. This can be highly effective in this step of the audit cycle. In fact, there is evidence to suggest that feedback of audit data without subsequent relevant education does not change performance. 10

As a general guide, there are three types of surgical practice for the purposes of peer review:

Surgeons working together with other specialists in a unit, a hospital or other group. A unit should review the work of all its surgeons at least once every six months. Some units may choose to do this on a more regular basis but this would be determined by individual circumstances.

Surgeons working as an individual, or head a single specialist team in a hospital with other specialists also providing surgery in the same institution but where there is no grouping of specialists into a unit. Peer review involves other surgeons from the same or similar craft group and should take place for each surgeon or surgical team at least once every six months.

Surgeons solely responsible for a hospital or region who have no surgical peers of the same grade in their institution. Such a surgeon may need to organise peer review by an occasional visit to or from regionally based colleagues or by teleconference if meeting together is not practicable. A registrar is not a peer of a consultant, however registrars should contribute to audit meetings.

Rural and isolated surgeons, and those working in small hospitals should establish geographic or specialty based links with other surgeons to facilitate peer review. Other options that can be considered are teleconferences, and on-line chat groups or discussion forums.

It is also possible to organise an anonymous comparison of performance outcomes of surgeons in a region, country or specialty. However, there are issues associated with the approach, which need to be considered — namely differences of case-mix, co-morbidity and type and size of practice. The College’s Department of


In UK delays in audit feedback were of concern – this study showed that monthly local feedback of events resulted in immediate improvement in practice.
Professional Standards can facilitate peer review for an individual or group whom otherwise would find it difficult.

It can often be valuable to combine all surgical specialties or incorporate other clinical colleagues to add interest. The issue of whether a surgical audit is presented to other hospital doctors or senior nursing staff is a local matter. Also the requirement for individual units or surgeons in a hospital to report on surgical audit activities to their hospital management or quality units is also regarded as a local matter. It is expected however, that most hospitals would want to receive a regular summary of surgical audit from each unit and surgeon.

The following are suggestions for the conduct of peer review meetings:

- All surgeons should be a member of an active peer review group of no fewer than three surgeons.

- Choose a conducive setting e.g. privacy, coffee, minimal interruptions and with data projection facilities.

- Rotate the role of Chair - it is most important to create equity and avoid bias, real or apparent. An alternative is to appoint an independent chair such as a medical director or a recently retired surgeon.

- Schedule meetings with sufficient notice to give relevant staff the opportunity to attend.

- A record of attendance at peer review meetings should be kept to demonstrate satisfactory attendance.

- Peer review of an individual surgeon’s work should occur not less than six-monthly, and unit/department peer review should occur monthly.

- Peer review should include both individual cases and examination of trends in practice over extended time periods. Outcome reviews can also include comparative assessments, focussed reviews of specific problems or procedures, and follow up of recent changes.

- The Chair of the session should ensure all serious events are considered for appropriate review.

- Efforts should be made to identify quality issues (particularly system deficiencies) and appropriate actions to be taken. These issues should be brought to the attention of the hospital medical and administrative hierarchy and/or the specialty group executive. An example is available under ‘Chair’s Report Format’ on page 20.
At the conclusion of the session, plans/recommendations should be made, recorded and passed on to relevant service directors/managers. It is important to follow up all results. The final outcomes column is to be completed at the next audit meeting. It cannot be filled in when the issues are raised and actions are recommended.

It is ideal if hospitals assist surgeons with the process of conducting an audit. Surgical audit is a mandatory requirement for hospitals to maintain accreditation with organisations such as the ACHS or International Organisation for Standardization (ISO). At the very least, it is recommended that the hospital provides the list of procedures to assist with the audit and peer review process.

Suggested documentation for action on quality issues raised through peer reviewed audit:

**Chair’s Report Format**

Chair SURGEON NAME  
Date of meeting  
Meeting group name (e.g. General Surgeons Audit Hospital XYZ)  
Members present: A, B, C, D, E, F, G  
The issues could be presented in tabular format as follows:

<table>
<thead>
<tr>
<th>Issue</th>
<th>Effect on patient and Hospital</th>
<th>Recommendation</th>
<th>Action by whom and when</th>
<th>Final outcome of report</th>
</tr>
</thead>
</table>

