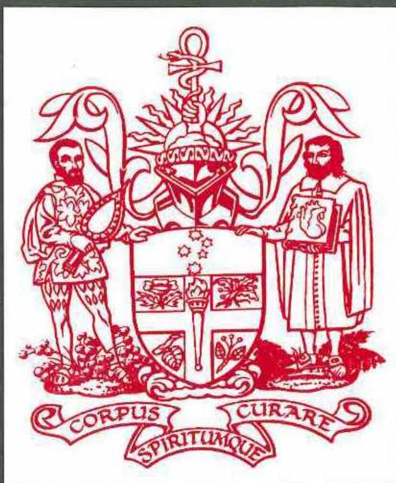

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ANAESTHESIA RELATED MORTALITY IN AUSTRALIA

1991 – 1993

EDITOR:
B F HORAN FRCA FANZCA

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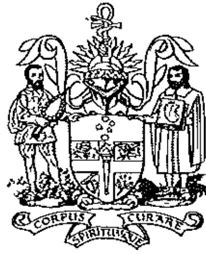

ANAESTHESIA RELATED MORTALITY IN AUSTRALIA

1991 - 1993

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Report of the Working Party convened under the auspices of the
Australian and New Zealand College of Anaesthetists

Editor:
B F Horan FRCA FANZCA

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FOREWORD

Individual State Committees in Australia have collected data on deaths associated with anaesthesia for many years, commencing with New South Wales in 1960. Each State has reported its data in considerable detail periodically. Two National reports of such data have been published by the NHMRC, relating to the triennia 1985-87 and 1988-90. Aggregation of the State data in those reports resulted in loss of some detail, for reasons explained in this report.

Despite these difficulties, it is a tribute to the tenacity of the State Committees, and to the willingness of Australian anaesthetists to provide detailed reports of deaths associated with anaesthesia, that this report has been completed for the triennium 1991-93.

The main conclusion to be drawn from the data is that of an estimated 7.8 million anaesthetics administered in Australia in the three years studied, 1358 deaths were classified by the various Committees. Of these, 116 were considered to be due definitely, probably, or jointly to factors under the anaesthetist's control. Forty-five of these were attributable definitely and solely to anaesthetic factors. While any adverse outcome of anaesthesia is regrettable, these figures, when matched against those of previous reports and those from other countries, indicate that the standard of anaesthetic care in Australia is very high.

This report, and those of the constituent State Committees, are used as a basis for education of trainee anaesthetists and maintenance of professional standards of practising anaesthetists.

Every effort will be made by the College Committee to encourage uniform data collection across the States with the assistance of Australian Health Ministers and Coroners, with the aim of providing even more detailed data about events leading to deaths associated with anaesthesia in the future.

G D Phillips
President, ANZCA
Chairman, Working Party on Anaesthetic Mortality

INTRODUCTION

Australia has led the world in the investigation and classification of deaths associated with anaesthesia, since a multidisciplinary Committee operating under Act of Parliament commenced its investigations in New South Wales (NSW) in 1960. Subsequently similar Committees were founded in South Australia (SA) in 1969, Queensland (Qld) in 1975, Victoria (Vic) in 1976, and Western Australia (WA) in 1978. By arrangement, such deaths occurring in Tasmania (Tas) are reported to the NSW Committee and those from the Northern Territory (NT) to that in SA. Anaesthesia related deaths occurring in the Australian Capital Territory are not currently reviewed in this way.

The Committees investigate deaths occurring during, resulting from, or within a statutory period after anaesthesia which, for those except WA, is 24 hours. Deaths associated with general and local anaesthesia are investigated, but those following the use of small volumes of local administered for such procedures as the insertion of an intravenous cannula and which is irrelevant to the fatal outcome are excluded. For further information about the functioning of individual Committees, the reader is referred to the Appendices to this report.

Reports on deaths associated with anaesthesia in Australia during 1985-1987 and 1988-1990 were prepared by the Working Party on Anaesthetic Mortality of the National Health and Medical Research Council (NHMRC) and published by the NHMRC[1,2]. The NHMRC has relinquished the coordinating and publishing role and the subsequent offer of the Australian and New Zealand College of Anaesthetists (ANZCA) to fill that role was accepted unanimously by the Chairs of the State Mortality Committees.

The reasons for producing a National report on anaesthetic mortality include:

- to provide an authoritative report on anaesthetic mortality in Australia,
- to serve an educational function by drawing to the attention of Australian anaesthetists the commonest anaesthetic factors identified as contributing to perioperative mortality,
- to monitor developments in anaesthetic practice and their associated outcomes,
- to set a standard in the reporting and classification of anaesthetic mortality to which all States might aspire.

The pooling of data to compile a National report is complicated by the considerable differences in the operation of the different Committees. Some of these differences reflect differences in the laws under which the Committees function. This applies particularly to the methods by which notification of deaths occurs and the procedures used in discussing and classifying them. There is currently no uniformity between the States in the criteria determining which deaths associated with anaesthesia must be reported to a Coroner. Nor is there uniformity in the relationships between Coroners and Anaesthesia Mortality Committees. Not surprisingly, there is no uniform means to identify all deaths associated with anaesthesia in Australia The completeness with which this information is available varies between the States with Western Australia's the most complete, principally because there it is a legal requirement for anaesthetists to report such deaths to the Anaesthetic Mortality Committee[3].

There are difficulties in relating numbers of deaths attributable to anaesthesia to the total number of anaesthetics administered because the number of anaesthetics administered annually is not a statistic which is collected in any State. Estimates made in the National reports of 1985-1987 and 1988-1990 relied on numerous assumptions For example, where private cases were concerned it was estimated that each anaesthetic attendance resulted in an average of 1.4 anaesthetic Medical Benefit item numbers being generated Until recently the best estimate had been for New South Wales for the years 1989 and 1990 when for the first time accurate statistics for the numbers of surgical operations performed were available[4]. This statistic did not, however, include diagnostic procedures, eg, endoscopies, done under anaesthesia.

All States are now required to provide information on the numbers of operations performed annually to the Commonwealth Department of Health and Family Services, and so a more confident estimate of the numbers of anaesthetics administered can be made. In fact, the estimates in the previous two National reports, made prior to the NSW report of 1993, compared quite well with the NSW data for 1989 and 1990.

In considering the lack of uniformity in the procedures by which the data contained herein are obtained, it is important to recognise that the primary function of the State Mortality Committees is not to generate epidemiological data. They were founded to investigate deaths associated with anaesthesia, to report to the Minister for Health in each State, and to serve an educational role in giving feedback to the anaesthetists concerned.

An ideal solution to the current lack of uniformity would be for common structures and methods to be agreed on and for the States to legislate accordingly. However, it is unlikely that this would be practicable given the autonomy of each State Parliament, the competition for time on parliamentary agendas, and the likelihood of debate giving rise to different amendments in each State. Two State Committees, South Australia (1987-1991) and New South Wales (1980-1984), have experienced protracted periods where they did not meet while awaiting the passage of amendments to the legislation governing their operations.

