Guideline

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Nursing & Midwifery Clinical Guidelines - Identifying & Responding to Drug & Alcohol Issues

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Summary These guidelines provide nurses and midwives with support and a benchmark for quality drug and alcohol use assessment and care in daily practice.

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Clinical guidelines for nursing and midwifery practice in NSW: Identifying and responding to drug and alcohol issues

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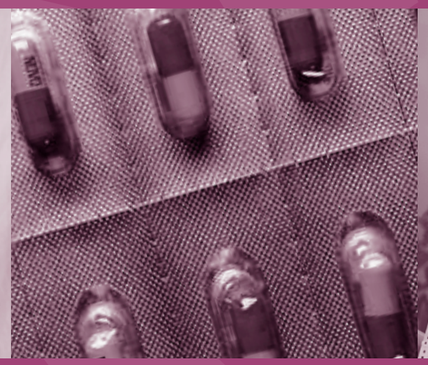

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Foreword

Drug and alcohol use is commonplace in our society. As health care professionals, nursing staff are often confronted with the complexities of caring for individuals who are affected by the use of drugs and alcohol. In 1998, the NSW Nursing Project–Alcohol and Other Drugs convened a clinical policy working group to develop supporting documentation for the document, *Alcohol and Other Drugs Policy for Nursing Practice in NSW: A Framework for Progress 2000–2003*, which was launched in 2000. The Clinical Guidelines provided a clear, consistent and detailed policy for implementation in public health services throughout NSW. These have proved to be a valuable resource for nurses and midwives across the health system.

Given the passage of time and changes in clinical management, it is timely that the Guidelines have now been reviewed and updated. The challenges of managing patients with drug and alcohol issues have not diminished since the first Guidelines were released. The necessity for all nurses and midwives to be able to recognise issues of drug and alcohol use continues to be relevant and important across all settings. Guidelines such as these facilitate and support nurses and midwives.

Once again these Clinical Guidelines have been developed through extensive input from nursing and medical experts in the clinical management of drug and alcohol issues in NSW and elsewhere. They are based on research evidence, day-to-day clinical experience and feedback from consultation with a broad range of stakeholders. I commend the Guidelines to all nurses and midwives.

Adjunct Professor Debra Thoms
Chief Nursing Officer
NSW Department of Health

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About these guidelines

These guidelines provide nurses and midwives with support and a benchmark for quality drug and alcohol use assessment and care in daily practice. Each clinician needs to use these guidelines within the context of their role and scope of practice, and update their knowledge by accessing new research and clinical guidelines as they emerge.

Chapters 1 to 8 outline general principles and guidelines for drug and alcohol assessment, intervention, communication with patients, and managing intoxication, overdose and withdrawal.

Chapter 9 provides specific information on commonly used substances, with details of symptoms, signs, management and risks.

Chapter 10 provides additional information on pharmacotherapies for dependence on alcohol and on opioids.

The Appendices provide withdrawal assessment scales and other useful information.

The Handouts section contains handouts on selected drugs that you can photocopy and give to your patients.

The Glossary describes terms used in these guidelines related to drug and alcohol issues.

Resources contains a list of tools, literature, organisations, emergency numbers and useful websites.

These Guidelines will be accompanied by a supporting Policy Directive: *Nursing Management of Drug and Alcohol issues in the delivery of health care*.

Acknowledgements

This revised version of the *Clinical Guidelines for Nursing and Midwifery Practice in NSW: Identifying and Responding to Drug and Alcohol Issues* is based on the previous NSW Health Clinical Guidelines 2000–2003, and the South Australian publication, *Alcohol, Tobacco & Other Drugs Guidelines for Nurses and Midwives* produced by Flinders University and the Drug and Alcohol Services Council, SA, 2003.

Members of the NSW Health Drug and Alcohol Nursing Advisory Committee were primarily responsible for the development of these Guidelines. The following is a list of committee members, past and present, including its Editorial Reference Group, involved in the process:

- Tonina Harvey – Past Chairperson, formerly Area Director, Drug and Alcohol Services, Northern Sydney and Central Coast Area Health Service
- Nick Miles – Current Chairperson, Clinical Nurse Consultant, Drug and Alcohol Services, Northern Sydney and Central Coast Area Health Service
- Christine Stephens, D&A Nurses of Australasia (DANA) and Editorial Reference Group
- Gail Legg, Acting Area Director/Editorial Reference Group
- Kim Bofinger, Rural Clinical Nurse Consultant / Editorial Reference Group
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- Roger Orr, Corrections Health
- Susan Russell, Rural Clinical Nurse Consultant
- Sally Forsstrom, NSW Nurses' Registration Board
- Susan Taylor, NSW Nurses' Association
- David Wallace, NSW Training Taskforce
- Al Scerri, DANA & Corrections Health
- Annie Butler, NSW Nurses' Association
- Una Champion, Juvenile Justice Department

- Sandy Ozols, Justice Health
- Lorna McClennan, Nursing and Midwifery Office
- Rita Martin, NSW Nurses' Association
- Debbie Kaplan, Mental Health and Drug & Alcohol Office
- Janet Ma, Drug Programs Bureau
- Chris Shipway, Mental Health and Drug & Alcohol Office
- Eddie Greenaway, Mental Health and Drug & Alcohol Office
- Mark Anns, Mental Health and Drug & Alcohol Office
- Karen Lenihan, Centre for Drug and Alcohol
- Nikki Maloney, Mental Health and Drug & Alcohol Office.

The opportunity for feedback on the draft guidelines was provided to the following organisations/bodies:

- The Deans / Heads of Schools of Nursing and Midwifery
- The Enrolled Nurse Professional Association NSW
- NSW TAFE, Health and Aged Care Services
- The Network of Alcohol and Drug Agencies Inc.
- The Aboriginal Health and Medical Research Council of New South Wales
- Directors of Drug and Alcohol, Area Health Services
- Directors of Mental Health, Area Health Services
- The Drug and Alcohol Clinical Nurse Consultants Network
- Area Directors of Nursing and Midwifery
- Justice Health
- Aboriginal Health Branch, NSW Health
- Tobacco Branch, NSW Health
- Nursing and Midwifery Office, NSW Health.

As part of the Mental Health and Drug & Alcohol Office's clinical governance process, the draft guidelines were reviewed by the Quality in Treatment Committee, co-chaired by Professor Bob Batey, Clinical Advisor, MHDAO and A/Professor Paul Haber, Royal Prince Alfred Hospital.

We would like to express our sincere gratitude and appreciation to all of the above individuals and organisations, as well as the many other nurses, midwives, nurse educators and managers who have contributed to this important document.

CHAPTER 1

Principles of practice

These *Clinical Guidelines for Nursing and Midwifery Practice in NSW: Identifying and Responding to Drug and Alcohol Issues*, rest on the following principles:

- The focus of nursing and midwifery practice aims to give **equal regard** to the physical, psychosocial and cultural wellbeing of all patients receiving care. All practice should therefore include a comprehensive substance use assessment and offer suitable interventions and harm reduction strategies to all clients identified as being at risk of, or experiencing, problems associated with substance use. These problems may include intoxication, regular/harmful use, withdrawal and/or dependence, and related health and social issues.
- All episodes of care provide an important opportunity or a **critical moment** for a person to be offered appropriate and easy-to-understand health information and education related to drug and alcohol use, and assessment and evidence-based interventions if a problem is identified.
- Access to comprehensive health care is **every individual's right**. All health professionals need to ensure that their own attitudes, value judgments and personal experiences do not interfere with a person's right to quality care.
- **A client-centered approach** is needed to care effectively for a person with drug and alcohol problems, and where appropriate, such care needs to include the person's family and/or significant others.
- Health Professionals and Health Services have a responsibility to effectively manage and support each person presenting with substance related problems.

CHAPTER 2

Overview and general guidelines

Drug and alcohol problems affect individuals in all sections of society regardless of their race, cultural background, education, religion, gender and age. It is important to recognise that alcohol and/or other drugs use is common and those who use these substances may be affected because of ignorance and the prejudice of other people.

Assumptions about people who use alcohol and/or other drugs are often founded on myths, stereotypes, media images or another's experience. Within the role and scope of nursing and midwifery practice it is common to come across people who have used substances for a variety of reasons. Substances used may be legal (such as tobacco, alcohol, prescribed and over the counter medications) or illegal (such as amphetamines or opioids). In each case, however, the nurse or midwife **must consider the clinical implications** associated with any substance use that has occurred.

It is within the role and scope of practice of all nurses and midwives to minimise the harm associated with hazardous substance use resulting from intoxication, withdrawal and dependence. All registered and enrolled nurses, midwives, and assistants in nursing in NSW are responsible for adhering to the principles herein, and for clinical expertise according to these Guidelines.

This section examines briefly the trends in **polydrug use**, **myths** about drug and alcohol use, the concept of **harm minimisation**, the importance of **non-judgmental care**, and **why people don't seek help**.

2.1 Polydrug use

Over the last two decades, people have increasingly used more than one drug at a time. In fact, a person who presents with a single type of drug use is becoming increasingly rare. Medications, over-the-counter drugs, naturopathic, homoeopathic, legal and illicit drugs all have the potential to interact with each other.

Polydrug use and its risk factors should be considered during assessment of a person's substance use.

Drug interactions can occur in two major ways:

- pharmacokinetic—when changes take place in the absorption, distribution, metabolism or excretion of the drugs
- pharmacodynamic—when changes occur in the effects of drugs.

The dangers of polydrug use include increased risk of:

- overdose
- adverse drug reactions
- medical conditions not responding to prescribed medications
- intoxication and subsequent effect on performance being greater than anticipated
- the amount of drugs used being increased to attain the desired effect
- increased or decreased duration of effects due to altered metabolism
- false sense of competence, e.g. when caffeine and alcohol are used together there may be some counter-action of central nervous system depressant effects in the absence of any real capacity for task performance (Taylor, 1991, p. 13).

2.2 Harm minimisation

Harm minimisation is the key philosophy and basis for government policy in the management of drug and alcohol related issues. The concept is based on the acceptance that drug and alcohol use exists, is likely to continue, and is widespread across all levels of the Australian and international communities. This does not preclude abstinence and is interrelated to harm, demand, and supply reduction.

Harm minimisation is a way of reducing the impact of drug and/or alcohol-related harm to individuals and the

community through a range of cost-effective public health policies, strategies and practices. Because of their numbers, roles, knowledge and skills, nurses and midwives are particularly well-placed to identify risks of harm associated with drug and alcohol use, and can apply a range of harm reduction strategies and interventions.

Enhancing the clinical knowledge and skills of nurses and midwives benefits the community by reducing the burden of preventable drug and alcohol problems on the health sector and other services.

This approach does not accept or encourage unsafe substance use or in any way abandon the goal or importance of abstinence from drugs and alcohol. It simply means that abstinence is one of a range of strategies and not the only goal.

Harm reduction strategies currently found to be beneficial include:

- providing clean injecting equipment—disposal units, needles, syringes, swabs
- providing information to the community about how to access confidential, clean needle and syringe programs.
- providing access to drug and alcohol withdrawal services and rehabilitation services
- assessing and addressing drug and alcohol use problems at the various points of contact across the health system—emergency departments, general health clinics, pre-admission clinics, diabetes clinics, midwifery services, STD clinics, mental health services and in General Practice
- introducing legislative measures—restricting tobacco advertising
- controlling availability of drug and alcohol—not selling alcohol to people under 18
- mass media safety campaigns—not drinking and driving a car or boat, health and safety risks from binge drinking, the hazards of smoking, the risks related to injecting psychoactive drugs
- educating communities about the harmful effects of unsafe drug and alcohol use
- health promotion campaigns—preventing young people taking up smoking, risks of drink spiking in pubs and clubs, promoting light beer
- providing access to abstinence-based services
- providing pharmacotherapy treatment—methadone/buprenorphine for opioid dependence, acamprosate for alcohol dependence, nicotine replacement therapy for nicotine dependence

2.3 The importance of non-judgmental care

Incorrect beliefs and inaccurate information can lead to continued stigmatisation, resulting in drug and alcohol users being reluctant to seek help. For clinicians to be effective, drug and alcohol use needs to be viewed and responded to as **a health issue not a moral issue**.

2.4 Why people don't seek help

There are a wide variety of reasons why individuals, families and communities do not or cannot seek help for problems associated with their drug and alcohol use. Some of these are:

- **fear of professional judgment**—being seen as an unfit parent or regarded as undeserving of a hospital bed when there are others around who are perceived as having 'legitimate medical conditions'
- **poor access to care**—inconvenient opening times for people who work, have children, or live far away
- **money problems**—being unable to pay for their chosen program or travel to a service, or having to leave paid work to enter rehabilitation
- **services that are not designed to meet the needs of culturally and linguistically diverse people and their families,** including Aboriginal and Torres Strait Islander people, migrant groups and "same sex" couples
- **fear of being labeled** a "junkie", "addict" or "alcoholic"
- **fear of lack of confidentiality**—an employer, parent, family member or local community member finding out about their drug and alcohol problem
- **age**, because most drug and alcohol services are unable to address the needs of people under 16 or people over 60
- **gender**, because few services can meet the needs of women and accommodate the children of parents who are seeking drug and alcohol treatment
- **fear of professional consequences**, because professionals with drug and alcohol problems often fear being recognised and judged by colleagues and supervisors.

2.5 Myths

There are many myths about drug and alcohol use, and some beliefs can impact negatively, both on the people with the substance use problem and on their families and friends. Some common myths are:

- It is someone else's problem
  Nurses and midwives are in ideal settings across the health system to address drug and alcohol problems rather than leaving the problem solely up to the specialists (de Crespigny 1996; Ghodse 1995).
- People who have drug and alcohol problems are hopeless people
  Most people with drug and/or alcohol problems have or want to have jobs; they manage their households, raise their children, and have a range of other responsibilities.
- Addicts are beyond help
  Many people who experience dependence can (and do) modify or cease their harmful use. However, this usually happens over time and when their situation supports it. Many people—often without professional help—move away from their drug and/or alcohol dependence. Either they abstain completely or they reduce their consumption to a safer and more manageable level.
- All substance misusers are dependent on drugs
  Many people use substances socially or recreationally, and whilst they may experience problems associated with hazardous use (such as intoxication), only a small proportion of people become physically and/or psychologically dependent on drugs and alcohol (Clancy, C. & Coyne, P. 1997).

CHAPTER 3

Communication and special population groups

Effective, clear, non-judgmental communication assists in building rapport and developing a sense of trust. This is the key to undertaking a quality assessment, understanding the person's major issues, and managing drug and alcohol-related problems.

As primary service providers, nurses and midwives often provide the link between the person, other members of the multidisciplinary team, the person's family, and other service providers.

This section examines **cross-cultural communication**, and issues related to communicating with special population groups, such as people with co-existent **mental health problems**, **gender** diverse groups, **Aboriginal and Torres Strait Islander people**, the **ageing population**, **offenders**, people with **diverse cultural and linguistic** backgrounds, **rural** communities, **children**, and **adolescents**.

3.1 General principles of communication

When assessing a person's drug and alcohol use, be aware of the following:

- In the health care setting, drug and alcohol use is a health issue not a moral issue.
- Whatever their age or circumstances, a person's substance use history should be taken as part of the routine clinical assessment. The need for confidentiality from family members and/or significant others should be considered.
- Issues related to cultural and linguistic diversity can make communication difficult, so the assistance of culturally appropriate interpreters (including Aboriginal interpreters) should be considered.
- Be clear and straightforward about who you are. Tell the person your name, role, what you need to know, and why you are asking about their substance use.
- Attend to the person's immediate concerns before addressing sensitive issues that may be unimportant to the person.
- Build rapport and a sense of trust by listening to what the person wants, why they may be worried, and what they believe will help them.
- Show your concern about the person's drug and alcohol use problems without prejudice.

3.2 Improving cross-cultural communication

Be aware that people from different cultural groups may misinterpret your requests for information or have different expectations of your service.

Responding effectively to cultural and/or linguistic diversity requires flexibility of approach and creativity in ensuring that services are appropriate for the person and their family, rather than requiring the person to comply with rigid guidelines that may be inappropriate. Flexibility will foster rapport and a greater willingness on the person's part to participate and cooperate in treatment.

Here are some suggestions to help you when working with people from cultures other than your own.

- Always use approved interpreter services.
- Always follow the guidelines for how to use interpreter services.
- Allow sufficient time to interpret the situation from the person's and their family's cultural perspective.
- Provide ongoing evaluation of assessment and care.
- Be clear, concrete and specific.
- Respond with respect, immediacy and timeliness.
- Respect taboo.
- Be sensitive to embarrassment.
- Examine your own expectations.

3.3 Special population groups

Within the community there are specific population groups that experience barriers in accessing and receiving drug and alcohol interventions. These groups have specific needs, and service delivery models for these groups are still evolving.

3.3.1 Co-existing mental health disorders and substance misuse

There are a considerable number of people with co-existing mental health and drug use problems, and its prevalence may be increasing. It varies in severity and degree of impairment and cannot be defined in terms of a specific syndrome with a discrete treatment approach.

Mental health disorders and drug use is associated with a host of social, behavioural, psychological and physical problems, including: increased symptom severity and suicidal behaviour; greater non-compliance with treatment; more hostile and aggressive behaviours; increased risk of violence to others; higher rates of offending, imprisonment and homelessness; and longer duration of admission to psychiatric inpatient units. (Hegarty, M., 2004).

Prevalence rates of drug use issues in mental health settings have been consistently reported at between 30 and 80 percent. (Todd, F.C., Sellman, D. & Robertson, P.J., 2002).

More than half of the people who use substances have experienced psychiatric symptoms significant enough to fulfill diagnostic criteria for a mental illness. (Regier et al., 1990).

People living with a mental illness are at an increased risk of developing problematic alcohol and/or drug use, especially those aged between 18 and 25 years.

3.3.2 Aboriginal and Torres Strait Islander people and communities

According to the *2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS)*:

- One-quarter of Aboriginal people aged 15 years or over in non-remote areas reported having recently used an illicit substance.
- 40% of Aboriginal people reported having tried at least one illicit substance in their lifetime.
- Substance use was more prevalent among Aboriginal males — 43% of males compared with 37% of females.
- Aboriginal people aged 25–34 years were the most likely to have ever tried substances (55%).
- Marijuana was the most commonly reported illicit drug used by Aboriginal and Torres Strait Islander people in 2002.
- Amphetamines/speed and painkillers or analgesics (for non-medical use) was the second most commonly reported illicit drug used.

As at 31 December 2004, in NSW there were 1314 Aboriginal people on the opioid treatment program, which equates to 10.7% of the total number of clients on the program. This figure is high, as the percentage of Aboriginal people in NSW is only 2%.

Research has consistently shown that while a greater proportion of Aboriginal and Torres Strait Islander people abstain from drinking alcohol than is the case amongst non-Indigenous Australians, those Aboriginal and Torres Strait Islander people who consume alcohol are more likely to do so at hazardous levels. It should be noted that, according to the Australian Institute of Health and Welfare:

- Heaviest drinking occurs amongst Aboriginal and Torres Strait Islander people aged 25–34 years, while hazardous drinking in the general population is most common amongst people aged 14–24 years.
- 19.6% of Aboriginal and Torres Strait Islander people consume alcohol at high risk of long-term, alcohol-related harm, compared to 9.7% of non-Indigenous Australians, though among urban people who drink, 68% of Aboriginal and Torres Strait Islander people consume alcohol at harmful levels compared to 11% of non-Indigenous urban people who drink.
- 48.7% of Aboriginal and Torres Strait Islander people are at risk of long-term, alcohol-related harm, compared to 9.7% of non-Indigenous populations.
- At all ages, Aboriginal and Torres Strait Islander males are more likely to drink than women.
- 20.6% of Aboriginal and Torres Strait Islander people abstain from alcohol, compared to 17.3% of non-Indigenous Australians.

Like the rest of the community, Aboriginal and Torres Strait Islander people live in different settings across urban, rural and remote areas. Again, as with all patients, the ways Aboriginal and Torres Strait Islander people use substances are affected by the environments they live in, their access to substances, their history, social situations and personal choice.

Because of this diversity, there is no simple set of instructions about working with Aboriginal and Torres Strait Islander patients. As with all patients, nursing staff's dealings with Aboriginal and Torres Strait Islander patients needs to be respectful, sensitive and flexible.

A thorough and non-judgmental substance use assessment remains the key to quality nursing care of Aboriginal and Torres Strait Islander patients; however, nurses need to be aware of the following specific factors in their communication with Aboriginal and Torres Strait Islander people.

The following are some hints about communicating effectively with Aboriginal and Torres Strait Islander patients:

DO

- Be polite, respectful, and treat the person as equal to yourself.
- Enlist the help of your health facility's Aboriginal and Torres Strait Islander health liaison worker. Be aware that the patient may prefer to have a relative, friend or other trusted person present when you speak to them.
- Be very careful about non-verbal signals. Use a friendly tone of voice, smile; take some time to show your interest in the patient and their family or other visitors.
- Spend a little time chatting generally (e.g. trying to find common ground or people that you know in common) before asking about the clinical issue at hand.
- Avoid overly medical terms or explain them thoroughly if you must use them, trying to ensure the person understands what you are saying without being threatening or patronising.
- Be aware that you may subconsciously be using power to hide your own insecurity about being socially unskilled with Aboriginal and Torres Strait Islander clients.
- Be aware that a patient may be hostile towards your role based on their past negative experiences, not necessarily towards you personally.
- Display hope and optimism about a person's ability to change their substance use. Many health workers are pessimistic about health outcomes for Aboriginal and Torres Strait Islander people, and this is a serious barrier.
- Ensure privacy when talking about substance issues.
- Be aware that separation from family can be very frightening for Aboriginal and Torres Strait Islander people. Try to accommodate the patient's wishes for a relative or other trusted person to be with them if they wish for it.

DON'T

- Don't assume anything. Do not base your responses to a patient on any assumptions about their illness, their Aboriginality or their behaviour.
- Make clear clinical judgments and carry out quality nursing care of the patient.
- Don't use stereotypes. Relying on stereotypes (e.g. 'Aborigines all have drinking problems') is not only offensive but dangerous — it can lead to other health problems being ignored or misdiagnosed.
- Don't be pushy or confrontational when giving health advice. Confrontation is likely to be rejected by an Aboriginal and Torres Strait Islander patient.
- Don't give the impression that you are too busy to talk to the patient properly. Aboriginal and Torres Strait Islander people often say they wish professionals would get to know them a little: "I wanted to ask questions of the doctors and I was frightened … You walk in and they say 'What's wrong with you?' instead of talking to you." (Eckerman et al, 1995)

3.3.3 Sexual and gender diverse groups

National and international research into Lesbian Gay Bisexual and Transgender (LGBT) health highlights a strong relationship between homophobia, heterosexism, social exclusion and the health status of individuals.

The percentages of same-sex attracted young people injecting drugs dropped from 11% in 1998 to 4% in 2004. Nevertheless, drug use still remains substantially higher than for heterosexual young people, for example, double the number of same-sex attracted young people have injected drugs.

3.3.4 Ageing population

As the age of the Australian community increases, it is necessary to recognise the needs of the elderly. Elderly people with drug and alcohol issues have greater need for support services. Their increased age, coupled with the effects of drug or alcohol misuse, make them less able to cope in the community.

For men and women aged 65 years and over on a day when alcohol was consumed, 40% of all men and 45% of all women had one or two drinks, 23% and 7% had three or four drinks, and 15% and 1%, respectively, had five or more drinks.

To examine the prevalence and pattern of alcohol use among community-living elderly Australians, a survey was conducted of randomly selected non-institutionalised people aged 75 years and older living in the inner suburbs of Sydney. It was found that:

- 72% of men and 54% of women drank alcohol. The median usual daily volume of ethanol consumed was 10 grams for men and 1.3 grams for women.
- 11% of male drinkers and 6% of female drinkers consumed at defined hazardous or harmful levels.

Although a sizable majority of these older people were either non-drinkers or very light drinkers, a small but significant proportion drank in the hazardous to harmful range. It remains important to be alert for potentially harmful alcohol use among older people.

3.3.5 Offenders

Approximately 18,000 people are received into custody each year in NSW. Of these:

- over 60% of prisoners in the NSW Correctional System are estimated to have been under the influence of drugs or alcohol at the time of offending
- 80% have committed drug-related crimes
- 60% have a history of injecting drug use
- 40% are current injectors
- 20% will continue to inject in prison.

3.3.6 People from diverse cultural and linguistic backgrounds

Use of drugs and alcohol can have different meanings for particular cultures, and there can be diversity in patterns of use within cultural groups. For example, people from a European background are more likely to have used both alcohol and cannabis than those from an Asian or Arabic background.