**Morbidity and Mortality Meetings**  
It is a local matter as to whether audit review meetings are combined with mortality and morbidity meetings, or whether they are conducted separately. At morbidity and mortality meetings, all de-identified morbidities and mortalities should be listed. Only significant morbidities and selected deaths where there are learning or quality issues at stake need to be discussed. The Chair of the morbidity and mortality meeting or those to whom he/she delegates the task would normally make the selection of cases.
3.6 Make Changes and Monitor Progress

The next step is to implement any changes that are recommended. Implementation involves not just making changes but ensuring that everyone affected is educated/informed as to what changes are being made and why. The impact/effects of the changes made then needs follow up action. For example, did they achieve the desired outcome, and have expectations been met? If you are not carrying out a continuous total practice audit, you will need to make some decisions about how this is monitored.

When is the best time to do this follow-up?
Remember that many changes may take some time to have a significant effect, although some may be almost immediate. Make sure you allow enough time to avoid disappointing negative results.

How will you do the follow-up?
Do you need to repeat the full audit, or only those parts relevant to changes you made? Is there some other information source that might help you monitor your achievements?

Having thought through all these matters you are well on the way to planning your surgical audit activity. Remember that you may still need to do some fine-tuning as you go.
4. What Makes for Effective Audit?

Promotion of a culture of audit
Some of your colleagues may regard surgical audit as unnecessary or threatening, so it is essential that audit is undertaken in an atmosphere that highlights educational aspects, is regarded as non-threatening or ‘safe’, and is carried out in a culture of ‘no-blame’. This atmosphere enables open discussion of findings, and participants will be able to discuss their feelings concerning audit reviews. Creating such an environment depends on physical and social aspects and the culture of the practice or hospital in which you work. The importance of assuring quality outcomes through improved risk management is now accepted as a necessary element of clinical practice.

Allocate time and resources
Audit should not be allowed to become a burden, as this will make participation difficult. It should be considered as part of normal clinical practice. In a survey of 88 surgical units from 74 Australian hospitals with more than 70 beds in 1998, Eno & Spigelman found that hospitals had insufficient resources to conduct audit to RACS requirements. 11 Getting help with data collection is important. Resources should be made available by your hospital, as clinical audit and peer review are requirements for maintaining CPD and credentialling. Critical incident monitoring is also a component of VMO contracts in some jurisdictions – this may be a potential source of funds.

Oversee and verify data collection
It is important to collect the essential data only, and keep it simple. You should allocate responsibility for who collects which data. The data should be accurate and complete, with clinical details provided by clinicians. Review the data regularly and frequently, and troubleshoot immediately. Don’t forget to look for:

- the complication that didn’t occur;
- the death that was missed;
- the house surgeon’s diagnosis that was misconceived;
- the misinterpreted pathology report; and
- the reason for the misdiagnosis.

Productive peer review
Audit is only effective if we ‘close the feedback loop’ by following through on findings and outcomes. Good follow up and implementation of change requires the surgeons to work closely with management and putting in place systems for quality improvement and risk management. Hospital administrators may need reminding of the safety and risk management aspects of recommendations arising from audit activities and morbidity and mortality meetings.

5. Audit in Public and Private Hospitals

Surgeons working in public hospitals — particularly teaching units — will usually have help in data collection by clerical staff and registrars. Many will have a comprehensive audit system which facilitates audit meetings. It is then a matter of making time to attend those meetings and participate in the process!

In private hospitals, especially smaller ones and day surgeries the ability and resources to collect relevant data and to analyse the audit data may at times be a bit more difficult. Surgeons have a role to play in encouraging managers and administrators in this.

Most hospitals already collect Clinical Indicators data (for Australian Council for Healthcare Standards purposes) and this should be available from medical records/administration as a basis for limited surgical audit.

Most if not all hospitals have electronic information systems which lend themselves to the process of data collection. Working with the IT support staff to meet the needs for surgical audit can be very useful. They may assist in networking, data capture and interfacing with locally designed or proprietary audit software packages.

There is a need for improved data exchange between surgeons and hospitals. Improving the collection and use of hospital data is important to enable surgeons to carry out effective audit. The work of gathering data is greatly reduced if the surgeon’s audit database is linked to one generated by the hospital information system. At the very least, patient identification information dates and procedures can be input from the hospital system, and in the case of private practice, by secretarial staff who are responsible for billing. Surgeons need to be responsible for accurate recording of diagnosis, procedures, complications and outcomes. This information is also invaluable for the accuracy of the hospital record.