Some differences between the Committees are historical in that each developed different ways of classifying cases, and wish to continue with established methods in order to be able to make internal comparisons over time. A feature common to the operation of all is that when the information provided is inadequate for a death to be classified, the reporting anaesthetist is requested to provide more information. A summary of the methods of each Committee is to be found in the Appendices. More information about the workings of the individual Committees and their findings is to be found in their publications.[3-7]

Australian anaesthetists can be justly proud that they have cooperated with the Committees by reporting cases and responding to requests for information voluntarily, except in Western Australia where reporting is mandatory. Nowhere else in the world has the reporting of information about deaths associated with anaesthesia been taking place for as long as in Australia, nor with the same level of response from practising anaesthetists.

Working Party

The composition of the working party which produced this report was:

Prof Garry Phillips (Chairman)	ANZCA
Emeritus Prof Tess Cramond, AO, OBE	Queensland
A/Prof Neville Davis, AM	Western Australia
Dr Bill Fuller	South Australia
Dr Brian Horan (representing Dr John Warden)	New South Wales
Dr Patricia Mackay	Victoria
Mrs Carolyn Handley (Deputy Registrar)	ANZCA

METHODS

At a meeting of the Chairs of the State Mortality Committees held at the College on 21 March 1997 and chaired by the President of the College, it was resolved to produce a National report It was agreed to use a system for classification of anaesthesia related deaths based on that previously presented at the meeting of the NHMRC Working Party in December 1991, and used in the 1997 publication from the Western Australian Committee.[3] This classification embraces the cause of death (Table 1). It was further resolved that the report would focus on deaths in which anaesthesia played some part, i.e. those in Category A in Table 1.

Table 1. System of classification of Deaths by Anaesthesia Mortality Committees

A. ***Deaths attributable wholly or partly to anaesthesia.***
- i. Where it is reasonably certain that death was caused by the anaesthetic or other factors under the anaesthetist's control.
- ii. Where there is some doubt whether death was entirely attributable to the anaesthetic or factors under the anaesthetist's control.
- iii. Where death was caused by both anaesthetic and surgical factors.

B. ***Deaths in which anaesthesia played no part.***
- iv. Death entirely referable to surgical factors
- v. Inevitable deaths in which anaesthetic and surgical management were apparently satisfactory.
- vi. Fortuitous deaths*.

C. ***Unassessable deaths.***
- vii. Those which cannot be assessed despite considerable data.
- viii. Those which cannot be assessed on account of inadequacy of data.

* A death was classified as fortuitous when the cause could not reasonably be expected to have been foreseen by those looking after the patient, was not related to the indication for surgery, and was not due to factors under the control of the anaesthetist or surgeon.

Confidentiality of information, an absolute requirement for all the Committees, was ensured by no primary data being examined in the compiling of the report.

Data collection

A template of the likely form of the report was drawn up and topics to be reported were suggested. Each Chair then received a questionnaire to be filled in for cases classified Category A by their Committee (see Table 1) from which the data were collated and the report drafted.

System of classification

The method of classification of deaths by the degree of certainty with which they were attributable to anaesthetic factors, whether surgical factors were also implicated, or whether they were inevitable, fortuitous or unassessable is shown in Table 1.

The matter of terminology is raised immediately. A death is "related" to anaesthesia if it occurs at a time during or after an anaesthetic intervention. The term "death attributable to anaesthesia", used in this report, interchangeable with "Category A death", is defined in Table 1 Ai, Aii and Aiii The colloquial term "an anaesthetic death" is used to convey a variety of meanings including "a death which must be reported to the Coroner because it has occurred during, within a specified time of, or as a result of anaesthesia". Because this term lacks precision it has not been used in the report.

FINDINGS

Number of deaths classified

The total number of deaths classified by the five Committees during the triennium was 1358 of which 116 were attributed definitely, probably or jointly to factors under the anaesthetist's control (Table 2).

Table 2. Number of deaths classified by each Committee and numbers attributed definitely, probably and jointly to factors under the anaesthetist's control and numbers of unassessable deaths

	Classified	Category A	Definite	Probable	Jointly	Unassessable
NSW	662	55	14	19	22	29
Vic	190	23	12	6	5	6
SA	106	9	3	4	2	2
WA	260	16	14	1	1	0
Qld	140	13	2	4	7	51
Total	1358	116	45	34	37	88

No deaths which occurred during the period were still under consideration at the time of compiling this report. Uneven rates of notification of cases were observed for Victoria and South Australia with fewer cases in 1991 than the subsequent two years. This occurred for administrative reasons in one case and legal reasons in the other. The South Australian Committee had suspended its activities in 1987 because of doubts about its legal status vis a vis confidentiality and did not resume activity until May 1991 after new legislation conferring privilege had been proclaimed.

Variations observable in Table 2 between the States in the proportions of Category A deaths classified as attributable to anaesthetic factors definitely, probably or jointly (with surgery) suggest there may be subtle differences in the workings of the Committees. This is also supported by the differences in the proportions of deaths the Committees deemed to be unassessable.

Numbers of deaths considered in relation to population

Relating the numbers of deaths considered by each Committee to the size of the population within which those deaths occurred gives an indication of the efficiency of the mechanisms by which relevant deaths are reported. In Table 3 the numbers of deaths considered by each Committee are shown as well as the States' populations at the mid-point of the triennium[8]. For States where the Committee received reports of deaths only from within the State itself the number of deaths considered per million population is also shown. The NSW and SA Committee as well as dealing with reports of deaths from within their own State, also consider reports from Tasmania and the Northern Territory respectively. Table 4 gives the population served by them, the numbers of deaths considered and the ratio of numbers considered per million population served.

Table 3. Number of deaths considered related to population of the States for Vic, WA and Qld

	Vic	WA	Qld
Population (x million)*	4.45	1.66	3.03
Number of deaths considered	190	260	154
Number considered per million	43	157	51

* As at June 30 1992. Source: Australian Demographic Statistics (3101.0): Estimated Resident Population by Sex and Age: States and Territories of Australia (3201.0).

Table 4. Number of deaths considered related to total population served for NSW and SA taking into account that deaths from Tas and NT are considered by these Committees

	NSW & Tas	SA & NT
Population served (*x* million)*	6.43	1.63
Number of deaths considered	730	108
Number considered per million	122	66

* Source: As for Table 3.

Table 5. Total number of deaths considered by all Committees related to the population of Australia as at 30th June 1992

Population served (*x* million)*	17.49
Number of deaths considered	1442
Number considered per million	82

* Source: As for Table 3.

