



CLINICAL  
EXCELLENCE  
COMMISSION

SPECIAL COMMITTEE INVESTIGATING DEATHS UNDER ANAESTHESIA

# GUIDE TO THE ACTIVITIES OF THE SPECIAL COMMITTEE INVESTIGATING DEATHS UNDER ANAESTHESIA

2000–2003

## TABLE OF CONTENTS

1. INTRODUCTION TO THE SPECIAL COMMITTEE .....	3
2. HOW SAFE IS ANAESTHESIA? .....	4
3. NOTIFICATION OF DEATHS TO THE NSW SPECIAL COMMITTEE .....	6
4. THE SPECIAL COMMITTEE'S ADMINISTRATION .....	7
5. THE SPECIAL COMMITTEE'S WORKLOAD AND PROCESSES .....	8
5.1 Introduction	
5.2 Triaging	
5.3 Investigation	
5.4 Assessment	
5.5 Results	
6. FEEDBACK FROM THE SPECIAL COMMITTEE TO ANAESTHETISTS .....	14
APPENDICES .....	17
Appendix A – Sample form B for notifying coroner	
Appendix B – Sample Questionnaire	
Appendix C – Membership	
Appendix D – Classifications used by the Special Committee	
Appendix E – Scientific Publications	

## PREFACE

This is the first guide to the activities of the Special Committee Investigating Deaths Under Anaesthesia (SCIDUA) to be produced under the auspices of the Clinical Excellence Commission (CEC). It is personally a great privilege to be the Chief Executive Officer of the Commission and for one of my first tasks to be to arrange for the move of both SCIDUA and its sister committee SCIDAWS, the Special Committee Investigating Deaths Associated With Surgery, to the CEC and to welcome them to the new premises at Sydney Hospital. This move will give both committees an opportunity to re-evaluate their staffing and physical resources to continue to produce the high quality information that is the hallmark of the reputation of SCIDUA.

Dr Chris Borton has indicated some of the staff and Special Committee members who have helped produce this guide. However, all teams need dedicated leadership and Chris has continued the work of his predecessors, Ross Holland, John Warden and Brian Horan in providing this.

One of the principal tasks of the CEC will be to co-ordinate and enhance the dissemination of information from the various sources that already exist throughout the health system in New South Wales. Despite the complexity of this system, it is imperative that the information be returned to clinicians as appropriate in a timely and meaningful fashion. This, in turn, will enable clinicians to make appropriate decisions to enhance the safety and quality of the care of patients who access the system. SCIDUA has been a leader in both the collection and dissemination of the appropriate information and this guide is yet another example of that leadership.

Of particular interest will be the comments concerning the high mortality associated with the attempted repair of ruptured abdominal aortic aneurysm and the choice of anaesthetic technique for fractured neck of femur. It is only as such a volume of information as is available to the Special Committees is collected and analysed that these comments can be made and evaluated.

Please take time to read the report, analyse the data contained therein and provide feedback to Dr Borton and his committee, as you feel appropriate.



Clifford F Hughes AO  
CLINICAL PROFESSOR  
CEO, CLINICAL EXCELLENCE COMMISSION

## CHAIRMAN'S FOREWORD

The NSW Special Committee Investigating Deaths Under Anaesthesia (SCIDUA) is a Ministerial committee of the NSW Minister for Health. It has been investigating the causes of anaesthesia-related mortality since 1960. Despite being amongst the earliest of quality assurance organisations, it is no less vital today than it was at the beginning. The Special Committee brings to its task a wealth of clinical experience, expertise and enthusiasm. The future brims with new ideas and new accomplishments.

There has been a great increase in the interest in quality assurance activities and this has been exemplified by the formation of the Clinical Excellence Commission (CEC) by the NSW Department of Health. The Special Committee has now been taken under the umbrella of this organisation and I am excited about the synergies which I believe will be of benefit to both organisations, with ultimate benefits to the quality of health care delivery in this state.

This report represents a great deal of work by many people. I would like to thank Dr Isabella Smith of the CEC for her efforts in assimilating the data generated by SCIDUA and transforming it into this final form. Dr David Pickford and Dr Frances Smith are the Medical Secretaries of SCIDUA and vital to its operation. Special mention must be made of the work of Professor Ross Holland who has been a member of SCIDUA since its inception and is a past Chair of the Special Committee of many years standing. He continues to contribute enormously to the work of the Special Committee with unfailing energy and enthusiasm. His experience and insights are invaluable. Of course, SCIDUA could not exist without the involvement of all its members, whom I thank for their generous investment of time and effort.

SCIDUA is now undertaking an essential review of its processes, including the development of an electronic database, which will facilitate the publication of more reports and the furtherance of research. I look forward to an exciting new era for the Special Committee.