It is worthwhile exploring the options within individual hospitals and Area Health Services to see what is available or what can be developed to facilitate audit and peer review. Clinical Risk, Quality Improvement and Hospital Information (Medical Records) staff can be a source of help and advice with data collection.

In the private practice sector, electronic data collection can be relatively challenging. However, it is worth exploring the IT options. In private rooms, simple databases can be set up (e.g. Microsoft Access. FileMaker Pro or HanDBase) and secretarial assistance could be utilised to enter the data. Surgeons may need help to set up these systems and learn how to run queries and reports (see appendices).
It is also essential that those responsible for safety and quality are aware of the audit and its findings. Without this, supporting audit documentation may not be used in the event of a complaint or an inquiry.

6. What Opportunities Arise from Surgical Audit?

Educational opportunities
Educational opportunities that can arise from audit include:

- encouraging collaboration, modifying attitudes and approaches to clinical problems;
- enhancing critical approaches and giving a rational basis to local changes in clinical practice;
- encouraging learning about new technologies and procedures and auditing their introduction to provide justification;
- indicating deficiencies in knowledge and skills, which leads to development of educational activities to address these; and
- by developing required standards of care, giving guidance as to what is expected.

Systemic improvement opportunities
Clear problems and deficiencies identified in ‘systems’ should lead hospital authorities to redress the issues. Similarly individuals and teams can always improve.

Medical indemnity insurance
It is now a clear requirement by medical indemnity organisations for surgeons to understand and practice risk management so they should also partake effectively in continuing professional development programs and be certified as such. Surgical audit and peer review are essential components of continuing professional development.

Verification
The following information should be retained about your surgical audit and peer review activities in order to provide verification of audit activities if required:

- type and topic of audit;
- dates of audit;
- name of peer review groups or meeting to which audit results were presented;
- names of surgeons and others present;
- outcome/ recommendations of the review;
- plans for follow up and;
- list the details of any RACS approved audits you are part of.
7. What Resources are Required for Surgical Audit?

Manual systems
Audit can be conducted using manual, paper-based systems. Many surgeons have succeeded with notebooks or card indexes, often with the help of sticky labels. However, the flexibility, speed and power of electronic data base management systems suggest that most future efforts will take advantage of suitable electronic systems. Electronic systems ultimately reduce duplication and facilitate data collection, verification and analysis.

Computer systems
A database management system is required. It may be written using commercially available general-purpose programs or it may be custom built. It is recommended that, where practicable, particularly for individuals in private practice, data be used for multiple purposes such as billing, reporting or clinical records, so that the system provides multiple benefits in addition to surgical audit.

As manual data recording and entry can be tedious and prone to error, it is recommended that advantage be taken where possible, of automated or semi-automated entry, such as bar codes, scanners, down-loading from other systems or use of look-up tables, etc.

Palm pilots, tablets and pocket personal computers (PCs) hold much promise in the immediate future for audit data capture on the move. They offer the opportunity for data entry using handwriting and voice in addition to a computer keyboard, and will be able to share information wirelessly through mobile phones and other wireless networks. They are still potentially fickle and need repeated backup to avoid data losses.

Logbooks
Logbooks used by surgical trainees provide an opportunity to start a data collection system as part of an ongoing process towards surgical audit. There are a number of PDA and PC programs available which includes an electronic logbook system being developed by the College. With minor expansion to include the minimum and expanded data sets, it will enable all surgeons (as well as specific groups) to easily undertake a process of total practice audit. The specific trainee fields recommended are included in Appendix 4. Other fields may be recommended or required by the Specialty Societies training boards.
8. Privacy, Qualified Privilege and Audit Compliance

Privacy
Confidentiality of the information used for and resulting from the audit process is essential, both from the point of view of the rights of the individual patient and of the surgeon. It is also important to reassure participating surgeons and other team members that peer review discussions constitute confidential professional peer review rather than a ‘witch hunt’.

Australia’s Privacy Act (1988) impacts on audit data. You should ensure that the following principles are adhered to:

- that only necessary and accurate health information is kept;
- that you use patient information only with consent or that the information is used only for the purposes for which it was intended (or which a patient might reasonably expect); and
- that the information is securely stored at all times.

