

Surveys

Substance Abuse by Anaesthetists in Australia and New Zealand

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SUMMARY

A questionnaire investigating substance abuse was sent to 128 anaesthetic departments in Australia and New Zealand of which 100 (78%) replied. Forty-four cases of substance abuse were reported. Abusers were more likely to be male, aged between 25 and 35 years and abusing opioids. Death was the eventual outcome in 24% of cases. Only 19% of abusers made a long-term recovery within the specialty. Initial signs of abuse were most commonly abnormal conduct (63% of the cases) and observed abuse (37%). More than one precipitating cause was identified in 51% of cases, the most frequently reported were mental health and family problems. The pattern of substances abused was similar to that reported in the previous Australasian survey ten years ago. However, in keeping with an international trend, there appears to be an increased use of anaesthetic agents.

Key Words: ANAESTHETISTS: chemical dependence, substance abuse, alcohol, opioids, professional impairment, death

Substance abuse by physicians continues to be a significant problem despite education programs and increased vigilance by the profession. Although doctors may not be at special risk of developing addiction problems, once addicted they may pose a particular hazard to their patients. Upon discovery this may require the immediate consideration of their removal from the workplace. Recent publications indicate a changing substance abuse profile worldwide including an increasing trend towards the use of non-opioid drugs and alternative methods of administration¹⁻⁴. It is over ten years since the last survey of chemical dependence in anaesthetists was performed in Australasia, an investigation of misuse amongst anaesthetic registrars⁵. No attempt has previously been made to estimate the overall incidence of substance abuse in senior anaesthetists in this region. There has simultaneously been a growing body of literature concerning high levels of stress, early mortality and suicide in anaesthetists⁶⁻⁹.

The aims of this retrospective survey were to

attempt to quantify the problem of alcohol and substance abuse in anaesthetic registrars and consultants in Australia and New Zealand during the last ten years, compare the findings with the previous study, and investigate the preparedness of the anaesthetic community to deal with substance abuse.

METHODS

Study Definition

An incident of abuse was defined as an anaesthetist who had come to the attention of the department as a result of suspected substance abuse, and required some form of intervention.

Study Population

The current mailing list of all supervisors of training and heads of department was obtained from the Australian and New Zealand College of Anaesthetists. A letter explaining the study was sent to all those on the lists along with the questionnaire and a form requesting details for administration purposes. Recipients of the letter were encouraged to contact previous heads of department or supervisors, so that as much information as possible over the ten-year period could be included. Approval for the conduct of this survey was obtained from the Auckland Hospital Ethics committee. Ethnicity questions were a requirement for the New Zealand questionnaires.

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Study Questionnaire

The first part of the survey (Form A) requested background descriptive information on the department and required completion only once (Appendix A). The second part (Form B) required details of each individual incidence of substance abuse. A new form was required for each incident of substance abuse in an anaesthetic specialist (full-time or part-time), trainee or non-specialist anaesthetist in the hospital concerned over the last ten years (Appendix B). A third form (Form C) was enclosed which identified the person responding to the survey to prevent duplication of returns from the same department and to allow for a subsequent mail out to non-responders (Appendix C).

To maintain confidentiality, participants were then asked to place Forms A and B in to the appropriately marked envelope. This envelope along with Form C was then to be placed in the second envelope provided and posted to our department research nurse. On receipt, the nurse would remove Form C and forward questionnaire parts A and B to the principal researcher for analysis. The research nurse conducted subsequent mail-outs in a similar fashion. The envelopes from all reasonably completed surveys were entered in a draw for a Sony Clie Handheld PEG NZ 90 as advertised at the start of the investigation.

Statistical Analysis

Results are reported as n (percentage) or proportion (95% confidence interval) unless otherwise stated. Differences in proportions were compared using chi-square tests. A *P* value of 0.05 or less was considered statistically significant. All analyses were performed on the statistical software package SAS.