Christopher Borton  
CHAIRMAN

# 1. INTRODUCTION TO THE SPECIAL COMMITTEE

The Special Committee Investigating Deaths Under Anaesthesia (SCIDUA) was originally convened in 1960 to make an expert clinical assessment of the cause of deaths occurring during anaesthesia. The NSW Special Committee is the longest established body of its kind and is a world leader in studies of this nature. It has also made a major contribution to the extraordinary reduction in mortality attributable to anaesthesia in Australia.

The Special Committee's primary objective is to investigate deaths associated with the administration of an anaesthetic given to facilitate clinical diagnosis, treatment or care. Specifically it investigates deaths that are reportable to the Coroner under Section 12B(1) (e) of the NSW Coroners Act:

*the person died while under, or as a result of, or within 24 hours after the administration of, an anaesthetic administered in the course of a medical, surgical or dental operation or procedure or an operation or procedure of a like nature, other than a local anaesthetic administered solely for the purpose of facilitating a procedure of resuscitation from apparent or impending death.*

The Special Committee also receives notifications of similar deaths from Tasmania for consideration.

Successive Health Ministers have agreed that a special approach towards the mortality associated with anaesthesia and surgery is warranted and have supported Special Committees to review and advise on measures that may be taken to reduce these deaths.

The Special Committee Investigating Deaths Under Anaesthesia has operated continuously in NSW since 1960, apart from a short break in the early 1980s. It was re-established under the Health Administration Act 1982, Section 20 (4) Division 6 and has privilege.

## 2. HOW SAFE IS ANAESTHESIA?

Anaesthesia is a means to an end; it does not of itself cure the patient's disease or injury, but it is an essential precondition for effective clinical management and curative treatment. Ideally, it should not contribute to the mortality that occurs from the underlying disease process or its treatment, and in those terms even one 'anaesthetic death' is one too many.

In order to make a valid comparison and monitor the trends in mortality associated with anaesthesia over time, it is necessary to determine a mortality rate rather than the number of deaths that have occurred each year. This is because the number of investigative procedures and surgical interventions requiring anaesthesia is much greater than hitherto.

To calculate this rate it is necessary to know the 'at risk' population in a given time period, i.e. how many anaesthetics are given per year. These data are not collated within the NSW, or any other comparable, health system. In the scientific literature, it is customary to estimate the current number of anaesthetics given per year as being between 10% and 12.5% of the total population base for Australia.

Assuming the lower figure, and bearing in mind that the NSW Special Committee examines data from NSW and Tasmania, the 'best estimate' of the number of anaesthetics given per annum in these two states is as many as 850,000. On these assumptions, the death rate attributable in whole or in part to anaesthesia is approximately 1 death per 80,000 administrations. Thus modern-day anaesthesia has an enviable safety record.

The majority of deaths attributable to anaesthesia occur in patients who are both elderly and sick, often presenting as emergencies. This was not always the case. In 1960, of the first 57 cases considered by the Special Committee, 31 were attributed wholly or in part to anaesthesia and all of the deaths were considered preventable. Ten of the patients were children, only one of whom underwent major surgery, and three patients were young women undergoing obstetric procedures.

**Table A – Estimates of anaesthesia-related mortality in Australia**

	Estimated anaesthesia-related mortality
<b>1960</b>	1 in 5,500 administrations <sup>11</sup>
<b>1970</b>	1 in 10,250 administrations <sup>11</sup>
<b>1984–1990</b>	1 in 20,000 administrations <sup>9</sup>
<b>1991–1993</b>	No less than 1 in 68,000 <sup>20</sup>
<b>1998</b>	1 in 79,509 administrations <sup>22</sup>

Estimates of the mortality rates attributable to anaesthesia have appeared infrequently in the scientific literature, most probably due to the difficulty in establishing the denominator. Also it should be noted that these estimates include low- and high-risk procedures and are not adjusted for the health status of the patient. There is no reliable estimate of anaesthesia-related mortality for elective surgery in individuals of average health status.

The consensus is that mortality rates have declined very considerably over the decades. The Australian and New Zealand College of Anaesthetists (ANZCA) considers that this favourable trend in mortality attributable to anaesthesia is due to:

- The adoption of approved standardised monitoring
- Widespread distribution of professional documents prepared by ANZCA
- Increased attention to continuing education
- The education contribution made by State Mortality Committees in alerting reporting anaesthetists and the larger body of anaesthetists to factors contributing to adverse outcomes. <sup>22</sup>

### 3. NOTIFICATION OF DEATHS TO THE NSW SPECIAL COMMITTEE

As detailed in the introduction, the NSW Special Committee investigates deaths that are reportable to the Coroner under Section 12B(1) (e) of the NSW Coroners Act.

It is NSW Department of Health policy that:

*Hospitals and medical practitioners or any other person, who has reasonable grounds for believing that a death or a suspected death would be examinable by the coroner but has not been reported, must report the death or suspected death to the coroner as soon as possible.*

Further information and procedures relevant to the statutory obligation of hospitals and doctors to report deaths are contained in the NSW Policy Directive Coroners' Cases and Amendments to Coroners Act 1980 (Document number PD2005\_352).