The NZ Privacy Act (1993) and Health Information Privacy Code (1994) also define a number of similar principles governing the collection, use, accuracy, storage and disclosure of health information relating to individuals. Additionally, health agencies are not permitted to assign a unique identifier to an individual unless this is necessary for the efficient functioning of the agency.

Qualified Privilege
RACS considers that confidentiality is essential for effective surgical audit. All audit information collected and discussions must remain strictly confidential.

One means of assuring confidentiality for audit is to obtain legal protection under ‘qualified privilege’ schemes. The surgeon in charge of an audit and peer review activity should ensure that the activity is registered under appropriate Federal or State or Territory schemes and that there is appropriate protection as a quality assurance activity. In some jurisdictions, it is the ‘activity’ rather than the ‘meeting’ that requires qualified privilege.
Once registered as a ‘qualified privilege’ scheme, information obtained through the audit or peer review must be kept confidential and made available only to those participating in the activity, as identified. Criminal sanctions can apply for unauthorised breach. Records and documents cannot be subject to subpoena or order by the courts or police.

Legal provision for qualified privilege exists at both State and Commonwealth levels in Australia. Surgeons should make inquiries at the health service, hospital or day surgery unit to which they are credentialed. If your organisation does not have qualified privilege then you should encourage them to apply for it (providing your group of surgeons is willing to live within the restrictions on membership it can impose).

In New Zealand, an application can be made for recognition as a Quality Assurance Activity under the New Zealand Health Practitioners Competence Assurance Act 2003 (PART 3 - Compliance, Fitness to Practise and Quality Assurance). This is often done through an application by the local district health board.

Audit Compliance and Management of Outliers
Surgical audit and peer review is primarily an opportunity for self-education and quality improvement. However, circumstances may arise in which problems are identified which do not appear to be addressed adequately by individual surgeons.

The RACS “Credentials Committees, Surgical Appointments and Complaints Procedures” 12 provides advice and guidelines for dealing with these situations.

Fellows in New Zealand should be aware that under the Health Practitioners Competence Assurance Act 2003 it is mandatory for any doctor who has reason to believe a registered doctor is unfit to practice medicine because of a mental or physical condition, to notify the Medical Council of New Zealand. Such conditions include alcohol or drug dependence, other psychiatric disorders, a temporary stress reaction, an infection with a transmissible disease, declining competence due to age related loss or motor skills or to the early stages of dementia, and certain illnesses and injuries.

Pathways to the Identification of the Under Performer
There are a number of ways in which under performance comes to our attention.

Single events may be reported through hospital complaints processes or in morbidity and mortality meetings. Similarly trends may be observed informally in a hospital or community, or they may be identified in structured reviews. Such reviews are carried out as part of surgical audit by groups of surgeons in units,

12 RACS, 2001 Credentials Committees, Surgical Appointments and Complaints Procedures
departments or hospital-wide, or by specialty surgical groups regionally or nationally. The impact of these observations and the level of concern generated are influenced by the severity, frequency, type and the context in which the events occur.

Under performance also comes to light through complaints to external bodies including Review Boards, State Medical Boards, Health Commissioner, Medical Council Disciplinary Committees, and through legal actions. It is not intended to deal with these types of assessments of performance although the principles given below should be relevant to them.

**Confirmation of Possible Under Performance**

It is important to ensure that the observation is justified. First appearances can be deceiving. For any review of the event(s) it should be clear whose responsibility this is.

- Prior rules for this eventuality should be in place for the peer review group. It should be known whether there is protected status of the evaluation as a peer review activity.
- Legal obligation to report under performance as well as the processes required within an institution needs to be clear.
- Anonymity of the individual should be maintained wherever and as long as possible. Rules for when and by whom coded information may be broken should be in place.
- Use of validated statistical analysis should be used to include case mix consideration, or appropriate benchmarking for example.
- Definition of outlier status should be predetermined where ever possible.
- The person leading the evaluation should be an acknowledged respected member of the peer group who should preferably have been given this responsibility prior to this eventuality.
- The number of persons involved in an initial appraisal should be limited.
- Where there is conflict of interest other peers should be used.
- Use of an independent assessor or advisor may be very helpful.

The College has developed Guidelines for Managing an Outlier through Structured Audit Processes available at the following link: www.surgeons.org/GuidelinesforManagingOutlierStructuredAudit.pdf.