RESULTS

Questionnaires were sent to 128 departments of which 100 (78%) replied. A total of 44 cases of substance abuse requiring intervention were received from 32 departments. Twenty-one departments reported a single case (66%), ten (31%) reported two episodes and one department reported three episodes. Individual case details for 41 of the 44 cases of substance abuse reported were received and are reported in Table 1. Misusers were more likely to be male [80% (95% CI 65, 91), *P*<0.001], aged between 25 and 35 years and abusing opioids. Abnormal conduct was noted in over 63% of the cases, abuse was observed in 37%, and one or more precipitating causes was identified in 21 (51%) cases (Table 2). Abuse was recognised only by the death of the anaesthetist in 15% of cases.

TABLE 1

Characteristics of 41 anaesthetists with substance abuse disorder identified in Australia and New Zealand 1994-2003

	N=41
Male gender	33 (80%)
Age, years	
25 to 35	25 (61%)
35 to 45	9 (22%)
>45	7 (17%)
Training Level	
Consultant	
Full-time	10 (24%)
Part-time	12 (29%)
Registrar	16 (39%)
House officer	2 (5%)
Non-specialist	1 (2%)
Substances abused	
Opioids	27 (66%)
Induction agents	8 (20%)
Benzodiazepines	6 (5%)
Alcohol	5 (12%)
Inhalational agents	2 (5%)

TABLE 2

Abuse recognition and precipitating events in Anaesthetists with substance abuse disorder in Australia and New Zealand 1994-2003

	Number of Cases†
Reported signs of abuse	
Abnormal conduct	26 (63%)
Observed abuse	15 (37%)
Incompetence	11 (27%)
Accident/death with patient	4 (10%)
Relapse	9 (22%)
Clinician death	6 (15%)
Other	2 (5%)
Reported causes of abuse	
Mental health problems	10 (24%)
Financial difficulties	4 (10%)
Family difficulties	12 (30%)
Other*	3 (7%)

*Includes legal problems and excessive work load.

†Some cases have been counted more than once.

Substance Abuse Outcomes

Thirty-one individuals (76%) initially returned to work, of whom nine changed to an alternative medical career, nine did not return to employment and the final outcome in one case was unknown. Of the 21 persons that returned to work as anaesthetists, only eight made a long-term recovery. These eight cases made up only 19% of the total substance misusers reported. Of those that returned to work in other spheres of medical practice, four were classified as totally recovered from the problem constituting a success rate of 44%. Overall 12 individuals (29%) of those misusing chemical substances successfully returned to employment. Death was the eventual outcome in ten (24%) of cases, six identified as suicide, three as death by overdose and one classified as natural causes.

Department Substance Abuse Policies

Nineteen of the departments stated they had a formal intervention policy in place within their institution, but only four included copies as requested in the survey. Departments that reported a substance abuse case were more likely to have a policy in place [13/19 vs 19/81, $P < 0.001$], while 52% of the departments did not have designated person(s) to deal with an incidence of substance abuse (Table 3). Where designation was in place the responsibility predominantly lay with the clinical director 35 (73%) or hospital management, three (6%).

TABLE 3

Case reporting, confidence levels and personnel in departments with or without substance abuse policies

	Substance Abuse Policy n=19	No Substance Abuse Policy n=81	P value
Abuse case reported	13 (68%)	19 (23%)	<0.001
Prepared to intervene in an abuse case			
Extremely confident	0	2 (2%)	
Confident	13 (68%)	34 (42%)	0.116
Not confident	6 (32%)	44 (54%)	
Designated personal to deal with abuse	18 (95%)	30 (37%)	<0.001

Anaesthetist Demographics in Australia and New Zealand 1994-2003

Over the ten-year study period there was a significant increase in the total number of anaesthetists in the work place (Figure 1). There was, however, no significant change in the proportion of female fellows or registrars in the total population of anaesthetists over the same period (Figure 2). Thirty-one [76% (95% CI 60, 88, $P < 0.001$)] cases of substance abuse