People from culturally and linguistically diverse backgrounds are less likely to have drunk alcohol in the past week (44.5% of alcohol users) than in the wider community (56.5% of alcohol users).

3.3.7 Rural communities

Rural and remote populations have specific challenges in providing comprehensive health care, such as distance, travelling times, availability of clinicians, and dispersal of the population. These factors affect the delivery of an integrated drug and alcohol service system. Telecommunications and the use of technology in service delivery have a special role to play in making services accessible to these populations.

In NSW in 2003, 15% of rural people were at high risk of harm in the short term as a result of their drinking. The proportion of males reporting short-term high-risk drinking was greater than the proportion of females across all age groups.

The proportion of people participating in high risk drinking behaviours was greatest among those aged 16–24 years for both males (34%) and females (27%). High-risk drinking declined progressively with age. 15% of both urban residents and rural residents reported high risk drinking.

In rural NSW, 8% of men in rural areas report consuming alcohol at a hazardous or harmful level compared to 5% in metropolitan areas; 82% of 14–19 year-olds in rural communities regularly consume alcohol compared to 71.5% in metropolitan areas; and 22% of rural road fatalities are alcohol-related compared to 14% for metropolitan areas.

3.3.8 Children in developmental stages

Alcohol consumed by mothers during pregnancy can seriously affect the health and development of their unborn child. Some babies will be born with foetal alcohol spectrum disorder (FASD). FASD is used here to indicate the full range of possible effects of foetal exposure to alcohol. These children may:

- Be small at birth
- Have developmental disabilities
- Have behavioural and learning problems
- Have abnormalities in the appearance and shape of the face
- Have eye problems
- Have heart problems.

FASD is more prevalent in Aboriginal and Torres Strait Islander than non-Indigenous infants.

For further information, refer to the *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn*. (March 2006) www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

The Department of Community Services (DoCS) Families First has received Drug Summit funding for innovative prevention and early intervention projects to support families, communities and individuals. In a number of Area Health Services, DoCS has implemented projects to support substance using mothers during pregnancy, and during the child's early infancy.

3.3.9 Young people with emerging problems

While many young people do not use drugs and alcohol at dangerously high levels, there are known harms associated with all levels of misuse. It is also recognised that some young people will develop chronic patterns of drug use and engage in frequent harmful binge use.

A NSW Health report, *The Health Behaviours of Secondary School Students in New South Wales 2002*, found that the number of NSW secondary students reporting recent tobacco and cannabis use has almost halved in the last 20 years. The data shows that since 1984 the number of high school students reporting recent tobacco use had fallen by 40% while the number of students reporting recent cannabis use had fallen by 47% since 1996.

In 2002, 69% of NSW secondary school students reported drinking in the last year, and 45% reported drinking in the last four weeks.

30% of students reported being recent drinkers (within the last seven days). As expected, the percentage of recent drinkers generally increased as the age of students increased, from 13% among students aged 12 years to 39% among students aged 17 years in 2002.

Males were more likely to report being recent drinkers than females, with 32% of females aged 17 years reporting that they were recent drinkers compared with 46% of males. The exception to this was in female students aged 15 years, where the percentage of recent drinkers was higher than in males of the same age (43% versus 37%) and higher than in females aged 17 years (33%).

For alcohol, the mean age of initiation remained relatively stable between 1995 and 2004 at 17 years of age. The mean age of initiation for first use of all illicit substances surveyed either remained stable or increased between 2001 and 2004.

In 2004, over one-third (38%) of the population aged 14 years and over had never used an illicit drug. Across all age groups, males were more likely than females to have recently used an illicit drug with the exception of those aged 14–19 years, where females (21.8%) were more likely to have used an illicit drug in the preceding 12 months than their male (20.9%) counterparts.

More than one in five (21.3%) teenagers had used illicit drugs in the past 12 months.

CHAPTER 4

Drug and alcohol use assessment

It is essential that nurses and midwives are well-equipped to identify presentations that require admission, treatment, referral or further investigation. A drug and alcohol use assessment is important in order to:

- establish a correct diagnosis
- predict the effects of intoxication, assess its life-threatening potential, and plan appropriate intervention
- assess the possibility of drug interaction between the drug taken by the patient and drug(s) administered by the nurse, or between those already taken
- predict the possibility of withdrawal
- assess risk behaviours, including self harm
- ensure duty of care
- gain an understanding of the patient as a whole person, not merely in terms of their symptoms
- select appropriate therapeutic interventions.

Some diagnoses may be confused with alcohol or drug intoxication or withdrawal, leading to significant medical problems being missed if the nurse or midwife does not look for causes beyond alcohol or drugs. Such problems include infection, hypoxia, hypoglycaemia and other metabolic imbalances, head injury, CVA, liver disease, drug overdose and psychosis.

This section outlines steps involved in making a **physical and mental status assessment**, the need for **blood-borne virus screening**, issues about **child protection**, and what to do if a person **refuses assessment or treatment**. It also provides some handy techniques to elicit information.

4.1 General principles of drug and alcohol use assessment

- Drug and alcohol use assessment must be **quantified and documented**.
- Systematic assessment of all patients should include a **thorough examination** of:
  - indicators of risk
  - past medical history
  - psychosocial issues
  - physical signs and symptoms
  - mental health status
  - pathology results.
- **No single sign**, symptom or pathology test is conclusive evidence of an alcohol or drug-related issue.

4.2 Key elements of assessment

The following key elements must be clarified with each patient as part of the drug and alcohol use assessment:

- type of drug (See Appendix 6 for street names)
- route of administration
- frequency of use
- dose
- duration of use
- time and amount of the last dose, e.g. grams of alcohol, mls and mgs of methadone, grams of cannabis, etc.

Note: It is important to ask the person if they are using more than one drug at a time, as polydrug use can significantly increase the risk involved.

4.3 Physical assessment

The physical assessment involves noting vital signs, fluid balance, level of consciousness, blood pressure and pulse. Here are some examples of physical signs arising from drug and alcohol use.

4.3.1 Signs of drug use administration

- puncture marks
- cellulitis
- phlebitis

- skin abscesses
- erosion or irritation around nostrils/septum
- irritation or rash around nose and mouth.

4.3.2 Signs of withdrawal

- sweating
- tremor
- agitation
- disturbance of coordination, gait

4.3.3 Consequences of use

- excessive weight loss
- signs of numerous old injuries, e.g. bruising
- general physical health problems such as septicaemia, HIV, hepatitis B/C (see following page)
- jaundice.

4.4 Mental status examination

It is important to include a mental status examination in the overall assessment.

Psychoactive drugs affect cognition, emotions and behaviour. Depending on the particular substance, they can, for instance, induce confusion, disorientation, perceptual disturbance, euphoria, agitation, panic, emotional lapses, repetitious behaviour or aggression.

A mental status examination involves the assessing the following:

MH-OAT (Mental Health Outcomes Assessment Training):

- Appearance and behaviour: (including physical features, dress, grooming, level of awareness and attention, motor activity, gait, posture and attitude toward interviewer)
- Speech: (including quantity, rate, volume, tone, and any unusual characteristics)
- Mood: (internal feeling or emotion, e.g. depressed, euphoric, distressed)
- Affect: (external emotional response, e.g. restricted, flattened, inappropriate given circumstances). Does the patient seem unduly anxious or depressed? Do the patient's emotions, posture, facial expression seem natural for their present situation?
- Thought form: (including tangentiality, loosening of associations, illogical thinking incoherence, thought blocking, poverty of thought)
- Thought content: (including pre-occupations, ideas of hopelessness/guilt, obsessions, overvalued ideas, delusions, suicidal & homicidal ideation)
- Perception: (including illusions, derealisation depersonalization and hallucinations)
- Insight and Judgment

All health staff need to complete a preliminary screening for suicide risk as part of any assessment. For further information about the management and assessment of suicide risk, refer to NSW Health Department Policy PD2005_121 'Management of patients with possible suicidal behaviour.'

Thorough multidisciplinary assessment is the first step towards providing an effective package of medical and social care. Practitioners should aim to establish:

- The chronology of presenting problems
- The relationship (if any) between them
- Whether the disorders require independent treatment or
- Whether treating one will help alleviate the other

4.5 Quantifying substance use

The nurse or midwife must quantify a person's drug and alcohol use, and include both prescribed and non-prescribed drugs in the assessment, before determining whether the level of use may cause harm, and whether withdrawal or progression to overdose is imminent.

For some substances such as alcohol, there is an agreed low risk level of consumption. For tobacco there is no safe level of consumption. Illicit drugs are difficult to quantify because the same drug can differ vastly from dose to dose in terms of purity and actual ingredients. Nevertheless, for illicit drugs, document e.g. the number of injections, bongs, or the dollar cost etc.

Many medications should only be taken if they are on prescription and in the way prescribed.

4.6 Hints on taking a drug and alcohol use history

For many reasons, it can be difficult to discuss personal issues with people.

Here are some points to remember when taking a history:

- Try to make the environment as quiet and private as possible.
- Be mindful of the patient's level of physical and emotional comfort.
- Note inconsistencies in what the patient tells you.
- If a question angers the patient, leave it until later when you can rephrase the question.
- A history of the person's drug and alcohol use can also be elicited from their spouse, friends or family.
- Examine hospital medical records and speak to other health workers to gain supporting information for your history.

4.7 Discussion techniques

When discussing drug and alcohol issues with your patient, try to remain as non-threatening and non-judgmental as possible. The following techniques may help, but be mindful that they may not be suitable for every patient. Use discretion and professional judgment as to which may be useful.

- Introduce drinking/drug use as a normal, everyday experience, e.g. "What do you like to drink each day?"
- Ask about frequency of drinking e.g. "how often would you have a drink?"
- Use open-ended questions, e.g. "How has your drinking changed over time?"
- Try reflective listening, e.g. "Sounds like your drinking has been causing you problems lately."
- Do not be distracted away from important points.
- Do not allow personal attitudes to affect the assessment.
- Be affirmative, e.g. "It takes a lot of courage to open up and talk about your drug use."
- Be sensitive to the patient's cultural background and language.
- Suggest high levels of drug and alcohol use, e.g. "How much would you normally drink in a session? Twenty schooners?" However, when talking with adolescents, be careful that they do not perceive the overestimated amount as an expected figure, thereby encouraging them to exaggerate it further.
- Summarise, e.g. "On the one hand you like drinking because it helps you to relax but on the other hand you're concerned about the effect it will have on the kids."
- Do not assume that the patient perceives their drug and alcohol use as a problem
- If a question angers the patient, leave it until later when it can be rephrased.

(See Appendix 6 for street names of drugs.)

4.8 HIV, Hepatitis B & C screening

Hepatitis C is a major public health concern in Australia. Approximately 80% of Australian-born people with hepatitis C were exposed to the virus through unsterile injecting drug use (Crofts, N. et al., 2001). It is therefore important to discuss blood-borne viruses and the risk of acquisition with patients.

- Either at the assessment interview or after treatment has commenced, offer all patients screening for HIV, hepatitis B and hepatitis C and advise on the availability of hepatitis B vaccination.
- Tests should only be undertaken when patients have voluntarily agreed to such testing and at an appropriate time in the withdrawal process (not in the acute phase).
- To assist patients to make a decision regarding testing, provide sufficient information to allow them to give informed consent, and assure them that confidentiality will be maintained.

If patients elect to undergo these tests, pre-test and post-test counselling must be provided as outlined in:

NSW Health Policy Directive PD2005_048: *Counselling associated with HIV antibody testing—guidelines*.

For further information, see "Nurses and Hepatitis C"—Australasian Society for HIV Medicine (ASHM).

http://www.ashm.org.au/uploads/File/nurses-supp.pdf

4.9 Child protection issues

At assessment, it is important to consider the safety, welfare, and well-being of any children within the patient's care. Health care workers have a duty under the *NSW Children and Young Persons (Care and Protection) Act 1998* to notify the Department of Community Services whenever they suspect that a child or young person may be at risk of harm through abuse or neglect. When necessary, this duty overrides the duty to maintain patient confidentiality. For further information, refer to:

- NSW Health Policy Directive PD2005_299. *Protecting children and young people*.
- NSW Health *Frontline Procedures for the protection of children and young people*. 2000.

Pregnant opioid-dependent women should always be referred to Drug Use in Pregnancy Services. For further information, refer to the National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

Inadvertent consumption of methadone by a child is a potentially life-threatening situation.

- Assess the level of consciousness and monitor this continuously until the child is in the care of ambulance or other qualified staff.
- Refer the child to a hospital emergency department without delay, providing the information available about the amount taken and the time.
- Administer oxygen if available.
- Consider naloxone administration if the child is showing signs of respiratory depression. Document any treatment given.
- Notify the prescriber and the Pharmaceutical Services Branch or the Mental Health and Drug & Alcohol Office of the incident. If a child has ingested methadone or buprenorphine by any means, the child has been placed at risk of harm and the authorities should be notified:
  - A report to DOCS should be made (see section 7.14, Child protection, on page 76, *NSW Opioid Treatment Program, Clinical guidelines for methadone and buprenorphine treatment of opioid dependence*. GL2006_019). Concerns for the child should be discussed with hospital staff.
  - Police may be involved in exceptional circumstances.

4.10 Domestic violence issues

Amongst those with drug and alcohol issues are significant numbers of both victims and perpetrators of domestic violence. Responding to this group presents particular challenges for nurses. For further information about the management of domestic violence and assessment of risk, refer to:

- NSW Health Policy for Identifying and Responding to Domestic Violence, 2003.
- NSW Health Policy Directive PD2006_084. Identifying and responding to domestic violence.

4.11 Confidentiality

It is important that you are aware of the limits of confidentiality. Patients need to be informed that the purpose of taking a drug and alcohol history is to obtain information that is relevant to their health and that it is not a forensic investigation.

In fact, in most cases, information can only be provided to third parties (i.e. people other than the clinicians treating them) if the patient has provided written permission to do so. There are a few exceptions, for example, if the person is homicidal or suicidal; if there are child protection issues; and if a subpoena has been issued for the patient's notes.

4.12 If a patient refuses assessment

Patients are unlikely to object to a drug and alcohol use assessment if the questions are asked in a matter-of-fact manner as part of routine history collection.

While the patient has a right to refuse, the nurse or midwife is obliged to ask about substance use and document the response.

CHAPTER 5

Opportunistic intervention

Opportunistic intervention can be undertaken in as little as a few minutes and can be supported by written information and self-help strategies. Studies have shown that talking with people at a critical moment such as when they are in hospital can be very effective in educating and preventing further problems and complications (Heather et al. 1996). Pregnancy and around the time of birth also provide useful opportunities for appropriate interventions if drugs and/or alcohol are an issue.

While opportunistic interventions can be applied at any stage in the person's drug and alcohol using career, it is not as likely to be effective for those who experience chronic relapsing dependence or a co-morbid mental health condition. This group usually requires supportive care and longer-term expert treatment.

This section outlines briefly the concept of opportunistic intervention and when it may or may not be appropriate. Also refer to the Handouts Section after Appendices.

5.1 General principles of opportunistic intervention

- Carrying out a comprehensive substance use assessment allows the nurse or midwife to identify whether the person is using substances in ways that may become **damaging in the future**.
- Opportunistic interventions can be done **at any time** during contact with a person who is being assessed for substance use.
- Providing relevant, easy-to-understand information such as **self-help materials** or handouts may help to motivate a person to seek further help.

5.2 Unsuitable candidates for opportunistic intervention

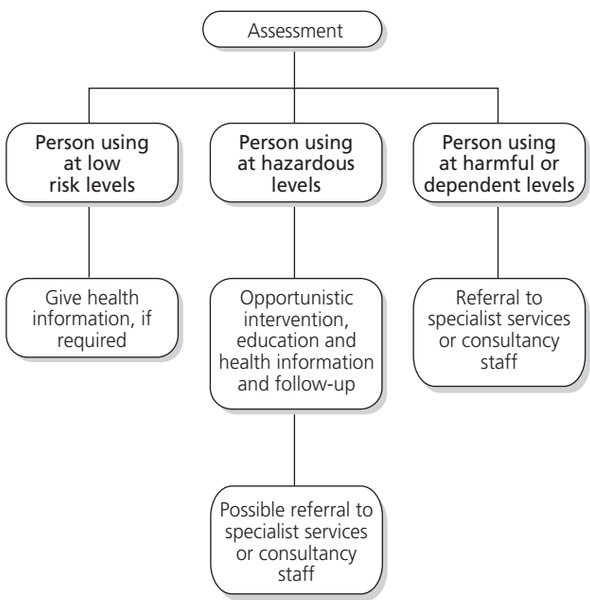
Not everyone responds favourably to opportunistic intervention, for example, the following:

- People who show signs and symptoms of **serious physical illness** arising from their substance use. In this instance, a physician needs to carry out a further assessment.
- People who are **dependent** on substances and need comprehensive general and mental health screening, specialist assessment, and specialist treatment.
- People who feel powerless about their situation or have **concurrent health and social problems** that require more intensive counselling, intervention and support than is possible in a brief intervention.

5.3 Self-help interventions

While opportunistic interventions may be beneficial, when staff are pressed for time, self-help approaches have been shown to be effective with mild to moderate levels of alcohol or other drug use.

Figure 5.1: **Intervention flowchart**



CHAPTER 6

Managing intoxication

Intoxication occurs when a person's intake of a substance exceeds their tolerance and produces behavioural and/or physical changes. Nurses and midwives must be able to correctly manage intoxication because it complicates assessment and management of patients, even when the intoxication is not life-threatening.

Intoxication can be dangerous because:

- it can mimic or mask serious illness and injury
- it can be life threatening and cause:
  - altered physical functions (e.g. depressed respiration, alterations in temperature regulation)
  - altered mental functions (e.g. panic or paranoia resulting in accidental injuries or self-destructive behaviour)
- psychoactive drugs affect mood, cognition, behaviour and physiological functioning
- aggressive or disruptive behaviour can pose a risk to the both the person's safety and that of other visitors, staff, and patients.

This section discusses the **procedure** for assessing and managing intoxication, and the **symptoms and effects** of specific drugs.

6.1 General principles of managing intoxication

- Maintenance of **airways and breathing** is of paramount importance to the comatose patient.
- Any patient presenting as incoherent, disoriented or drowsy should be treated as per head injury until proven otherwise.
- Intoxicated patients must be kept **under observation** until their intoxication diminishes.
- A thorough **physical and mental status examination** will reveal the level of a patient's intoxication to provide baseline information.
- Patients who appear intoxicated may be suffering from other conditions, so if the intoxication does not diminish with falling serum drug levels, the patient must be assessed for **other possible causes** of their condition. If an apparently intoxicated person cannot walk, stand or get up from a chair they must continue to be observed.
- Treat intoxicated patients with **respect**. Speak slowly and simply, treat them in a quiet place if possible, give information clearly, and protect them from accidents.
- Patients who have stabilised after being intoxicated should be further assessed for any possibility of **withdrawal**—early identification and intervention of withdrawal management can prevent complications that may be life threatening.
- Alcohol withdrawal can occur before a **zero blood alcohol** reading is noted.
- **Polydrug use** is common, so it important to identify and observe for the effects of more than one drug in the intoxicated person.
- Any patient presenting with **seizures** should be assessed for alcohol withdrawal, benzodiazepine withdrawal or stimulant intoxication as well as other possible causes. The seizures must be treated according to policy and the patient observed for at least four hours post seizure, using the Glasgow Coma Scale score (see Appendix 1).

6.2 Assessing intoxication

To assess intoxication:

- Take a comprehensive drug and alcohol use history (see Chapter 4).
- Observe vital signs—temperature, pulse, blood pressure, respiration.
- Refer to the physical examination conducted by the medical officer—ataxia, pupils, gait.
- Refer to the mental status examination (see Chapter 4).
- Consider conditions other than intoxication (e.g. head injury, CVA, hypoglycaemia, psychosis, severe liver disease, etc.).
- Record observations.

6.3 If the assessment indicates intoxication

- Maintain vital signs.
- Continue monitoring the patient's physical and mental state.
- Ensure that the medical officer is aware of the patient's status.
- Airway maintenance is of the utmost importance.

Note: Vomiting is likely to occur in the grossly intoxicated patient. This can present a major problem in semi-conscious or unconscious patients.

6.4 Checking for causes other than intoxication

Patients who appear to be intoxicated may be experiencing conditions due to other causes. Remember that intoxicated patients often present with additional problems such as fractures, trauma, lacerations, etc.

You must consider and investigate the possibility of an underlying illness. For example, if an apparently intoxicated person cannot walk easily, stand or get up from a chair, you must continue to observe them, regardless of the lack of obvious injury.

Any patient who presents as incoherent, disoriented or drowsy should be treated as per head injury until proven otherwise.

6.5 Managing intoxicated behaviour

Supportive care will most often prevent an intoxicated patient from becoming upset or frightened and/or disrupting other patients, staff and visitors.

- Approach the patient in a friendly and respectful manner. Patronising and authoritarian attitudes can often evoke anger and make patients aggressive (this is a common response to threats to one's dignity and self-respect).
- If friends who are also intoxicated accompany the patient, ask them to wait outside the room.
- Introduce yourself to the person and tell them your name and your role.
- Ask the patient's name.
- Orient the patient and establish rapport.
- Ask specific questions about the presenting illness or injury.
- Elicit information, do not rely on the patient to volunteer it.
- When possible, postpone questions or procedures that antagonise the patient.
- Avoid information overload and repeat information, if necessary.
- When instructing the patient or seeking cooperation, give clear, concrete instructions. If necessary, guide them to and from their destination, hand them things, etc.
- Reduce the possibility of accidents.
- When talking to the patient:
  - use the patient's name
  - use slow, distinct speech
  - use short, simple sentences
  - avoid emotional topics and involved discussions
  - use appropriate eye contact (limit, if the patient is affected by psychostimulants, or for cultural reasons
  - adjust speaking pace to match the patient's.

6.6 Managing specific behaviours

The following are techniques you can use to manage specific behaviours.

6.6.1 Anxiety/agitation/panic

- Approach the patient in a calm and confident manner.
- Move and speak in an unhurried way.
- Minimise the number of staff attending to the patient.
- Provide a quiet environment to reduce stimulation.
- Reassure the patient frequently, e.g. "It won't take much longer."
- Remain with the patient to calm him or her down.
- Explain interventions.
- Protect the patient from accidental harm, e.g. don't leave him/her unattended on a trolley.

6.6.2 Confusion/disorientation

- Provide frequent reality orientation.
- Display some object familiar to the patient, such as his or her own dressing gown or slippers.
- Ensure frequent supervision.
- Accompany the patient to and from places, e.g. bathroom, TV lounge.

6.6.3 Altered perception/hallucinations

- Explain perceptual errors.
- Create a simple, uncluttered environment.
- Nurse in well-lit surroundings to avoid perceptual ambiguities.
- Protect the patient from harm.

6.6.4 Anger/aggression

The Zero Tolerance Response to Violence in the NSW Health Workplace ensures that in all violent incidents, appropriate action is consistently taken to protect health service staff, patients and visitors and health service property from the effects of violent behaviour. It is important that staff are familiar with the strategies outlined in this policy document.

- Use space for self-protection, e.g. don't crowd the patient, keep furniture between yourself and the patient if feeling unsafe, etc.
- Keep own emotions in check. Speak in a calm, reassuring way.
- Use the patient's name when speaking to him or her.
- Do not challenge or threaten the patient by tone of voice, eyes or body language.
- Let the patient air his or her feelings, and acknowledge them.
- Determine the source of the patient's anger and if possible, remove it.
- Be flexible within reason.
- Be aware of workplace policies on managing aggression.

6.7 Signs of mimicking or masking intoxication

The following may mimic or mask intoxication:

- infections
- respiratory disease, hypoxia
- head injury, subdural haematoma
- acute psychosis
- diabetes, hypoglycemia
- epilepsy (temporal lobe), post-ictal
- drug toxicity e.g. phenytoin, digoxin
- meningitis
- CVA or TIA
- withdrawal
- Wernicke's encephalopathy.

6.8 If a patient refuses treatment

If an intoxicated or withdrawing patient wants to leave the hospital against medical advice and the nurse or midwife does not think it is safe for them to leave, the nurse or midwife must exercise a duty of care to ensure the patient's wellbeing. Refer to policies and procedures within your service.

6.9 Counselling support for staff

At times, staff feel stressed when dealing with people whose behaviour is difficult or threatening. Refer to an employee assistance program (EAP) for staff who need counselling and support away from the workplace.

6.10 Symptoms and effects of specific drugs

Table 6.1 on the following page outlines the symptoms and effects of specific drugs.