Two factors in particular contribute to WA having the highest number of deaths considered relative to population. Firstly, unlike the situation in the other states it is a legal requirement in WA for such deaths to be reported to the Committee and secondly, this is so for deaths occurring up to 48 hours after anaesthesia. Where the other Sates are concerned, the ratios of numbers considered to population appear to vary according to the reliability of the mechanisms by which deaths are notified with the lowest ratios occurring where notification is done voluntarily by the anaesthetist

While the NSW Committee's processes for considering Tasmanian cases are identical to those for deaths from NSW, the process of notification is different. There is no arrangement for Tasmanian Coroners to notify the Committee. It is likely that this difference in the process of notification is associated with different rates of reporting. For similar reasons it is likely that the rate of notification of deaths occurring in the Northern Territory to the South Australian Committee is different to that for deaths occurring in South Australia.

Numbers of deaths attributed to anaesthesia related to population and to numbers considered

The States of Australia differ markedly in their geography, demographics, and in the distribution of anaesthetists. With this in mind, it is of interest to consider the absolute numbers of anaesthesia-attributable deaths identified by each Committee and to relate them to the sizes of the populations within which they occurred. This information is presented in Table 6.

Table 6. Number of deaths occurring during the triennium which were attributed to anaesthesia, related to the population served by each Committee and to the numbers of deaths considered

	NSW	Vic	SA	WA	Qld	Total
Number of deaths attributed to anaesthesia	55	23	9	16	13	116
Number of deaths attributed to anaesthesia per million population	8.6	5.2	5.5	9.6	4.3	6.6
Number of deaths attributed to anaesthesia per 100 considered	7.5	12.1	8.3	6.3	8.4	8.0

The lowest percentages of considered deaths classified as Category A were in WA and NSW, the two States with the highest numbers of deaths considered relative to population The same two States had the highest numbers of Category A deaths relative to population It is more likely that these differences reflect differences in the operations the various Committees than true differences between the States in the outcomes of anaesthesia

Causal or contributory factors in Category A deaths

The findings as to which aspects of anaesthetic management led to or contributed to death are shown in Table 7.

In preparing this report there was much discussion about difficulty in classifying certain deaths according to the system of classification in Table 7. This led to the adoption of the new classification, subgroup G, where the anaesthetic was deemed to have caused the patient's death but the choice of technique and its application could not be criticised and no better alternative could be suggested. The implication is that the patient's underlying state of health was a major factor in the fatal outcome. The classification of anaesthesia related fatalities is still evolving and future refinements are likely.

Table 7. Causal or contributory factors in anaesthesia-attributable deaths

	NSW	Vic	SA	WA	Qld
A. PREOPERATIVE	25	17	3	3	7
i. assessment	14	14	2	1	3
ii. management	11	3	1	2	4
B. ANAESTHETIC TECHNIQUE	19	17	2	5	3
i. technique (not ii or iii)	16	13	2	4	2
ii. ventilation	0	2	0	0	0
iii. airway maintenance	3	2	0	1	1
C. ANAESTHETIC DRUGS	25	11	6	9	2
i. selection	6	6	0	2	0
ii. dosage	17	4	5	5	2
iii. adverse drug reaction	1	0	1	2	0
iv. incomplete reversal or recovery	1	1	0	0	0
D. ANAESTHETIC MANAGEMENT	16	21	2	3	3
i. crisis management	11	10	2	1	2
ii. inadequate monitoring	5	11	0	2	1
iii. equipment failure	0	0	0	0	0
E. POSTOPERATIVE	23	4	4	1	3
i. management	8	2	3	1	1
ii. supervision or monitoring	8	1	1	0	1
iii. inadequate resuscitation*	7	1	0	0	1
F. OTHER	0	14	4	0	3
i. inexperience/inadequate supervision or assistance	0	9	2	0	1
ii. organisational problems	0	5	0	0	1
iii. other (specify)	0	0	2	0	1
G. NO CORRECTABLE FACTOR IDENTIFIED	4	0	0	1	0
Total (excluding G)	108	84	21	21	21
Number of deaths	55	23	9	16	13
Mean number of anaesthetic factors identified per death	1.96	3.65	2.33	1.31	1.62

* Resuscitation is used here in a broader sense than just cardiopulmonary resuscitation and embraces the treatment of states such as hypovolaemia or hypoxaemia

It is noteworthy that no deaths were attributed to the failure of equipment. Four deaths only were attributed to adverse drug reactions, the category which includes anaphylaxis, malignant hyperthermia and halothane hepatitis, but at the same time 35 were attributed to postoperative factors.

The wide variation in the numbers of deaths attributed to inexperience or inadequate supervision or assistance is remarkable, with nine of the twelve in Victoria, yet none in New South Wales or Western Australia. It is not possible to say whether these differences reflect real differences in standards of practice on these particular points or whether they arise merely because of different emphases or practices of the Committees, or the difficulty in obtaining full information on the supervision of trainees and other junior doctors.

It was usual for more than one anaesthetic factor to be identified, but there is a nearly three-fold variation in the mean number identified per fatal case from the lowest, Western Australia, to the highest, Victoria.

Gender

There was a small preponderance of males amongst the decedents with an overall male to female ratio of 1.37:1.

Table 8. Gender distribution of deceased in anaesthesia attributable deaths

	Male	Female
NSW	28	27
Vic	14	9
SA	6	3
WA	10	6
Qld	4	9

The marked predominance of males noted in some previous surveys was not found in any State.

Age

In Table 9 the age of the deceased is given in decades.

Table 9. Age Distribution

	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Over 90
NSW	1	0	0	1	4	7	8	17	14	3
Vic	0	0	1	1	1	2	8	4	5	1
SA	0	0	0	0	2	0	2	3	2	0
WA	0	1	1	0	2	1	3	4	3	1
Qld	0	0	1	1	0	3	2	3	3	0
Total	1	1	3	3	9	13	23	31	27	5

There was a preponderance of patients in the older age groups with the modal decade overall and for NSW, SA and WA being the eighth. This was also the modal age group of patients whose deaths were classified as Category A in the previous two triennial reports. The very low number of children's deaths classified as Category A , only one for each of the first two decades of life, is noteworthy and suggests that the standard of paediatric anaesthesia in Australia is high.

Degree of Urgency

The degree of urgency of the operations which the deceased were undergoing is shown in Table 10. A three-point scale of urgency is used in which, ***emergency*** refers to an operation which must be done as soon as possible, ***urgent*** denotes a lesser degree of urgency where time is available to improve the patient's condition before the operation and it can wait for the allocation of resources and personnel, and ***scheduled*** indicates the case was booked at least 24 hours in advance.

Table 10. Degree of urgency of the operations

	Scheduled	Urgent	Emergency
NSW	18	17	20
Vic	10	4	9
SA	5	3	1
WA	8	0	8
Qld	4	4	5

Other scales of urgency have been used in reports on anaesthesia related mortality. For example, The National Confidential Enquiry into Perioperative Deaths (NCEPOD) in England and Wales employed a four-point scale in which elective cases were differentiated from scheduled.[9]

Type of Hospital

The types of hospital in which the deaths occurred are given in Table 11. While medical students today attend hospitals other than the metropolitan teaching hospitals, that appellation is reserved here for those which teach students and train specialists in a broad range of specialties and have Professorial Units in the clinical specialties. Only hospitals specifically designated as base hospitals have been included under that heading.