The Coroner receives all reports of deaths from the NSW health system on the prescribed forms:

Form A – "Report of a death of a Patient to the Coroner" and

Form B – "Report of Death Associated with Anaesthesia/Sedation".

An example of Form B is shown at Appendix A.

Form B is available in NSW hospitals in quadruplicate format. The original and duplicate copies being handed to the police for transmission to the Coroner, the triplicate (blue) copy is sent to the Special Committee Investigating Deaths Under Anaesthesia and the quadruplicate copy is retained by the hospital.

## 4. THE SPECIAL COMMITTEE'S ADMINISTRATION

Throughout its history the Special Committee has relied heavily on the dedication and enthusiasm of individual clinicians who have generously given their time and expertise to further its activities. To date the Special Committee has had part-time administrative support from a secretariat shared with its sister Ministerial Special Committee Investigating Deaths Associated With Surgery (SCIDAWS). The secretariat has been hosted at Royal Prince Alfred Hospital in the Anaesthetic Department and has benefited greatly from this pro bono arrangement.

The considerable increase in attention to quality and safety in the health care system prompted the NSW Department of Health to commission a major strategic and operational review of the Special Committee Investigating Deaths Under Anaesthesia and the Special Committee Investigating Deaths Associated With Surgery. One of the key recommendations from the review – known as the Morey Report – was that the Special Committees become part of the Institute of Clinical Excellence (ICE) to provide support and links with other quality and safety initiatives in New South Wales. This process commenced in January 2004 with the transfer of funding for the secretariat from the Department of Health to ICE and since August 2004 to the Clinical Excellence Commission.

The year 2003/4 has marked a major milestone for the Special Committee in terms of its administration and modus operandi since its incorporation within the Clinical Excellence Commission's portfolio as detailed overleaf.

## 5. THE SPECIAL COMMITTEE'S WORKLOAD AND PROCESSES

### 5.1 Introduction

Since its inception, the Special Committee has received notification of more than 10,000 deaths that occurred within 24 hours of the administration of an anaesthetic. In recent years, approximately 350 referrals are received per annum for assessment. It should be noted that in the overwhelming majority of these cases, investigations reveal that the death was not attributable to the anaesthetic.

A very considerable backlog of cases had accrued over several years, with the result that feedback from the Special Committee to referring clinicians was often significantly and undesirably delayed. It also meant that, with the exception of the anaesthetic specialty, awareness of the Special Committee's role and its profile within the wider NSW health system remained low.

In 2003, the Special Committee introduced a triaging mechanism that has greatly improved its operational efficiency. The Special Committee is now pleased to report that the backlog of cases no longer exists and, since late in 2004, cases have been logged and investigations of referred cases commenced on receipt of the Form B.

The Special Committee's assessment process is detailed in the following sections.

### 5.2 Triaging

In many instances, there is sufficient information on the notifications to the Coroner's Office (Form B) to indicate that the patient recovered fully from an uneventful anaesthetic, but died for other reasons. These cases do not require review by the full Special Committee and are marked for exclusion by the triaging subcommittee. Some of these excluded cases may fall within the scope of interest of the Special Committee Investigating Deaths Associated with Surgery (SCIDAWS) and may be referred for its consideration, where appropriate.

In practice, this results in the exclusion of approximately 40% of notifications of deaths at this stage, and no further action is required.

However, as a courtesy to colleagues, the Special Committee Chairman writes to each anaesthetist who reports a case using the SCIDUA questionnaire (Appendix B) irrespective of initial triaging classification.

### 5.3 Investigation

If the case cannot be excluded or classified as non-attributable to anaesthesia from the information provided on Form B, a request is sent to either the referring anaesthetist, or via the appropriate hospital's Department of Anaesthetics, for further clinical information to be provided using a semi-structured questionnaire (Appendix B). **This communication between the Special Committee and the responsible anaesthetist is confidential and has privilege under Section 23 of the Health Administration Act 1982.**

Anaesthetists have cooperated willingly with the Special Committee's investigations and, although there is no compulsion to respond, the response rate has been in the order of 90%. This is impressive considering the significant delays that previously occurred between the patient's death and the anaesthetist being contacted.

From the information provided to the Special Committee, the majority of cases can be classified into categories where the anaesthetic is not deemed to have been a causal factor in the fatal outcome. Only in cases where doubt exists as to the role of anaesthesia in the subsequent fatal outcome are de-identified case reports, excerpts from medical records and coroner's reports, when available, reviewed and discussed by the full Special Committee.