Table 6.1 (Adapted from *DASC 2002*, Coyne & Wright 1997)

Intoxicant	Symptoms and signs of use	Symptoms and signs of high doses	Possible indicators	Adverse effects/outcomes
Alcohol Common street names: *grog, piss, booze, sauce*	■ loss of inhibition ■ exuberance ■ slurred speech ■ argumentative ■ over-friendly ■ stumbling	■ confusion ■ slurred speech ■ intense moods/ swings ■ aggression ■ lack of coordination ■ increasing drowsiness ■ comatose, possibly leading to death	■ tins, cans, bottles, flasks nearby ■ smell of alcohol ■ vomit on shoes / clothes	■ alcohol-related injuries (e.g. falls, fights, pedestrian injuries) ■ drink-driving ■ brain, liver and other organ damage ■ withdrawal (tremors, sweating, hallucinations, seizures, delirium) ■ risks increase if used with other drugs, especially depressants
Amphetamines Common street names: *Speed, goey, whiz, uppers, oxblood, point, crystal, crystal meth, ice, shabu*	■ dilated pupils ■ increased energy ■ loss of appetite ■ hyperactive ■ very talkative ■ may be aggressive	■ feeling of well-being ■ aggression ■ rapid speech ■ pressured speech ■ confusion ■ dehydration ■ shakiness / tremor ■ agitation ■ paranoia	■ capsules, tablets and powder, varying colours ■ injecting equipment ■ needle tracks ■ underweight ■ paranoid ideation ■ evidence of lack of sleep ■ poor nutrition ■ loss of weight	■ hallucinations ■ drug-induced psychosis ■ depression and suicidal ideation following withdrawal ■ exacerbation of mental illness ■ withdrawal (excessive sleep, irritability) ■ impact of unsafe injecting, e.g. HIV, hepatitis B/C, endocarditis, abscesses, vein collapse
Benzo-diazepines Common street names: *benzos, rowies, moggies, downers, sleepers, tummies, serries, pills*	■ intoxication ■ drowsiness ■ headache ■ confusion ■ ataxia ■ dazed look	■ sleepiness ■ disinhibition ■ confusion ■ slurred speech ■ lack of coordination ■ stumbling	■ tablets in possession ■ prescriptions in possession	■ amnesia ■ falls / injuries ■ impaired thinking ■ withdrawal symptoms (nervousness, tremors, seizures)
Cannabis Common street names: *marijuana, grass, pot, shit, ganja, mull, hash, durry, green, dope, cone*	■ intoxication ■ very relaxed ■ red eyes ■ silliness ■ distorted sense of time ■ giggles ■ munchies (increased appetite) ■ talkative	■ sleepiness ■ disorientation ■ inability to perform complex tasks ■ hallucinations ■ increased appetite ■ paranoia ■ time distortion	■ odour of burnt leaves ■ seeds ■ cigarette papers & tobacco ■ pieces of foil ■ plastic money / coin bags ■ pipes / bongs	■ falls / injuries ■ respiratory problems ■ memory lapse ■ drug driving ■ exacerbation of mental illness ■ paranoia ■ withdrawal
Cocaine Common street names: *snow, coke*	■ energy rush ■ heightened awareness ■ confidence ■ chatty ■ affable ■ agitated ■ panic ■ enlarged pupils	■ extreme agitation ■ paranoia/ psychosis ■ drug-induced hallucinations ■ nausea and vomiting ■ increased body temperature ■ irregular shallow rapid breathing ■ tremors ■ chest pain ■ heart attack	■ straws for snorting ■ shiny surface (e.g. tin, mirror) ■ pipes ■ needles and syringes ■ needle tracks	■ lethargy ■ fatigue ■ panic ■ paranoia ■ depression, irritability ■ weight loss ■ delusions and violent behaviour ■ can lead to collapsed veins or skin ulcers at the injection site ■ ulceration and permanent damage to mucosa of nasal passage if snorted

Intoxicant	Symptoms and signs of use	Symptoms and signs of high doses	Possible indicators	Adverse effects/outcomes
Ecstasy Common street names: *E, eccies, XTC, good speed* **PMA**: variable contents — may be sold as ecstasy but contains speed, PMA or GHB **GHB**: Common street name: *GBH, liquid ecstasy, fantasy*	■ increased energy ■ loss of appetite ■ loss of inhibitions ■ wakefulness ■ euphoric feelings ■ sweating ■ grimacing ■ muscle cramps ■ sedation	■ feeling of well-being ■ vigorous activity ■ jaw clenching ■ nausea ■ sweating ■ teeth grinding ■ paranoia ■ severe headaches ■ increase in body temperature ■ loss of temperature control ■ severe dehydration ■ muscle weakness/cramps ■ brain damage ■ death	■ capsules and tablets, usually white, but may be coloured with motif stamped onto one side of tablet	■ if combined with rigorous activity: severe dehydration, hyperthermia, rhabdomyolysis, brain damage, death ■ all adverse effects and negative consequences as yet unknown ■ can occur with short-term use
Heroin / opioids Common street names: *Hammer, H, shit, smack, horse, harry, white, skag, junk, slow, rock*	■ emotional detachment ■ pain relief ■ comfort ■ euphoria ■ pinpoint pupils ■ drowsy 'nods off'	■ drowsiness ■ stupor ■ slowing respiration ■ itching ■ constricted pupils ■ nausea and vomiting ■ unconsciousness leading to death	■ poor nutritional state ■ poor teeth ■ needle tracks ■ injecting equipment ■ sachets ■ folds / wraps of paper ■ spoons ■ white / beige powder ■ tablets, capsules, syrup and vials	■ overdose ■ withdrawal (nausea, pain cramps, diarrhoea, irritability, dilated pupils) ■ impact of unsafe injecting, e.g. HIV, hepatitis B/C, endocarditis, abscesses, vein collapse
Ketamine Common street name: *Special K*	■ intense hallucinations ■ euphoria ■ depersonalisation	■ temporary paralysis	■ straws ■ needles and syringes	■ cramps ■ fatigue ■ severe depression ■ irritability ■ vomiting ■ heart failure ■ violent reactions ■ flashbacks similar to those experienced with LSD
LSD Common street names: *trips, acid, wangers, tabs, dots*	■ hallucinations: visual, auditory and tactile. Can range from being extremely pleasant to unpleasant	■ 'bad trip' (severe hallucinations) ■ incoherency ■ uncoordinated ■ vomiting ■ seizures ■ dilated pupils ■ disassociation	■ small paper squares in various colours and designs (microdots), will be kept away from light and wrapped in foil	■ risk of self-harm ■ injuries / falls ■ unpredictable behaviour ■ may predispose mental illness ■ "flashbacks" some time after usage
Solvents Common street names: *glue, tol, toluene, bute, nitrus, amyls, petrol, aerosol paint-chroming*	■ intense intoxication ■ loss of balance ■ auditory and visual hallucinations ■ stumbling	■ very similar to alcohol intoxication ■ seizures ■ unconsciousness ■ slurred speech ■ drowsy ■ aggression	■ common products including adhesives, thinners, liquid paper, dry cleaning products, aerosols, fuels, anti-freeze, fire extinguisher fluids, chrome and other spray paint ■ smell of solvent used	■ long-term damage to health (liver, kidney, brain damage) ■ sudden sniffing death syndrome ■ asphyxiation (upper airways obstruction, swelling of throat) ■ risks increase if used with other drugs, especially depressants

CHAPTER 7

Managing overdose

Any person who presents as incoherent, disoriented or drowsy should be treated as having a cerebral event (head injury) until proven otherwise. Overdoses should be managed according to the policy of each health facility. Overdose can be by accident or as a result of deliberate self-harm. Remember:

- acute poisoning and acute withdrawal can have common features
- accidental overdose is a high risk when a person has used more than one depressant drug
- a person, including someone who is alcohol-dependent, may overdose from high intake of alcohol or from having used other drugs with alcohol.

Overdose can be defined as the state occurring when a person has taken more of a substance than the recommended therapeutic dose and/or an amount that also exceeds his or her tolerance. Overdose indicates intoxication to the point of loss of consciousness.

Inexperienced drinkers such as children and adolescents can overdose from minimal doses of alcohol due to low tolerance.

Anyone who presents with a decreased level of consciousness must have their vital signs and neurological function monitored carefully. The Glasgow Coma Scale (GCS) provides the best method of assessment (see *Appendix 1)*. These observations must be done on arrival, after checking airway, breathing and circulation, and should be continued regularly for at least four hours.

With the use of the GCS and the monitoring of vital signs, the nurse or midwife can recognise quickly any deterioration in the person's condition and intervene at the earliest possible time.

This section presents guidelines for **identifying overdose and managing it**. It also provides a **basic life support flowchart**.

7.1 Management guidelines for overdose

A standard approach should be used for managing overdose situations. Alcohol-intoxicated people may have ingested other substances that may complicate and compromise their condition further. There may also be underlying pathology. All these factors must be considered. Treatment of overdose should be initiated within the following guidelines as routine practice:

- Do not give food or fluids.
- Be alert and manage the following conditions according to best practice:
  - slowing respiration
  - respiratory depression or failure
  - airway obstruction
  - bronchospasm
  - aspiration
  - pulmonary or cerebral oedema
  - haemorrhagic conditions
  - acidosis
  - hypoglycaemia
  - hyper/hypocalcaemia
  - liver failure.
- Measure or observe the following signs and manage according to best practice:
  - hypotension
  - bradycardia/tachycardia/arrhythmia
  - hyperthermia or hypothermia
  - oliguria/anuria
  - seizures.

7.2 Monitor progression of intoxication to overdose

To observe for progression to an overdose state, monitor the following:

- increasing agitation or sedation

- changing mental state (hallucinations, panic or deep depression)
- abnormal pulse (irregular, below 60 or above 120 per minute)
- breathing difficulties
- decreasing levels of consciousness
- increasing disorientation
- diminished response to stimuli
- seizures.

Note the need to:

- evaluate risk of self-harm
- remove any medicines, alcohol, other drugs or substances (e.g. solvents) that could be ingested by the person.

7.3 Identify type of drug and dose

For assistance with identification of the drug used, check:

- MIMS
- Australian Drug Compendium
- Poisons information service in your State
- Medical staff or general practitioner
- Pharmacist.

If a non-pharmaceutical drug has been used:

- check the label on the container (e.g. aerosol can)
- ask the poisons information service in your State
- ask any relevant government agency (e.g. agriculture, mining)
- ask the manufacturer.

Collect a urine sample as soon as possible:

- to identify the type of drug used, and to verify actual ingestion of a drug(s)
- to assess for qualitative estimates.

Collect a blood sample:

- for presence of drug(s)
- for blood alcohol level
- for serum drug levels.

Take a:

- history of ingestion of a foreign substance
- medical history (e.g. epilepsy, diabetes)
- recent history of drug and alcohol use.

7.4 Potentially lethal overdoses

A person who has had a potentially lethal overdose must be assessed early for the need for:

- urgent urine screening, where possible
- specific antidotes
- haemodialysis
- gastric lavage.

7.5 Medical management

Medical management may consist of the following:

- Administration of intravenous 100mg thiamine to prevent Wernicke-Korsakoff's syndrome in patients determined to be at risk of Wernicke's, before **any** dextrose loading (e.g. when used to treat hypoglycaemia).
- Naloxone (Narcan) for possible opioid ingestion may also be needed. (DASC 1996)

Note: Resuscitation equipment should be available immediately when Thiamine is given in the unlikely event of anaphylaxis (Thomson et al, 2002, p. 514).

- IV dextrose 50% 50 millilitres (e.g. when used to treat hypoglycaemia)
- Intravenous or intramuscular naloxone 0.4 or 0.8 milligrams (mg) for heroin or other opioid overdose. A dose of 2mgs repeated at two-minute intervals up to a total of 10mgs may be required for buprenorphine overdose due to buprenorphine binding tightly with opioid receptors. Higher doses of naloxone are needed to compete with this drug at the receptor site.
- Methadone overdose—close observation required

Anyone with a depressed or altered level of consciousness must have frequent regular monitoring of vital signs. This is best achieved by using the Glasgow Coma Scale (see *Appendix 1*) in conjunction with monitoring of vital signs (respirations, temperature, blood pressure and pulse).

7.6 Vomiting

Presume that any person who is unresponsive has a full stomach. Suction should always be available. If it is not, place the person in a coma position and monitor closely. Electrocardiograph and X-rays can be done after basic observations and appropriate support have been ensured.

7.7 Unconscious persons

Head injuries, overdoses and intoxication must all be taken into consideration when assessing the presenting state of any unconscious person. Thorough assessment, early recognition and intervention are vitally important.

Poisoning must be suspected in all persons presenting as unconscious or with a decreasing level of consciousness.

All persons with questionable levels of consciousness must have regular monitoring of vital signs. This is best done using the Glasgow Coma Scale (see *Appendix 1*), which incorporate vital signs including pupil size and reaction, respirations, temperature, blood pressure and pulse. In the unconscious person, rectal or axillary temperature should be taken. An indwelling catheter should be inserted to monitor urine output. Collect urine for drug screening.

7.8 Airway management, Breathing and Level of Consciousness

Airway, breathing and level of consciousness (LOC) should be assessed regularly, especially where intoxication has a sedative effect. The frequency of assessment should be increased when abnormalities are detected.

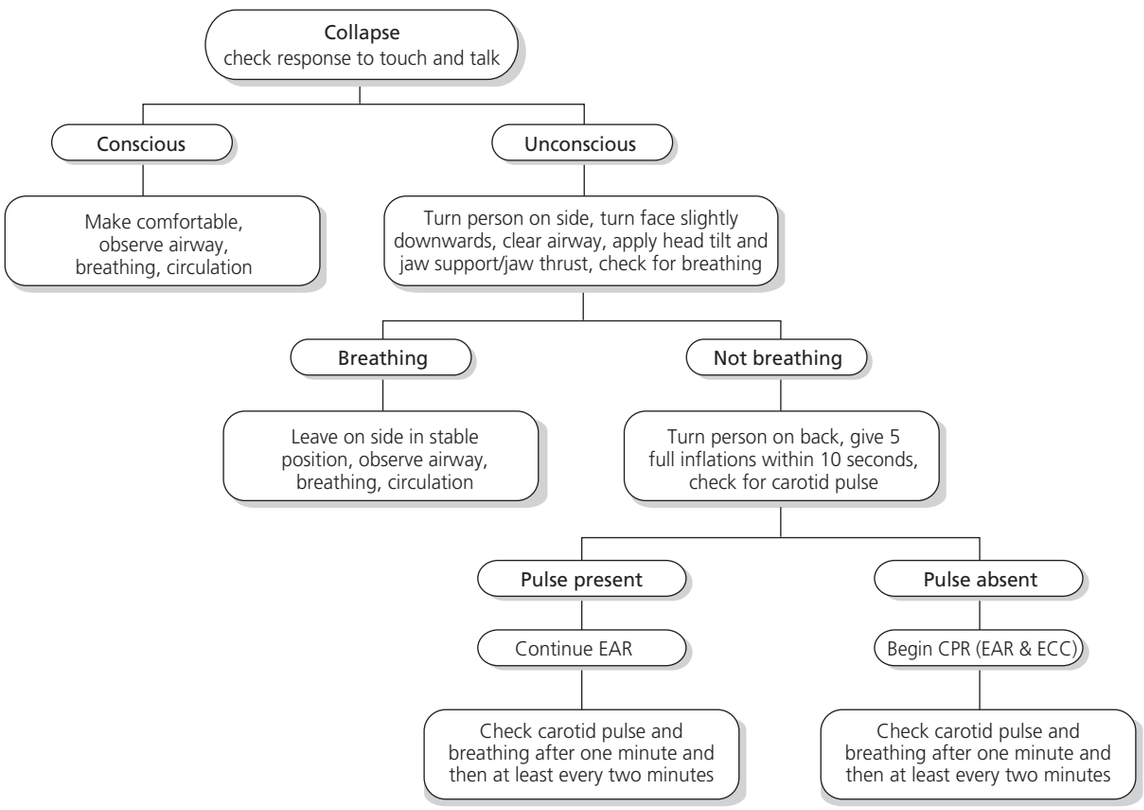
This should include; assessment of gag reflex (patient's ability to swallow their secretions without inducing a cough), breathing rate, and especially respiratory effort (tidal volume) of each breath.

The Level of Consciousness (LOC) should be initially and then regularly assessed. A formal Glasgow Coma Score (GCS) (Appendix 1) should be determined. A GCS of < 9 increases the risk of airway compromise and requires intubation. At this LOC the gag reflex is usually absent and pharyngeal tone is so poor that the patient is unable to protect their airway from aspiration.

A GCS of 9 to 13 (especially if fluctuating) requires positioning in the coma position and also insertion of an oropharyngeal airway, if tolerated. **Patients with increasing somnolence are at high risk of aspiration**. Whilst investigations such as ECG and Chest X-ray can be delayed, ECG and SaO2 monitoring should commence. Those affected by either alcohol or other sedating agents have a level of consciousness that may fluctuate. Therefore, they should be assessed for respiratory rate and effort when approaching the bed rather than after waking and stimulating the patient. Increasing somnolence may induce hypercarbia, which in turn worsens somnolence.

Similarly, patients that have increased their level of consciousness in response to doses of naloxone (Narcan) or flumazenil (a benzodiazepine reversing agent) should be observed regularly for a deteriorating LOC after the effect these short-acting agent(s) wears off.

Figure 7.1 Basic life support flowchart



CHAPTER 8

Managing withdrawal

Effective management of withdrawal in its early stages can reduce or prevent progression to complicated withdrawal. Complicated withdrawal may be life-threatening due to accidental injury, dehydration, electrolyte imbalance, seizures, delirium tremens, or the negative impact on other concurrent disorders, including acute infection, renal disease or diabetes.

In the management of withdrawal, it is critical to select the appropriate withdrawal scale as indicated by the person's recent drug and alcohol use history.

It is best to assume that any person who has consumed alcohol or other drugs on a daily basis over a significant period of time (weeks) can experience some withdrawal symptoms on ceasing or reducing their intake.

Severity of withdrawal symptoms can differ depending on the person, the drug(s) used, duration of use, past experience of withdrawal, other psychological and physical conditions (e.g. nutrition, hydration) and acute or chronic illness.

Extra support may be required to ensure safe withdrawal in a person with significant concurrent illness or acute trauma.

Drugs with short half-lives, such as alcohol or heroin, will give rise to withdrawal symptoms at an earlier phase after the last dose, and the symptoms will peak and fade faster than withdrawal syndromes associated with drugs with a long half-life such as diazepam or methadone.

This section gives **general guidelines** for managing withdrawal. Refer to Chapter 9 for specific details of withdrawal symptoms and management for the most commonly used substances.

For further information, refer to the ***New South Wales Drug and Alcohol Withdrawal Clinical Practice Guidelines (2006)***. Copies of these guidelines can be downloaded from the NSW Health website: ***http://www.health.nsw.gov.au***

8.1 General principles of withdrawal management

- The primary goal of withdrawal must be **patient safety**, rather than long-term abstinence
- It is important to know if the person has a **history** of severe withdrawal, such as seizures or delirium tremens (DTs).
- **Care** may include managing anxiety, completion of a comprehensive drug and alcohol history, and assessment of past episodes of severe withdrawal.
- Not all patients will be at risk of withdrawal, however care planning should not be diminished
- The objectives of withdrawal management are to:
  - interrupt a **pattern** of heavy and dependent use
  - promote **engagement** in treatment.

8.2 Interrupting the pattern

Reduction in tolerance and interruption of a period of intensive drug and/or alcohol use are valid goals in withdrawal management. When entering treatment, many patients with substance use issues are seeking a complete change of lifestyle. However, motivation to sustain abstinence may fluctuate.

For example, people who drink heavily for brief periods, with considerable health consequences, may seek to recover through an episode of withdrawal. However, they may have no intention of abstaining long-term, simply of recovering in the short-term from being unwell.

8.3 Promoting engagement in treatment

Dependence is a long-term, relapsing condition, requiring more intensive and more prolonged treatment. For most substance use problems, regular review and monitoring are the most critical parts of effective treatment.

8.4 Management guidelines

Management of withdrawal focuses on the following:

- assessment of withdrawal risk
- early recognition of withdrawal
- assessment of psychoses and / or suicidal intent
- anxiety management. This is a key issue to managing all withdrawal syndromes
- monitoring, documenting and reporting withdrawal symptoms
- preventing withdrawal complications where possible
- preventing progression to severe withdrawal
- decreasing risks of any injury to self or others
- eliminating risk of dehydration, electrolyte or nutritional imbalance
- minimising risk of seizures
- identifying concurrent illness that masks, mimics or complicates withdrawal
- providing supportive care
- discharge planning for after-care and referral.

8.5 Early recognition of withdrawal

A withdrawal syndrome develops progressively after cessation or significant reduction in drug and / or alcohol use. Therefore, history taking and assessment, ongoing monitoring, early recognition and prompt management of the initial (and milder) withdrawal state can prevent progression to more severe stages and complications.

8.6 Prevent progression to severe withdrawal

- Assess and monitor withdrawal.
- Reassure the person and be supportive.
- Explain to the person what is happening.
- Monitor withdrawal symptoms and document observations based on a validated withdrawal scale, if available.
- Effectively manage mild states of withdrawal, for example, through relaxation, reassurance, and medication as prescribed.
- Explain the effects of withdrawal medication (e.g. diazepam) to the person.
- Administer medication as prescribed and assess effectiveness.
- Monitor and evaluate effectiveness of interventions.
- Document and report outcomes.
- Provide self-help information for the withdrawal period.
- Maintain hydration, nutrition, hygiene, physical safety.

8.7 Decrease risk of injury

- Decrease stimuli.
- Allow the person to move freely if it is safe for them to do so and if they are able to do so.
- Maintain safety at all times.
- Maintain privacy and dignity.
- Ensure safety by removing dangerous objects (e.g. chairs, vases, heavy objects, razor blades, knives) and assess for suicidal ideation. Suicidal ideation should be managed as per hospital or health facility policy.
- Supervise adequately. The person may need to be restricted to a supervised area.

8.8 Eliminate risk of dehydration

- Maintain adequate hydration.
- Maintain nutritional intake.

8.9 Reduce potential for seizure

- Assess and monitor withdrawal status regularly.
- Observe best practice guidelines for seizure prophylaxis.
- Administer medication as ordered.

8.10 Identify presence of concurrent illness

- Exclude conditions that may mimic or mask withdrawal (e.g. hypoglycaemia).
- Treat concurrent medical and psychological conditions, as required.

8.11 Provide supportive care

- Explain to the person what is happening and that you are there to look after them.
- Reassure, encourage and support the person.
- Approach the person in a calm and confident manner.
- Reduce stimulation and the number of people attending the person.
- Manage confusion and disorientation by frequent reality orientation.
- Ensure frequent supervision. Consider 'specialling' if required.
- Manage altered perception/hallucinations by explaining perceptual errors.
- Manage anger/aggression by minimising risk of harm to self and others and by:
  - using space to protect yourself
  - remaining calm and reassuring
  - not challenging the person
  - acknowledging the person's feelings
  - removing the source of anger, if possible
  - being flexible within reason.
- Obtain advice or consultation from a Drug and Alcohol specialist.

8.12 Discharge planning

Discharge planning begins on admission and should actively involve the person, who should be made fully aware of their treatment and support options after discharge.

Develop strategies to help the person cope with the period after withdrawal and to encourage longer-term reduction in substance use. Document discharge planning in the person's record.

When planning discharge:

- arrange follow-up appointments
- refer to relevant services—rehabilitation, counselling, self help groups e.g. Alcoholics Anonymous, Narcotics Anonymous
- consider stability of accommodation, i.e. whether the person lives alone or with others who use drugs and/or alcohol
- consider the extent of their social network, i.e. their existing links with health professionals in their local community
- provide emergency assistance numbers.

A person has the right to refuse follow-up. If this occurs, note the refusal in the person's record and avoid judgmental reactions.

CHAPTER 9

The drugs

This chapter provides details of the effects and treatment of the most commonly used drugs.

The health, social and economic costs include a wide range of adverse outcomes such as medical and psychological complications, social and family disruption, specific effects on children, violence and drug-related crime and problems associated with the black market economy and corruption. Providing a range of accessible and effective treatments can reduce demand for illicit drugs and minimise the adverse consequences.

The information provided includes; risk factors, overdose symptoms, withdrawal symptoms, management and precautions.

Read this chapter in conjunction with the more general guidelines in *Chapters 1 to 8*.

9.1 Alcohol

Alcohol misuse and dependence refer to patterns of alcohol use that cause clinically significant distress or health impairment (Degenhardt, Hall et al. 2000).

There is no single set of accepted definitions that can accurately describe the range of alcohol problems and the level of dependence (Mattick & Jarvis 1993). The general groups of use are excessive consumption and dependence.

- **Excessive consumption** refers to alcohol consumption beyond the currently known "low risk" levels as defined by the *National Health and Medical Research Council (NHMRC) Drinking Guidelines* (2001). These drinkers do not necessarily suffer from complex problems or dependence.
- **Abuse and dependence** are diagnostic categories as defined in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (American Psychiatric Association 1994).