Table 11. Type of Hospital

	Metropolitan public teaching	Metropolitan public non-teaching	Rural base	Rural public other	Private
NSW	28	9	7	6	5
Vic	13	4	4	0	2
SA	5	1	0	3	0
WA	12	2	0	0	2
Qld	3	0	4	5	1

The majority of anaesthesia-attributable fatalities occurred in metropolitan teaching hospitals which is consistent with the findings in other reports. This may be because they treat many of the sickest patients, serve as major trauma centres, and much of the most complex surgery is performed in them.

Level of risk

Level of risk is described by the Committees of South Australia, Western Australia and Queensland according to the five-point physical status classification of the American Society of Anesthesiologists (ASA) as shown in Table 12a. In New South Wales and Victoria the four-point scale good, fair, poor, desperate is used (Table 12b).

Table 12a. Level of risk of the patients by the ASA Scale

	ASA1	ASA2	ASA3	ASA4	ASA5
SA	1	2	5	0	1
WA	2	3	6	4	1
Qld	1	1	5	6	0

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Table 12b. Level of risk according to a 4-point scale

	Good	Fair	Poor	Desperate
NSW	4	10	26	15
Vic	0	6	15	2

In all States the reporting anaesthetists state their assessment of the level of risk but the Committee may alter this if thought to be incorrect. When this occurs the anaesthetist is notified of the Committee's opinion in the report sent to them after the deliberations are completed.

In the Report on Anaesthetic Mortality in Australia 1985-1987, the two methods of describing physical status were combined on the basis that in most cases "good" corresponded to ASA 1, "fair" to ASA 2, "poor" to ASA 3 and 4 and "desperate" to ASA 5. The present Working Party rejected this as likely to introduce inaccuracies because the implied equivalence is unproven. Furthermore, to reconcile the two systems thus would impose a decision of the Working Party on the raw data provided by the reporting anaesthetist, which in some cases has already been edited by the State Committee. Instead it was decided to present the data from each State using its usual grading.

In order to present this information uniformly in the future, it has been decided to use the ASA classification despite its known shortcomings. Each State Committee will grade the condition of patients thus when cases are being considered, even though the reporting anaesthetist may have used the four-point scale.

When a patient's condition has been classified by an anaesthetist preoperatively as ASA 5 or the risk as desperate, it should be questioned whether surgery should proceed at all, unless their condition can be improved before the operation. In the emergency situation if there is no possibility of survival, the same question should be asked and if the answer is "no", acute palliative care should be instituted.

It is common for anaesthetists to underrate the severity of the condition of their patients when reporting fatal cases. This might contribute to the fatal outcome in some cases as the anaesthetist may be unprepared for difficulties.

Grade of anaesthetist

In Table 13 the grade of the anaesthetist is given according to whether they were a specialist or not, or a registrar or trainee. Operator anaesthetists are also identified.

Table 13. Grade of anaesthetist in the 116 Category A deaths

	Specialist	Non-Specialist	Registrar
NSW	46	2	7
Vic	13	2	8
SA	5	1	3
WA	10	1	5
Qld	11	2	0

In two cases the person administering the anaesthetic was also the operator.

In this report a specialist is an anaesthetist who describes themselves thus when reporting a fatal case It should be noted that this is not the ANZCA definition nor that of the National Specialist Qualifications Advisory Committee.

There is some ambiguity in the term registrar. In some States there are hospitals which employ junior hospital doctors who are not ANZCA trainees or trainees in another College of Anaesthetists who hold industrially designated registrar posts. It is currently not possible to differentiate between them and trainees. The situation is avoided in Queensland by designating such doctors as Principal House Officers.

It is noteworthy that in no case was the anaesthetist a dentist or someone other than a medical practitioner. There were two operator-anaesthetists, one an obstetrician who had administered a caudal and proceeded to perform an operative delivery, the other a surgeon who administered an intravenous anaesthetic agent to a patient with a carcinoma of the larynx and severe stridor. There was also an inexperienced RMO working under the direction of a gastroenterologist who was performing an endoscopy. Such actions directly contravene ANZCA policies.[10,11]

Type of surgery

In Table 14 the types of surgery the patients were undergoing are given in twelve categories.

Table 14. Types of Surgery

	Abdominal	Cardio thoracic	Vascular	Neurosurgery	Orthopaedic	Endoscopy	Urology	General non-abdominal	Gynaecology	ENT/Head and Neck	Eye	Other
NSW	16	5	7	0	13	1	3	5	0	0	0	4
Vic	0	0	4	2	7	5	2	2	0	1	0	0
SA	0	0	1	0	5	0	1	2	0	0	0	0
WA	3	1	3	0	3	0	1	2	0	2	1	1
Qld	3	1	2	0	4	0	1	1	0	0	0	1

The commonest types of surgery were orthopaedic, abdominal and vascular. No anaesthesia-attributable deaths were identified in gynaecologial surgery, and few in ophthalmic surgery and neurosurgery.

The six deaths included under "other" included two in obstetrical patients, one in a patient having a cardioversion, two undergoing endotracheal intubation for the purposes of resuscitation, and one having a tracheostomy. The obstetric deaths were classified Category Ai and one Category Aiii (as per Table 1). The other four deaths draw attention to the dangers inherent in administering a brief anaesthetic for a resuscitation-related procedure which often takes place in an unusual location. They also draw attention to the need for trainees to be given specific tuition in managing such cases.

It is likely that deaths of patients undergoing diagnostic procedures and endoscopies are under-reported. Often the practitioner administering sedation for endoscopies is not an anaesthetist, and unfamiliar with the process of notification. Furthermore, because the aim has been to produce sedation rather than coma it might be thought, incorrectly, that such deaths are outside the Committees' field of interest. A British survey has suggested that death associated with such procedures might occur once in every 2000 endoscopies[12, 13] *which is an incredibly high figure when compared with Australian estimates of the incidence of death attributable to anaesthesia.* [3, 4]

Number of anaesthetics administered annually

The number of anaesthetics, general, local or regional, performed each year is not a statistic presently collected in any State. However, unlike the situation when the reports for 1985-87 and 1988-90 were written, all States and Territories presently collect the numbers of surgical and other procedures done annually and report them to the Commonwealth Department of Health and Family Services.

These figures cannot provide a precise estimate of the numbers of anaesthetics given annually for the following reasons:

- the number of the procedures classified as "diagnostic and non-surgical" done under anaesthesia is unknown,
- the category "obstetrical procedures" includes an unknown number of low forceps deliveries and other procedures which do not always necessitate anaesthesia,
- it is likely that some patients in the classification "no procedure or not stated" did undergo anaesthesia.

