

**A SUBMISSION TO
THE EXPERT ADVISORY COMMITTEE
ON DRUGS**

Regarding the

**THE CLASSIFICATION OF
KETAMINE**

Under the Misuse of Drugs Amendment Act 2000

Prepared
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(EACD)**

1 INTRODUCTION

The Alcohol Drug Association (ADA) is a not-for-profit organisation and has been operating in the South Island since 1982. ADA's statement of purpose is

"Improving the health of the community by minimising harm associated
with alcohol, other drugs and gambling".

ADA's core businesses are coordination and information dissemination. Our clinical service is the National Alcohol & Drug Helpline. Other services are the National Directory of Alcohol and Drug Services; AOD consumer advisors and regional and national representation on advisory committees.

This submission expresses the views and opinions of ADA and is based on broad experience in and communication with the AOD sector in the South Island.

ADA would like to thank members of the EACD for the opportunity to make this submission.

The submission begins with the first section above

1. Introduction
2. Current Classification of ketamine ADA's recommendations regarding the possible classification of Ketamine under the Misuse of Drugs Act
3. Description and Therapeutic Use of ketamine
4. Recreational use/prevalence
5. Ketamine and Law Enforcement
6. Conclusions

2. CURRENT CLASSIFICATION AND RECOMMENDATION

Ketamine (Ketamini Hydrochloride, (+-)-2-(2-Chlorophenyl)-2-methylaminocyclohexanone hydrochloride)¹ is a classified prescription only medicine under schedule 1 of the Medicines Act 1981. At present ketamine is not classified under the Misuse of Drugs Act 1975 which means it is not an illicit drug.

¹ Information for Health Professionals Data Sheet Ketalar on www.medsafe.govt.nz/profs/Datasheet/k/Ketalarinj.htm; National Poisons Centre, New Zealand, 2005. Ketamine data sheet on www.toxinz.com

Based on the information referred in this submission ADA believes that the increasing recreational use of ketamine can lead to individual harm through the dangerous activities and contexts in which it is used.

Although there is not a significant public health risk, there is potential to add to the drug-related harm at this level through activities such as unprotected sex, needle use, increased spread of infectious diseases, increased levels of drug dependence and its wider impact on society.

For these reasons, ADA recommends that ketamine be classified under the Part 1 of the Second Schedule (Class B1 controlled drug) of the Misuse of Drugs Act.

It is noted however, that the added media attention that classification will bring may highlight the availability of ketamine as a recreational drug and attract attention of potential users and hence, increase use.

3. DESCRIPTION AND THERAPEUTIC USE

Ketamine is marketed internationally by Parke-Davis as a short acting, general anaesthetic under the commercial name of Ketalar and is sponsored in New Zealand by the drug company Pfizer.

As well as its hypnotic (sleep producing) effects, ketamine also has analgesic (pain relieving) and amnesic (short term memory loss) effects with other effects being described as psychedelic (often intensifying, changing sounds and colours) and hallucinogenic. Ketamine also creates a sensation of being disconnected from one's body and or surroundings.

Used in surgery, the effects produced by ketamine are quite different from other drugs such as nitrous oxide, oxygen and halothane, and the anaesthetic state it produces is known as 'dissociative anaesthesia'². Ketamine is a useful anaesthetic to use with infants, asthmatics and elderly people because unlike the other anaesthetics, breathing and airways are usually well maintained³.

Ketamine is relatively safe with few cases of overdose recorded; it is more likely to be the context or dangerous activities involved in its recreational use that lead to harms or death⁴. For example, because of the disassociation with one's body and the analgesic effect of ketamine there is no sensation of pain from injury or cold, hence it is possible to die of hypothermia or blood lose while experiencing psychedelic/spiritual effects or hallucinating.

Ketamine use During Pregnancy

The manufacturer's information sheet states that ketamine crosses the placenta and although there is no evidence to date that it causes birth defects it should not be

² Information for Health Professionals Data Sheet Ketalar, see 1; Tomlinson, A. Ketamine, Update in Anaesthesia Issue 4 (1994) Article 5 www.nda.ox.ac.uk/wfsa/html/u04/u04_010.htm;
Copeland J., Dillon P., (2005) The health and psycho-social consequences of ketamine use, International Journal of Drug Policy Volume 16, Issue 2, March

³ See 1

⁴ Copeland J., Dillon P., (see 2)

used during pregnancy. It is also excreted in breast milk so use should be avoided by women who are lactating.