**Table B – Number of referrals to SCIDUA 2000–2003 and outcomes**

	2000	2001	2002	2003	2000–3
<b>No. of NSW referrals</b>	379	284	294	349	1306
<b>No. of cases excluded</b>	126 (33%)	126 (44%)	116 (40%)	180 (52%)	548 (42%)
<b>No. of cases classified</b>	249 (66%)	146 (51%)	168 (57%)	138 (40%)	701 (54%)
<b>No. of cases awaiting further information</b>	4 (1%)	12 (4%)	10 (3%)	31 (9%)	57 (4%)

### 5.4 Assessment

Evaluating case management by the anaesthetist is the most important task of the Special Committee, and is the reason why such a concentration of experience in anaesthesia exists within its membership (Appendix C – Membership).

The Special Committee has, in collaboration with similar committees in other Australian jurisdictions, classified a number of ways in which anaesthetic management might contribute to a patient's death.

The Special Committee has three classifications in which anaesthesia was **wholly** or **partly responsible** for death occurring before it might otherwise have happened as a result of the patient's illness.

These are defined below:

- I. Where it is reasonably certain that the cause of death was the anaesthetic agent or technique of administration, or in other ways coming directly within the anaesthetist's province.
- II. Similar cases, but in which there is some element of doubt as to whether the agent or technique was entirely responsible for the fatal result.
- III. Cases in which the patient's death was caused by both the anaesthetic and surgical technique.

A complete list of classifications currently used by the Special Committee is shown in Appendix D.

### 5.5 Results

*Period covered by this report*

This document contains information on the 1306 cases, referred to and assessed by the Special Committee over a five-year period, from January 2000 until December 2004.

For deaths occurring in the years 2000–2003 inclusive, a total of 72 were assessed as attributable, wholly or in part, to anaesthesia. Over the four-year period there was no gender bias, (34 males and 38 females), and the majority of deaths occurred in people aged over 75 years (39 of 72 cases). These data are shown in the tables following.

Table C – Number of deaths attributable, wholly or in part, to anaesthesia by classification category and year of death.

Year (of death)	Category I (n)	Category II (n)	Category III (n)	Total (n)
2000	6	8	14	28
2001	5	3	5	13
2002	6	5	9	20
2003	2	5	4	11
<b>2000–3</b>	<b>19</b>	<b>21</b>	<b>32</b>	<b>72</b>

Table D – Number of deaths attributable, wholly or in part, to anaesthesia (categories I, II and III) by age and sex.

Year (of death)	Number of Deaths	Male (n)	Female (n)	Age range (years)	Age over 75 years (n) %
2000	28	20	8	16–94	14 (50%)
2001	13	4	9	31–89	5 (36%)
2002	20	7	13	30–94	11 (55%)
2003	11	3	8	33–95	9 (82%)
<b>2000–3</b>	<b>72</b>	<b>34</b>	<b>38</b>	<b>16–95</b>	<b>39 (54%)</b>

In 17 of the 72 cases in which death was considered attributable, wholly or in part to anaesthesia, the Special Committee made no criticism of the anaesthetic management.

In the remaining 55 cases a total of 174 'anaesthetic factors' were considered to contribute to the fatal outcome. On average 3.2 factors were identified per death, with a range of 1–12. The full list of anaesthetic factors that contributed to the 72 deaths is shown in Table E.

SPECIAL COMMITTEE INVESTIGATING DEATHS UNDER ANAESTHESIA

The six 'anaesthetic factors' most frequently identified as contributing to a fatal outcome for deaths occurring in the years 2000–2003 are:

- Failure to titrate dosage of anaesthetic drugs commensurate with severity of patient's condition
- Inadequate pre-operative assessment of patient's condition
- Poor choice of anaesthetic technique
- Inadequate or inappropriate resuscitation of patient during anaesthetic
- Inadequate monitoring of patient during anaesthetic
- Inadequate post-operative management.

Table E – Breakdown of anaesthetic factors contributing to fatal outcome, for 2000–2003 cases (number of cases = 55)

Category	Definition	Frequency
<b>Pre-operative</b>		
A i	Assessment	21
A ii	Management	8
<b>Anaesthetic technique</b>		
B i	Technique – not ii or iii	19
B ii	Ventilation	2
B iii	Airway maintenance including aspiration	6
<b>Anaesthetic drug</b>		
C i	Selection	7
C ii	Dose	22
C iii	Adverse reaction	1
C iv	Incomplete reversal	–
C v	Incomplete recovery	–
<b>Anaesthetic management</b>		
D i	Crisis management	11
D ii	Inadequate monitoring	14
D iii	Equipment failure	–
D iv	Inadequate or inappropriate resuscitation	17
<b>Post-operative</b>		
E i	Management	10
E ii	Supervision or monitoring	7
E iii	Inadequate resuscitation	6
E iv	Inadequate crisis management	5
<b>Other</b>		
F i	Inexperience/inadequate supervision	9
F ii	Organisational problem	9
F iii	Other than Fi or Fii	–
<b>Total</b>		<b>174</b>

The overwhelming majority of cases notified to the Special Committee pertain to cases where the anaesthetic was not thought to contribute to the subsequent death of the patient. The full list of classifications used by the Special Committee is shown in Appendix D and the data for 2000–2003 are presented in Table F below.