The closest approximation presently available nationally and for each State and Territory is the total number of separations from hospital, grouped into ICD-9-CN chapters, less the number recorded as being for "diagnostic or non-surgical procedures", and less those for which there was "no procedure or not stated".[14] The first year for which this information was available was the 1993-94 financial year, the first six months of

which falls within the period of this report. Table 15 shows this information, for both public and private hospitals for all Australian States and Territories, as well as the national total during the year 1993-94. Data on the number of obstetric epidurals or the number of procedures done by anaesthetists for the treatment of chronic pain syndromes are not currently available.

Table 15. Estimate of the numbers of anaesthetics administered during the year 1993-94*

NSW	Vic	Qld	WA	SA	Tas	ACT	NT**	Total
922,857	623,960	454,279	262,452	245,100	68,484	40,656	13,079	2,630,867

* Figures derived from total numbers of separations from public and private hospitals minus those for which procedures done were classed as diagnostic and non-surgical and those for which no procedure was done or none stated.

** Information for NT private hospitals not available.

Source: Australian Institute of Health and Welfare[14]

In summary, despite improvements in the gathering and recording of health care statistics, the numbers of anaesthetics administered annually in the States, Territories and the whole country are not known.

Incidence of death attributable to anaesthesia

Owing to the lack of uniformity in the methods of notification of relevant deaths in the different States and Territories and the variability in how reported deaths were classified, it is not possible to state with certainty the incidence of death attributable to factors within the province of the anaesthetist in Australia for the triennium 1991-93. However, with 116 anaesthesia – attributable deaths identified during the triennium in which an estimated 7.8 million anaesthetics were administered, it can be stated that the incidence of such deaths in Australia over the triennium was ***no less than*** 1: 68,000 anaesthetics administered.

DISCUSSION

In the discussions of the Working Party it became apparent that not all Committees classify certain of the more complex cases the same way. An example would be a death caused by anaphylaxis to a drug to which the patient had never been exposed before. If this happened despite correct resuscitation being employed one Committee might classify this as a fortuitous death (i.e. category Bvi in Table 1) while another might ascribe the death definitely to anaesthetic factors, subgroup drug reaction, while stating that there was no error on the part of the anaesthetist (i.e. Category Ai, Table 1, subgroup Ciii in Table 6, plus subgroup G in Table 6). As long as there are differences in how deaths are classified, pooled findings will not readily be able to be interpreted.

Caution must be exercised in comparing numbers of Category A deaths in the previous two National reports with those in this report (Table 16). Differences in the functioning of the various Committees and even of individual Committees over time have been pointed out above. While the number of deaths nationally classified Category A has not varied greatly, there has no doubt been a marked increase in the number of anaesthetics administered and while the statistical evidence may be lacking, the members of the Working Party were unanimous that the population of patients presenting for anaesthesia is progressively showing an increasing number of risk factors.

Table 16. Numbers of deaths classified Category A by each Committee over the three triennia for which National reports have been produced

	1985–87	1988–90	1991–93
NSW	83	53*	55*
Vic	48	23	23
SA	7	n/a	9**
WA	5	9	16
Qld	10	7	13

* includes deaths from Tasmania
** includes deaths from Northern Territory

While there were no recommendations made in the report of 1988-1990, there were in that of 1985-1987. They focussed on the problems in compiling a National report arising from the lack of a uniform system of reporting. The hope was expressed that such a system could be implemented to allow correlation of information for the report of the 1991-1993 triennium. Clearly this goal has not been achieved, but in preparing this report some fundamental obstacles have been identified and ways around them found. However, even if new measures are implemented from 1998, they will not impact upon the 1994-1996 report, and will only partly do so on the 1997-1999 report.

The following matters need to be addressed if in the future National reports on Anaesthetic Related Mortality are to present reliable and uniform information:

- The reporting rates of deaths associated with anaesthesia in all States need to be improved to match that in WA which is believed to be very close to 100%. This might not be achievable without changes to the legislation under which the other Committees function, or changes to legislation defining deaths which must be reported to the Coroner.
- The arrangements between Tasmania and the New South Wales Committee and the Northern Territory and the South Australian Committee need to be tightened up so that the above goal is achieved.
- Deaths occurring in the ACT need to be referred to one of the established Committees
- There needs to be uniformity in the classification of complex fatal cases.

While it is unrealistic to believe that there will ever be total uniformity in how the State Committees function, there is evidence in this report that there has been movement towards greater uniformity. One important example is the adoption of subgroup G in the classification of Category A deaths (Table 7). It is likely that the generic occurrence classification (GOC) presently being developed by the Australian Patient Safety Foundation will influence the way deaths associated with anaesthesia are classified in future National reports.[15]

Another noteworthy advance in this report has been the availability of data from all States and Territories on numbers of operations performed annually which have been used to estimate the number of anaesthetics given. However, for the epidemiological aspects of the report it would be better if statistics for anaesthetics administered were also collected.

It is likely that in future there will be more emphasis on investigating deaths occurring in association with procedures done under sedation with or without local anaesthesia This is so in view of the fine line between what constitutes sedation and coma, particularly when the person administering the drugs is inexperienced or untrained, or the patient is in poor physical condition. ANZCA has recently prepared a joint Policy Document with the Royal Australian College of Ophthalmologists on sedation and regional anaesthesia for eye surgery[16], and revised others with the Royal Australasian College of Surgeons and the Gastroenterological Society on sedation for endoscopic procedures[17], and another on sedation for dental procedures.[18] It is arguable that similar Policies should be drafted with cardiologists on interventional cardiology and with radiologists on interventional radiology, both of which are often, or even usually, performed under sedation.

Incidence of death attributable to anaesthesia

It has not been possible to determine with certainty the national incidence of death attributable to anaesthesia for the triennium under discussion. Recently published reports from WA and NSW put the incidence of death attributable definitely, probably or jointly to factors under the anaesthetist's control at one in every 40,000 and one in every 20,000 anaesthetics administered respectively.[3,4] These figures compare favourably with the incidences reported earlier by the NSW Committee namely, one in 5,500 in 1960, one in 10,250 in 1970 and one in 26,000 in 1984.[19] In the opinion of one commentator, the NSW report for 1984-1990 is "probably one of, if not *the* most accurate anaesthesia death rate that has yet been reported".[20]

There have been other studies which have come up with lower incidences of death attributable to anaesthesia. For example, the Confidential Enquiry into Perioperative Deaths in England and Wales (1987) found that death in hospital within 30 days of a surgical operation occurred solely as a result of the delivery of anaesthesia once per 185,056 operations.[21] However, the low response rate by anaesthetists to enquiries, and the different methodology, make it impossible to compare those figures with those from WA and NSW above. Subsequent reports of the National Confidential Enquiry into Perioperative Deaths covering the years 1989, 1990, 1991-92, 1993-94 and 1995-96, while they have had much improved response rates from anaesthetists, have not addressed the matter.