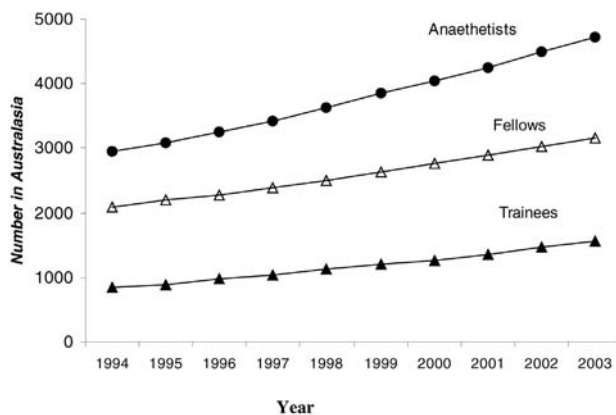


FIGURE 1: Annualized numbers of registered fellows, trainees and total anaesthetists in Australia and New Zealand over the study period.

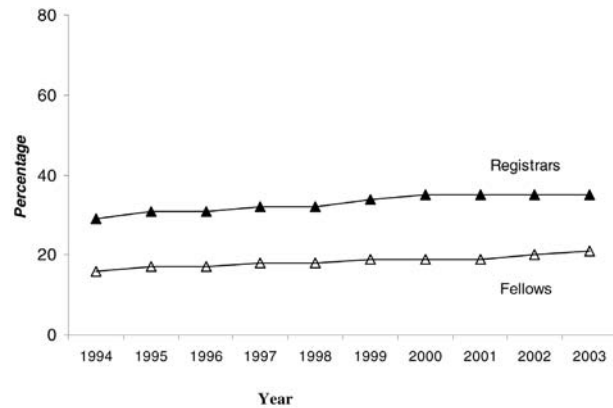


FIGURE 2: Proportion of female fellows and trainees in Australia and New Zealand as a percentage of the total number of registered anaesthetists over the study period.

were reported from departments with more than 20 consultants and or registrars.

Substances Abused

Opioids were implicated in 66% of cases overall. The next most frequent were induction agents 20% and benzodiazapines 15%. Alcohol accounted for 12%, followed by inhalation agents 5%. Recreational drugs were implicated in only 7% of reports.

Suicide

There were 18 cases of anaesthetic suicide reported over the last ten years. Thirteen (72%) were male and eight (44%) were consultants. Of the thirteen males, five were registrars and eight were consultants. All five females were registrars.

DISCUSSION

This study builds on a previous substance abuse study conducted amongst Australasian Anaesthetic departments in the 1980s⁵. It is a retrospective survey and thus provides only an indicative overview of the problem with all the inherent drawbacks associated with such forms of research¹⁰. Over the ten-year period studied (1994-2003), 44 cases of substance abuse were reported giving an overall incidence of 1.17 per 1,000 anaesthetist years of observation. The incidence for registrars was higher being 1.37 per 1,000 registrar years but compares well with the 3.8 per 1,000 registrar years in the last Australasian study⁵ and 0.4% per year in U.S.A. training programs¹¹. This may indicate a substantially lower incidence. It is however difficult to comment on these results as there is limited information in the pub-

lished literature and all such figures are determined using widely varying methods. It is recognised that the incidence of substance abuse disorder is generally underestimated and in this study practitioners in private practice or departments excluded from the College database may have been missed. Previous studies have quoted incidences for chemical abuse of between 1 and 1.7%^{12,13}. Berry et al¹⁴ simply estimated a rate of one anaesthetist per month for the United Kingdom. The return rate achieved for this survey was 78%, similar to that received in the last Australasian survey (78%), and the U.K. study (71.7%).

This survey has shown that only a small proportion of Australasian departments (19%) have substance abuse policies in place and that approximately half the anaesthetic departments lack confidence in dealing with a case of substance abuse as previously reported⁹: 84% had no policy and 52% no designated personnel. This is not an unexpected response, but is cause for concern. It is even more alarming that 48% of respondents indicated being confident to intervene, despite 70% of them having no intervention policy and 49% having no designated person to oversee the intervention. Extreme confidence was reported by only two departments (2%) despite neither having an intervention policy and only one of these two departments having a person specified to deal with an incident. This lack of organization and resultant lack of confidence has important implications, highlighted by the significant finding that departments with policies in place were more likely to report cases of abuse. This is in keeping with the results of the survey by Berry and co-workers¹⁴. It is possible that a heightened awareness as a result of implementing these policies may have resulted in greater identification of cases. A case of substance abuse may, however, have motivated the development of a protocol or enabled local expertise to produce one.