These guidelines provide a generic pathway for surgeons in all specialties to use as a guide for managing outliers identified through the use of a structured surgical audit. The guidelines were developed to ensure that existing and future surgical audit programs have appropriate audit design and processes.
9. Audit Reporting

Peer review meetings are limited in time. Discussion needs to focus on the most important issues. This makes a formal audit report of a service, unit or surgeon's work a valuable document to refer to the routine and mundane. A pre-agreed structure and format of reports assists in their generation regardless as to whether this is done by hand or automated from the database.

A minimum standard of reporting is expected for any surgical audit. It should identify all the cases that were done for the area of interest. It should be able to subclassify the cases according to pre-agreed criteria within the minimum, expanded, trainee or specialty datasets. For example, surgeon D wishes to audit all cholecystectomies subclassified by whether they were emergency or elective admissions. The audit report should identify particular adverse outcomes. A minimum for general surgery would be mortality, unplanned reoperation and unplanned readmissions.

An audit report should include some basic mathematics (again by hand or automated).

**Aggregates:** A count of different procedures, emergencies, electives, unplanned reoperations etc

**Calculations:** Present complication rates for operations, sometimes subclassified by some method of risk stratification (staging, urgency or ASA/comorbidity/age)

Whenever a craft group can agree on the definition of an outcome and classify the case into a Yes/No successful/unsuccessful then such a binary definition can be used to generate a Cumulative failure or CUSUM chart. Providing there are agreed benchmarks/performance markers the plot can be compared with what a group of surgeons think is acceptable or unacceptable performance.

When considering a surgical audit program certain types of report should be mandatory for approval and others may be advisable though difficult to generate.

**Binary Outcome:** An outcome from a procedure or intervention that can be Yes or No (it happened or it didn’t) or a success or failure. An example is anastomotic leak after colorectal surgery – from the point of view of anastomotic leak the outcome can be classed as success (no leak) or failure (leak). Another example might be stroke after carotid endarterectomy – if stroke classed as failure, otherwise success. A number of different binary outcomes may be chosen to assess the outcome from one procedure i.e.: mortality, unplanned reoperation, unplanned readmission, wound infection.
CUSUM: CUSUM stands for cumulative sum and involves a time plot of attempts against an agreed binary target. It measures variation in small samples. It allows for early detection of small aberrations, natural variations and procedural performance trends.

Cumulative failure means that each failure is recorded as an upstroke on a cumulative failure chart where the horizontal axis is number of attempts (procedures) and the vertical axis records failures; a success is recorded as a horizontal line.  

CUSUM and cumulative failure charts are visual and useful for feedback to surgeons, units and services on performance.

Mandatory Reports

Search/ find/ sort by any of the minimum data fields (total, pre, post op, LOS)

Aggregate reports
Number of admissions
Number of operations Sub classified by procedure, urgency, magnitude

Ability to list cases with/ without complications Sub classified by grade 1 – 4

Advisable Reports

Binary recording of key performance indicators

At minimum, identify:
- Unplanned reoperations;
- Unplanned readmissions;
- Unplanned ICY admissions/ readmissions;
- Prolonged LOS;
- Unanticipated blood transfusion.

Other procedure specific indicators

Calculation of key performance indicators from numerator/ denominator
Ability to generate CUSUM

Risk Adjustment Reports

Audit reports should be interpreted with appropriate risk adjustment. Where possible, risk adjustment tools should be sought from the related craft group.

Risk adjustment factors to consider include:
- Operation urgency (emergency / elective);
- Age of patient;
- ASA;
- Patient co-morbidities;

Specially specific risk adjustment tools are available, for example Fellows performing cardiac surgery can use AUSScore\textsuperscript{14} and POSSUM\textsuperscript{15} can be used within General Surgery.


\textsuperscript{15} POSSUM is a scoring system that correlates with outcome. It has been used in General Surgery, particularly colorectal surgery. Portsmouth (P-POSSUM) and Colorectal (CR-POSSUM) versions are also available. POSSUM was developed for surgical audit and has two components: an acute physiology score and operative severity score. POSSUM scores can only be calculated after discharge and therefore it is an audit tool for risk adjustment but cannot be used for individual patients during their care. (please see Further References)
10. Need More Help?

- Many surgeons have considerable experience in surgical audit. These colleagues are a valuable resource as their experience can save others from having to re-invent the wheel.