Incidence of death in patients considered to be Good or Fair risk or graded ASA 1 or 2

It is illuminating to consider the numbers of deaths attributable to factors under the control of the anaesthetist in healthier patients and to compare them with the findings in the Reports for the triennia 1985-1987 and 1988–1990.

Table 17. Numbers of deaths classified Category A in relatively healthy patients, i.e. those classified as ASA 1 or 2 plus those assessed as good or fair risk, 1985–87, 1988–90

Triennium	Number of Category A deaths in healthy patients	Total number of Category A deaths	Percentage
1985-87	64	153	49%
1988-90	37	92	40%
1991-93	30	116	26%

It can be seen that both in absolute numbers and when expressed as a percentage of all anaesthesia-attributable deaths, the numbers of deaths of healthier patients classified Category A has progressively decreased over

the three triennia. It is tempting to speculate as to why the decrease has occurred, but it is not possible to offer definite reasons. However, the following factors almost certainly contributed to the improvement in outcomes:

- the almost universal adoption of an improved standard in monitoring following the publication of the Policy Document, *Monitoring During Anaesthesia*, by the then Faculty of Anaesthetists in 1988.[22]
- increased availability of specialist anaesthetists.
- enhanced availability of continuing education for anaesthetists.
- the educational contribution made by State Mortality Committees in alerting reporting anaesthetists and the larger body of anaesthetists to factors contributing to adverse outcomes.
- the widespread voluntary participation of Australian anaesthetists in the Australian Incident Monitoring Survey conducted by the Australian Patient Safety Foundation.[23,24]

CONCLUSIONS

1. Given that there were 116 anaesthesia-attributable deaths over the triennium during which an estimated 7 8 million anaesthetics were administered, the National incidence of death attributable to anaesthesia was ***no less than*** one per 68,000 anaesthetics.

2. As the mechanisms in some States by which deaths associated with anaesthesia are notified are less reliable than in others, and in view of the low numbers of deaths reviewed in Victoria and South Australia in the first six months of the triennium for the reasons given above, the actual number of anaesthesia – attributable deaths during the triennium was almost certainly more than 116.

   Furthermore, the estimate of the number of anaesthetics given during the triennium has been based on data collected during the period from July 1993 to June 1994. This is almost certainly more than the mean number administered per annum during the triennium.

   For the above reasons the actual incidence of death attributable to anaesthesia, although not known exactly, was ***certainly greater than one per 68,000 administrations.***

3. There were few deaths in young children and parturient women attributed to anaesthesia.

4. When a death was attributed to factors under the control of the anaesthetist, usually more than one anaesthetic factor was identified.

5. The anaesthetic factors most frequently identified were, incorrect choice of or unsatisfactory execution of the anaesthetic technique (37), inadequate preoperative assessment (34), overdose of anaesthetic drugs (33) and inadequate intraoperative crisis management (26).

6. Fatal problems with airway maintenance (7) and ventilation (2) were identified infrequently. No deaths were attributed to failure of anaesthetic equipment

7. Considering how relatively infrequently anaesthesia is administered as an adjunct to resuscitation, the numbers of deaths in such cases (4) was disproportionately high.

8. The practice of the same doctor administering the anaesthetic and performing the operative procedure has been unacceptable for a considerable time. That this occurred in two of the 116 fatal cases serves to emphasise this.

9. Inadequate supervision or assistance was identified in twelve of the Category A fatal cases and suggests that these were systems errors needing rectification.

10. If future reports are to be more informative, disparities in the methods by which different State Committees are notified of relevant deaths and in the way they are considered must be addressed.

RECOMMENDATIONS

The following recommendations are made in the belief that their implementation will improve the future collection and dissemination of data about anaesthesia-related mortality.

1. Statistics on numbers of general and regional anaesthetics given should be kept in all States and Territories as well as the numbers of procedures done under local anaesthesia and the numbers of procedures, both therapeutic and diagnostic, done under sedation.

2. The legislation in all States and Territories determining what deaths associated with anaesthesia are to be notified to a Coroner should be made uniform.

3. A system of data collection is to be instituted and utilised by all State Mortality Committees to facilitate the pooling of data for future National reports. Whether this replaces the systems currently in use in the different States or is supplementary to them is a matter for the individual State Committees.

4. When the primary anaesthetist is a registrar, more detail must be obtained about the level of supervision.

5. In order to enhance the value of future reports, the vocabulary used in mortality reporting needs to be defined more precisely A lexicon needs to be produced for this purpose by the Committee of Chairs of State Mortality Committees.

6. In line with current thinking about errors and adverse outcomes in other industries in the investigation of deaths associated with anaesthesia there needs to be more emphasis on seeking information about systems errors which contribute to the fatal outcome. Such systems errors might include:

    - the availability and quality of assistance
    - fatigue
    - difficulties in preoperative assessment, particularly in day-surgery patients and those admitted on the day of operation.

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APPENDICES

NEW SOUTH WALES SPECIAL COMMITTEE INVESTIGATING DEATHS UNDER ANAESTHESIA (SCIDUA)

This is a Ministerial Committee established in 1960 to enquire into deaths arising, during or as a result of anaesthesia. The Committee has met regularly since its inception, except for a three year period from mid 1980 to mid 1983 when there was concern about lack of legal safeguards for confidentiality of the Committee's activities.

The primary function of the Committee is to review deaths related to anaesthesia and to give a report of this review of the anaesthetic management in each case to the anaesthetist involved.

Composition

The Committee consists of representatives nominated by.

Australian and New Zealand College of Anaesthetists
Australian Society of Anaesthetists
NSW Department of Health
Royal Australasian College of Surgeons
Royal Australian College of General Practitioners
Royal Australian College of Obstetricians and Gynaecologists
Royal College of Pathologists of Australasia
University of Newcastle, Department of Anaesthesia and Intensive Care
University of NSW, Disciplines of Anaesthesia and Surgery
University of Sydney, Departments of Anaesthetics and Surgery and
Medical Secretary, Assistant Medical Secretary

Legislative Privilege

The Health Administration Act 1982, Section 23 gives the Minister authority to gazette bodies, conducting investigations into morbidity or mortality, privilege in relation to information obtained. SCIDUA was scheduled as such a body on 9 December 1982 under Section 20(4) of the Act. Freedom of Information Act 1989 Schedule 1 Sections 8,12,13 exempts the Committee's documents from public access.

Case Reporting

The Coroners Act 1980 Section 13(3)(f) specifies that a death is examinable by the Coroner when a person dies while under, or as a result of, or within 24 hours after an anaesthetic administered in the course of a medical, surgical or dental operation or procedure or an operation or procedure of a like nature. The Registration of Births, Deaths and Marriages Act, 1973 Section 24(7),(8),(9) deals with notification of such deaths to the Coroner When a death is required under the Coroners Act to be reported to the Coroner, the patient's name is notified to the Special Committee by arrangement with the Coroner's office. The SCIDUA Secretariat then contacts the anaesthetist concerned requesting case details on the SCIDUA Report Form.