The demographic profile of an abuser does not appear to have altered, i.e. predominantly male and aged less than 35 years. In this survey, consultant anaesthetists were slightly over-represented compared to other international reports^{4,12,14}. Opioids still represent the largest group of substances implicated in Australasian abuse: 66% is higher than the 50% reported in the survey by Weeks and colleagues⁵, although it is less than the 78% reported by Paris and co-workers¹⁵. This is, however, almost twice the incidence found in the U.K. study. This present survey suggests that the chosen substance of abuse may be following international trends with an increased use

of induction agents, implicated in 20% of the cases surveyed (compared to 6% in the study by Weeks et al), and inhalation agents now representing 5% of cases^{5,11}. Of interest was the low reporting of alcohol misuse, 12% overall or 13% in the registrar population (similar to the 15% previously obtained by Weeks et al)⁵ and by Knight et al¹⁶ in paediatric hospital residents. This differs markedly from the 59% reported in the U.K. study. It may represent a higher Australasian tolerance of alcohol usage, lack of recognition of alcohol as a substance of abuse, different drinking habits between the regions, or simply non-recognition of cases. It has been suggested that recognition of alcohol as a substance of abuse is difficult and may take up to 20 years to be recognised, as opposed to opioid abuse which is often recognised within 1-6 months⁴. Another explanation maybe that the incidence of alcohol abuse may mirror that of the general population, estimated at 25% for the U.K. versus 9% for Canada^{13,17}. There appears to be no reliable estimate available for Australia or New Zealand. No difference in the reporting of alcohol abuse was noted between departments that did or did not have a policy in place.

There were three reports involving remifentanyl. All three individuals were abusing a combination of drugs. Two relapsed and were dismissed. The final outcomes for all three were unknown, but they were not specifically reported as being associated with death. Remifentanyl has been assessed as having a similar abuse liability to fentanyl, but its pharmacology suggests abuse would be associated with a higher mortality rate¹⁸. The literature concerning abuse of this substance is limited.

Substance abuse recognition is extremely difficult; in this survey abnormal conduct was the first sign in 63% of cases, observed abuse in 37%, and incompetence in 27%. Typically symptoms manifest initially in the community, then in the family, with the appearance of the disease in the workplace signifying an advanced problem^{4,17}. Abuse appears only to have been recognised by the death of the anaesthetist in 15% of cases. This is an unfortunately high percentage compared with approximately 2% in the U.K. study¹⁴, and 7.2% in the Menk study¹⁹, but similar to the 18% reported by Booth and colleagues¹². It may highlight either a reluctance by colleagues in the anaesthetic community to intervene early in the disease process, or a lack of confidence, possibly illustrated by the low numbers of departments with policies. There was, however, no difference in recognition of abuse by death between departments with or without a policy in place.

Thirty-one individuals (76%) initially returned to work, a much higher number compared to the 49% recorded in the U.K. study. However of the 21 persons who returned to work as anaesthetists only eight (38%) made a long-term recovery. This appears equivalent to the 38% in the U.K. but some disparity in their data was highlighted. This was similar to other outcome studies, but significantly less than the 81% recorded in New Jersey, or that reported by the sick doctors trust in the UK^{1,15}. Forty-four per cent of those who entered a different type of medical career were classified as having made a long-term recovery. Paris and colleagues¹⁵ also found no significant difference in recovery for an alternative medical career compared with continuing in anaesthesia. The one individual who was reported as engaging in a non-medical career in this survey was classified as recovering following a relapse and early retirement. There was no difference in successful return to work as anaesthetists between departments with or without a policy, but as a higher relapse rate occurred in departments with policies in place there may be a need for better post intervention monitoring. Ten substance abusers died, one of natural causes and nine unnaturally (21%). Berry and colleagues reported a 6.4% incidence of death associated with substance abuse including natural causes. This may indicate relatively unsuccessful Australasian interventions or inadequate follow-up.