**Table F – Classification of cases investigated and assessed by SCIDUA, 2000–2003.**

	2000	2001	2002	2003	2000–2003
<b>Attributable to anaesthesia</b>	28	13	20	11	72 (5.5%)
<b>Deaths entirely referable to surgical technique</b>	49	31	33	28	141 (11%)
<b>Inevitable deaths</b>	137	79	90	75	381 (29%)
<b>Futile surgical intervention</b>	9	7	8	11	35 (3%)
<b>Death due to cause unconnected with surgery or anaesthesia</b>	2	3	2	–	7 (0.5%)
<b>Unable to be classified despite considerable information</b>	–	–	–	1	1
<b>Inadequate information to permit assessment</b>	18	10	6	2	36 (3%)
<b>No response from anaesthetist</b>	6	3	9	10	28 (2%)
<b>Total assessed</b>	<b>249</b>	<b>146</b>	<b>168</b>	<b>138</b>	<b>701</b>
<b>Total referred</b>	<b>379</b>	<b>284</b>	<b>294</b>	<b>349</b>	<b>1306</b>

## 6. FEEDBACK FROM THE SPECIAL COMMITTEE TO ANAESTHETISTS

Essentially there are three ways that the Special Committee publicises its findings to individual anaesthetists and the scientific community.

1. In all cases where an anaesthetist has filled in a questionnaire this is acknowledged, regardless of subsequent classification. Where the case is classified in category I, II or III the Chairman writes to the referring anaesthetist and summarises the Special Committee's findings. The Special Committee also classifies the contributory factors using the anaesthetic factor codes A - F shown in Appendix D.
2. The Special Committee submits aggregate data for NSW and Tasmania to the national audit. Previously these reports were produced by the National Health and Medical Research Council but are now collated and edited by the Australian and New Zealand College of Anaesthetists and published in a series of triennial reports. A list of these publications is appended for reference (Appendix E references)
3. From time to time, the Special Committee detects a significant trend that warrants specific notification to the specialist anaesthetic community. This is done by presentations at scientific meetings or publication in the professional journals. A list of journal articles is appended to this document for reference. (Appendix E references)

For deaths occurring in 2000–2003, two issues emerged from the aggregate data that in the Special Committee's opinion warrant further action:

- The apparent high mortality associated with attempted repair of ruptured abdominal aortic aneurysms and
- The selection of anaesthetic technique for patients undergoing surgery for fractured neck of femur.

### **High mortality associated with attempted repair of ruptured abdominal aortic aneurysms**

The Special Committee is concerned about the numbers of patients dying within 24 hours of an anaesthetic where an emergency operation has been carried out for the management of a ruptured abdominal aortic aneurysm. The Special Committee suspects that a proportion of such patients are being submitted to surgery in the absence of any hope of recovery. Ideally such patients should be identified pre-operatively to minimise the additional distress and anxiety to individuals, their families and health service staff of futile surgical intervention.

Currently there appears to be little clinical consensus on the criteria for reliably recognising that group of patients for whom death is the inevitable outcome. The Special Committee has drafted a research proposal to develop more robust measures for identifying, pre-operatively, groups of patients who are unable to benefit from surgical intervention. This proposal has been submitted to the Clinical Excellence Commission for consideration for funding.

### **Choice of anaesthetic technique for fractured neck of femur**

The Special Committee is performing a retrospective analysis of patients with a fractured neck of femur notified during the twenty-year period from 1984 to 2003. The preliminary findings suggest that regional anaesthesia is not inherently safer than general anaesthesia in poor risk patients undergoing surgery for fractured hips.

The Special Committee advises that poor risk patients undergoing internal fixation of fractured femurs require:

- Careful preoperative assessment and resuscitation
- Judicious selection of anaesthetic technique, with particular attention to drug dosages
- Careful intra-operative resuscitation and consideration of the need for invasive monitoring
- Vigilant post-operative observation and monitoring of blood pressure and fluid balance in the first 12 to 24 hours following surgery. This may only be practicable by nursing the patient in a designated high dependency unit or similarly resourced setting.

## KEY REFERENCE

**NSW Health Policy Directive** on Coroners' cases and amendments to Coroners Act 1980, document number PD2005\_352 published 27-Jan-2005 available at <http://www.health.nsw.gov.au/policies/> Compliance with this policy directive is mandatory.

This circular covers the requirements to report deaths as well as provision of records in such cases and has the following subheadings.

- (1) Jurisdiction of Coroners
- (2) Obligation to report death
- (3) Guidelines for nursing staff and medical officers on Coroners' cases dying in hospital
- (4) Transfer of medical records for post-mortems
- (5) Discharge-type summaries for coronial cases in hospitals
- (6) Objections to a post-mortem examination.