Case Reviews

The Committee meets monthly to review cases reported The names of patient, hospital and anaesthetist are deleted from the forms circulated to Committee members. In addition to each clinical report, details are also given to Committee members regarding status of the anaesthetist (consultant, registrar, etc), age and sex of the patient and date of death. All case report forms reviewed by Committee members are returned to the Secretariat when the cases have been considered.

Reporting Processes

The reporting anaesthetist is notified of the Committee's classification of the death When one or more anaesthetic factors is considered to have contributed to the fatal outcome, this takes the form of a personal letter from the Chairman.

Other Reports

A report is sent to the Minister annually. Matters of importance or concern regarding anaesthetic practices are brought to the attention of anaesthetists generally by reports in Specialist Journals.

SOUTH AUSTRALIAN ANAESTHETIC MORTALITY SUB-COMMITTEE

This Committee was established under the South Australian Health Commission Act in 1987, replacing the South Australian Anaesthetics Mortality Committee which had functioned since 1969. Because of concern about lack of legal safeguards for confidentiality of the Committee's activities, reporting to the new Committee did not commence until mid-1991.

The aims of the Anaesthetic Mortality Sub-Committee are:

To review each death occurring in association with operations or procedures performed under local, regional and/or general anaesthesia from an anaesthetic, pharmacological, surgical and pathological perspective, and to collate this information.

Similarly, to review each death occurring in association with operations or procedures performed with the assistance of sedative and/or analgesic drugs.

To determine and monitor the epidemiology of these deaths in South Australia.

To identify those factors which merit special study and/or action.

To provide confidential information to notifying medical practitioners upon request.

To disseminate information obtained from the Committee's research by means of reports to the South Australian Health Commission and Professional Meetings on an annual basis.

To report to Professional Journals when sufficient significant data has been obtained to warrant such an action.

To produce a comprehensive report at least every five years for distribution to the Medical Profession generally within South Australia.

Composition

The committee consists of four anaesthetists, one intensive care specialist, one surgeon, one pathologist, and one registered nurse specialising in Recovery Room Nursing, appointed by the Minister.

Collection Of Data

Anaesthetists and Surgeons in South Australia report voluntarily to the Anaesthetic Mortality Sub-Committee on its standard form regarding cases which fall within the following definition· "a death which occurs during an operation or procedure (or within 24 hours of its completion) performed with the assistance of sedative, analgesic, local or general anaesthetic drugs or any combination of these or a death which may be the result (either partially or totally) of an incident during or after such an operation or procedure even if more than 24 hours has elapsed since its completion". This definition is almost identical with that used by the South Australian Coroner to whom such deaths must by law be reported. The Sub-Committee received the Coroner's complete cooperation from the outset and was granted access to his records regarding mutually reported cases even though by law he cannot access the Committee's records.

Process Of Case Review

All reports are submitted to the chairman of the committee. The chairman then gathers any further information he considers necessary (from the coroner's files, from the surgeon or anaesthetist if only one report concerning the case has been received, from hospital notes etc). When this has been completed, all means of identification are removed from the reports and additional information. Copies are then made of the "sterilised" information and, together with a summary of each case, distributed to the members of the committee at least two weeks prior to the meeting at which they are to be considered Any information which may identify any person involved in submitting the report or in the case itself is destroyed once the case has been finalised.

Once the committee has classified the case, a hard copy of this is made together with a summary of the case and any pertinent comments by the committee and attached to the particular report. The classification and all data of an epidemiological nature is saved

Legislative Privilege

This is provided by Section 64d of the South Australian Health Commission Act (1976), amended in 1989 and proclaimed in 1991.

QUEENSLAND COMMITTEE TO ENQUIRE INTO PERIOPERATIVE DEATHS

This Committee was founded in 1975 as The Committee to Enquire into Perioperative Deaths. Much preliminary work involved procedural matters during the early days. The official status of the Committee was established when notification was given in the Government Gazette of 21 February 1976, when it was made a research project under Section 154M, Part iv(c) of the Health Act under the Chairmanship of the Director-General of Health and Medical Services. The first case histories were considered by the Committee in 1977. In 1989, the legislation was changed to name the Committee as the responsible investigator, and an independent chairman was appointed by the Director-General of Health and Medical Services.

Composition

Membership of the Committee includes nominees of:

Queensland Health
Australian Medical Association
Australian Dental Association
Australian and New Zealand College of Anaesthetists
Australian Society of Anaesthetists
Royal Australasian College of Surgeons
University of Queensland Faculty of Medicine
Royal College of Pathologists of Australia
Royal Australian College of General Practitioners
Royal Australian College of Obstetricians and Gynaecologists
Acute Private Hospitals Association
University of Queensland Faculty of Dentistry
An independent chairperson appointed by Chief Health Officer.

Once appointed, the nominees are members of a confidential committee – they do not represent the bodies which nominated them.

Objectives

The objectives of the Committee are peer review and continuing medical education based on scientific research and studies which are directed to reduction of morbidity and mortality in Queensland - and to ensure that the best standard of anaesthetic care is provided for the public. The Committee identifies problem areas, recommends remedial action and disseminates information. Reports and Education Bulletins are published.

The Establishment under Section 154m

The purpose of using Section 154M, Part iv(c) of the Health Act was to encourage the supply of information to the responsible investigator and to protect both the information and the source from which it came. Such information supplied to the Committee is not admissible in any proceedings without the approval of the Governor-in-Council and the persons supplying the information cannot be compelled without their consent to answer any questions concerning the information supplied. All information is considered highly confidential and is examined by the Committee without knowledge of names of patients, doctors or hospitals

The Committee remains entirely dependent on the goodwill of practitioners to supply information about cases for consideration and in so doing they are aiding the committee in its stated aims of attempting to reduce any mortality and morbidity associated with anaesthesia.

Method of Notification

The form of notification is available from medical superintendents in all hospitals and is also available to registered medical and dental practitioners Following notification, the practitioner completes a report to the Committee.

Processing of Information

Meetings are held to discuss the completed questionnaires after circulation of appropriate documentation. Each questionnaire has a ***Code Number*** but any reference to place or name that could identify the practitioner has been removed prior to circulation.

At the meetings each anaesthetist – member presents four or five cases Autopsy reports are available and all members discuss the case before a classification is made. Written submissions are prepared to facilitate the writing of replies to those who report deaths.

VICTORIAN COUNCIL ON ANAESTHETIC MORTALITY AND MORBIDITY

The Consultative Council on Anaesthetic Mortality and Morbidity was established in 1976 by the Minister for Health under Section 13 of the Health Act 1958 following representations from the Faculty of Anaesthetists of the Royal Australasian College of Surgeons and recommendations from the National Health and Medical Research Council.