Overall there were 18 cases of anaesthetic suicide reported for a total of 37661 anaesthetist years. These figures are only indicative of successful suicide. In this study the rate for females was 0.57 per 1000 female anaesthetic years and 0.45 per 1000 male anaesthetic years. The survey results are in keeping with reported medical suicide indicating a higher incidence in older males and younger females^{6,7}. In this survey all the female suicides were young women. Most studies indicate a higher rate of suicide in physicians compared to other professional groups with a relative risk of 1.5-3.8 for males and 3.7-4.5 for females⁶. Anaesthetists have also been regularly highlighted as an at-risk group of doctors. A recent study from the U.S.A. indicates that anaesthetists have a relative risk of 1.45 for suicide and 2.21 for drug-related suicide compared to internists⁶. In keeping with international literature, 56% of suicides were registrars. The most at-risk group of anaesthetists appears to be those less than 30 years of age, with the highest rate of drug-related deaths occurring within five years of completing medical school^{9,13}.

This study did not specifically look at the availability or effects of education on the incidence of

abuse since the last survey. However, substance abuse education has certainly been included in many local and international meetings during this time, as has the establishment of a special interest group within the College. Booth and colleagues have indicated that a tighter control of drugs appears to have no impact on the incidence of abuse, but may simply make it more lethal, and that the effect of the present educational directives in the U.S.A. may also be ineffective¹³. Random drug testing has been suggested for all, but has limitations particularly identifying induction and inhalation agents, and may simply change the type and manner in which a substance is abused.

It is becoming clearer that despite the initial personal choice to abuse a chemical substance, that there is a genetic predisposition for abuse, with an incidence comparable to diabetes, asthma and hypertension²⁰. However, one unexplained problem with this statistic is the equal genetic contribution for males and females, yet a higher incidence of abuse in males. The different pharmacodynamic response between sexes to chemical substances may yet resolve this phenomenon^{21,22}. Relapse rates for abusers are high as demonstrated by this survey and death is often the presenting sign of reabuse¹¹. Treatment regimens should approach the problem as a chronic rather than an acute illness. Therapy probably needs to be a life-long process similar to other chronic illnesses such as asthma or hypertension²³. Substance abuse disorder parallels these diseases, becoming worse if treatment is suspended. Compliance with medications in chronic illness varies between 30 and 60% even under continuous medical supervision. It is unlikely that substance abusers would be any more compliant, particularly when simply managed on a short-term basis. In order to improve the success rates for those returning to the workplace, it is likely that these individuals should be actively managed by a special service and carefully monitored for the rest of their lives²⁴. A self referral rate of 66% to one rehabilitation program highlights its successful components, including financial support, anonymity, and ongoing medical education as the reason for attending²⁵.

CONCLUSION

Substance abuse remains a significant problem in Australasia and is associated with a significant mortality rate. Opioids were the most common substance of abuse in this survey, but the misuse of induction and inhalation agents may be increasing. Alcohol abuse appears unchanged from a previous survey, but based on international findings may simply be under-recognised. It is clear that only a small proportion of

departments have substance abuse policies and protocols in place, despite the availability of a wide variety of information on the subject from many sources. Despite a large body of international literature concerning substance abuse in physicians, there is a dearth of data regarding most aspects of this disease and no prospective investigations. Provided confidentiality can be maintained, a prospective reporting and follow-up system would certainly be advantageous in assisting future management of anaesthetists with this disease. Improved awareness of the problem through ongoing education, appropriate policies and mentoring in all anaesthetic departments cannot be emphasised strongly enough.