It is important that nurses and midwives recognise withdrawal symptoms, and assess for the possibility of alcohol withdrawal symptoms (Clancy 1997).

9.1.1 Assessment and quantification of use

1. Record the frequency, usual quantity, duration, date, time and amount last used.

   Gauge use by overestimating the amount, e.g. 20–30 schooners. With adolescents take care that they do not perceive the overestimated amount as an expected figure and exaggerate it even further.

2. Do not accept phrases such as "social drinker" or "occasional drinker".

   Say something like "Social drinking means different things to different people. What does it mean to you?"

9.1.2 What is a standard drink?

10 grams of alcohol = 1 standard drink

Table 9.1

Light beer	1 std drink=	1 schooner=	425ml	2.7% Alc./Vol
Ordinary beer	1 std drink=	1 middie=	285ml	4.9% Alc./Vol
Wine	1 std drink=	1 glass=	100ml	12% Alc./Vol
Spirits	1 std drink=	1 nip=	30ml	40% Alc./Vol
Port/ sherry	1 std drink=	1 glass=	60ml	20% Alc./Vol

9.1.3 Risk of harm in the short- and long- term

Tables 9.2 and 9.3 below show the risk of harm in each drinking session. Alcohol consumption at levels shown below is not recommended: for people who have a condition made worse by drinking; are on medication; are under 18 years of age; are pregnant; are about to engage in activities involving risk or a degree of skill (e.g. driving, flying, water sports, skiing, operating machinery).

Table 9.2: Risk of harm in the short term

Gender	Low Risk (Standard Drinks)	Risky (Standard Drinks)	High Risk (Standard Drinks)
Males: On any one day	Up to 6 on any one day, no more than 3 days per week	7–10 on any one day	11 or more on any one day
Females: On any one day	Up to 4 on any one day, no more than 3 days per week.	5–6 on any one day	7 or more on any one day

Table 9.3: Risk of harm in the long term

Gender	Low Risk (Standard Drinks)	Risky (Standard Drinks)	High Risk (Standard Drinks)
Males: Daily Overall weekly level	Up to 4 per day Up to 28 per week	5–6 on any one day 29–42 per week	7 or more on any one day 43 or more per week
Females: Daily Overall weekly level	Up to 2 per day Up to 14 per week	3–4 on any one day 15–28 per week	5 or more on any one day 29 or more per week

Australian Alcohol Guidelines: Health Risks and Benefits, The National Health and Medical Research Council (NH&MRC) 2001.

9.1.4 Indications and guidelines

Risk factors

- Presenting with clinical signs suggesting substance use (e.g. decreased level of consciousness, unsteady gait, slurred speech).
- High risk levels of alcohol consumption and/or other drugs (seven or more standard drinks a day for men, and five or more than six standard drinks a day for women).
- Use of even low amounts of alcohol with other drugs — alcohol may increase the effects of other drugs such as benzodiazepines.
- For elderly people, there may be a higher level of risk in comparison to rest of the population, for the same amount of alcohol consumed.
- Any signs or symptoms of a withdrawal syndrome (e.g. sweating, restlessness, tremor, hypertension) that are not due to other causes.
- Any degree of excessive anxiety not due to other factors.
- Physical trauma possibly attributable to substance use, e.g. fractures, head injuries, other injuries resulting from pedestrian or motor vehicle accidents.
- Repeated admissions for possible alcohol or substance-related conditions, e.g. liver disease, pancreatitis, oesophageal varices.

Intoxication effects

Alcohol is a CNS depressant. It depresses respiration, coughing reflex, gag reflex and cardiovascular function, thus inducing various arrhythmias.

Effects of intoxication are:

- loss of inhibition
- relaxation, euphoria
- depression
- alered mood, behaviour and cognition
- analgesic and anaesthetic effects
- ataxia
- slurred or incoherent speech
- confusion
- disorientation
- inappropriate behaviour/emotional responses
- altered consciousness.

Alcohol intoxication is a potentially lethal condition. Just as with other drugs, people can overdose on alcohol.

Signs of overdose

Clinical signs of alcohol overdose are:

- stupor or coma
- cold and clammy skin
- lowered body temperature
- lowered blood pressure

- slow and noisy respiration
- accelerated heart rate or bradycardia
- strong smell of alcohol
- positive breath alcohol reading.

Complications of misuse

Wernicke-Korsakoff syndrome

This is a form of brain injury resulting from thiamine deficiency, which complicates alcohol dependence. If the condition is not treated early it can lead to permanent brain damage and memory loss. It can occur in young alcohol-dependent people.

Signs and symptoms of Wernicke's encephalopathy, which is usually the first stage of the syndrome, are:

- ophthalmoplegia (reduced eye movements or nystagmus)
- ataxia
- confusion.

This condition is reversible if recognised and treated with parenteral vitamin B1. If it is not treated it can lead to irreversible brain damage. **Parenteral thiamine should be administered before any form of glucose. Glucose in the presence of thiamine deficiency risks precipitating Wernicke's encephalopathy.**

In patients with established Wernicke-Korsakoff's syndrome or other alcohol-related brain injury, nursing management can be difficult. These patients often have impairment of memory, concentration and judgment, confabulation and labile mood. These problems may coexist with both intoxication and withdrawal.

Assessing withdrawal

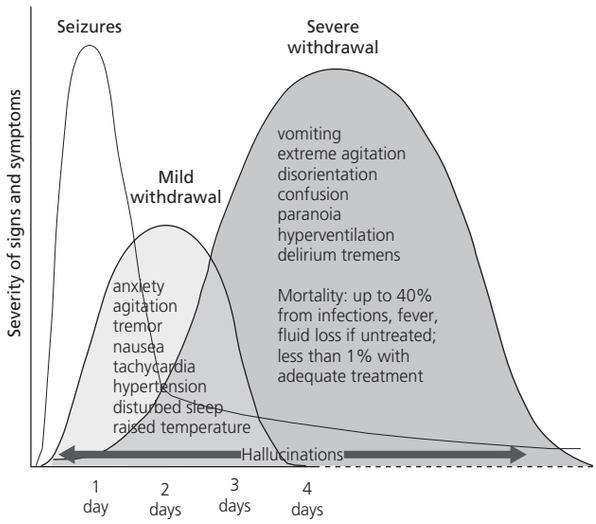
Severe alcohol withdrawal is potentially life threatening. The most important thing is to anticipate when it may occur and to suspect it when an unexplained acute organic brain syndrome is detected.

Onset and duration of alcohol withdrawal

Onset of alcohol withdrawal is usually 6–24 hours after the last drink. Consumption of benzodiazepines or other sedatives may delay the onset of withdrawal. In some severely dependent drinkers, simply reducing the level of consumption may precipitate withdrawal, even if they have consumed alcohol recently. Usually, withdrawal is brief, and resolves after 2–3 days without treatment; occasionally, withdrawal may continue for up to 10 days.

Withdrawal can occur when the blood alcohol level is decreasing, even if the patient is still intoxicated.

Figure 9.1: Progress of alcohol withdrawal syndrome



Adapted from Frank L., Pead J. *New Concepts in Drug Withdrawal: A resource handbook*. © 1995 State of Victoria. Reproduced with permission.

The severity of alcohol withdrawal ranges from mild to severe. The following questions, known as the *Index for Suspicion of Alcohol Withdrawal,* will help you determine whether the patient is likely to move into alcohol withdrawal.

- Has the patient had a regular intake of 80 grams (8 drinks for males) or 60 grams (6 drinks for females) of alcohol or more per day?
- Has the patient taken even smaller amounts of alcohol in conjunction with other CNS depressants?
- Has the patient had previous episodes of alcohol withdrawal?
- Is the patient's current admission for an alcohol-related reason?
- Does the patient's physical appearance indicate chronic alcohol use (e.g. parotid swelling, Cushingoid face, facial telangiectasia, eyes reddened or signs of liver disease—ascites, jaundice, limb muscle wasting)?
- Do the patient's pathology results show raised serum GGT and/or raised mean cell volume (MCV)?
- Does the patient display symptoms such as anxiety, agitation, tremor, sweatiness or early morning

retching, which might be due to an alcohol withdrawal syndrome?

Signs and symptoms of withdrawal

Alcohol withdrawal is a syndrome of central nervous system hyperactivity characterised by symptoms that range from mild to severe. The symptoms and signs of alcohol withdrawal may be grouped into three major classes:

Table 9.4: Main signs and symptoms of alcohol withdrawal

Autonomic overactivity	Gastrointestinal	Cognitive and perceptual changes
Sweating	Anorexia	Anxiety
Tachycardia	Nausea	Vivid dreams
Hypertension	Vomiting	Illusions
Insomnia	Dyspepsia	Hallucinations
Tremor		Delirium
Fever		

Seizures occur in about 5% of patients withdrawing from alcohol. They occur early (usually 7–24 hours after the last drink), are grand mal in type (i.e., generalised, not focal) and usually (though not always) occur as a single episode.

Delirium tremens ("the DTs") is rare and is a diagnosis by exclusion. It is the most severe form of alcohol withdrawal syndrome, and a medical emergency. It usually develops 2–5 days after stopping or significantly reducing alcohol consumption. The usual course is 3 days, but can be up to 14 days. Its clinical features are:

- confusion and disorientation
- extreme agitation or restlessness—the patient often requires restraining
- gross tremor
- autonomic instability (e.g. fluctuations in blood pressure or pulse), disturbance of fluid balance and electrolytes, hyperthermia
- paranoid ideation, typically of delusional intensity
- distractibility and accentuated response to external stimuli
- hallucinations affecting any of the senses, but typically visual (highly coloured, animal form).

Alcohol withdrawal scales

The most systematic and useful way to measure the severity of withdrawal is to use a withdrawal scale. These provide a baseline against which changes in withdrawal severity may be measured over time. Research shows that the use of scales minimises both underdosing and overdosing with benzodiazepines for alcohol withdrawal syndromes.

There has been considerable debate about the application of withdrawal scales. Two different scales, the *Alcohol Withdrawal Scale (AWS)* and the *Clinical Institute Withdrawal Assessment for Alcohol (revised) (CIWA-Ar)* are provided in this document (see *Appendices 2 and 3*) and both are recommended for use.

Note that withdrawal scales do not diagnose withdrawal, but are merely guides to the severity of an already diagnosed withdrawal syndrome. The nurse or midwife should re-evaluate the patient to ensure that it is alcohol withdrawal and not another condition that is being measured, particularly if the patient does not respond well to treatment.

Clinical Institute Withdrawal Assessment for Alcohol Revised Version (CIWA-Ar)

The CIWA-Ar (see *Appendix 2*) is a 10-item scale that can be administered as part of supportive care. Several studies have shown that the CIWA-Ar scale is a valid, reliable and sensitive instrument for assessing the clinical course of simple alcohol withdrawal.

This scale allows a quantitative rating (from 0 to 7 with a maximum possible score of 67) of the following components of withdrawal:

- nausea and vomiting
- tremor
- paroxysmal sweats
- anxiety
- agitation
- tactile disturbances
- auditory disturbances
- visual disturbances
- headache and fullness in head
- orientation and clouding of sensoria.

Using the CIWA-Ar in presentation to the **emergency department:**

- Monitor the patient hourly for at least 4 hours using the CIWA-Ar.
- Contact the medical officer or drug and alcohol nurse practitioner for assessment and monitor hourly if:

- the alcohol score increases by at least 5 points over this 4-hour period, or
- the CIWA-Ar total score reaches 10.

Using the CIWA-Ar for **hospitalised patients**:

- Monitor the patient 4-hourly, using the CIWA-AR, for at least 3 days.
- If the total score reaches 10, monitor hourly and notify the medical officer or drug and alcohol nurse practitioner.

Depending on the resources of the local area, these may need review.

Alcohol Withdrawal Scale (AWS)

The AWS (see *Appendix 3*) is a widely used scale in NSW.

If a patient's history or presentation suggests possible withdrawal, the patient's condition must be monitored and documented.

Using the AWS in presentation to the **emergency department**:

- Monitor the patient hourly for at least 4 hours using the AWS.
- Contact the medical officer or drug and alcohol nurse practitioner for assessment and monitor hourly if:
  - the alcohol score increases by at least 5 points over this 4-hour period, or
  - the AWS total score reaches 5.

Using the AWS for **hospitalised patients**:

- Monitor the patient 4-hourly, using the AWS, for at least 3 days.
- If the total score reaches 5, monitor hourly and notify the medical officer or drug and alcohol nurse practitioner.

Depending on the resources of the local area, these may need review.

Pharmacological treatment

The medical officer or drug and alcohol nurse practitioner may prescribe pharmacological treatment to combat acute withdrawal symptoms, without over-sedating the patient. The most commonly prescribed pharmacological treatment for alcohol withdrawal is **diazepam** because of its cross-tolerance with alcohol and anti-convulsant properties. Contraindications to diazepam include respiratory failure, significant liver impairment, possible head injury or cerebrovascular accident. In these situations, specialist consultation is essential.

For further information, refer to the New South Wales *Drug and Alcohol Withdrawal Clinical Practice Guidelines* (2006).

Maternal and neonatal care

Alcohol use during pregnancy

- Possible pregnancy complications include miscarriage, stillbirth and premature birth.
- Foetal effects are dose-related, from a small decrease in cognitive functioning to brain damage, facial deformities, and growth deficits. The term Foetal Alcohol Spectrum Disorder (FASD) is used in the *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn* (March 2006) to indicate the full range of possible effects of foetal exposure to alcohol. Foetal Alcohol Syndrome (FAS) is used to indicate the severe effects, characterised by intellectual disability, poor coordination and motor skills, and slow physical growth before and after the birth.

Alcohol use and breastfeeding

- Women who are breastfeeding are advised not to exceed the levels of drinking recommended during pregnancy, and may consider not drinking at all.
- If a breastfeeding mother wants to drink alcohol, it is suggested that she breastfeed before drinking alcohol, then wait a minimum of three to four hours after the last drink before breastfeeding again. In the event that the woman exceeds the recommended levels of drinking, it is suggested that she wait approximately three hours per standard drink consumed before breastfeeding again. She may consider expressing and storing breastmilk prior to drinking.

For further information, refer to the National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

9.2 Opioids

Opioids are a class of substances with morphine-like effects that can be reversed by the specific antagonist naloxone. Some opioids are semisynthetic chemical derivatives of morphine (such as heroin) and others are fully synthetic (such as pethidine and methadone). They share a common core structure that allows them to interact with endogenous opioid receptors (Young et al. 2002, p. 79).

Opioids have a depressant effect on the central nervous system. They decrease the spontaneous activity of neurones, producing drowsiness, mood changes and mental clouding. However, they also have features quite distinct from the sedative-hypnotics. They are powerful analgesics and can cause suppression of reflex cough and constipation.

Prolonged opioid use results in tolerance and lowering of pain threshold, therefore apparently mild pain may be perceived as more severe. This may be inadvertently interpreted as drug-seeking behaviour rather than inadequately relieved pain.

Unlike alcohol withdrawal, the syndrome associated with the cessation of opioid use is not likely to be life-threatening except in the case of pregnant women when opioid withdrawal is potentially life-threatening for the foetus. However, the symptoms can cause the person undergoing withdrawal considerable discomfort and may lead to resumption of use to avoid or abate the symptoms. Early discharge and thus poor intervention outcomes are likely results.

9.2.1 Assessment and quantification

1. Record the type of opioid, date, time and amount of the last dose as accurately as possible. Note that quantification of illicit substances is difficult because they are usually "cut" (mixed) with other substances, for example other drugs, sucrose or glucose, so the actual dose is always unknown.

   It is important to ask the person if they are using more than one drug at a time, as **polydrug use** can significantly increase the risk involved
2. Record how often the patient uses the substance (e.g. number of times smoked, injected per day/week) and either the dollar cost of the drug or its weight in street grams.
3. Record how long the patient has been using the drug and the route of administration.

9.2.2 Indications and guidelines

Overdose

Prevention

Advice about preventing overdose is important **harm minimisation** information. Patients should be given the following advice:

- never use alone
- don't use opioids together with alcohol or other drugs, especially CNS depressants such as benzodiazepines and/or alcohol
- buy heroin from a regular, trusted dealer in order to be more certain of its strength—try a small amount first
- if using after a break from heroin/opioid use, tolerance will be low—use less than you used to in order to test tolerance and reduce the risk of overdose.

Accidental overdose is not uncommon and may be due to:

- varying dose and increased purity of illicit supplies
- reduction in tolerance after period of abstinence (e.g. release from prison, discharge from rehabilitation or hospital)
- mixing drugs (particularly injecting benzodiazepine, cocaine) and/or alcohol
- leakage from poorly wrapped drugs that have been ingested (body stuffers and packers)
- being a novice opioid-injecting drug-user (i.e. with low tolerance).

Clinical signs

- slow respiration
- subnormal temperature
- miosis
- cyanosis
- weak pulse
- difficult to rouse, decreased level of consciousness
- bradycardia
- muscle twitching
- possible pulmonary oedema.

Pharmacological/medical management of overdose

Maintenance of airway and breathing are most important in overdose management. Follow cardiopulmonary resuscitation (CPR) protocol.

- **Naloxone**, an opioid antagonist, is used as a reversal agent and will reverse the effect of opioid overdoses. Patients who were previously sedated may become agitated, aggressive and difficult to manage due to sudden precipitated withdrawal syndrome.
- Naloxone is short-acting. In the case of methadone overdoses and long acting prescribed opioids (MS Contin, oxycontin), the naloxone may wear off and the person can become sedated again.
- Naloxone should always be given in the case of respiratory depression (Clancy 1997).

Overdose in a pregnant woman

In the case of a pregnant woman overdosing, a medical emergency should be called. The use of naloxone may precipitate opioid withdrawal, which may lead to spontaneous abortion, miscarriage or early onset of labour in opioid-dependent pregnant women and should be avoided. A decision on artificial ventilation may need to be made.

Methadone or buprenorphine overdose

The effects of methadone or buprenorphine overdose can persist for up to 72 hours, even in circumstances where patients have been resuscitated. Depending on the magnitude of the overdose, they should be observed for a period of up to 72 hours. For high dose intoxication, **naloxone infusion** should be considered (Department of Health, Welsh Office et al. 1999). Because of the longer half-life of methadone compared with heroin or morphine (methadone = 24–48 hours), people who overdose from methadone and who are subsequently treated with naloxone may seem to recover initially but can relapse into respiratory depression and coma if not adequately monitored and treated.

Withdrawal

Knowledge of the half-life of each opioid drug (e.g. heroin vs. methadone) and the likely time of onset of withdrawal symptoms following the last dose assists in predicting, identifying, and effectively managing withdrawal symptoms.

Onset and duration of withdrawal

Heroin is a relatively short-acting drug. Symptoms of withdrawal usually commence 6–24 hours after the last dose, reach a peak at 24–48 hours, and resolve after 5–10 days.

Withdrawal from a long-acting opioid such as methadone usually commences 36–48 hours after the last dose. The peak severity of withdrawal tends to be lower than for heroin withdrawal, but withdrawal may be more prolonged, lasting 3–6 weeks.

The symptoms and signs of withdrawal from buprenorphine are similar to those found in withdrawal from other opioids, but withdrawal from buprenorphine is generally milder than withdrawal from methadone or heroin because of its slow dissociation from the opioid receptors. Symptoms commence generally within 3–5 days of the last dose and can last for several weeks

Following acute withdrawal, protracted, low-grade symptoms of discomfort (psychological and physical) may last many months.

The following table shows times of appearance of withdrawal syndrome in dependent opioid users.

Table 9.5: Withdrawal syndrome

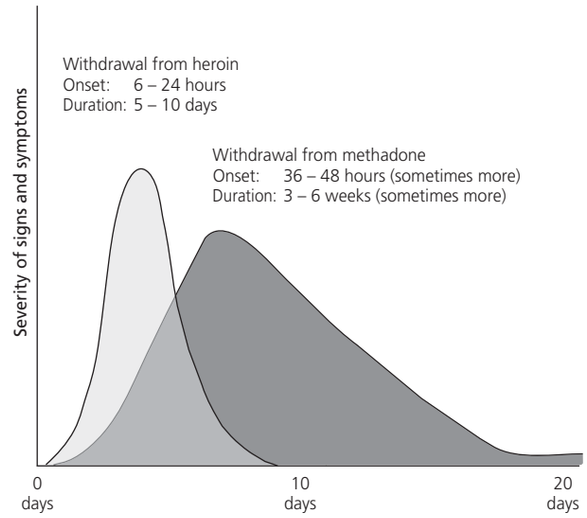
Opioid	Time after last dose symptoms appear	Duration withdrawal syndrome (days)
Heroin / morphine	6–24 hours	5–10 days
Pethidine	3–4 hours	4–5 days
Methadone	36–48 hours	3–6 weeks
Buprenorphine	3–5 days	up to several weeks
Kapanol / MS Contin (if intravenous)	8–24 hours	7–10 days
Codeine orally	8–24 hours	5–10 days

(Adapted from NSW Dept of Health, (2000) and (2006)).

The opioid withdrawal syndrome can be very uncomfortable and distressing, but not life-threatening unless there is a severe underlying disease. Patients may have a low tolerance to pain due to the effect of long-term opioid use and this needs to be acknowledged and treated effectively.

The following graph shows the progress of the acute phase of opioid withdrawal after last dose.

Figure 9.2 Progress of the acute phase of opioid withdrawal



Adapted from NSW Health *Withdrawal Clinical Practice Guidelines* (2007).

Table 9.6 Symptoms and signs of opioid withdrawal

Symptoms	Signs
Anorexia and nausea	Restlessness
Abdominal pain	Yawning
Hot and cold flushes	Perspiration
Bone, joint and muscle pain	Rhinorrhoea
Insomnia and disturbed sleep	Dilated pupils
Cramps	Piloerection
Intense craving for opioids	Muscle twitching (particularly restless legs while lying down) Vomiting Diarrhoea

Pharmacological treatment for opioid withdrawal

The medical officer or drug and alcohol nurse practitioner may prescribe the preferred pharmacological option for opioid withdrawal:

- buprenorphine
- symptomatic medications.

Buprenorphine

Buprenorphine is the drug of choice for a significant number of patients undergoing opioid withdrawal symptoms. Its trade name is 'Subutex' and it comes in 8mg, 2mg and 0.4mg tablets.

A combination preparation of **buprenorphine-naloxone (Suboxone)** is now available and will be used in treatment of some patients. Its main pharmacological action is that of buprenorphine when given sublingually, but if injected, the naloxone will precipitate withdrawal in opioid-dependent persons. (See 'Naloxone' in Pharmacological/ Medical Management of overdose, in previous section).

As a partial agonist, buprenorphine can offer advantages over methadone tapering because withdrawal distress may be less intense, and there are often fewer side effects than experienced with alternative medication such as clonidine. There can be problems with precipitated withdrawal with initial doses due to its pharmacological properties (Young et al. 2002, p. 89).

Buprenorphine is an opioid used either as a pain reliever or as a substitute for drugs such as morphine, heroin or methadone, or to medicate someone undergoing opioid withdrawal. As a partial agonist (sometimes called 'mixed agonist/antagonist') it does not produce the same level of CNS depression as heroin or methadone. This means that overdose may be less life threatening.

Buprenorphine binds very tightly to opioid receptors and can displace other opioids. Consequently commencing someone who is opioid-dependent on buprenorphine may precipitate withdrawal.

First doses should be delayed for at least six hours after heroin and 24 hours after methadone, with buprenorphine not being administered until withdrawal is evident. Dose titration may be required in the event of worsening withdrawal symptoms (Young et al. 2002, p. 89).

Buprenorphine blood levels peak at about 90 minutes after sublingual absorption, with the onset of clinical effects at 30–60 minutes and peak clinical effects at one to four hours.

Duration of effect is eight to 12 hours at low dose (e.g. less than 4mg) but at higher doses (greater than 8mg per day) effects may last 24–72 hours because of the strong receptor binding. The therapeutic effect lasts from one to two days. It is eliminated mainly by hepatic metabolism.

The role of buprenorphine in treating opioid withdrawal is to reduce symptoms and craving, but not necessarily remove all symptoms or intoxicate the person. It is important that patients understand that high doses can result in increased rebound withdrawal, prolonged duration of symptoms and increased side effects. Ongoing cravings are not necessarily an indication of inadequate doses, and may relate to other cues to resume drug use, such as the other people they are with or sighting needles and syringes. However, too low a dose can result in unnecessary withdrawal symptoms and the person ceasing treatment early.

For most patients, withdrawal from buprenorphine is not as uncomfortable as it is from heroin or methadone. Most withdrawal symptoms will begin one to three days after the last dose.