The terms of reference of the Council are:

1. to enquire into the circumstances of deaths and illnesses during or as a result of anaesthesia.
2. To take such action as is appropriate to alleviate or prevent the occurrence of such deaths or illnesses.
3. To keep a register of such deaths or illnesses.
4. To improve the practice of anaesthesia by publication of pertinent factors discovered during the inquiry.
5. To report to the Minister annually upon anaesthesia generally and to make such recommendations as may seem appropriate.

Membership

The members of Council are:

A specialist anaesthetist appointed by the Minister as Chairman.

Nominated representatives of:

Australian and New Zealand College of Anaesthetists
Australian Society of Anaesthetists
Australian and New Zealand Intensive Care Society
Royal Australasian College of Surgeons
Royal College of Pathologists of Australia
Royal Australian College of General Practitioners
Department of Health and Community Services
Executive Officer

Members are appointed for three years.

Confidentiality and Exchange of Information

It is emphasised that, whatever the source of the data, confidentiality is maintained at all times. Only the Chairman has access to any information identifying the reporting doctor, other medical staff, the patient or the hospital. No Council information is passed on to the State Coroner's Office or to any other individual or institution except in a most general sense when advice is sought for preventive strategies. The Consultative Council is listed as a prescribed council under the Health (Prescribed Consultative Council) Regulations 1986 and the provisions of the Health Act 1958, section24A apply. Thus no personal information of any sort may be released to any authority under any circumstances unless authorised by both the Minister for Health and the reporting doctor Within the Freedom of Information Act there is provision that access to information held by the Consultative Council would be subject to the same conditions as detailed in Section 24A of the Health Act. Because of the strict provisions for confidentiality, it is possible for the Chairman to have detailed discussions with the reporting anaesthetist on any particular adverse outcome. This is seen as very important in proper evaluation of such events.

Data Collection

In Victoria direct reporting of mortality and morbidity is voluntary. The activities of the Council are strongly supported by the Australian and New Zealand College of Anaesthetists and the Australian Society of Anaesthetists as well as by the Victorian Department of Human Services (formerly Department of Health and Community Services) The Council urges medical practitioners to report all cases of peri-operative mortality associated with or as a result of anaesthesia, sedation or pain management. As this includes all deaths within 24 hours of operation, the majority are likely to be inevitable due to the condition of the patient or the type of surgery. In addition reports are sought on any cases of significant morbidity as a result of anaesthetic procedures or other special factors relating to the particular surgical procedure.

The Function of the Council

The Council consists of a widely representative group of anaesthetists aided by specialists in Intensive Care, Pathology and Surgery. Other specialists are consulted as required.

The function of the Council is to attempt to identify causes of morbidity or mortality attributable to anaesthesia (usually multifactorial) rather than to assess an individual fault. As most anesthetists work in relative isolation, dissemination of information on risk factors by letters, information bulletins and regular reports is designed

to assist in personal audit and ongoing education. Council also supplies advice, on request, to various health organisations and medical practitioners. The major reports of the Council have a wide distribution, not only to specialist anaesthetists but to all medical practitioners in Victoria, as well as to hospital administrators and other health care personnel.

THE ANAESTHETIC MORTALITY COMMITTEE OF WESTERN AUSTRALIA

The Anaesthetic Mortality Committee (AMC) of Western Australia was established in 1978 by proclamation of the Health Act Amendment Act 1978. The Committee consists of five permanent and seven provisional members. For any particular meeting, the Chairman, having regard to the cases to be discussed, invites two of the provisional members to make up, with the permanent members, a Committee of seven. In addition to the Committee, the Minister appoints a specialist anaesthetist as investigator.

Composition

The five permanent members of the Committee are:

A person nominated by the State Branch of the Australian and New Zealand College of Anaesthetists who is also Chairman of the Committee.

A medical practitioner nominated by the Commissioner of Health.

A specialist anaesthetist nominated by the Senate of the University of Western Australia.

A specialist anaesthetist nominated by the Australian Society of Anaesthetists.

A specialist anaesthetist nominated by the Australian Medical Association.

The seven Provisional members are:

A specialist obstetrician and gynaecologist nominated by the State Branch of the Australian Council of the Royal Australian College of Obstetricians and Gynaecologists.

Two general practitioners with a special interest in anaesthesia, nominated by the State Branch of the Royal Australian College of General Practitioners.

A specialist surgeon nominated by the State Branch of the Royal Australasian College of Surgeons.

A registered midwife nominated by the State Branch of the Royal Australian Nursing Federation.

A dental practitioner nominated by the State Branch of the Australian Dental Association.

The Professor of Clinical Pharmacology of the University of Western Australia.

Reporting of Deaths Related to Anaesthesia

Deaths occurring within 48 hours of an anaesthetic or deaths where the anaesthetic is thought to have been a contributing factor must be reported to the Commissioner of Health.

Investigation of Anaesthetic Deaths

The Commissioner, on receipt of a report of an anaesthetic death, directs the investigator to enquire into the circumstances of the death. If the investigator finds that the death is not likely to have been due to the anaesthetic, he or she reports as much to the Commissioner, and that, as far as the AMC is concerned, is the end of the matter. If the investigator is of the opinion that the death is likely to have been due in some measure to the anaesthetic, he prepares a case report for the Chairman of the Committee.

Scope of the Investigator

The investigator receives a report from the anaesthetist concerned. It is usually possible to make a decision based on this report. If not, the investigator may request further information. This is usually in the form of the hospital file and the autopsy report which are always made available by the relevant authorities. The investigator may also interview the anaesthetist or any other persons likely to assist in the investigation. No-one else on the Committee is entitled to communicate with any person mentioned in the investigator's report unless that person makes a request in writing.

Calling a Meeting

The Chairman, having received the reports, selects two provisional members to make up the Committee of seven. The report is then considered by the Committee which determines the cause of death and whether the conduct of the anaesthetic played any part.

Confidentiality

The report of the investigator to the Chairman is in the form of a medical report with identification of persons and places removed. The Chairman knows the name of the anaesthetist as he or she has to write to the anaesthetist after the meeting. There are strict guidelines for dealing with the material collected by the Committee in a confidential manner. When the Committee has completed its deliberations, the material must be returned to the Commissioner for safe custody. The reports of the investigator and the determinations of the Committee may be disseminated for educational purposes, provided that persons involved are not identifiable. The information used by the Committee and its opinions about that information are not admissible in any court of any kind, and no person furnishing information to the Committee is liable in any action for damages. The only exception to the confidentiality clauses are the provisions of the Coroners Act whereby the adducing of evidence for a serious offence would take precedence over the confidentiality clauses of the Health Act. With this in mind, the Committee has always deferred any discussion of deaths related to anaesthesia until the Coroner has brought down his report. The Freedom of Information Act 1992 opened a way for the public to breech the confidentiality of the Committee. However, under the Health Services (Quality Improvement) Act, 1994, the AMC was exempted from the provisions of the Freedom of Information Act. The members of the Committee believe that the Acts provide watertight protection for its deliberations and those involved in them.

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