REFERENCES

- Bennett J, O'Donovan D. Substance misuse by doctors, nurses and other healthcare workers. *Curr Opin Psychiatry* 2001; 14:195-199.
- Joranson D, Ryan K, Gilson A, Dahl J. Trends in medical abuse of opioid analgesics. *JAMA* 2000; 283:1710-1714.
- Zacny J, Galinkin L. Psychotropic drugs used in anaesthesia: Abuse liability and epidemiology of abuse. *Anesthesiology* 1999; 90:269-288.
- Berry AJ. (Chairman) Committee on Occupational Health. Model Curriculum on Drug Abuse and Addiction for Residents in Anesthesiology. American Society of Anesthesiologists.
- [Updated 2003 July 01] Available from: www.asahq.org/clinical/curriculum.pdf
- Weeks A, Buckland M, Morgan E, Myles P. Chemical dependence in anaesthetic registrars in Australia and New Zealand. *Anaesth Intensive Care* 1993; 21:151-155.
- Alexander B, Checkoway H, Nagahama S, Domino K. Cause specific mortality risks of Anesthesiologists. *Anesthesiology* 2000; 93:922-930.
- Swanson S, Roberts L, Chapman M. Are anaesthetists prone to suicide? A review of rates and risk factors. *Anaesth Intensive Care* 2003; 31:434-445.
- Bertolote JM, Fleischmann A, De Leo D, Wasserman D. Suicide and mental disorders: do we know enough? *Br J Psychiatry* 2003; 183:382-383.
- Nyssen A, Hanzel I, Baele P, Lamy M, De Keyser V. Occupational stress and burnout in anaesthesia. *Br J Anaesth* 2003; 90:333-337.
- Burmeister LF. Principles of successful sample surveys. (Editorial) *Anesthesiology* 2003; 99:1251-1252.
- Arnold WP. 1995 Substance Abuse Survey in Anesthesiology Training Programs: A brief summary. *American Society of Anesthesiologists Newsletter* 1995;10:12-18.
- Booth JV, Grossman D, Moore J et al. Substance abuse amongst physicians: A survey of academic anesthesiology programs. *Anesth Analg* 2002; 95:1024-1030.
- Baird W, Morgan M. Substance misuse amongst anaesthetists. *Anaesthesia* 2000; 55:943-945.
- Berry C, Crome I, Plant M, Plant M. Substance misuse amongst anaesthetists in the United Kingdom and Ireland. *Anaesthesia* 2000; 55:946-952.
- Paris R, Canavan D. Physician substance abuse impairment: Anesthesiologists vs. other specialties. *J Addict Dis* 1999; 18:1-7.
- Knight J, Palacios J, Shannon M. Prevalence of alcohol problems among paediatric residents. *Arch Pediatr Adolesc Med* 1999; 153:1181-1183.
- Weir E. Substance abuse amongst physicians. *Can Med Assoc J* 2000; 162:1730.
- Baylon G, Kaplan H, Somer G, Busto U, Sellers E. Comparative abuse liability of intravenously administered remifentanyl and fentanyl. *J Clin Psychopharmacol* 2000; 20:597-606.
- Menk E, Baumgarten R, Kingsley C. Success of re-entry into anesthesiology training programs by residents with a history of substance abuse. *JAMA* 1990; 263:3060-3062.
- McLellan A, Lewis D, O'Brien C, Kleber H. Drug dependence, a chronic medical illness: Implications for treatment, insurance and outcomes evaluation. *JAMA* 2000; 284:1689-1695.
- Kest B, Sarton E, Dahan A. Gender differences in opioid-mediated analgesia. Animal and human studies. *Anesthesiology* 2000; 93:539-547.
- Schneider R, Levenson J, Schnoll S. Update in addiction medicine. *Ann Intern Med* 2001; 134:387-395.
- Vastag B. Addiction poorly understood by clinicians. Experts say attitudes, lack of knowledge hinder treatment. *JAMA* 2003; 290:1299-1303.
- Strang J, Wilks M, Marshall J. Missed problems and missed opportunities for addicted doctors: We need special service for doctors addicted to drugs or alcohol. *BMJ* 1998; 316:405-406.
- Bosch X. First impaired physicians therapy program appears successful in Spain. *JAMA* 2000; 283:3186-3187.

Appendix A

Substance Abuse in Anaesthetists Survey 2003— Form A

- 1) Have there been any cases of alcohol or other drug misuse amongst anaesthetists in your department since 1994?