Use of buprenorphine

It is supplied as sublingual tablets that dissolve under the tongue in about five minutes, with the drug being absorbed through the mucosa into the bloodstream. Crumbling the tablets does not have an impact on absorption, but lessens the likelihood of the person giving the drug to others or selling it on the black market. If it is swallowed, most of the drug will be metabolised by the liver before reaching the general circulation.

Contraindications

Buprenorphine should not be taken by people who:

- are allergic to buprenorphine
- are breastfeeding (it may reduce milk production, it is present in breast milk and so may affect the baby)
- have severe liver or kidney problems
- have serious breathing problems
- are children under 16 years
- are intoxicated with alcohol or in alcohol withdrawal.

Precautions

- heavy alcohol drinkers
- taking any other drugs—benzodiazepines, antidepressants (especially monoamine oxidase inhibitors), any other central nervous system depressants.
- unlike methadone, the safety of buprenorphine in pregnancy has not been demonstrated. Nonetheless, treatment guidelines should not restrict obstetric and D&A specialists from using buprenorphine as a treatment for heroin-dependent pregnant women who refuse methadone treatment and can provide informed consent. (Commonwealth of Australia, 2006).
- women wanting to become pregnant are advised to consider methadone maintenance, or alternative forms of treatment for the management of their heroin dependence. Neonates of women exposed to buprenorphine should be monitored for neonatal abstinence syndrome or any other adverse events. Long-term follow-up is required to monitor for developmental abnormalities.

Side effects

- drowsiness, especially if taken with alcohol
- constipation
- headaches
- insomnia
- nausea and vomiting
- fainting and dizziness (orthostatic hypotension)
- sweating
- respiratory depression
- hallucinations.

There is a small possibility that it may cause hepatic necrosis and hepatitis with jaundice. Liver function tests should be performed at regular intervals for those patients receiving long-term buprenorphine, i.e. for more than two months.

Buprenorphine treatment for opioid withdrawal

Hospital setting

Buprenorphine is well suited in the hospital setting as it alleviates symptoms of withdrawal without significantly prolonging the duration of symptoms. There should be some ability to tailor doses to degree of withdrawal as assessed by the Clinical Opiate Withdrawal Scale (COWS) (see Appendix 4).

Buprenorphine should not be commenced until objective withdrawal is present (COWS score greater than eight) to reduce likelihood of precipitating withdrawal.

The following table shows an example of a buprenorphine dosing schedule.

Table 9.7 Example of buprenorphine dosage

Day	Buprenorphine sublingual tablet regime	Total daily dose
1	4mg at onset of withdrawal and additional 2–4mg as necessary (four-hourly)	4–8mg
2	4mg in the morning, additional 2–4mg evening dose, as necessary	4-8mg
3	4mg in the morning, additional 2mg evening dose, as necessary	4–6mg
4	2mg in the morning, if necessary, 2mg evening dose, as necessary	0–4mg
5	2mg prn	0–2mg
6	no dose	
7	no dose	

Buprenorphine should not be administered if there are features of intoxication or sedation; otherwise it should be given on client request as per the above protocol (there is no need for objective withdrawal for subsequent doses, only for the first). Observations should include COWS scores at every observation occasion, and just prior to discharge (see *Appendix 4*). Other symptomatic medications may be administered in the usual way. Clonidine will not be necessary.

Refer to NSW Health Policy Directive PD 2006_ 049. Opioid-dependent Persons Admitted to Hospitals in NSW – Management.

Community setting

Buprenorphine has been used successfully in community settings and its long duration of action and relative safety makes it well-suited to this application. The objective is to cover the period of most intense withdrawal symptoms and discontinue buprenorphine quickly to minimise rebound withdrawal phenomena and limit duration of symptoms. As with admission and management, flexibility with individual tailoring of dose is ideal.

Buprenorphine overdose

General supportive measures should be used, including monitoring respiration and cardiac status. The main danger is respiratory depression, which could lead to arrest. Naloxone can be used but much higher doses will be needed than would be the case with heroin or methadone overdose. The long duration of action should be considered when determining length of treatment. Most fatal overdose cases have involved multiple drug use, especially benzodiazepines.

Seek specialist Drug and Alcohol advice or consult a Drug and Alcohol nurse practitioner. (See Drug and Alcohol Specialist Advisory Service (DASAS) in Contacts and Resources Section).

See *Appendix 7* for Drug interactions with methadone.

Symptomatic medications

Neither buprenorphine nor clonidine block all withdrawal symptoms (although buprenorphine is more effective) and are both used with appropriate additional symptomatic medications.

Medication of symptoms and supportive care are often sufficient in treating mild withdrawal. Adjunctive therapies (such as hot baths) are also helpful.

Opioid maintenance treatment in the acute hospital setting

Effective nursing care includes appropriate management of a person receiving opioid maintenance treatment during their hospital stay. Because they are taking methadone or buprenorphine, the continued provision of their opioid maintenance treatment is important as it will help maintain their comfort and safety, assist in planning pain management, and prevent the harms associated with poorly managed opioid withdrawal, thus reducing the risk of relapse and/or unplanned early discharge.

Table 9.8 Symptomatic treatment

Symptoms	Suggested treatments
Muscle aches/pains	Paracetamol 1000 mg, every 4 hours as required (maximum 4000 mg in 24 hours) or Ibuprofen 400 mg 6 hourly as required (if no history of peptic ulcer or gastritis).
Nausea	Metoclopramide 10 mg, 4–6 hourly as required, reducing to 8th hourly as symptoms reduce or Prochlorperazine 5 mg, every 4–6 hours as required reducing to 8th hourly as symptoms reduce. Second line treatment for severe nausea/vomiting: Ondansetron 4–8 mg, every 12 hours as required.
Abdominal cramps	Hyoscine 20 mg, every 6 hours as required. Second line treatment for continued severe gastrointestinal symptoms: Octreotide 0.05–0.1 mg, every 8–12 hours as required by subcutaneous injection. (For use in a hospital setting only).
Diarrhoea	Kaomagma® or loperamide 2mg as required.
Sleeplessness	Temazepam 10–20 mg at night. Cease the dose after 3–5 nights.
Agitation/Anxiety	Diazepam 5 mg four times daily as needed.
Restless legs	Diazepam (as above) or Baclofen 10–25 mg every 8 hours.
Sweating, sedating agitation	Clonidine 75 mcg every 6 hours.

Note: Caution is recommended in exceeding stated duration of benzodiazepine use to avoid substituting for heroin dependence. Duration of treatment may need to be longer than stated above for withdrawal from long-acting opioid (e.g. methadone, Kapanol etc).

General principles

- Consult with the drug and alcohol specialist or drug and alcohol nurse practitioner about the care of all patients admitted to hospital who are receiving opioid maintenance treatment.
- Ensure that their methadone or buprenorphine dose is known and confirmed with prescriber and dosing point, and that the dose is quoted in both mg and mls for methadone.
- Find out from the prescriber &/or the dispensing pharmacy the timing of the last dose of medication and any takeaway doses.
- Ensure that adequate pain relief is provided and that it is individually tailored to the person's clinical presentation and expressed need.

Refer to NSW Health Policy Directive PD 2006_ 049. Opioid-dependent Persons Admitted to Hospitals in NSW – Management.

Procedure

1. Take a drug and alcohol use history on admission.
2. Assess for signs of alcohol and other drug intoxication, overdose or withdrawal and take appropriate action.
3. If the person is receiving opioid maintenance treatment, confirm:
   - the name of their program/clinic/prescribing doctor
   - what medication regime they are on, e.g. methadone or buprenorphine
   - where they receive their medication, e.g. at the drug clinic or community pharmacy
   - dose (ensure doses are recorded in mgs and mls)
   - date and time of last dose (ensure methadone doses are recorded in mgs and mls)
   - dosage and number of takeaway doses usually provided, e.g. three a week (ensure doses are recorded in mgs and mls for methadone)
   - whether the person has brought any takeaway doses to hospital.
4. Phone the prescriber to confirm enrolment in an opioid treatment service.
5. Contact the program or the dispenser to confirm the details given above, including takeaway doses, and inform them of the person's admission to hospital.

   If the person cannot supply telephone numbers, call an alcohol and drug information service for details of opioid treatment services, accredited doctors licensed to prescribe, or contact Pharmaceutical Services Branch during office hours on (02) 9879 5246.
6. If the person has previously been issued with takeaway doses for the days they subsequently spend in hospital, the doses should be handed in to ward staff. Their methadone or buprenorphine should be dispensed through the hospital pharmacy. This allows closer monitoring of the person's clinical condition and certainty about the dose they are receiving.

   If methadone or buprenorphine is not available from the hospital pharmacy, the prescribed takeaway dose may be administered to the patient, provided that the takeaway dose is verified, there is no evidence of tampering with the container, and this does not contravene local area policies. Takeaway doses must be stored and dispensed by the hospital or removed from the hospital. Takeaway doses should not be given back to the person on discharge except by arrangement with the person's authorised prescriber.
7. Notify the opioid treatment service (GP and/or chemist) of the person's impending discharge from hospital so that continuity of care, in particular the opioid treatment regime, can be maintained.
8. Inform the person in a timely manner about what they can expect and what has been planned.
9. Arrange for prescription of an opioid treatment by the appropriate medical officer or drug and alcohol nurse practitioner and dispensing by the hospital pharmacy.

   Ensure that methadone syrup (not physeptone tablets) is used for patients on methadone maintenance.

   Where oral methadone is contraindicated (e.g. nil-by-mouth), physeptone or an alternative opioid should be administered parenterally (at a decreased dose). Buprenorphine can still be given sublingually when on a nil-by-mouth order. If other medical contraindications occur, such as head injury, contact the senior medical officer and follow the appropriate local policy guidelines.
10. Monitor the potential for drug interactions with methadone.

    If the person is on a maintenance opioid treatment program and requires pain relief:
11. Follow the above steps.
12. In addition to authorised methadone dose, provide the person with such opioid analgesics as are necessary to control pain.

Such patients often have altered tolerance to opioids and may require higher doses of analgesia than normal. Usual doses should be tried first and if ineffective expert advice sought. (See D&A Specialist Advisory Service (DASAS) in Resources Section.)

Altered tolerance and effective pain management

Pain management can be problematic, particularly for patients who have altered tolerance. Lack of knowledge about altered tolerance and concern about contributing to patients' opioid dependence has sometimes resulted in patients receiving inadequate analgesics.

Tolerance is the neurological process that occurs with prolonged daily use of psychoactive drug/s, and where the person needs increasingly higher dosages of the drug to produce the same effect or intoxicating feeling as first experienced with lower doses. The first indication of tolerance is decreased duration, then decreased analgesic effect of the drug — this is an involuntary physiological response.

The patients most likely to have altered tolerance are:

- those who have been on regular prescribed opioid medication for long periods—they may be said to have iatrogenic dependence
- those currently receiving opioid maintenance treatment program or who are currently dependent on opioids
- those who regularly take liver enzyme-inducing drugs (e.g. alcohol, dilantin, interferon and rifampicin etc.).

Acute pain management

While it is not a nursing responsibility to prescribe analgesics, it is crucial that nursing staff assess for and attend to pain relief effectively, recognising the significant impact of altered tolerance on clinical management of pain, and explaining to the person the consequence of any necessary changes in their pain medication. Clear communication regarding changes in their medication will help to lessen any anxiety and provide reassurance.

It is critical that analgesia is not withheld from the person unless medically indicated. Providing pain relief will not make the person more drug dependent.

Patients on methadone

If the person is taking part in a methadone program their usual daily dose must be continued—this will not provide pain relief. They will need another analgesic prescribed as well as their methadone.

Opioid-dependent people (e.g. heroin users, those receiving opioid treatment, and those with chronic pain) and people currently using heroin will have increased tolerance to opioid analgesics. They should be given appropriate analgesics for their medical condition, and alleviation of any drug withdrawal. Because of their neurological tolerance, they may require higher doses of opioids or other analgesics than people who are not opioid-dependent, particularly if they are receiving daily methadone as opioid treatment for opioid dependence. Effective pain management starts with the dose usually required for an opioid naive individual, and then titrating doses upwards until adequate pain relief is achieved. If usual doses are ineffective advice should be sought from a medical officer or drug and alcohol nurse practitioner experienced in treating patients in these circumstances.

Analgesics should not be withheld unless the person is becoming over-sedated. To ensure that adequate analgesics are given, it is essential to consider the following issues:

- Ensure an adequate history is taken to determine whether the person is likely to have altered tolerance.
- Allay fears regarding pain relief while in hospital.
- Discuss the proposed management plan with the person.
- Intravenous or intramuscular administration may be appropriate initially. As pain control needs lessen, change to oral medication of equivalent strength.
- Patient-controlled analgesic systems may assist in achieving rapid relief of pain.
- Should analgesic needs be prolonged (weeks), it is appropriate to change from short-acting to long-acting medication to achieve more constant pain relief through-out the day (e.g. MS Contin, Kapanol or Physeptone).
- Change from PRN medication (as necessary) to set times if possible.
- Adjuvant medication may be helpful, particularly if prolonged use of analgesics is required. Adjuvant medications include:
  - tricyclic antidepressants
  - non-steroidal anti-inflammatory drugs
  - anti-convulsants.
- Other supportive methods of pain relief can be useful in acute or chronic pain states. They include:
  - transcutaneous electrical nerve stimulation (TENS) machine
  - relaxation techniques and meditation
  - diversion techniques

- massage
- hydrotherapy.

- Consult a pain management clinic or a specialist clinical advisory line.

All patients who have undergone withdrawal from opioids during hospitalisation, or under supervised withdrawal, should be educated and warned about the risk of overdose if they use opioids again, even with much smaller doses or amounts than they were using previously.

Patients on buprenorphine

Opioids should not be prescribed to opioid-dependent people outside a regulated opioid treatment program except in rare instances (e.g. to treat severe pain of trauma or other medical emergency).

Buprenorphine binds strongly with opioid receptors and there is a theoretical risk that it may interfere with the effectiveness of other opioids prescribed for pain relief.

Patients receiving buprenorphine treatment who require acute pain relief can be managed as for patients who are not opioid-dependent, although doses of analgesic drugs may need to be higher.

Some patients with chronic pain develop opioid dependence and may be appropriately treated by admission to an opioid treatment program. Patients on buprenorphine treatment who experience chronic pain may require specialist management.

Opioid withdrawal precipitated by naltrexone

Naltrexone is an antagonist that blocks the effects of opioids on the central nervous system. It can block the effects of heroin completely. Naltrexone is registered for treatment of opioid and alcohol dependence in Australia. Although uncommon, there have been a number of reports of opioid-dependent people self-administering naltrexone, precipitating a severe withdrawal reaction requiring hospital treatment.

Planned naltrexone-assisted opioid withdrawal is a validated and valuable treatment option for some patients. It should be conducted only in highly supervised specialist environments.

It should also be noted that buprenorphine alone or buprenorphine and naloxone can also precipitate withdrawal if taken sub-lingually or intravenously (or potentially orally) for those who are opiate-dependent on drugs other than buprenorphine.

Precipitated withdrawal

- Onset of naltrexone-precipitated withdrawal occurs 20–60 minutes following ingestion of a naltrexone tablet.
- Gastrointestinal symptoms are usually predominant. Severe vomiting and diarrhoea may occur.
- People become agitated and distressed and delirium with confusion is common.
- Signs of sympathetic overactivity, particularly profuse sweating and piloerection, may occur.
- If a person has taken sedative drugs in conjunction with naltrexone, as commonly occurs, delirium is exacerbated but other signs may be less clear.

There are significant risks associated with precipitated withdrawal:

- Most deaths associated with precipitated withdrawal appear to have been the result of aspiration associated with high doses of sedative drugs.
- Fluid and electrolyte problems secondary to vomiting and diarrhoea.
- During acute delirium, a confused person must be considered at risk and require emergency medical care.

Diagnosis and assessment

- A history may be difficult to obtain from patients who are confused, particularly if they are reluctant to disclose their heroin/opioid use.
- Clinicians should suspect naltrexone-precipitated withdrawal in anyone presenting with signs of opioid withdrawal in conjunction with delirium or intractable vomiting.
- A history of opioid dependence should be gained from the person, significant others or by inspection of injection sites for recent track marks. An absence of track marks should not exclude this diagnosis, as substances may be smoked or ingested.
- Careful assessment of the degree of sedation, and of the person's capacity to protect their airway, is essential.
- The use of flumazenil to reverse sedation is not recommended, due to the chance of the person having concurrent benzodiazepine dependence and the risk of inducing life-threatening seizures.
- Patients who are deeply sedated or vomiting may require intubation and intensive care unit management.
- It may be desirable to check electrolytes and arterial blood gases.

Management

- There is a risk of delirium and agitation for a period of approximately four hours with naltrexone-precipitated withdrawal. Treatment is supportive and symptomatic.
- Patients with vomiting may require fluid and electrolyte replacement.
- Although most patients will experience fluid loss to some degree, the insertion of intravenous cannulae and administration of fluids should be balanced against potential problems.
- Patients in delirium frequently remove intravenous lines.
- Most patients will be capable of tolerating oral fluids within 12 hours of ingestion of naltrexone.
- During naltrexone-induced withdrawal delirium, most patients can be reoriented. This is critical in both obtaining a history and in clinical management.
- The most important part of management is reassurance that symptoms, although severe, will be short-lived.
- Nursing staff should be aware that the antagonist-induced withdrawal syndrome is extremely traumatic and that patients expressing fear of death, for example, should not be treated with contempt but given appropriate, repeated assurance.
- The administration of opioid agonists is unlikely to be helpful. Patients should be warned that taking heroin will not alleviate symptoms.
- In managing vomiting and diarrhoea, clinical experience indicates that conventional anti-emetics provide little relief. Octreotide 100mcg is the drug of choice in reducing vomiting and diarrhoea.
- Agitation and sympathetic over-activity can be treated with clonidine (150mcg oral or 100mcg intramuscular, repeated after two hours if agitation persists and hypotension is not a problem).
- When urgent sedation is imperative (where patients are violent and confused), midazolam 5–10mg intramuscular may be helpful.
- When abdominal cramps are a problem, a single dose of 20mg hyoscine-butylbromide (Buscopan), oral or IM, can help.

Additional management

- The person and their families should be informed that residual symptoms may persist for up to seven days.
- Patients need to be warned of the high risk of overdose if they use heroin or other opioids following naltrexone-induced withdrawal.

For further information, see NSW Opioid Treatment Program, Clinical guidelines for methadone and buprenorphine treatment of opioid dependence. GL2006_019

Maternal / neonatal care

Opioid use during pregnancy

- Opioid use during pregnancy is associated with increased risk of prematurity, growth retardation, foetal distress, meconium aspiration and jaundice. These outcomes may be more lifestyle-related or due to fluctuation in dose, leading to repeated intoxication and withdrawal episodes, rather than due to the opioids themselves. Blood-borne viral infections can be vertically transmitted to the baby.
- Opioid withdrawal in pregnancy carries a serious risk of miscarriage or stillbirth, particularly if withdrawal is sudden and occurs in the first or third trimester.
- The preferred treatment for pregnant women dependent on opioids is to stabilise them on methadone maintenance.

Breastfeeding

- Opioids are present in breast milk. Breastfeeding should be interrupted for 24 hours after using heroin, owing to the uncertain composition of street heroin.
- Breastfeeding is recommended for women who are maintained on methadone. However, breastfeeding is not recommended if methadone is being used in combination with other drugs.
- The safety of buprenorphine is not yet established for breastfeeding. Women requesting to breastfeed on buprenorphine should be advised of this, and of the risks. If they choose to continue to breastfeed, and can make an informed decision, they should sign a disclaimer stating that they have been advised of the lack of research into this area but have chosen to breastfeed. The amount of buprenorphine in breast milk is small and considered to be clinically insignificant.
- Women should wean infants over at least a one-week period to prevent any risk of withdrawal in the infant.

For further information, refer to the National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

9.3 Benzodiazepines

Benzodiazepines (often called "benzos") belong to the sedative-hypnotic group of drugs. They have a general CNS depressant effect that is dose dependent. As the dose increases there is progression from sedation through hypnosis to stupor. Benzodiazepines cause respiratory depression, but this effect is minimal unless other central nervous system depressants are taken (e.g. alcohol and opioids). This may result in respiratory depression that may be life-threatening.

People who use large amounts of benzodiazepines may experience withdrawal seizures on cessation of use or severe reduction in dose. Benzodiazepine use should not cease abruptly. A dose reduction regime should always be used.

Uncomplicated benzodiazepine withdrawal can be accomplished at home with a gradual diazepam reduction regime. However, anyone who presents already exhibiting symptoms of withdrawal (e.g. agitation, confusion, convulsions, and delirium) should be admitted for assessment and treatment. The following guidelines focus on inpatient withdrawal and management.

9.3.1 Criteria for in-hospital management

Patients may need admission because:

- they present in withdrawal
- they have an illness or injury which warrants admission and withdrawal becomes an additional clinical issue
- they are unable to take responsibility for the self-administration of their medication in the home.

9.3.2 Assessment and quantification

There are two main patterns of benzodiazepine dependence, the most common being low dose dependency over many years, particularly among women and elderly people. High dose dependence, often in the context of polydrug use, can also occur.

Record the following information:

- type of benzodiazepine, route of administration
- dose (in milligrams) and frequency of use
- duration of use
- date, time and amount last used.

9.3.3 Indications and guidelines

Managing benzodiazepine intoxication

As the dose increases, effects move from sedation through hypnosis to stupor. People who use benzodiazepines on a regular basis may develop tolerance to the sedative effect. In some people benzodiazepines produce a paradoxical reaction of violence and disinhibited behaviour.

Effects of benzodiazapines

Effects

- decreased anxiety
- sleepiness
- sedation
- anti-convulsant effects.

Side effects

- poor motor coordination
- ataxia
- slurred speech
- vertigo
- blurred vision
- lethargy
- poor memory recall
- confusion
- drowsiness
- stupor
- drooling
- in rare cases: agitation, hostility, bizarre uninhibited behaviour.

Absorption rates, half-life and equivalent daily dose

The following table shows absorption rates, half-life, and equivalent daily doses of common benzodiazepines, which is based on the manufacturer's product information.

Table 9.9: Absorption rates, half-life, and equivalent daily doses of common benzodiazepines*

Generic name	Trade name	Time to peak concentration	Elimination half life†	Equivalent dose‡
Diazepam	Antenex Ducene Valium Valpam	30–90 min	Biphasic: rapid phase half-life, 3 hours; elimination half-life, 20–48 hours	5 mg
Alprazolam	Alprax Xanax Kalma	1 hour	6–25 hours	0.5–1.0 mg
Bromazepam	Lexotan	0.5–4 hours	20 hours	3–6 mg
Clobazam	Frisium	1–4 hours	17–49 hours	10 mg
Clonazepam	Paxam Ritrovivl	2–3 hours	22–54 hours	0.5 mg
Flunitrazepam	Hypnodorm	1–2 hours	20–30 hours	1–2 mg
Lorazepam	Ativan	2 hours	12–16 hours	1 mg
Nitrazepam	Alodorm Mogadon	2 hours	16–48 hours	2.5–5 mg
Oxazepam	Alepam Murelax Serepax	2–3 hours	4–15 hours	15–30 mg
Temazepam	Euhypnos Normison Temaze Temtabs	30–60 min after tablets, 2 hours after capsules	5–15 hours	10–20 mg
Triazolam	Halcion	1–3 hours	Biphasic: rapid phase half-life, 2.5–3.5 hours; elimination half-life, 6–9 hours	0.25 mg
Zolpidem	Stilnox	0.5–3 hours	2.5 hours	Not known

* Based on manufacturer's product information.

† Elimination half-life: time for the plasma drug concentration to decrease by 50%.

‡ Equivalent dose: approximate dose equivalent to diazepam 5 mg.

Benzodiazepine withdrawal

Very few users of prescribed benzodiazepine become dependent with periods of use of less than 3 months. Longer-term use may result in withdrawal symptoms that can last from six months to one year, with gradual diminishing intensity of symptoms. Patients vary in the rate of developing dependence. With between 3 and 12 months of use, 10%–20% of patients will become dependent, rising to 20%–45% after more than a year. (NSW Health 2006)

If low dose therapy is continued for longer than six weeks, physical dependence and symptoms of withdrawal will affect 15-50% of people (studies vary). Not everyone will experience symptoms, and of those who do, the symptoms are not always disabling. This information can be reassuring when discussing the need for withdrawal.

Abrupt withdrawal from high doses use (greater than 50mg diazepam or equivalent per day) without withdrawal symptoms has been observed clinically, but the incidence is unknown. Use of higher doses is more likely to produce a withdrawal syndrome with more severe symptoms.