# APPENDIX A



**DEPARTMENT OF HEALTH NSW**  
**REPORT OF DEATH ASSOCIATED WITH ANAESTHESIA/SEDATION**  
 Coroners Act

TITLE		FAMILY NAME		M.B.N.	
GIVEN NAME/S		V.M.O.			
ADDRESS		STREET		S.D.B.	SEX
SUBURB		POSTCODE		ADMISSION DATE	

ADMISSION TO HOSPITAL DATE \_\_\_\_\_ TIME \_\_\_\_\_ DEATH DATE \_\_\_\_\_ TIME \_\_\_\_\_

PLACE OF DEATH \_\_\_\_\_

DATE AND NATURE OF PREVIOUS SURGERY DURING THIS ADMISSION DATE \_\_\_\_\_

NATURE OF THIS PROCEDURE \_\_\_\_\_

NAME OF SURGEON PRINT NAME & TITLE \_\_\_\_\_ PRE-ANAESTHETIC ASSESSMENT DATE \_\_\_\_\_ TIME \_\_\_\_\_

FINDINGS AT PRE-ANAESTHETIC ASSESSMENT \_\_\_\_\_

PREPARATION OF PATIENT \_\_\_\_\_

PREMEDICATION DATE \_\_\_\_\_ TIME \_\_\_\_\_ NATURE \_\_\_\_\_

TYPE OF ANAESTHESIA/SEDATION  GENERAL  LOCAL  SEDATION

INDUCTION OF ANAESTHESIA DATE \_\_\_\_\_ TIME \_\_\_\_\_ CESSATION DATE \_\_\_\_\_ TIME \_\_\_\_\_

DESCRIPTION OF CLINICAL EVENTS LEADING TO DEATH \_\_\_\_\_

DESCRIPTION OF ATTEMPTED RESUSCITATION \_\_\_\_\_

OPINION AS TO CAUSE OF DEATH \_\_\_\_\_

PERSON(S) ADMINISTERING ANAESTHESIA/SEDATION

1. PRINT NAME, TITLE & QUALIFICATIONS \_\_\_\_\_

2. PRINT NAME, TITLE & QUALIFICATIONS \_\_\_\_\_

NAME OF MEDICAL OFFICER COMPLETING THIS REPORT SIGNATURE \_\_\_\_\_ PRINT NAME, TITLE & QUALIFICATIONS \_\_\_\_\_ DATE \_\_\_\_\_

ANAESTH DEATH FORM B

© Copyright Department of Health NSW JUNE 90

SPECIAL COMMITTEE INVESTIGATING DEATHS UNDER ANAESTHESIA  
 PO Box M25 Missendon Road Camperdown 2050

## APPENDIX B

**SPECIAL COMMITTEE INVESTIGATING DEATHS UNDER ANAESTHESIA  
PRIVATE & CONFIDENTIAL – Section 23 Health Administration Act 1982  
Case Record of Death in Association with Sedation and Anaesthesia**

Did the patient die during the administration or **before full recovery** from the Anaesthetic?  No  Yes

Were there any critical events during the Anaesthetic (eg hypotension, use of vasopressors, hypoxia, aspiration, cardiac arrest, transfusion reaction)?  No  Yes

If **Yes to either** of the above, please complete the form below, print and return with attached detailed Anaesthetic chart, including the record of the pre-operative assessment, intra-operative and post-operative course and management. Reporting cases to regional or national anaesthesia mortality committees qualifies for 3 QA points/report (Code 252) with the ANZCA Maintenance of Professional Standards.

**PLEASE RETURN THIS FORM TO:**

**THE SECRETARY – SPECIAL ANAESTHETIC COMMITTEE  
PO BOX M25 MISSENDEN ROAD CAMPERDOWN 2050**

Case Number	Hospital			Date & Time of Death	
Name of Patient			Age	Sex	Weight
Name of Anaesthetist	Qualifications	Appointments	Names & Status of other Anaesthetists present		
Pre-operative Diagnosis					
Condition(s) found at operation					
Operation Proposed					
Operations(s) carried out					
Pre-anaesthetic exam 1. Relevant History 2. Clinical Findings 3. Relevant investigations					
ASA <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V <input type="checkbox"/> E					
Pre-anaesthetic Preparation including: 1. Blood or fluids given pre-operatively and over what period 2. Pre-medication if any 3. Any other measures					

**PLEASE SEE OVER**

### DESCRIPTION OF ANAESTHETIC GIVEN

Times may be of considerable importance. Please use the 24-hour clock. Please include in your description:

- |  |  |   |   |
|--|--|---|---|
| <p>1. General Anaesthesia</p> <ul style="list-style-type: none"> <li>• Drugs given and doses</li> <li>• Airway and ventilation management</li> <li>• Breathing circuit include position of vaporisers</li> <li>• Reversal</li> </ul> <p>Please include intra-operative and post-operative observations, and post-operative course.</p> | <p>2. Regional Anaesthesia</p> <ul style="list-style-type: none"> <li>• Method</li> <li>• Drug(s) &amp; Doses</li> <li>• Level of block</li> </ul> | <p>3. Other information</p> <ul style="list-style-type: none"> <li>• Blood / Fluid given (note if warmed)</li> <li>• Monitoring Techniques (SpO2, ECG, NIBP, etc)</li> <li>• Post-operative management including respiratory support, monitoring, etc.</li> </ul> | <p>Ancillary techniques (eg induced hypotension)</p> <ul style="list-style-type: none"> <li>• Difficulties or episodes and the management</li> <li>• Posture</li> <li>• Post-operative pain management</li> </ul> |
|--|--|---|---|

[Please use as much space for this section as you feel necessary]

TIME	Date:..
------	---------

Sample

<p>Opinion as to the cause of death and any other information which might assist the Committee</p>	
--	--

## APPENDIX C

### **Membership**

Dr Allysian Armstrong-Brown

Prof A Barry Baker

Dr Matthew Bayfield

Dr Christopher L Borton  
(Chairman)

Dr Hugh L Carmalt  
(Ex-Officio)

Dr Stephen J Ellis

Dr Felicity M Gallimore

Prof John M Hilton

Prof Ross B Holland

Prof Clifford F Hughes  
(Ex-Officio)

Dr John Keneally

Dr Dianne Little

Prof Reginald Lord

Dr Judith C Lynch

Dr Jonathon M Morris

Dr David R Pickford  
(Medical Secretary)

Ms Maureen Robinson

Dr Frances Smith

Dr Deborah J Verran

A/Prof Geoffrey H White

All members are appointed by the Minister for Health who may seek advice from the following bodies:

Australian & New Zealand College of Anaesthetists

Department of Anaesthetics, University of Sydney

Department of Surgery, University of NSW

Department of Surgery, University of Sydney

Division of Anaesthesia and Intensive Care, University of Newcastle

Royal Australian & New Zealand College of Obstetricians & Gynaecologists

Royal College of Pathologists of Australia

### **Secretariat**

January 2000 – November 2005 – Ms Lyn West based in the Department of Anaesthesia at Royal Prince Alfred Hospital.

Since November 2005 – Ms Paula Stewart from the Clinical Excellence Commission.

Since November 2004 – Dr Isabella Smith from the Clinical Excellence Commission has supported the Special Committee as its Medical Officer.

## APPENDIX D

### Anaesthetic factors (Categories I, II, III)

<b>A. Preoperative</b> i. assessment ii. management	<b>B. Anaesthetic technique</b> i. technique (not ii or iii) ii. ventilation iii. airway maintenance (including aspiration)
<b>C. Anaesthetic drugs</b> i. selection ii. dose iii. adverse drug reaction iv. incomplete reversal v. incomplete recovery	<b>D. Anaesthetic management</b> i. crisis management ii. inadequate monitoring iii. equipment failure iv. inadequate or inappropriate resuscitation
<b>E. Post-operative</b> i. management ii. supervision or monitoring iii. inadequate resuscitation iv. inadequate crisis management	<b>F. Other</b> i. inexperience/inadequate supervision or assistance ii. organisational problems iii. other (specify)
<b>G. No correctable factor identified</b>	

### Surgical factors

01. Bleeding
02. Inadequate preparation (for Category IV only)
03. Wrong or inappropriate operation
04. Heart failure post bypass, i.e. spontaneous output not achieved
05. Unnecessary operation
06. Dilutional hyponatraemia
07. Delayed surgery leading to irretrievable situation
08. Unsuccessful operation, i.e. when surgeon fails to achieve an achievable result, or misses the lesion present

No factors would be attributable to Category IVs. In Category III it would be necessary for there to be a surgical factor identified unless Factor A Group (Inadequate Preparation) or E Group (Post-operative Management) of the Anaesthetic factors were also deemed to include the surgeon.

## APPENDIX D continued

### Classification of deaths

- I. Where it is reasonably certain that death was caused by the anaesthetic agent or technique of administration, or in other ways coming directly within the anaesthetist's province.
- II. Similar cases, but in which there is some element of doubt as to whether the agent or technique was entirely responsible for the fatal result.
- III. Cases in which the patient's death was caused by both the anaesthetic and surgical technique.
- IV. Deaths entirely referable to surgical technique.
- V. Inevitable deaths, e.g. cases of severe general peritonitis, but in which anaesthetic and surgical techniques were apparently satisfactory.
- VI. Fortuitous deaths.
- VII. Cases which cannot be assessed despite considerable data.
- VIII. Cases on which an opinion could not be formed on account of inadequacy of data.