DEFINITION: An anaesthetist who has come to the attention of the department as a result of suspected substance abuse and required some form of intervention

Yes

No

Don't know

If yes

(i) How many cases? _____

Please complete a **form B** for each case

- 2) Do you have a substance abuse policy for intervention in such cases? **Yes / No**
(Please enclose a copy if possible or briefly outline)

- 3) Who is responsible for implementing the policy?
**Clinical Director of Anaesthesia
Manager**

**Occupational Health
Other—(Please specify)** _____

- 4) How confident are you about managing a case of substance abuse adequately?
 (i) **Extremely Confident**
 (ii) **Confident**
 (iii) **Not confident**

- 5) Has any anaesthetist committed suicide from you department in the last 10 years?

Anaesthetist	Male (number)	Female (number)
Registrar	_____	_____
Specialist	_____	_____
MOSS	_____	_____

- 6) How many Fellows/Trainees/Non Fellows were employed in your department:

Specialists	Trainees	Non Specialists
1994		
1995		
1996		
1997		
1998		
1999		
2000		
2001		
2002		
2003		

(simply give totals if details unknown)

Appendix B

**Substance Abuse in Anaesthetists Survey 2003—
Form B**

Confidential Case Record

Please complete one form for each case

- 1) Year episode occurred
- 2) Total number of anaesthetists in the department that year
- | | | |
|------------------------------|-------------|-----------------|
| Specialist | Maori _____ | Non Maori _____ |
| Trainees | Maori _____ | Non Maori _____ |
| Non-specialist anaesthetists | Maori _____ | Non Maori _____ |
- (Medical Officers Special Scale)

- 3) What gender and ethnicity is/was the person?
 Male
 Female
 Maori Non Maori

- 4) What age was the person?

- 5) What grade was the person?
 SHO
 Registrar years 1-2
 Registrar years 3-4
 Senior registrar
 Full-time consultant
 MOSS

- 6) Please specify the substance(s) involved
 Alcohol
 Benzodiazepines
 Opioids (specify)
 Induction agents (specify)
 Inhalational agents (specify)
 Cannabis
 Cocaine
 Amphetamines (P)
 Other (specify)

- 7) How did the problem present
 (i) Observed substance abuse
 (ii) Personal conduct abnormal mood/behaviour/intoxication
 (iii) Work incompetence unreliability/absenteeism/repeated extra duties
 (iv) Patient accident or injury or excessive pain
 (v) Was this a relapse? Yes No
 (vi) Other

- 8) Intervention (brief outline)

- 9) Treatment outcome
 Return to work Yes No Unknown
 (If yes)
 (i) As an anaesthetist
 (ii) Another medical career
 (iii) Non medical career

- 10) Long-term outcome
 - (i) Total recovery
 - (ii) Relapse
 - (iii) Dismissal
 - (iv) Early retirement
 - (v) Suicide
 - (vi) Death (natural)
 - (vii) Death (related to substance abuse)
 - (viii) Unknown
 - (ix) Other

- 11) Evidence of a precipitating cause of the Substance Abuse
 - (i) Mental Health problems
 - (ii) Financial problems
 - (iii) Family problems
 - (iv) Legal problems

Addendum

Resources available for assistance with Substance Abuse Disorder

- 1) Auckland Hospital Department of Anaesthesia Substance Abuse Protocol
www.acecc.org.au

- 2) Doctor's Health Advisory Services

NSW/NT	(02) 9437 6552
ACT	0407 265 414
QLD	(07) 3833 4352
VIC	(03) 9349 3504
WA	(08) 9321 3098
TAS	(03) 6223 2047
SA	(08) 8273 4111
NZ	(04) 471 2654
Victorian Doctor's Health Program	(03) 9495 6011

Appendix C

**Substance Abuse in Anaesthetists Survey 2003—
Form C**

Name _____

Department _____

Address _____

- 3) www.asahq.org/clinical/curriculum.pdf

- 4) Welfare of Anaesthetists Special Interest Group resource documents:
www.anzca.edu.au/sigroups/welfare/resources.htm

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