Many people who are using high doses of benzodiazepine, and who also use opioids, report that benzodiazepine withdrawal is worse than opioid withdrawal, commenting that benzodiazepine withdrawal is 'mentally' worse. Withdrawal symptoms may be more severe for people who use more than one kind of benzodiazepine, perhaps because of the unpredictable effects of withdrawal from drugs with varying half-lives.

Onset and duration of benzodiazepine withdrawal

Onset of withdrawal depends on the half-life of the particular benzodiazepine used by the person. Withdrawal from short-acting benzodiazepines generally occurs earlier and is more severe. Withdrawal symptoms do not necessarily decrease steadily from a peak, but can follow a fluctuating course with good and bad periods. Eventually the good periods will last longer and become more frequent.

Signs and symptoms of benzodiazepine withdrawal

Subjective symptoms with few observable signs of withdrawal are a feature, particularly of low dose withdrawal. Individuals may report feeling extremely mentally distressed (as though they are "going mad"), although they may not have any obvious signs of physical discomfort. This may result in the person not receiving the care that would be appropriate during this time.

The following table shows signs and symptoms of benzodiazepine withdrawal:

Table 9.10: Symptoms of benzodiazepine withdrawal

Common symptoms	Less common symptoms	Uncommon symptoms
Anxiety	Nightmares, agoraphobia	Delusions
Insomnia	Feelings of unreality	Paranoia
Restlessness	Depersonalisation	Hallucinations
Agitation	Panic attacks	Seizures
Irritability	Nausea, dry retching, decreased appetite, weight loss, sweating, lethargy	Persistent tinnitus
Poor concentration	Increased sensory perception, aches and pains, headaches, palpitations, tremor, blurred vision	Confusion
Poor memory	Increased temperature, ataxia	
Depression	Gastrointestinal unrest	
Muscle tension, aches, twitching	Menstrual changes	

NSW Health (2007)

Major complications of withdrawal

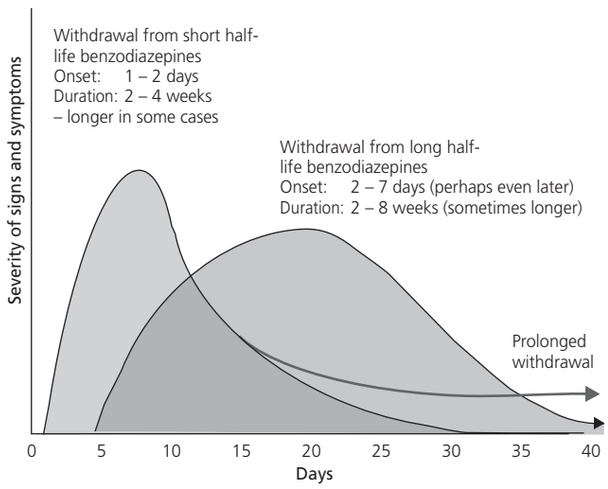
The major complications of withdrawal are:

- progression to severe withdrawal
- delirium with risk of injury (to self or others)
- risk of dehydration or electrolyte imbalance
- potential for seizures
- presence of concurrent illness, which masks or mimics withdrawal
- orthostatic hypotension.

Course of withdrawal

Withdrawal from short-acting benzodiazepines (e.g. oxazepam, temazepam, alprazolam, and lorazepam) typically produces a faster and more severe onset of symptoms than withdrawal from long-acting benzodiazepines (e.g. diazepam, nitrazepam), and may be more difficult to undergo and complete.

Figure 9.3: Withdrawal from short and long-acting benzodiazepines



Adapted from Frank L., Pead J. *New Concepts in Drug Withdrawal: A resource handbook*. © 1995 State of Victoria. Reproduced with permission.

Rebound phenomena

Abrupt withdrawal from benzodiazepines can result in rebound anxiety and insomnia, which may last 2–3 days. The onset time is related to the half-life of the drug.

Symptom re-emergence

Symptom re-emergence may be difficult to distinguish from rebound phenomena and occurs after cessation of benzodiazepines. The symptoms that re-emerge may be the same as those for which the benzodiazepine was prescribed e.g. anxiety and panic disorder.

Managing benzodiazepine withdrawal

Undertake nursing observations to identify and manage withdrawal symptoms and prevent the progression to severe withdrawal. In particular, offer:

- reassurance regarding distorted sensory stimuli
- heat and massage for muscle aches
- symptomatic management to reduce the severity of symptoms.

Incidental withdrawal

Patients in hospital may undergo benzodiazepine withdrawal from even low doses of regular, long-term benzodiazepine use. Benzodiazepines should not be abruptly ceased because of the risk of precipitating withdrawal.

If there are no medical or psychological indications for continuing benzodiazepine use, discuss with the patient the problems of dependence and the advantages of withdrawing the drug. Patients taking low doses who wish to withdraw can begin a reduction regimen while in hospital.

However those taking high doses should be assessed and their dose should be stabilised. Reduction and withdrawal should follow once their other medical condition has been dealt with.

Monitoring

There is no validated tool for recording benzodiazepine withdrawal symptoms in an inpatient setting. The symptoms listed in Table 9.10 need to be monitored.

Pharmacological treatment

A therapeutic relationship is required prior to benzodiazepine withdrawal and generally this should be managed by the patient's general practitioner.

However, it is not recommended that general practitioners attempt to manage benzodiazepine withdrawal in polydrug users, nor prescribe benzodiazepines for this group, even as a temporary measure.

Initial stabilisation of dose (preferably with a long acting benzodiazepine like diazepam) in an inpatient setting is followed by a gradual reduction in dose over time as an outpatient. Contraindications to outpatient reduction exist when:

- the safety of the patient would be at risk (e.g. history of seizures, alcohol dependence, or significant mental or other illness; the elderly)
- the patient reports very high doses of benzodiazepine use and has not been stabilised.
- the likelihood of a successful outcome is poor in an ambulatory setting (repeated inability to complete outpatient reductions, other drug use, unstable social environment)
- the patient will not consider withdrawal in an ambulatory setting.

During the initial stabilisation period the dose of benzodiazepine should reduce severity of withdrawal symptoms without over sedating. There should be close observation for signs of intoxication, as this indicates that the prescribed dose is too high. The initial reduction of about 10% of the dose per day can be commenced to get the patient down to a lower stable dose before discharge. Withdrawal is then completed as an outpatient.

The use of drugs that exhibit cross-tolerance with benzodiazepines (such as alcohol) or those that lower the seizure threshold (e.g. phenothiazines, tricyclic antidepressants) may warrant a higher stabilisation dose and a more conservative reduction rate.

People who have not taken benzodiazepines for a few days can begin on the dose that they would have been on had they commenced dose reduction at the time of stopping.

Maternal and neonatal care

The health risks of benzodiazepines in pregnancy have not been clearly established. Regular benzodiazepine use during pregnancy may cause neonatal abstinence syndrome, which may be of delayed onset. Babies born to benzodiazepine dependent women should be observed for 1 week prior to discharge and should have weekly outpatient review for 1 month. The Finnegan scale may be used to monitor withdrawal and if medication is required, the drug of choice is phenobarbitone.

The safety of benzodiazepines in breast milk is not known therefore the potential risks should be weighed up against benefits of breastfeeding. Women on short acting benzodiazepines should be advised not to breastfeed immediately post dose because of the risk of falling asleep and potentially smothering the baby and the risk of the infant receiving a maximum dose and becoming excessively drowsy.

For further information, refer to the *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn.* (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

9.4 Psychostimulants

Drugs labelled as "psychostimulants" include a diverse range of CNS stimulants such as amphetamine (*speed*), cocaine (*coke, snow*), methamphetamine (*crystal meth, speed, ice*), methylphenidates—Ritalin, and methylene dioxy-methamphetamine (MDMA—*ecstasy*). Nicotine is also a psychoactive stimulant.

Stimulants activate the CNS, having a peripheral sympathomimetic action, and are often used for effects such as euphoria, increased sense of well-being, increased energy, more confidence or over-confidence, improved cognitive and psychomotor performance, suppression of appetite and insomnia (Latt et al. 2002, p. 125).

See also: NSW Health 2006. *Psychostimulant Users — Clinical Guidelines for Assessment and Management*: GL2006_001

9.4.1 Assessment and quantification

Quantification of illicit drugs used, including psycho-stimulants, can be difficult because they are often "cut" (mixed) with other substances including other drugs, glucose and sucrose, and the actual dose is always unknown.

Record the following information:

- type of psychostimulant (e.g. speed, cocaine, MDMA, methamphetamine)
- frequency (e.g. daily, weekly, binges/runs)
- dose (record in dollars spent to buy or grams)
- duration of use
- last dose/used (date, time and amount)
- route/s of administration (smoking, injecting, snorting, swallowing).

9.4.2 Indications and guidelines

Onset and duration of acute effects

Speed—amphetamine: Onset of action when taken orally is about 30–60 minutes, with peak cardiovascular effect at 60 minutes and CNS effects about two hours. Duration of effect is about 4–6 hours. Intranasal (snorting) produces effects within a few minutes; smoking and intravenous use produces even faster effects.

Ecstasy—MDMA: Onset of action when taken orally is 30-60 minutes with peak effect at 90 minutes. Duration of effect is about 4–6 hours.

Coke—cocaine: Despite concerns during the 1980s about the emergence of other forms of cocaine such as "crack" onto the illicit drug market, this form of the drug is rarely seen in NSW and there is no evidence of its commercial distribution. Onset of action when snorted is within minutes. When "crack" is inhaled or when cocaine is taken intravenously, action is within seconds. There is an immediate and marked "rush" that is highly pleasurable with heightened cognitive awareness, energy and euphoria lasting for about 30 minutes. Rapidly diminished effects due to short half-life.

Managing psychostimulant intoxication

Table 9.11: Psychostimulant effects

Immediate effects	Effects of higher doses
Increased alertness	Headaches
Increased energy	Pale skin
Increased confidence	Restlessness
Euphoria	Dizziness
Increased talkativeness	Rapid or irregular heartbeat
Loss of appetite	Paranoia
Insomnia	Anxiety
Increased heart rate and breathing	Panic attacks
Nausea/vomiting	Depression
Headaches	Confusion (feeling "scattered")
Jaw clenching	
Hot and cold flushes	
Sweats	

Binges or "runs" involve repeated excessive use (multiple daily doses over several days). This can result in a psychotic state resembling acute paranoid schizophrenia characterised by:

- severe agitation
- anxiety
- restlessness
- paranoid delusions
- hallucinations—predominantly visual but can be auditory or tactile
- repetitive stereotypical behaviours
- hostility and violence
- loosening of association and ideas in a setting of clear consciousness.

Although psychotic symptoms generally subside soon after the drug use ceases, some people may experience persistent symptoms for weeks or months (Latt et al. 2002, pp. 130–131).

Managing psychostimulant withdrawal

Repeated and prolonged use of psychostimulants leads to marked tolerance, neuroadaption and dependence, and withdrawal on cessation.

Withdrawal from cocaine or amphetamines is not life-threatening, but depression resulting from withdrawal can lead to suicidal ideation, self-harm and possibly death. Suicidal ideation should be managed as per hospital policy and NSW Department of Health Policy Directive No. PD2005_121 *Suicidal Behaviour – Management of Patients with Possible Suicidal Behaviour* at http://www.health.nsw.gov.au/policies/PD/2005/PD2005_121.html

Also refer to the *Framework for Suicide Risk Assessment and Management for NSW Health Staff* at http://www.health.nsw.gov.au/pubs/2005/suicide_risk.html

Withdrawal is characterised by three phases: crash, withdrawal and extinction.

Table 9.12 shows the phases of amphetamine and cocaine withdrawal.

Monitoring

Four-hourly monitoring is recommended as nurses/midwives need to be aware of changing signs and symptoms that the patient may present with as they pass through the crash and withdrawal phases. Mood and energy levels may fluctuate e.g. a patient may initially present with a low mood and psychomotor retardation and then swing towards being restless and agitated later the same day.

Assess for underlying mental health problems as these may have been masked during the crash phase but become evident later in the withdrawal period. Withdrawal scales have not been routinely used in clinical practice.

Pharmacological treatment

To date, no broadly effective pharmacological therapy has been identified. However, symptomatic medication may be beneficial, for example:

- Benzodiazepines for anxiety, agitation, insomnia and aggressive outbursts. Benzodiazepines should not be used for more than two weeks without review.

Table 9.12: Amphetamine withdrawal

Phase	Time since last stimulant use	Common signs and symptoms
Crash	**Amphetamines**: typically commences 12–24 hours after last amphetamine use, and subsides by days 2–4. **Cocaine**: occurs within hours of last use, with short duration (up to 48 hours). Some individuals do not report a significant crash on stopping cocaine.	Exhaustion, fatigue. Sleep disturbances (typically increased sleep, although insomnia or restless sleep may occur). Mood disturbances—typically flat mood or dysphoria; may be associated with anxiety or agitation. Low cravings. Generalised aches and pains.
Wthdrawal	**Amphetamines**: typically commences 2–4 days after last use, peaks in severity over 7–10 days, and then subsides over 2–4 weeks. **Cocaine**: typically commences 1–2 days after last use, peaking in severity over 4–7 days, then subsides over 1–2 weeks.	Strong cravings. Fluctuating mood and energy levels, alternating between: Irritability, restlessness, anxiety, and agitation. Fatigue, lacking energy, anhedonia. Disturbed sleep, including vivid dreams, insomnia. General aches and pains, headaches. Muscle tension. Increased appetite. Poor concentration and attention. Disturbances of thought (e.g. paranoid ideation, strange beliefs) and perception (misperceptions, hallucinations) can re-emerge during withdrawal phase after having been masked during crash.
Extinction	Weeks to months	Gradual resumption of normal mood with episodic fluctuations in mood and energy levels, alternating between: irritability, restlessness, anxiety, agitation, fatigue, lacking energy and anhedonia. Episodic cravings. Disturbed sleep.

- Antipsychotic medication for psychotic symptoms (delusions, hallucinations etc). Psychiatric consultation is recommended if symptoms are severe or do not resolve within days. Caution is required when the patient is intoxicated with psychostimulants as some anti-psychotic medications (butyrophenones like haloperidol, olanzapine, etc) may lower the seizure threshold.
- Antidepressants for symptoms of depression that persist after stimulant withdrawal. Specialist assessment and a treatment plan combining counselling (e.g. cognitive behavioural therapy) and antidepressants should be considered. The side effect profile of the various antidepressants may be important in choosing an antidepressant.

Maternal and neonatal care

The health risks of psychostimulant use during pregnancy have not been clearly established. However, a history of use (especially IV use) should be considered as a high-risk pregnancy. Use during pregnancy is associated with higher rates of obstetric complications (spontaneous abortion, miscarriage and placental abruption) If amphetamines are used close to the birth, the baby may be born affected and have agitation and be overactive. There are only limited reports of neonatal abstinence syndrome, however, the need for medication for withdrawal has not been reported.

A mother who wishes to breastfeed should be supported unless she is using regularly and is unstable. Women who rarely use or binge use should be informed of the risks and provided with information on minimising harm to the baby, for example:

- Express and discard milk after psychostimulant use.
- Do not breastfeed for 24 hours after amphetamine or cocaine use.
- Do not breastfeed for 24–48 hours after using ecstasy.

For further information, refer to the *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn*. (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

9.5 Cannabis

Cannabis is the generic name given to the psychoactive substances found in the marijuana plant cannabis sativa.

The main active constituent is Delta 9-tetra-hydrocannabinol (THC). It is difficult to classify due to its mixture of mood, cognitive, motor and perceptual effects. It does not clearly belong to any other drug class, as it has a mixture of stimulant and depressive effects. People may also experience perceptual distortions (e.g. sharpening of the senses or altered sense of time), however, full hallucinations are rare.

9.5.1 Assessment and quantification

Cannabis is difficult to quantify, but noting the following may help:

- cannabis type, e.g. leaf, head or hash; bush bud or hydroponic
- amount used, e.g. in bongs or joints per day
- frequency and duration of use
- number of hours the patient is stoned in a day
- method of administration (e.g. joint, bong, eaten)
- date/time and amount last used.

9.5.2 Time of onset and duration of effects

The effect of one bong/joint may last three to five hours. If the drug is eaten, the acute effects start about one hour after ingestion and can last up to eight hours or more. THC is stored in fat cells hence produces an accumulating effect over time. Urine drug screen positive for THC only confirms that cannabis has been used recently (e.g. in the last few weeks) and does not confirm or eliminate intoxication. Cannabis has relatively weak effects on the cardiovascular, respiratory and thermo-regulatory systems

9.5.3 Indications and guidelines

Signs and symptoms of cannabis use

Effects of using cannabis include:

- euphoria
- relaxation
- sleepiness
- hunger (munchies)
- feeling of well being
- perceptual distortions e.g. (altered sense of time and sharpened senses)
- impaired memory, cognition and skill task performance
- depersonalisation
- raised pulse (approx increase of 20bpm)
- vasodilation (especially conjunctiva—red eyes)
- orthostatic hypotension
- reduced intra-ocular pressure
- bronchodilatation
- anti-emetic
- muscle relaxation
- analgesia
- anticonvulsant effects.

Acute toxicity can result in:

- anxiety
- confusion
- panic attacks
- persecutory delusions
- visual hallucinations
- impairment of short-term memory and attention.

Psychosis can occur but is usually only associated with those who have a predisposition to mental illness. The psychotic state generally resolves within a week of ceasing cannabis. Cannabis induced psychosis can be difficult to distinguish from precipitation of a psychosis in those with predisposition to mental illness.

Overdose from cannabis is rare and clinical signs are not clearly defined.

Managing cannabis withdrawal

Onset and duration of cannabis withdrawal

Most symptoms commence on day 1, peaking at day 2–3, returning to baseline after a week or two. However, there is temporal variation in the profile of specific symptoms, with the late onset of aggression (day 4) and anger (day 6) being particularly significant, with the former often peaking after 2 weeks of abstinence.

Special considerations include:

- Patients with a comorbid mental health condition. There may be unmasking of the mental illness during withdrawal. Appropriate assessment and management is required.

- Patients who use cannabis for chronic pain may require assessment for adequate pain management and referral to specialist pain services.

Patients with a history of aggression may require closer monitoring and a higher dose of benzodiazepine.

The following table illustrates common and less common withdrawal symptoms.

Table 9.13: Cannabis withdrawal symptoms

Common symptoms	Less common symptoms / equivocal symptoms
Anger or aggression	Chills
Decreased appetite or weight loss	Depressed mood
Irritability	Stomach pain
Nervousness/anxiety	Shakiness
Restlessness	Sweating
Sleep difficulties, including strange dreams	

(Budney et al., 2004:1975)

Monitoring

Cannabis withdrawal can be monitored by using a withdrawal assessment scale such as the Cannabis Withdrawal Assessment Scale (see *Appendix 5*).

Pharmacological treatment

Not all patients will require medication for withdrawal. The following table lists medications for symptomatic relief of cannabis withdrawal.

Table 9.14: Medications for relief of cannabis withdrawal

Symptom	Medication
Sleep problems	benzodiazepines, zolpidem zopliclone, promethazine
Restlessness, anxiety, irritability	diazepam
Stomach pains	buscopan, atrobel
Physical pain, headaches	paracetamol, non-steroidal anti-inflammatory agents
Nausea	promethazine, metoclopramide

(NSW Health 2007)

Maternal and neonatal care

While the health risks of cannabis use in pregnancy have not been clearly established, some studies have suggested that children born to cannabis-dependent parents may have development problems, such as:

- subtle differences in higher cognitive processes and perceptual organisation
- sleep disturbances in three-year-olds
- reduced memory and verbal scales at three years
- reduced height at six years
- increased child hyperactivity, impulsivity and inattention at 10 years.

Cannabis is often mixed with tobacco and the risks of tobacco in pregnancy are considerable.

Due to a lack of evidence it is not possible to make a recommendation about cannabis and breastfeeding. Potential risks should be weighed up against benefits of breastfeeding.

For further information, refer to the *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn.* (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

9.6 Tobacco

Tobacco is the major cause of drug-related deaths in Australia. There are over 4000 chemicals in tobacco smoke, many of which are poisonous and 43 that have been proven to be carcinogens. These chemicals include nicotine (the addictive component); tar (which causes throat and lung cancer); and carbon monoxide (together with nicotine, increases the risk of heart disease, atherosclerosis, and other circulatory problems). There is no safe level of tobacco consumption.

9.6.1 Assessment and quantification

To assess nicotine dependence, use the following Fagerstrom Test for Nicotine Dependence (Table 9.15).

9.6.2 Indications and guidelines

Effects of smoking tobacco

Immediate

- increased heart rate
- temporary rise in blood pressure
- decreased blood flow to extremities
- increased acid in the stomach
- brain and nervous system activity stimulated then reduced
- weaker appetite, taste and smell
- paralysed cilia in lungs and airways
- kidneys produce less urine
- dizziness, nausea, watery eyes.

Long term

- shortness of breath, coughing
- respiratory infections, such as pneumonia and chronic bronchitis
- increased risk of emphysema
- increased risk of cancer of lungs, mouth, larynx, pharynx, oesophagus, bladder, kidney, pancreas and cervix
- atherosclerosis
- increased risk of peripheral vascular disease
- increased risk of heart disease and myocardial infarction
- increased risk of stomach ulcers
- increased risk of infertility (can cause impotence in men; women less fertile also)
- earlier signs of ageing: wrinkles, dry skin, etc.
- may inhibit some symptoms of Parkinson's disease. (Wirdefeldt, 2005)

Table 9.15: Nicotine Dependence Test

Question	Answer	Score
1. How soon after waking up do you smoke your first cigarette?	Within 5 minutes 6–30 minutes 31–60 minutes	3 2 1
2. Do you find it difficult to abstain from smoking in places where it is forbidden?	Yes No	1 0
3. Which cigarette would you hate to give up?	The first one of the day Any other	1 0
4. How many cigarettes a day do you smoke?	10 or less 11–20 21–30 31 or more	0 1 2 3
5. Do you smoke more frequently in the morning than in the rest of the day?	Yes No	1 0
6. Do you smoke even though you are sick in bed for most of the day?	Yes No	1 0
	Total	

Score: 1–2 = very low dependence, 3–4 = low dependence, 5 = medium dependence, 6–7 = high dependence, 8+ = very high dependence (NSW Health, 2002, p.10)

What the score means: The higher the score on the Fagerstrom test, the more likely the person is to benefit from using nicotine replacement therapy (NRT) or bupropion to assist with withdrawal symptoms and to quit. Those with a score above five should consider higher dose NRT. Those with a score of four or less may still benefit from lower dose NRT.

Opportunistic intervention and harm reduction

Health professionals can provide brief cessation advice opportunistically as a minimal clinical intervention during routine consultations with smokers, whether or not they are seeking help with stopping smoking. Each session usually lasts three to five minutes and follows a stepped process described as the 5As: Ask, Advise, Assess, Assist, Arrange (Miller and Wood, 2002).

Harm reduction

It would seem that smoking lower tar (and nicotine) or fewer cigarettes should reduce harm, but in reality smokers tend to titrate the dose of nicotine from a cigarette in order to maintain a particular level of nicotine in the body. Thus, smokers who reduce the nicotine and tar content or the number of cigarettes will often breathe in deeper and hold the smoke in the lungs longer, which unfortunately causes more harm to the lungs (Benowitz, 1998). The best way to reduce harm is to change the method of delivery of nicotine from smoking to prescribed nicotine replacement therapy (NRT), or to stop "cold turkey". Exposing others passive smoking can be avoided by smoking outside the home and car.

Nicotine withdrawal—Signs and symptoms

Onset of withdrawal is usually within a few hours of the last cigarette, and withdrawal symptoms peak at 24–72 hours. Withdrawal symptoms vary, but can include the following:

- irritability
- cravings
- increased nervousness and tension
- sleep disturbance
- stomach upsets
- bowel disturbance
- loss of concentration
- muscle spasm
- changes in taste
- headaches
- cough
- increased appetite.

Pharmacological treatment

Treatment: Indication for inpatient nicotine withdrawal

There is generally no indication for admission into an inpatient facility for management of nicotine withdrawal in its own right. Many patients will, however, be admitted to hospital, and experience withdrawal from nicotine consequently. Patients should be informed of the NSW Health Smoke Free Workplace Policy (1999) and offered support to stop. NRT should be used when not contraindicated. Information on offsite / outdoor designated smoking areas should be provided, if available, if patients wish to continue to smoke. Assessment, information, education, support, NRT and referral should be offered to all patients in this situation whether they intend to continue smoking on discharge not. If they intend to stop, a referral to the QUIT Line and a GP or Pharmacist should be made.