- The RACS Library has the ability to do literature searches and searches on audit topics and obtain copies of relevant journal articles. There are many accessible on-line resources. Please contact on telephone: +61 3 9249 1271 or email at college.library@surgeons.org.

- A number of software companies have developed audit programs for surgical use. These companies exhibit at College meetings and advertise in the medical press.

- There is often existing expertise within hospitals that can be called upon to assist in surgical audit.

- The New Zealand Ministry of Health has published a booklet ‘Toward Clinical Excellence’, which gives a good overview of clinical audit and peer review. 16

- The New South Wales Department of Health’s ‘Clinicians Toolkit.’ 17

- A suitable system for rural and other general surgeons is available to download free of charge from www.surgeons.org/CPDresources&tools or by contacting the Department of Professional Standards.

- A PowerPoint and poster template for a ‘Fair Dinkum Audit’, providing advice on audit presentation and reporting is available at www.surgeons.org/CPDresources&tools or by contacting the Department of Professional Standards.

- Specialty Societies and the Department of Professional Standards may also be able to offer advice on surgical audit and peer review.

- Approved Audits - refer to Appendix 5.

- Templates for surgical audit presentations are available to download free of charge from the RACS website or contact the Department of Professional Standards.

16 Ministry of Health 2002 Toward Clinical Excellence. NZ Govt, New Zealand.

11. Further References


### Appendix 1: Minimum Data Set

1. **Name** or initials
2. **ID** or case record number (unique identifier information is necessary only for linking patients’ admissions)
3. **Date of birth** for calculation of age
4. **Sex** male, female
5. **Diagnosis** the final diagnosis (e.g. duodenal ulcer, bladder cancer plus stage) for calculation of total length of stay, and pre-operative and post-operative stays (there is a special category for day case in ‘admission type’)
6. **Admission date** if same as admission – day case could be assumed
7. **Discharge date** if performed
8. **Operation date** elective, urgent, emergency, unplanned return to theatre
9. **Operation/procedure** may be multiple or none
10. **Operation category** these should be comprehensive and include specific surgery related, e.g. haemorrhage; medical, e.g. myocardial infarction; and system related; specific performance indicators may also be included. There should preferably be a sub-field that grades the severity of the complication, e.g.:
   - **Grade 1**: problems that did not prolong admission and had little impact on the patient’s well being, e.g. mild wound infection, urinary tract infection, atelectasis, unexplained pyrexia
   - **Grade 2**: Complication which prolongs stay and/or causes significant morbidity e.g. significant wound significant infection or pneumonia
   - **Grade 3**: Complication which necessitates intervention, return to theatre, intensive coronary care admission, life threatening, readmission to hospital. TPN, organ failure support including renal dialysis.
   - **Grade 4**: Death – reason should be indicated, including all other complications. (See also suggestions at the end of Appendix 2)
12. **Surgeon(s) identifier** that allows the individual surgeon, his/her assistant(s) and the place (hospital) of practice to be identified. These may be coded. This should include trainee status for logbook purposes.
## Appendix 2: Expanded Data Set – for more effective audit

1. **Name** or initials
2. **ID** or case record number (unique identifier information is necessary only for linking patients' admissions)
3. **Date of birth** for calculation of age
4. **Sex** male, female
5. **Admission type** elective, emergency, day case, unplanned, public/private
6. **Readmission within 28 days** for calculation of total length of stay, and pre-operative and post-operative stays (there is a special category for day case in 'admission type')
7. **Admission date** for calculation of total length of stay, and pre-operative and post-operative stays (there is a special category for day case in ‘admission type’)
8. **Operation date** if performed
9. **Discharge date**
10. **Co-morbidities** list relevant major co-morbidities (these determine outcomes e.g. diabetes, smoking status, cardiac status, significant medications e.g. warfarin)
11. **Presenting problem** the presenting problem(s) or reason for surgery/ procedure, e.g. bowel obstruction, P.H TCC bladder
12. **Final diagnosis** e.g. bleeding D.U, colon cancer
13. **Operation performed** may be multiple or none
14. **Operation category** elective, urgent, emergency, unplanned return to theatre
15. **Operation magnitude** complex, major, intermediate, minor
16. **Surgeon/assistant** identifier (may be coded for hospital data set) level of (trainees) assistance
17. **Wound infection risk** clean, clean/contaminated, contaminated, dirty, N/A
18. **ASA grading** a useful simple grading of patient health status which reflects patient status
19. **Type of anaesthetic** sedation, local, regional, spinal, epidural, general
20. Prophylaxis  e.g. antibiotics, DVT prevention