4. RECREATIONAL USE/PREVALENCE OF KETAMINE

Ketamine is used recreationally and has a number of 'street' names Cat valium, green (inferior quality), Jet, K, Special K, Vitamin K. Kitty flipping is a combination of ketamine and MDMA⁵. It is difficult to manufacture and most users acquire it through diversion of the prescription product or theft from veterinary supplies⁶. It was also noted in a personal communication with New Zealand Police that ketamine is available and can be bought over the counter in some Asian countries.

Form

It comes in the form of a white powder, gel capsules and as a liquid in glass vial. Although usually inhaled/snorted and sometimes smoked, ketamine can also be injected and is dissolvable in liquids including alcohol, making it available to be taken or given orally.

Experiential Effects

Experiential effects are dependant on dose. According to anecdotal reports⁷, the psychedelic effects and disassociation are often seen as spiritual and are a specific effect that some recreational users seek. Effects such as difficulty with balance, walking, numbness, slurred speech, dizziness visual impairment etc are also likely to be the effects sought by some users when taking ketamine. However the experience of anxiety, anxiousness, paranoia, depression and other psychological effects are often adverse enough to dissuade ketamine use a second time, particularly if people are first time experimenters.

Use/prevalence in NZ

There is little information available regarding the use of ketamine in New Zealand but figures from surveys carried out by Alcohol and Public Health Research Unit (APHRU) have shown that the recreational use of Ketamine appears to have increased in New Zealand⁸. The percentage of people who had tried and were using ketamine were small, less than 10% of respondents, however the results did show numbers had increased significantly during the period between 1998 and 2001.

⁵ National Poisons Centre, New Zealand, 2005. see 1

⁶ Maxwell C.J. Implications of research for treatment: Ketamine. The Centre for Excellence in Drug Epidemiology, Gulf Coast Technology Centre U.T. Centre for Social Work Research; National Poisons Centre, New Zealand, 2005. see 1.

⁷ Erowid.org web site; <http://www.erowid.org/chemicals/ketamine/ketamine.shtml>

⁸ Wilkins C., Bhatta, K and Casswell S. (2002) The emergence of amphetamine use in New Zealand: findings from the 1998 and 2001 National Drug Surveys. New Zealand Medical Journal vol 115:1166, 256-263.

Use/prevalence Internationally (Australia, UK, France)

Use of ketamine is also increasing internationally⁹, although an Australian survey report by Copland and Dillon suggest that use in the general population appears to be low but use is greater in groups who have more direct access to the drug i.e. veterinary, medical professionals and party drug users.

In a study looking at the patterns of recreation drug use at dance events in Edinburgh, Scotland, of the 122 respondents who said they took drugs, over 10% said they had used ketamine in the last year at dance parties. Drugs were accessed mostly through friends than any other source¹⁰. The study also showed that 36% of the respondents had a bad experience on drugs, 85% reported mixing drugs and or alcohol and 30% had unprotected sex. The conclusion of the study was that Dance-drug use has a characteristic pattern that has implications for health promotion and criminal policy.

A United Kingdom survey conducted by DrugScope among 40 frontline drug services in July 2005 has shown the emergence of ketamine as a key substance of choice since their last survey in 2004.

A French study identifies ketamine as one of the new 'Rave Drugs' which are used at all night 'rave' parties. 'Rave' drugs refer to a wide variety of drugs used by young rave party participants because of the hallucinogenic or stimulant effects. One of the issues identified by the study was that of buying drugs that are difficult to clearly recognise in the context of busy and distracting social situations. For example, a young woman found in a confused state, drowsy and who had been hallucinating, said she had purchased and consumed a white powder sold as ecstasy, however when analysed was shown to be pure ketamine.

5. CONSEQUENCES OF RECREATIONAL USE OF KETAMINE

The use of ketamine is not advised by people with cardio vascular disease, heart failure, severe or poorly controlled hypertension, recent myocardial infarction, a history of stroke, cerebral trauma, inter-cerebral mass or haemorrhage.

As mentioned above, taking ketamine itself is relatively safe, it is more likely to be the context or dangerous activities involved in its recreational use that lead to harms or death.