Supportive counselling, accurate information, pharmacotherapy options and appropriate planning should be used during the withdrawal period. A range of resources is available including facts sheets, self help booklets and the QUIT Line for use during and after the withdrawal period. Counselling is also provided by some services.
Refer to NSW Health Guidelines GL2005_036: *Nicotine Dependent Inpatients (The Guide for the Management of).*

Pharmacotherapies

A holistic approach to smoking cessation is important and a pharmacotherapy should be seen as one part of this approach. Pharmacotherapy options are:

- Nicotine Replacement Therapy (NRT)
- Bupropion
- Other options such as clonidine, and nortriptyline

The tables below (Table 9.16 and 9.17) outline the dose, duration, side effects and contraindications of NRT and bupropion.

Nicotine Replacement Therapies (NRTs)

NRT provides lower nicotine levels than those achieved by smoking. This provides a relief from physiological withdrawal symptoms of smoking, reducing the urge to smoke cigarettes. NRT options are gum, patches and an inhaler. A combination of a NRT patch and another self-administered form of NRT may be more efficacious than one form alone.

Because NRTs are available without prescription at pharmacies, pharmacists can play an important role in providing information to people wanting to use this option. In general, issues such as the type of NRT, previous withdrawal symptoms and patterns, the need for a combination of agents and regular review should be explored in all settings. Not smoking while using NRT should be strongly encouraged.

Combination therapy

Combining the nicotine patch with a self-administered form of short-acting NRT may be more efficacious than a single form of nicotine replacement and patients should be encouraged to use combined treatments if they are unable to remain abstinent, or if they are still experiencing withdrawal symptoms using a single type of pharmacotherapy (Fiore 2000).

Bupropion

Bupropion is a non-nicotine-based alternative to NRT, an atypical antidepressant that can only be prescribed for adults. It is the only smoking pharmacotherapy available on the Pharmaceutical Benefits Scheme. Because Bupropion is initiated approximately one week prior to the quit day, it will have limited practical application for inpatient settings. However, it may be an option for patients to discuss with their GP after discharge. It can be used in combination with short-acting NRT.

Clonidine and nortriptyline

Clonidine and nortriptyline should be considered if the above options are contraindicated, but they may have more severe side effects.

Maternal and neonatal

Tobacco use during (and after) pregnancy

Risks may include:

- pregnancy complications such as ectopic pregnancy, miscarriages, stillbirth, placental problems, bleeding during pregnancy and premature birth
- low birth weight
- increased foetal heart rate, decreased foetal movements and impaired 'rehearsal breathing' in the foetus
- respiratory complications and middle ear infections in the baby's first weeks

Table 9.16: Pharmacotherapy of nicotine replacement therapies

Type	Dose and Duration			Side Effects	Contraindications
	Less than 10 cigs per day	10–20 cigs per day	More than 20 cigs per day		
Patches	None	Nicobate® 14 mg Nicorette® 10 mg	Nicobate® 21 mg Nicorette® 15 mg	Transient skin irritation, itching, dreams, sleep disturbance, indigestion, diarrhoea	Relative: ■ Ischaemic heart disease Absolute: ■ Recent MI ■ Serious arrhythmias ■ Unstable angina ■ Pregnancy
Gum	None	2 mg, 8–12 per day	4 mg, 8–12 per day	Jaw discomfort, nausea, indigestion, hiccups, excess saliva, sore throat	
Inhaler	None	Nicorette® 6–12 cartridges per day	Not recommended	Mouth and throat irritation, cough, nausea and indigestion	

Table 9.17: Pharmacotherapy of bupropion (Zyban®)

Type	Dose and Duration			Side Effects	Contraindications
	Less than 10 cigs per day	10–20 cigs per day	More than 20 cigs per day		
Bupropion	150 mg for 3 days, then 150 mg b.d. for 7 weeks			Headaches, dry mouth, impaired sleep, seizures, nausea, anxiety, constipation, and dizziness	1. seizure disorders or significant risk of seizure 2. bulimia 3. anorexia nervosa, 4. bipolar disorders

- later asthma, possibly related to passive smoking effects
- sudden infant death syndrome.

Nicotine replacement therapy (NRT)

There is currently a lack of evidence on the safety of NRT in pregnancy but reports of expert committees have recommended its use in certain circumstances.

NRT should be considered when a pregnant woman is otherwise unable to quit, and when the likelihood and benefits of cessation outweigh the risks of NRT and potential continued smoking.

Pregnant smokers who have been unable to quit using behavioural methods and are considering the use of pharmacotherapy to quit smoking should be advised to discuss the implications with their medical practitioner.

NRT should commence as soon as inability to quit is identified, after two or more weeks of trying without success.

- NRT is recommended in the form of intermittent-use formulations (gum, lozenge, inhaler, sublingual tablets) during pregnancy.

Breastfeeding

- Mothers who are breastfeeding should be advised not to smoke during breastfeeding, and ensure that no one smokes in the house or car with the baby
- Mothers who wish to breastfeed while continuing to use NRT should breastfeed first, then use one of the intermittent delivery methods of NRT.

For further information, refer to the National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

9.7 Hallucinogens

Hallucinogens (also known as psychedelics) include naturally occurring and synthetic compounds. They produce distortions in thoughts, mood and perceptions—typically inducing illusions or hallucinations. They are most commonly used in one-off social contexts such as dance or rave parties, clubs and pubs, or at home.

There are a number of drugs that come into this category. They include lysergic acid diethylamide (LSD), phencyclidine (PCP), psilocybin (magic mushrooms), and dimethyl tryptamine (DMT).

Note: MDMA (methylene dioxy-amphetamine) (ecstasy) is a psychostimulant that also has hallucinogenic properties.

See Appendix 6 for the street names of hallucinogens.

9.7.1 Assessment and quantification

Quantification of hallucinogens is difficult because purity is uncertain. In assessing hallucinogen use, record:

- the substance name
- how often the person uses the substance
- either the cost of the drug, or how many tabs are used
- how long the person has been using the drug
- the date and time of last use.

9.7.2 Indications and guidelines

Managing hallucinogen intoxication

In some cases users can experience pronounced mood swings: detachment may alternate with fear, paranoia, distress and panic. The nurse may need to provide reassurance and supportive care so the patient does not injure himself or others during a panic episode.

Effects of hallucinogens

Immediate effects

- A sense of increased clarity or sharpness
- Altered perception, thought, emotions:
  - unusual and vivid perception of shapes, colours, sounds
  - blurred boundary between self and surroundings
  - feeling of detachment, one part of self passively observes the other part experiencing psychedelic illusions
- Dizziness
- Weakness
- Nausea
- LSD results in signs of CNS hyperactivity (dilated pupils, raised BP, pulse and body temperature, tremor, gooseflesh, nausea, hyper-reflexia and tremor). In addition, it can cause dizziness, weakness, drowsiness, paraesthesia and emotional lability.
- Psilocybin can result in agitation, panic attacks, psychosis and ataxia.
- Phencyclidine use is very uncommon. The effects may mimic alcohol intoxication, i.e. euphoria, disorientation, ataxia, slurred speech, nystagmus, numb extremities, hostile and bizarre behaviour, signs of CNS hyperactivity (increased heart rate and blood pressure, sweating, fever, convulsions), respiratory depression and coma.
- Overdose from hallucinogens is rare. Animal studies have found that overdose can result in death via respiratory failure and hyperthermia.

Long-term or chronic effects

- Flashbacks (similar to the drug effect, some time after last use) may persist for years after use depending on the number and magnitude of doses the person has taken over time. Flashbacks can be precipitated by cannabis use, anxiety and fatigue – they are most commonly associated with LSD and PCP.
- PCP can result in personality changes, chronic psychosis, and persistent difficulties with memory, thinking and speech.

Dependence and withdrawal

These drugs are not usually associated with dependence arising from long term, high-level use.

There is no evidence of a withdrawal syndrome from hallucinogens even after abrupt cessation or substantial reduction in their use.

9.8 Solvents (inhalants, volatile substances)

Solvents are also known as "inhalants" or "volatile substances", and are products that vaporise in the air, causing a "high" feeling when the fumes are inhaled. The product is inhaled through the nose or mouth. It is often sprayed into a plastic bag or soaked onto a cloth or sleeve and then inhaled. It can also be inhaled directly from the container or a cool drink bottle.

This group includes gases (e.g. nitrous oxide) and highly volatile compounds or mixtures of compounds (petrol, paint—"chroming", glues, aerosol propellants, and paint thinners).

9.8.1 Assessment and quantification

As with other substances, record the frequency, quantity, date and time of last use.

However, quantification of solvent use is extremely difficult. Record the type of solvent used and how many times it is inhaled in a session.

9.8.2 Indications and guidelines

Managing solvent intoxication

If a person is inhaling solvents, do not frighten or startle them.

Approach in a very calm manner. Sudden movements (e.g. running) by the solvent-affected person can cause severe cardiac arrhythmia.

Remove the inhalant and make sure the person gets plenty of fresh air.

If there are significant problems with memory or concentration, arrange for a neuropsychiatric test. It is acknowledged that such a test cannot always be accessed.

Effects of solvents

While individual components of solvents can differ in their effects, their overall action is the depression of the CNS. Onset of action is rapid and the CNS impairment generally clears within a few hours of inhalation. However, if high doses are inhaled they can result in coma and death.

Solvent intoxication resembles alcohol intoxication. Initial exhilaration and euphoria is followed by:

- slurred speech
- ataxia
- drowsiness
- dizziness
- increased salivation
- nausea
- vomiting
- confusion
- disorientation
- perceptual disorders
- hallucinations
- delusions (can result in harm to self, others, property)
- respiratory depression
- cardiac arrhythmia
- lead poisoning (from leaded petrol)
- convulsions (high doses).

Overdose is rare. Toxicity varies greatly, depending on the substance. Generally, signs are cardiac arrhythmia, hypoxia, and neurological impairment.

Withdrawal

Withdrawal syndrome can occur in some cases, but it is generally mild. Symptoms include:

- anxiety
- depression
- headache
- nausea
- dizziness
- drowsiness
- chills
- abdominal pains
- muscular cramps.

Sometimes, confusion and hallucinations can occur after chronic solvent use.

9.9 Ketamine

Ketamine is commonly called K, or Special K. Ketamine Hydrochloride, a derivative of phencyclidine (PCP), is a dissociative anaesthetic that has stimulant properties when taken in low doses. The effects appear subjective depending on individual characteristics of the user and the setting in which it is used.

Ketamine is a drug with multiple mechanisms of action, but the degree to which each contributes to the different effects experienced through the use of ketamine is not clear (White & Ryan 1996). Ketamine is used mainly for its euphoric effect.

Ketamine is commonly swallowed, snorted, smoked or injected.

9.9.1 Assessment and quantification

Quantification of illicit drugs can be difficult and the actual dose is always unknown. Noting the following may be helpful:

- the amount the patient states he or she has taken
- frequency of ketamine use (daily, weekly, binges)
- duration of use
- date and time of last use
- route of administration
- other drugs the patient may have used in combination with ketamine.

9.9.2 Onset and duration of effect

Peak effects depend on the route of administration and occur from 30 seconds (IV) to 20 minutes (oral) after usage. Duration of effect is typically 1–3 hours. The half-life is three hours (White et al. 2002).

9.9.3 Indications and guidelines

Effects of ketamine

Short term

Short-term effects at low doses can produce a state resembling alcohol intoxication, with:

- ataxia
- euphoria
- slurred speech
- nystagmus
- numbness of the extremities
- cardiovascular and respiratory stimulation.

Higher doses

At higher doses the predominant acute effects include:

- sweating
- drowsiness
- hypersalivation
- fever
- myoclonus
- blurred vision
- apathy
- dissociative 'out of body' sensations (flying or floating —detachment from the immediate environment)
- muscle rigidity
- reduced response to pain
- risk of respiratory collapse or failure
- feelings of aggression
- hostile and bizarre behaviour
- stimulation
- disorganised thoughts
- temporary paralysis
- hallucinations
- euphoria
- seizures
- confusion and disorientation
- coma.

Longer term effects

- weight loss
- loss of appetite
- flashbacks
- possible memory, attention and vision impairment
- possible psychological dependence
- possible development of tolerance to some behavioural and toxic effects.

Physical dependence can occur (Shapiro 1992, p.7).

Ketamine overdose

Possible symptoms of ketamine overdose are:

- respiratory depression may occur where there has been rapid intravenous administration, but can occur with slower administration
- hyperthermia
- seizures may occur in people with known seizure disorders (literature reports that ketamine may induce or terminate seizures).

Managing ketamine intoxication

See Chapter 6, Managing Intoxication.

Ketamine withdrawal

Abrupt withdrawal can occur after cessation of long-term daily use (White et al 2002).

Symptoms

Symptoms of withdrawal are:

- fear
- tremors
- facial twitches
- craving.

Animal studies show seizures, irritability and weight loss during ketamine withdrawal.

Monitoring

There is no validated tool for recording ketamine withdrawal symptoms.

9.10 Gamma hydroxybutyrate (GHB)

Gamma hydroxybutyrate (GHB) was originally developed as an intravenous anaesthetic induction agent in 1964, however, it was found to cause unacceptably high levels of vomiting and tonic—clonic seizures. For the last two decades it has been used in a variety of clinical and recreational settings such as:

- a supplement for body builders
- a sleep agent
- a detoxification agent (alcohol and opioids)
- a party drug.

It is a CNS depressant with similar action to benzodiazepines and its effects are known to be highly dose dependent. It is usually used in the form of liquid, capsules, powder or crystals. It is colourless, odourless, with a slightly salty, acidic taste. GHB is commonly swallowed as a liquid, diluted in orange juice or some other strongly flavoured drink.

Polydrug use is common. Drugs may interact thereby increasing the effects of each other with an increased potential for toxicity and overdose e.g. GHB and heroin, GHB and alcohol, GHB and other CNS depressants.

Street names include fantasy, grievous bodily harm, GHB, liquid E, liquid ecstasy and liquid X.

9.10.1 Assessment and quantification

Quantification of illicit drugs can be difficult and the actual dose is always unknown. Noting the following may be helpful:

- the amount the patient states he or she has taken.
- frequency of GHB use (daily, weekly, binges)
- duration of use
- date and time of last use
- route of administration
- other drugs the patient may have used in combination with GHB.

9.10.2 Onset and duration of acute effects

GHB has a rapid onset of action (<15 minutes) with peak effects after 60 minutes and a total duration of action of 2–4 hours.

9.10.3 Indications and guidelines

Effects of GHB

Short-term effects of low doses:

- euphoria
- relaxation and tranquility
- drowsiness
- dizziness
- increased sociability
- decreased inhibition
- enhanced sense of touch
- nausea
- increased confidence
- tendency to verbalise
- blurred vision
- sweating
- hot / cold flushes.

Short-term effects of high doses

- rapid onset intense drowsiness
- ataxia
- aggression if stimulated despite near respiratory apnoea
- impaired movement and speech
- uncontrollable twitching
- disorientation / confusion
- agitation
- nausea and vomiting
- nystagmus
- hallucinations
- muscle stiffness
- seizures (tonic-clonic)
- coma of short duration
- respiratory collapse / arrest
- death.

GHB overdose

Concurrent use of alcohol or other CNS depressants is common in GHB overdose. Patients typically regain consciousness spontaneously within five hours of ingestion. GHB overdose should be considered in any case of unexplained sudden coma.

Symptoms

- decreased level of consciousness / coma
- acute delirium
- severe respiratory depression
- hypothermia
- respiratory acidosis
- vomiting
- hypotension
- bradycardia.

Nursing management of GHB intoxication

See Chapter 6, Managing Intoxication.

Medical management of GHB overdose

Atropine may be used for persistent bradycardia. (Li et al. 1998)

Neostigmine may be considered as a reversal agent. (Li et al. 1998

One study of a small sample of cases reported reversal with the administration of a low dose of physostigmine. (Caldicott & Kuhn 2001)

GHB withdrawal

GHB use should be suspected in particular groups such as clubbers and body builders who present with signs compatible with alcohol intoxication (such as nystagmus, ataxia, nausea, nausea, vomiting, bradycardia and hypotension), but record a breath alcohol level of zero.

Withdrawal presents as rapid onset, prolonged alcohol withdrawal picture, with less autonomic arousal and risk of seizures, but marked confusion, delirium and hallucinations, waxing and waning over a two week period. Management may require the use of both short and long acting benzodiazepines. Additional sedation with propofol may be required in some patients.

Monitoring

There is no validated tool for recording GHB withdrawal symptoms.

9.11 Anabolic androgenic steroids (AAS)

Anabolic androgenic steroids are synthetically modified derivatives of testosterone available in oral or parenteral form. Users of anabolic steroids may not consider themselves as illicit drug users, and often have tertiary qualifications, are in well paid jobs, in stable relationships and are generally older than other illicit drug users. Many steroid users are health conscious, some to the point of obsession, and use of other illicit drugs is low. However, some groups may also use psychostimulants.

Anabolic substances are those that have the ability to synthesise body tissue and increase muscle mass and/or strength. Androgenic substances promote the development of male sexual characteristics.

9.11.1 Assessment and quantification

Steroid use may include multiple steroid use. Whether the person has just commenced using steroids or is recommencing, ask:

- type of AAS—number and type taken simultaneously
- beliefs about use
- dose
- time of last dose
- administration regime (e.g. tablets or injecting—ask size of needle)
- pattern and duration of use (e.g. cycling)
- periods of abstinence or "spells"
- wanted effects (reason for using)
- adverse effects
- risk factors (e.g. unsafe injecting techniques such as sharing of steroid solution and injecting equipment, skin hygiene, polydrug use such as multiple AAS and/or other drugs).

9.11.2 Indications and guidelines

Indicators of risk

Risks may increase with the type of steroid used, dose, duration of use, route of administration, and the number and types of steroids and other drugs used simultaneously. The physical and psychological status of person is also influential.

There are a number of direct risks associated with the use of anabolic steroids. These include:

- the range of physiological responses to abnormal hormone levels
- the risks related to the route of administration (e.g. exposure to blood-borne viruses, and bacterial infections resulting in abscesses at the injection site, cellulitis and endocarditis due to unsafe injecting practices)
- unsafe intramuscular injection techniques
- problems arising from using supplies for veterinary use only and the unknown effects on the human male or female body
- unreliable labelling and accuracy, purity, dose, ingredients and sterility of the drug
- not checking drug expiry dates
- combining anabolic steroids with other drugs (e.g. psychostimulants, diuretics or other performance-enhancing drugs)
- not practising safe sex (condoms).

Adverse effects of AASs

Signs and symptoms of AASs adverse effects may include:

- mood swings
- violent behaviour
- rage
- depression and suicidal ideation
- lethargy
- decreased appetite
- weight loss
- decrease in physical strength
- decrease in libido.

Some people who use steroids may have damage to testosterone production and may need hormone replacement therapy (Taylor 1999).

Withdrawal

Generally, physical dependence does not appear to occur with steroid use.

Use with other drugs

The concomitant use of steroids with other drugs is not recommended. These are examples of AAS polydrug interactions.

Stimulants

Some effects are similar to those caused by steroids, although physiological processes are different. When combined there may be:

- increased heart rate
- increased blood pressure
- depression.

The following are **dangerous** and can be fatal.

Cocaine

Effects are similar to those of amphetamines (see Table 9.11, Chapter 9, Psychostimulants) although for a shorter period of time. When combined with steroids, there may be:

- increased heart rate, blood pressure and body temperature
- euphoria.

When used together, steroids and cocaine can:

- mask pain
- produce hypertension, myocardial infarct and CVA
- provoke feelings of aggressiveness and competitiveness
- increase libido.

Psychological depression may occur when ceasing combined use of cocaine with steroids.

CNS depressant drugs

For example, benzodiazepines, opioids, alcohol.

Use of steroids with diuretics can reduce responsiveness to pain that can cause athletes to rupture muscles and damage the skeletal system.

Diuretics

Use of steroids with diuretics can:

- alter the sodium/potassium balance in the body. This may cause, exhaustion, kidney damage, muscle weakness, cardiac arrest and death.
- increase sodium levels and cause fluid retention.

Nolvadex

An anti-oestrogen drug that is used concurrently with AAS to prevent the effects of oestrogen metabolites, which result from steroids being aromatised. It may not be reliably effective in preventing gynaecomastia because there may be a number of physiological mechanisms that cause this disorder. Women using Nolvadex with steroids can experience menopausal symptoms.

Clonidine

If used in combination with AAS, there is an increased risk of kidney and liver disease and impotence.

Insulin

Does not assist in an increase in muscle mass and definition. There have been reports of several insulin-related deaths in Australia and other parts of the world due to the ill informed belief that insulin, when used in combination with AAS, will increase muscle mass and definition (Queensland Department of Health 1997).

Signs and symptoms of steroid use

People use steroids for many reasons, such as:

- pursuit of body excellence
- improved athletic performance
- capacity to train at high levels—high intensity workouts with rapid recovery, diminished fatigue
- increased strength
- lean muscle mass
- heightened libido
- greater self confidence
- a sense of well being
- sexual arousal
- social acceptability amongst peers.

(Hulse, Basso & Wodak 2002; NSW Health 2002; Henry-Edwards & Ali 1999)

Maternal and neonatal care

Steroids can be teratogenic and masculinise female foetuses. Women should be advised not to use before, during or after pregnancy or whilst breastfeeding.

SECTION 10

Pharmacotherapies for dependence

There is a range of pharmacological therapies that are effective in the treatment of alcohol, opioid and nicotine dependence in Australia. Evidence-based pharmaco-therapies are yet to be developed for psychostimulant dependence.

All nurses, midwives, medical officers and allied health professionals need to know about these treatments, the rationale and benefits of use.

While some people can achieve abstinence without the use of medication, others require prescribed medication for weeks, months or years.

Longer-term prescribing of specific medications in this domain is known as 'replacement pharmacotherapy' (e.g. methadone for opioid dependence, nicotine patches for nicotine dependence). Pharmacotherapy requires extensive medical and psychosocial assessment, supervision, monitoring and regular review (at least three monthly for stable clients, more frequently for those at risk), and should be part of a broader program of general health care (including dental), counselling, management of comorbid conditions and social support. It may or may not be a treatment of first choice for a person presenting to a GP or drug and alcohol specialist service for the first time, and where other options have not been explored.

This section outlines pharmacotherapies for **opioid** dependence and **alcohol** dependence.

10.1 Opioid pharmacotherapies

Opioid maintenance pharmacotherapy (sometimes referred to as "substitution therapy") is very effective for a significant number of people who are dependent on opioids such as heroin.

10.1.1 Methadone

Methadone is an agonist and has been the 'gold standard' pharmacotherapy for opioid dependence for over 30 years. It is very cost effective for clients, service providers and government.

The use of methadone maintenance has a strong evidence base particularly in areas of reducing criminal activity and illicit opioid use, thus reducing the cost to society and improving health and well being of individuals. Methadone is one of the most researched treatment modalities for dependence, and an overall assessment of its effectiveness can be made with more confidence than for other treatments.

Methadone is more effective at higher daily doses (at least 60mgs) as a maintenance therapy. It is a synthetic opioid with a long half-life, e.g. longer acting than heroin. It is active orally as syrup, can be administered once a day under medical or nursing supervision at a clinic, or dispensed from a specified community pharmacy or hospital.

There are criteria for admission into methadone maintenance programs. A specialist doctor or GP prescribes methadone, with the client being registered with the local relevant authority such as the health department.

Methadone should be used as part of a program that includes treatment for a comorbid psychiatric disorder, and where counselling for personal problems is available.

Caution needs to be observed regarding patients receiving high doses if there is concurrent alcohol or benzodiazepine dependence as there is a risk of respiratory depression.

The incidence of injecting and using additional opioids such as heroin while on methadone drops significantly.

Should a lapse to opioid use occur, high doses of methadone blunt the euphoric effects of illicit opioids therefore there is less reinforcement to continue illicit opioid use.

Poor outcomes have been demonstrated in patients with antisocial personality disorder, poor social support, polydrug dependence, and genetic risk of substance dependence (Young et al. 2002, p. 91).

Pain relief

If a person is being prescribed methadone as a maintenance pharmacotherapy for opioid dependence, even at high doses, they will require additional opioids over and above their daily methadone dose for effective pain relief due to tolerance. Accident and emergency and other nursing and medical staff need to know that a person is taking methadone so that effective pain relief can be offered.

Refer to NSW Health Policy Directive PD 2006_ 049. *Opioid-dependent Persons Admitted to Hospitals in NSW – Management*.

Safety

There is a risk of overdose if additional opioids are taken with methadone. Dose tolerance reduces with abstinence, so the person needs to be reassessed if they have not had methadone for more than three days. Methadone has no severe long-term effects on health, however, it is a drug of dependence and expert advice should be sought if there is abrupt cessation of use. Most patients can remain in treatment over a long term with no ill effects on health.