21. Pathological diagnosis  where applicable the stage of disease should be a sub-field

22. Complications  these should be comprehensive and include specific surgery related, e.g. haemorrhage; medical, e.g. myocardial infarction; and system related; specific performance indicators may also be included. There should preferably be a sub-field that grades the severity of the complication, e.g.:

    Grade 1: problems that did not prolong admission and had little impact on the patient’s well being, e.g. mild wound infection, urinary tract infection, atelectasis, unexplained pyrexia

    Grade 2: Complication which prolongs stay and/or causes significant morbidity e.g. significant wound significant infection or pneumonia

    Grade 3: Complication which necessitates intervention, return to theatre, intensive coronary care admission, life threatening, readmission to hospital. TPN, organ failure support including renal dialysis.

    Grade 4: Death – reason should be indicated, including all other complications. (See also suggestions at the end of Appendix 2

23. Admission outcome  died, discharged home; transferred to another service (rehabilitation, aged care, higher level of care (e.g. refer to neurosurgical centre), or another hospital (and ultimate outcome)

24. Follow up outcome  one week/month follow up, late complications, positive outcomes. It is desirable to collect longer-term follow up data, to include both good and bad results. However, the challenges inherent in this are acknowledged.

Additional Data
It can also be useful to include a free content field to record qualitative information. Free content fields may also assist imports from other databases.

- These may be related to specific procedure or outcome in a specialty
- Agreed clinical indicators (e.g. bile duct injury in laparoscopic cholecystectomy)
- Late outcomes (e.g. 1, 2, and 5 year cancer outcomes)
- Patient satisfaction.

These fields should be considered very carefully as data overload is a danger to successful audit.
### Appendix 3: Extra Trainee Dataset Fields

The College’s Integrated Practice and Training Audit System (Trainee Logbook) has been designed with the primary aim of enriching the education and training experiences for a trainee by:

- Promoting communication between the trainee, supervisor and training board through the ability to generate summary and individual reports
- Enabling the system to be portable, web-based which includes mobile and handheld devices that are web enabled
- Ensuring validity/consistency in data collection
- Increasing data collection opportunities for specialty areas
- Progression towards the establishment of an effective audit process for Fellows.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainee Identifier</td>
<td>Unique identification number</td>
</tr>
<tr>
<td>Operation group (Defined by Training Board)</td>
<td>Defined by Training Board</td>
</tr>
<tr>
<td>Procedure</td>
<td>May be defined differently from operation performed</td>
</tr>
<tr>
<td>Supervisor (Surgeon ID)</td>
<td>Unique identification number</td>
</tr>
</tbody>
</table>
| Supervision Level            | S1: Surgeon Mentor Scrubbed  
S2: Surgeon Mentor in Theatre  
S3: Surgeon Mentor Available  
A1: Assisting Surgeon Mentor  
A2: Assisting Surgeon Registrar |
| Co morbidities               | Pre op/ Post op management diagnosis. Recognised diagnosis list              |
| Complications                | Recognised complication list                                                 |
Appendix 4: Available Audit Systems

The following are examples of established systems are available to individual surgeons and groups to facilitate effective surgical audit.

Otago Surgical Audit System
Otago Clinical Audit is available for both Microsoft Windows and Microsoft Windows Mobile Pocket PC. The audit is designed for a wide range of organisations - from single surgeon practices through to multi-site government health organisations. It covers a range of surgical specialities and as well as facilitating the peer review process, Otago Clinical Audit can answer enquiries from clinical management, determining surgical workloads, monitoring the training of registrars and evaluating the overall performance of a surgical service.

For more information contact Otago at:
Email: surgical.audit@otago.ac.nz
Web: www.otago.ac.nz/ouaudit

Filemaker Pro Surgical Audit (Professor David Watters, University of Melbourne, Geelong Hospital, Barwon Health)
CORDis is a clinical information system written in Filemaker Pro which supports trainee logbooks and surgical audit, and which can be linked to the ‘whole hospital’ information system. It produces discharge summaries, operation notes, clinical letters and audit reports which include the minimum and expanded data sets. It has been used at the Geelong Hospital since 2001. There is a stand alone trainee logbook which can be downloaded. An upgraded Filemaker Pro program on which CORDis was originally based is available for free download from the College website at: www.surgeons.org/CPDresources&tools.