Sex and Ketamine

The associated dangers associated with ketamine use are shown in a study in the San Francisco Bay Area of the United States, connecting ketamine use and unprotected sex in the gay and bi-sexual population who attend circuit parties. The motivation for attending these parties was drug use and the availability of sexual activity . At the weekend parties two thirds of the 295

⁹ Copeland J., Dillon P (see 4).; Curran, H. V. , Morgan, C., Cognitive, dissociative and psychotogenic effects of ketamine in recreational users on the night of drug use and 3 days later. *Addiction*. 95(4) 2000 April, 575-590.; DrugScope UK <http://www.drugscope.org.uk/>

¹⁰Riley S.C.E., James C., Gregory D., Dingle H, Cadger M., Patterns of recreation drug use at dance events in Edinburgh, Scotland. *Addiction*. 96(7) 2001July, 10035-1047.

respondents reported having sex, 28% having unprotected sex and 58% reporting ketamine use, compared to 75% who used ecstasy and 36% who used crystal methamphetamine.¹¹ The use of ketamine in this study was directly associated with unsafe sexual behaviour.

The media have also highlighted the danger of various drugs being used to facilitate sexual assault, however there is little hard evidence of the use of ketamine being used in various studies in Australia¹². There seems to be little evidence in this under-researched area of drug related harm. However, it is suggested that because of the fast action of ketamine and the short half life described in the manufacturers notes, finding evidence of its use in sexual assault cases would be extremely difficult.

Although there is little evidence of its use as a “date rape” drug, the fact that ketamine dissolves easily in alcohol is relatively colourless, tasteless, that it is fast acting, with an anaesthetic effect and the effects on cognition described below, mean that it has the potential to be abused in this way.

Cognitive and Memory Impairments

Ketamine effects cognitive function, particularly memory. In recreational users ketamine appears to bring on acute and severe impairments of working, episodic, and semantic memory as well as psychotogenic and dissociative effects¹³ these effects may be ongoing and are a concern for the groups in the population who regularly use ketamine.

Even though short lasting, the sudden onset and cognitive impairment related to ketamine use is likely to be associated to secondary and tertiary risks such as diminished ability to use machinery or drive, poor ability to make rational decisions, reduced motor control and response times leading to accidents and falls.

Psychological and Dependence Issues

Ketamine can induce schizophrenic-like symptoms in people and precipitate psychotic events. Psychological and physical dependence have recently been noted and a withdrawal syndrome, including psychotic features has been identified¹⁴.

Consequences and adverse effects include unsafe sexual behaviours, reduced cognitive function affecting the ability to make safe decisions, including the potential for ongoing impairment. There is an increased likelihood of harm or death from exposure to dangers in the environment and the inability to identify those harms.

¹¹ Mansergh G., Colfax G.N., Rader M., Guzman R., Buchbinder S. (2001) The circuit party Men’s Health Survey: findings and implication for gay and bisexual men. *American Journal of Public Health*. 91(6):953-8.

¹² Taylor N., Prichard J., Charlton K. (2004) National Project on Drink Spiking: Investigating the nature and extent of drink spiking in Australia *Australian Institute of Criminology*

Neame, A. (2003). Beyond drink spiking Drug and alcohol facilitated sexual assault. No 2 Briefing Australian Centre for the Study of Sexual Assault

¹³, Morgan, C., (see 8).

¹⁴ Copeland J., Dillon P (see 4).; Curran, H. V. , Morgan, C., (see 8)

Ongoing use can result in the increased chance of developing both psychological and physical dependence on ketamine.

6. KETAMINE AND LAW ENFORCEMENT

In a personal communication with New Zealand Police (2005) it was noted that law enforcement data suggests that ketamine may be increasingly available as a drug of misuse, although (because it is not currently a controlled drug) it does not explicitly appear in Police offence records. For example, the New Zealand Customs Service made two significant seizures of ketamine in 2001 (in one case, of four litres of the drug) which appeared destined for use in the dance party scene. The customs Service also indicates there have been sporadic seizures of ketamine over the last two years.

CONCLUSION

Ketamine is a recreational drug of abuse, although it is difficult to establish the extent of use in New Zealand. However, an increase in use around the world can be seen and specific drug-related harm associated with its use are identified. If access to ketamine as a drug of abuse continues to increase, it can be expected that the adverse effects that have been noted overseas will become more evident in New Zealand.

Although at this stage the use may appear to be insignificant, the harms and dangers associated with ketamine do have the potential to become problematic.

In line with the ADANZ purpose "Improving the health of the community by minimising harm associated with alcohol, other drugs and gambling" ADANZ recommends the legal control of supply, possession and use of ketamine be restricted by the classifying it under the Part 1 of the Second Schedule (Class B1 controlled drug) of the Misuse of Drugs Act.