### To certain of the above categories, suffixes may be added, viz:

- "a" Where death has occurred as a result of an adverse drug reaction.
- "c" Where death has occurred as a result of the post-operative intervention of a third party, but in an area of primary anaesthetic or surgical responsibility.
- "j" Where, despite the Special Committee's inability to discover the cause of death, the anaesthetic is believed not to have contributed.
- "p" A suffix to Categories III or IV to indicate that the procedure which contributed to the patient's death was non-surgical in nature (e.g. radiology, scanning, ECT, etc.).
- "s" Where the anaesthetic, operation, or both were directly responsible for the patient's death, but were nonetheless carried out correctly, and no stigma attaches either to anaesthetist or surgeon.
- "x" Where there has been such prior management of the case, by persons other than the operating team, as to contribute significantly to the patient's death.
- "f" Where surgery is performed in circumstances in which it is clear before commencement of surgery that the chance of a successful outcome is negligible or non-existent.
- "n" A suffix to Category VIII where there has been no response from the anaesthetist involved despite multiple requests, or the anaesthetist is unable to be contacted, and an opinion can not be formed from the data available.

## APPENDIX E

### SCIDUA Scientific Publications

- 1 **Horan BF. Holland RB. Warden JC.** How best to fix a broken hip. (comment) *Med J Aust* 2000: **172**(1) 47–48
- 2 **Holland RB. Horan BF.** Local anaesthetic toxicity. *Letter Medical Journal of Australia.* 1998 **169** 6 343–4,
- 3 **Warden JC. Horan BF. Holland RB.** Morbidity and mortality associated with anaesthesia. (comment) *Acta Anaesth Scand* 1997:**41**(7) 949
- 4 **Horan BF.** Mortality reviews as outcome studies. *Current opinion in anaesthesia* (letter) 1997 **10** 154–157
- 5 **Horan BF. Warden JC.** Urgent non-emergency surgery and deaths attributable to anaesthetic factors. *Anaesthesia and Intensive Care* 1996: **24**(6) 694–8
- 6 **Warden JC. Holland RB.** Anaesthetic mortality. *Anaesthesia and Intensive Care* 1995 **23** 255–256
- 7 **Warden JC. Pickford DR.** Fatal cardio-vascular collapse following propofol induction in high-risk patients and dilemmas in the selection of a short-acting induction agent. *Anaesthesia and Intensive Care* 1995:23 485–487
- 8 **Warden JC. Horan BF.** Deaths attributable to anaesthesia in New South Wales, 1984–1990. *Anaesthesia and Intensive Care* 1996: **24** (1) 66–73
- 9 **Warden JC. Horan BF. Holland RB.** Mortality associated with anaesthesia in New South Wales, 1984–1990. *Medical Journal of Australia* 1994: **161** 585–593
- 10 **Warden JC. Lunn JN.** The role of anaesthesia in death. In: Fisher MM, ed. *The Anaesthetic Crisis.* Balliere Tindall, London 1993: 215–235
- 11 **Holland R.** Anaesthetic mortality in New South Wales. *British Journal of Anaesthesia* 1987: **59** 834–841
- 12 **Holland R.** Trends recognised in cases reported to the New South Wales Special Committee Investigating Deaths Under Anaesthesia. *Anaesthesia and Intensive Care* 1987: **15** 97–98
- 13 **Holland R.** Anaesthesia-related mortality in Australia. *International Anaesthesiol Clin* 1984 **22** 61–71a
- 14 **Holland R.** Anaesthetic warning (letter) *Medical Journal of Australia.* 1976 **1** 33

## APPENDIX E continued

- 15 **Holland R.** Special Committee Investigating Deaths Under Anaesthesia. Report on 745 classified cases, 1960–1968. *Medical Journal of Australia*. 1970: **1** 573–594
- 16 Special Committee investigating Deaths Under Anaesthesia in New South Wales. Prevention of anaesthetic deaths due to inhalation of vomitus. *Medical Journal of Australia*. 1963 **1** 687.
- 17 Special Committee Appointed to Investigate Deaths Under Anaesthesia in New South Wales. Interim report. *Medical Journal of Australia*. 1962 **2** 575
- 18 National Health and Medical Research Council. Report of Anaesthetic Related Mortality in Australia 1985–1987.
- 19 National Health and Medical Research Council. Report on Deaths Associated with Anaesthesia 1988–1990.
- 20 Australian and New Zealand College of Anaesthetists: Anaesthesia Related Mortality in Australia 1991–1993. Editor: B F Horan, FRCA, FANZCA.
- 21 Australian and New Zealand College of Anaesthetists: Anaesthesia Related Mortality in Australia 1994–1996. Editor: N J Davis, AM, FANZCA.
- 22 Australian and New Zealand College of Anaesthetists: Safety of anaesthesia in Australia A Review of Anaesthesia Related Mortality 1997–1999. Editor: P Mackay, FRCA, FANZCA.