The Rural Surgery Craft Audit is based on the above programs with enhanced reporting functionality and is being widely used throughout Australia.

Contact Professor David Watters at:
Email: davidw@barwonhealth.org.au.
Telephone: +61 3 474 7646

Further information on audit systems is available at: www.surgeons.org/CPDresources&tools.
Appendix 5: Approved Audits

The following are examples of audit activities that have been approved by the College’s Board of Professional Development and Standards and are available for Fellows to participate in, where relevant and appropriate.

The Melbourne Vascular Surgical Audit Program
Chairman: Mr C Barry Beiles, FRACS
Telephone: +61 3 9459 8910
Email: barryb2@optusnet.com.au
Web: www.mvsa.org.au

National Breast Cancer Audit
Clinical Director: Mr James Kollias, FRACS
Contacts: Ms Claire Marsh
Telephone: +61 8 8363 7513
Email: college.breast.audit@surgeons.org
Web: www.surgeons.org/asernip-s/breast.htm

Bi-National Colorectal Cancer Audit
Managed by the Colorectal Cancer Audit Committee
Colorectal Surgical Society of Australia and New Zealand
Chair: Mr Andrew Hunter, FRACS
Contact: Ms Vendra Severin
Phone: +61 8 8363 7513
Email: vendra.severin@surgeons.org

National Joint Registry
Contacts: Prof A G Rothwell (Supervisor), Toni Hobbs (Co-ordinator)
Telephone: +64 3 3641 581 or +64 0800 274 989
Email: Tonih@cchth.govt.nz or alastair.rothwell@chmeds.ac.nz
Web: www.cdhb.govt.nz/NJR/

New Zealand Vascular Audit
Managed by the Audit Committee of the New Zealand Society of Vascular Surgery
Contact: Mr Ian Thomson, FRACS
Telephone: +64 3 373 7099
Email: ian.thomson@stonebow.otago.ac.nz
Web: www.otago.ac.nz/Surgery/9audit.html

Rural Surgical Craft Group Audit: From Audit to Performance Monitoring
Chair: Professor David Watters FRACS
Contact: RACS Project Officer
Telephone: +61 3 9276 7473
Email: PDactivities@surgeons.org or davidw@barwonhealth.org.au
Victorian Cardiac Surgery Database Audit
Contact: Prof John Knight FRACS, Aust Society of Cardiac and Thoracic Surgeons
Telephone: +61 8 8204 5618
Email: john.knight@flinders.edu.au
Web: http://www.ascts.org

To review the latest audits approved in the CPD Program, visit:
www.surgeons.org/ApprovedAudits
Appendix 6: Approval of Audit Activities and Programs

Fellows, specialty groups and area health services may wish to apply for audit activities (focused or generic) to be approved and recognised in the College's Continuing Professional Development Program. In addition, commercial organisations may seek approval from the College to ensure that their software program(s) contains the College's Minimum Data Set for surgical audit.

The following approval application forms are available at www.surgeons.org under Surgical Audit Committee.

Generic Audit Activities (i.e. hospital morbidity and mortality audits, clinical unit audits)

Focused Audits (i.e. specialty group audits, regionally based mortality audits, audits which look at one particular issue and the factors which influence it)

Audit Programs (i.e. audit software programs)

The Department of Professional Standards requires a completed application form and a copy of your audit (or a password to access an online audit) to enable the Surgical Audit Committee to review an audit activity/ program.

The Surgical Audit Committee reviews surgical applications against the following standards:

 Minimum Data Set – mandatory (including search/find/sort of these data fields)
 Expanded Data Set – advisable
 Trainee Data Set – advisable (where appropriate)

Advice on the ease of use is given, however approval relates to the audit activity or program meeting the minimum standards.

The Surgical Audit Committee reviews audits/ programs and recommendation are endorsed by the Professional Development and Standards Board in February, June and October each year. Approved audit activities are added to the College website: www.surgeons.org/ApprovedAudits.

For further information regarding the audit approval application process, please contact the Department of Professional Standards:

Phone: +61 3 9576 7425
Fax: +61 3 9276 7432
Email: surgicalaudit.college@surgeons.org
SURGICAL AUDIT AND PEER REVIEW