Side effects of methadone

Short term

Related to the central nervous system depressant properties of opioids:

- constipation
- nausea/vomiting
- drop in body temperature
- bradycardia, palpitations
- hypotension.

Long term

- weight gain
- tooth decay due to decreased oral secretions.

Contraindications

- kidney disease
- liver disease.

For further information, see Appendix 7: Drug interactions with Methadone.

10.1.2 Buprenorphine

Buprenorphine is a partial opioid agonist—an opioid analgesic with both agonist and antagonist properties. Buprenorphine is as effective as methadone for people with moderate levels of dependence, and possibly for those with higher levels (Hulse et al. 2002, p. 91). However, retention on buprenorphine appears to be less than that achieved with methadone. Patient selection is important.

Buprenorphine is available in two forms: buprenorphine (Subutex) and buprenorphine-naloxone (Suboxone). Both forms are usually administered sublingually (usually takes 5 minutes to dissolve). The tablet(s) can be used whole or in crushed form, as this does not affect sublingual absorption directly. The drug reaches its peak effect after about 3 hours.

It is easier to taper buprenorphine than methadone, and as a partial agonist is safer in overdose. It results in less respiratory depression than full agonists, such as methadone.

A wider safety margin and strong receptor binding leading to a long half-life make alternate day dosing a convenient option for many patients.

Buprenorphine is cost effective and has a relatively low likelihood of being sold on the street as it can precipitate withdrawal in opioid-dependent people. The combination product has been produced to reduce street acceptability further as the product will induce severe withdrawal if injected due to the presence of naloxone.

It has been found to be highly effective, thus offering a greater choice for clients in the context of high quality, well supervised and medically supervised services.

As a partial agonist it induces lower-level physical dependence than methadone so cessation is more comfortable. (Hulse et al. 2002, pp. 91–92)

Pain relief

Standard doses of opioid analgesia are not likely to be effective in any patient who has used buprenorphine within the 3–4 days prior to requiring such analgesics. Advice should be sought from a Medical Officer skilled in drug and alcohol or D&A nurse practitioner in these instances. Accident and emergency and other nursing and medical staff need to know if a person is taking buprenorphine so that effective pain relief can be provided by using non-opioid analgesics, local anaesthetic approaches or higher dose opioid prescriptions in these situations.

Safety

Buprenorphine is relatively safe; there have been no deaths in Australia attributed to buprenorphine alone.

Side effects of buprenorphine

Some side effects have been reported, however, these are relatively mild. They include:

- headache
- sedation
- nausea
- constipation
- anxiety
- dizziness
- itching.

10.1.3 Naltrexone

Naltrexone is an opioid antagonist registered for use in relapse prevention in Australia. As an antagonist, naltrexone blocks both the euphoric and analgesic effects of opioids. It is long acting, with effects lasting between 24 and 72 hours.

Research into the effectiveness of long-term naltrexone pharmacotherapy for opioid abstinence maintenance shows that there is a high drop-out rate from treatment. This therapy may be selected for a person who is highly motivated, abstinent and psychologically stable, and not likely to cease naltrexone and relapse into opioid use, thus running the risk of overdose due to reduced opioid tolerance (Gowing et al. 2001; Young et al. 2002).

As a maintenance pharmacotherapy treatment for opioid dependence, naltrexone is prescribed for daily use for up to two years to help prevent relapse to opioid use, and is administered orally.

It should always be used in conjunction with counselling and support and access to other psychotherapy. It has also been used in rapid detoxification (see below). There are particular issues for nurses in managing withdrawal from opioids precipitated by naltrexone when this drug has been self-administered by opioid users.

Safety

There is a high risk of death from opioid overdose if the person takes opioids after ceasing naltrexone due to reduced tolerance to opioids.

Use of naltrexone while still opioid-dependent will bring on severe withdrawal symptoms. Patients must have completed detoxification prior to using naltrexone (Clinical Opiate Withdrawal Scale score is less than or equal to 5), unless undergoing rigorously supervised rapid opioid detoxification (see below).

As naltrexone use can be associated with psychological depression, medical staff should be informed of any history of depression. A referral to a psychologist or psychiatrist may be required. Naltrexone is not the pharmacotherapy of choice for patients who have a pre-existing depression.

Pain relief

Opioid analgesia is not likely to be effective in any patient who has used naltrexone within the previous 7 days. In these instances, advice should be sought from a Medical Officer skilled in drug and alcohol or a D&A nurse practitioner. Accident and emergency and other nursing and medical staff need to know if a person is taking naltrexone so that effective pain relief can be provided by using non-opioid analgesics in these situations.

Side effects of Naltrexone

Naltrexone is generally well tolerated. Some of the side effects may be due to residual withdrawal symptoms associated with heroin or other opioid dependence. If depression occurs as a side effect of Naltrexone, an alternative pharmacotherapy is often considered. Side effects may include:

- depression
- sleep disturbances
- headaches
- loss of energy
- nausea and vomiting
- abdominal pain
- constipation
- loss of appetite
- anxiety.

Withdrawal from naltrexone

No withdrawal syndrome occurs when naltrexone treatment stops.

Rapid opioid detoxification (ROD)

This form of detoxification is known by a number of names, including "ultra-rapid detoxification",

"accelerated detoxification", "sedated detoxification" and "detoxification under anaesthetic".

Rapid opioid detoxification is the process of accelerating acute withdrawal by administration of an opioid antagonist, while providing symptomatic relief to enable patients to tolerate the procedure. The detoxification is followed with daily naltrexone treatment.

ROD has been trialed at a number of sites in Australia. Some significant risks have been associated with sedation during ROD, including death as a result of aspiration or respiratory depression.

Naltrexone is not registered in Australia for the indication of accelerating detoxification. (NSW Health 2005)

For treatment guidelines for the management of opioid withdrawal inadvertently precipitated by naltrexone, see the relevant section in Chapter 9, Opioids.

For further information on methadone and buprenorphine treatment, refer to: NSW Opioid Treatment Program: Clinical Guidelines for methadone and buprenorphine treatment. Doc No. GL2006_019. www.health.nsw.gov.au/policies/gl/2006/GL2006_019.html

10.1.4 Pharmacotherapies for dependence and maternal/neonatal care

For information regarding pharmacotherapies for dependence and maternal/neonatal care, refer to the National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn. (March 2006)

http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

10.2 Alcohol pharmacotherapies

Pharmacotherapy for alcohol dependence is more effective when provided in conjunction with other therapies (e.g. cognitive behavioural therapy, narrative therapy, counselling, other supportive programs).

10.2.1 Acamprosate (Campral)

Acamprosate is a pharmacotherapy used to prevent alcohol relapse post-withdrawal. The mechanisms of action are yet to be clearly identified. It assists in the reduction of cravings for alcohol, where the person is seeking to abstain or reduce their consumption.

Acamprosate should be initiated as soon as possible following withdrawal. Daily dose is calculated according to body weight with average daily dose between 1.3–2 grams per day for a person weighing greater than 60 kgs. Compliance can be an issue as dosage is usually two tablets x three times/day (333mg in each tablet). The recommended length of treatment is at least one year.

Acamprosate does not interact with alcohol, and does not have hypnotic, anxiolitic or antidepressant effects.

It is considered safe in the absence of liver disease or renal insufficiency.

Acamprosate can be given concomitantly with disulfiram, and interactions with other drugs have not been noted.

Acamprosate has been shown to be effective by increasing non-drinking days and nearly doubling abstinence rates in study populations. It is not yet known which particular groups will particularly benefit from this therapy.

Safety

Acamprosate is well-tolerated—no adverse effect if alcohol is consumed. Acute overdose with acamprosate is usually benign with diarrhoea being the major symptom identified.

Side effects

These are usually mild and transient.

- diarrhoea
- nausea
- vomiting
- dyspepsia
- itching skin rash
- changes in libido.

Contraindications

- allergy
- severe liver disease
- pregnancy
- breastfeeding
- kidney disease (renal insufficiency where serum creating is more than 120 micromol/L).

Withdrawal

No withdrawal syndrome occurs on cessation of acamprosate.

10.2.2 Naltrexone

Naltrexone suppresses the priming effect of alcohol (blunts the euphoric effects of alcohol and reduces the positive reinforcement of alcohol use) and can assist in achieving goals of reduction in consumption and/or abstinence.

Monitoring the liver profile is recommended during the course of naltrexone treatment, which is usually 3–6 months.

A dose of 50mg daily has shown positive outcomes with relapse rates, craving and number of non-drinking days.

Naltrexone is effective, safe and well tolerated. Naltrexone is best commenced following alcohol withdrawal, however, there are no contraindications in commencing naltrexone while the person is still drinking. In this situation efficacy in assisting someone to reduce or cease his or her use is not known.

Safety

Has the capacity to cause hepatocellular injury when given in excessive doses. Caution is required if transaminases are above three times the normal range.

Side effects of naltrexone

Side effects are generally dose-dependant and include:

- gastrointestinal tract (nausea, vomiting)
- headache
- dizziness
- nervousness
- fatigue
- anxiety
- depression.

Contraindications

The principal contraindication for naltrexone use is when there is coexisting use and dependence on opioids as a withdrawal episode may be induced. Other contra-indications include:

- oral hypoglycaemic medication
- acute hepatitis or liver failure
- concomitant therapy with thioridazine
- opioid analgesic use.

Caution should be exercised when combining naltrexone with other drugs associated with potential liver toxicity.

10.2.3 Disulfiram (Antabuse)

The goal in prescribing disulfiram is to provide a powerful disincentive to drink. It is usually prescribed for 3–6 months following withdrawal and is provided in combination with monitoring, support, and psychosocial interventions.

It is dispensed in 200mg dispersible tablets, with the usual dose being 200mg daily. The usual recommended length of treatment is six weeks to six months.

Disulfiram inhibits the ALDH in the liver, and if the person drinks alcohol, causes an accumulation of acetaldehyde. Within 15 minutes of drinking the person may experience the following:

- flushing
- feeling heat and sweating
- nausea
- vomiting
- palpitations and rapid pulse
- headache
- difficulty breathing
- blood pressure may rise steeply initially followed by a drop in blood pressure resulting in pallor, weakness, dizziness, nausea and vomiting.

Ideally it is commenced post-withdrawal or at least 48 hours after the last drink (with evidence of zero blood alcohol level). Alcohol should not be consumed for one week following the last dose.

Indications for use are for a person who is alcohol dependent, wishes to achieve immediate abstinence, and who clearly understands the nature of the drug and its effects. To be successful this therapy requires a method of supervision of daily doses.

Safety

Liver function tests need to be done fortnightly for the first two months, then monthly. Patients with major co-existing psychiatric disorders such as bipolar, depression and psychotic illness need close supervision as disulfiram may worsen these disorders by affecting the brain dopamine systems. However 200mg daily is generally considered safe for these patients.

Patients commencing on disulfiram should be advised of the following:

- Do not consume or use any alcohol or alcohol

containing products of food including medicines, cough mixtures, marinated meat, wine trifle and food essences.

- After-shave, mouthwashes, alcohol rubs and perfumes are usually safe unless swallowed.
- Always read the labels on all food and medicines to ensure they don't contain alcohol.

Side effects

Short-term effects, which may occur in the first two weeks, include:

- initial drowsiness
- fatigue
- metallic taste
- rash/acne
- headache
- sexual dysfunction
- stomach upset.

These side effects usually disappear by themselves. Other side effects or adverse reactions include:

- peripheral neuropathy
- changes in vision, eye tenderness/pain
- mood changes
- yellowing of the skin/eyes
- abdominal pain.

Contraindications

The drug is teratogenic and contraindicated in pregnancy.

Aversion reaction may cause tachycardia and hypertension, and precipitate a coronary event or serious arrhythmia.

Older patients need a cardiac history (an electrocardiogram) prior to commencing disulfiram.

Complications may result if the person has a history of:

- coronary artery disease
- history of arrhythmia
- heart failure
- severe liver disease (disulfiram can cause toxic hepatitis although this is rare).

Drug interactions

Disulfiram interacts with:

- phenytoin
- warfarin
- diazepam
- anti-tuberculous medication.

(Lopatko et al. 2002, pp. 192–193)

Appendices

Appendix 1. Glasgow Coma Scale

110.050

FOR MEDICAL RECORD STAFF ONLY

GLASCOW COMA SCALE NEUROLOGICAL CHART

HOSP MRN:
SURNAME:
OTHER NAMES:
D.O.B: SEX: AMO:

MRN BAR CODE

Affix Addressograph Label

Frequency																
Date/Sign																
		Date														LEGEND:
		Time														
COMA SCORE	Eye Opening	Spontaneously	4													Eyes clossed Swelling = C
		To speech	3													
		To pain	2													
		None	1													
	Best Verbal Response	Orientated	5													Endotrachial tube or Tracheotomy = T
		Confused	4													
		Inappropriate words	3													
		Incomprehensible sounds	2													
		None	1													
	Best Motor Response	Obeys commands	6													Record beat Arm response
		Localises	5													
		Withdraw from pain	4													
		Abnormal flexion	3													Record size in mm + brisk S sluggish – none C eyes closed O not testable
		Extension	2													
		None	1													
		TOTAL SCORE														
Pupils		Right	Size													
			Response													
		Left	Size													
			Response													
LIMB MOVEMENT	ARMS	Normal power														Recorded Right (R) & Left (L) separately if there is a difference
		Mild weakness														
		Severe weakness														
		Spastic flexion														
		Extension														
		No response														
	LEGS	Normal power														
		Mild weakness														
		Severe weakness														
		Extension														
		No response														
COMMENTS:																
Pupil Scale (mm)				1 •	2 ●	3 ●	4 ●	5 ●	6 ●	7 ●	8 ●					

NO WRITING

GLASCOW COMA SCALE NEUROLOGICAL CHART 110.050

Appendix 2. Clinical Institute Withdrawal Assessment for Alcohol (revised) (CIWA-Ar)

Patient ..... Date ..... Time .....

Pulse or heart rate, taken for one minute: .....

Blood pressure: ……../…..…… Rater's initials .....

See following pages for key to scoring.

Nausea and vomiting (0–7)
Tremor (0–7)
Paroxysmal sweats (0–7)
Anxiety (0–7)
Agitation (0–7)
Tactile disturbances (0–7)
Auditory disturbances (0–7)
Visual disturbances (0–7)
Headaches, fullness in head (0–7)
Orientation and clouding of sensorium (0–4)
Total (maximum possible is 67)

Withdrawal severity:

Mild = <10

Moderate = 10–20

Severe = >20

Nausea and vomiting

Ask "Do you feel sick to your stomach? Have you vomited?" and observe.

0 No nausea and no vomiting
1 Mild nausea with no vomiting
2
3
4 Intermittent nausea with dry heaves
5
6
7 Constant nausea, frequent dry heaves and vomiting

Tremor

Observe patient's arms extended and fingers spread apart.

0 No tremor
1 Not visible, but can be felt fingertip to fingertip
2
3
4 Moderate, with patient's arms extended
5
6
7 Severe, even with arms not extended

Paroxysmal sweats

0 No sweat visible
1 Barely perceptible sweating, palms moist
2
3
4 Beads of sweat obvious on forehead
5
6
7 Drenching sweats

Anxiety

Observe, and ask, "Do you feel nervous?"

0 No anxiety, at ease
1 Mildly anxious
2
3
4 Moderately anxious, or guarded, so anxiety is inferred
5
6
7 Equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions

Agitation

0 Normal activity
1 Somewhat more than normal activity
2
3
4 Moderately fidgety and restless
5
6
7 Paces back and forth during most of the interview, or constantly thrashes about

Tactile disturbances

Ask "Have you any itching, pins and needles sensations, any burning, any numbness or do you feel bugs crawling on or under your skin?"

0 None
1 Very mild itching, pins and needles, burning or numbness
2 Mild itching, pins and needles, burning or numbness
3 Moderate itching, pins and needles, burning or numbness
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Auditory disturbances

Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?", and observe.

0 Not present
1 Very mild harshness or ability to frighten
2 Mild harshness or ability to frighten
3 Moderate harshness or ability to frighten
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Visual disturbances

Ask "Does the light appear to be too bright? Is its colour different? Does it hurt your eyes? Are you seeing anything that is disturbing to you? Are you seeing things you know are not there?", and observe.

0 Not present
1 Very mild sensitivity
2 Mild sensitivity
3 Moderate sensitivity
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Headaches, fullness in head

Ask "Does your head feel different? Does it feel like there is a band around your head?" Do not rate for dizziness or lightheadedness. Otherwise, rate severity.

0 Not present
1 Very mild
2 Mild
3 Moderate
4 Moderately severe
5 Severe
6 Very severe
7 Extremely severe

Orientation and clouding of sensorium

Ask "What day is this? Where are you? Who am I?"

0 Orientated and can do serial additions
1 Cannot do serial additions or is uncertain about date
2 Disorientated for date by no more than 2 calendar days
3 Disorientated for date by more than 2 calendar days
4 Disorientated for place and/or person

From: *Clinical institute withdrawal assessment for alcohol — revised*. Sullivan J, Sykora M, Schneiderman J, et al. Assessment of alcohol withdrawal: the revised Clinical Institute withdrawal for alcohol scale (CIWA-Ar). *Br J Addict* 1989; 84: 1353–1357.

Appendix 3. Alcohol withdrawal scale (AWS)

Patient ..... Date ..... Time .....

Pulse or heart rate, taken for one minute: .....

Blood pressure: ……/…… Rater's initials .....

See following pages for key to scoring.

Perspiration (0–4)
Tremor (0–3)
Anxiety (0–4)
Agitation (0–4)
Axilla temperature (0–4)
Hallucinations (0–4)
Orientation (0–4)
Total (maximum possible is 27)

Withdrawal severity:

Mild = <4

Moderate = 5–14

Severe = >15

Perspiration

0 No abnormal sweating.
1 Moist skin.
2 Localised beads of sweat, e.g. on face, chest.
3 Whole body wet from perspiration.
4 Profuse maximal sweating—clothes, linen are wet.

Tremor

0 No tremor.
1 Slight tremor.
2 Constant slight tremor of upper extremities.
3 Constant marked tremor of extremities.

Anxiety

0 No apprehension or anxiety.
1 Slight apprehension.
2 Apprehension or understandable fear, e.g. of withdrawal symptoms.
3 Anxiety occasionally accentuated to a state of panic.
4 Constant panic-like anxiety.

Agitation

0 Rests normally during day, no signs of agitation.
1 Slight restlessness, cannot sit or lie still. Awake when others asleep.
2 Moves constantly, looks tense. Wants to get out of bed but obeys requests to stay in bed.
3 Constantly restless. Gets out of bed for no obvious reason.
4 Maximally restless, aggressive. Ignores requests to stay in bed.

Axilla temperature

0 Temperature of 37.0°C.
1 Temperature of 37.1°C.
2 Temperature of 37.6–38.0°C.
3 Temperature of 38.1–38.5°C.
4 Temperature above 38.5°C.

Hallucinations (sight, sound, taste or touch)

0 No evidence of hallucinations.
1 Distortions of real objects, aware that these are not real if this is pointed out.
2 Appearance of totally new objects or perceptions, aware that these are not real if this is pointed out.
3 Believes the hallucinations are real but still orientated in place and person.
4 Believes himself to be in a totally non existent environment, preoccupied, cannot be diverted or reassured.

Orientation

0 The patient is fully orientated in time, place and person
1 The patient is fully orientated in person but is not sure where he is or what time it is
2 Orientated in person but disorientated in time and place
3 Doubtful personal orientation, disorientated in time and place; there may be short periods of lucidity
4 Disorientated in time, place and person. No meaningful contact can be obtained.

Adapted from NSW Dept of Health (2000).

Appendix 4. Clinical Opiate Withdrawal Assessment Scale (COWS)

Clinical Opiate Withdrawal Scale

For each item, circle the number that best describes the patient's signs or symptoms. Rate on just the apparent relationship to opiate withdrawal. For example, if heart rate is increased because the patient was jogging just prior to assessment, the increased pulse rate would not add to the score.

Patient's name: ..... Date and time: ...../...../.....:.....

Reason for this assessment: .....

Resting Pulse Rate: _____ beats/minute *Measured after patient is sitting or lying for one minute.* 0 pulse rate 80 or below 1 pulse rate 81–100 2 pulse rate 101–120 4 pulse rate greater than 120	**GI Upset**: *Over last half-hour* 0 no GI symptoms 1 stomach cramps 2 nausea or loose stool 3 vomiting or diarrhoea 5 multiple episodes of diarrhoea or vomiting
Sweating: *Over past half-hour not accounted for by room temperature or patient activity.* 0 no report of chills or flushing 1 subjective report of chills or flushing 2 flushed or observable moistness on face 3 sweat streaming down face	**Tremor**: *Observation of outstretched hands* 0 no tremor 1 tremor can be felt but not observed 2 slight tremor observable 4 gross tremor or muscle twitching
Restlessness: *Observation during assessment* 0 able to sit still 1 reports difficulty sitting still, but is able to do so 3 frequent shifting or extraneous movements of legs/arms 5 unable to sit still for more than a few seconds	**Yawning**: *Observation during assessment* 0 no yawning 1 yawning once or twice during assessment 2 yawning three or more times during assessment 4 yawning several times per minute
Pupil size 0 pupils pinned or normal size for room light 1 pupils possibly larger than normal for room light 2 pupils moderately dilated 5 pupils so dilated that only the rim of the iris is visible	**Anxiety or irritability** 0 none 1 patient reports increasing irritability or anxiousness 2 patient obviously irritable or anxious 4 patient so irritable or anxious that participation in the assessment is difficult
Bone or joint aches: *If patient was having pain previously, only the additional component attributed to opiates withdrawal is scored* 0 not present 1 mild diffuse discomfort 2 patient reports severe diffuse aching of joints/muscles 4 patient is rubbing joints or muscles and is unable to sit still because of discomfort	**Gooseflesh skin**: 0 skin is smooth 3 piloerection of skin can be felt or hairs standing up on arms 5 prominent piloerection
Runny nose or tearing: *Not accounted for by cold symptoms or allergies* 0 not present 1 nasal stuffiness or unusually moist eyes 2 nose running or tearing 4 nose constantly running or tears streaming down cheeks	Total score:..... The total score is the sum of all 11 items. Initials of person completing assessment: .....

Score: 5–12 = mild; 13–24 = moderate; 25–36 = moderately severe; more than 36 = severe withdrawal.

This version may be copied and used clinically.

From: Wesson, D. R., & Ling, W. (2003). The Clinical Opiate Withdrawal Scale (COWS). *Journal of Psychoactive Drugs*, 35(2), 253–259.

Appendix 5. Cannabis Withdrawal Assessment Scale

Patient MRN label here

Cannabis Withdrawal Checklist

Date:												
Time:												
SCORES: 0 – not at all, 1 – mild, 2 – moderate, 3 – severe												
SYMPTOM												
Craving for marijuana												
Decreased appetite												
Sleep difficulty												
Increased aggression												
Increased anger												
Irritability												
Strange dreams												
Restlessness												
Chills												
Feverish feeling												
Stuffy nose												
Nausea												
Diarrhoea												
Hot flashes												
Dizziness												
Sweating												
Hiccups												
Yawning												
Headaches												
Shakiness												
Muscle spasms												
Stomach pains												
Fatigue												
Depressed mood												
Difficulty concentrating												
Nervousness												
Violent outbursts												
TOTAL SCORE												
Person completing assessment – INITIAL												

Note: This is not a validated tool but serves as a useful chart for monitoring withdrawal.

Taken from Budney, A. et al, *Archives of General Psychiatry*, Volume 58 (10) October 2001, 917–924.

Appendix 6. Street names of drugs

Approved name of drug	Street name	Price in NSW, 2004–5 *
Alcohol	Grog, piss, booze, sauce	
Amphetamines	Speed, goey, whiz, uppers, oxblood, point, crystal, crystal meth, ice, shabu	1 weight gram $90–$500
Benzodiazepines	Benzos, rowies, moggies, downers, sleepers, tummies, series, pills	
Cannabis	Marijuana, grass, pot, shit, ganja, mull, hash, durry, green, dope, cone	Leaf– Ounce (28 g) $150 Head – Ounce (28 g) $200 Hydroponic – (28 g) $250 Hash/resin- Deal (1g) $50
Cocaine	Snow, coke	1 gram $150–$300
Ecstasy	E, eccies, XTC, fantasy, GBH, liquid ecstasy, good speed	1 tablet/capsule $30–$70
Heroin/ opioids	Hammer, H, shit, smack, horse, harry, white, skag, ju	1 taste/cap (0.1–0.3 g) $50 Full gram $200–$500
Ketamine	Special K	Varied across States: ACT – $65 S.A. – $200
Lysergic acid diethylamide (LSD)	Acid, blotter, trips, wangers, tabs, dots	$10 to $25 per tab
Methylene Dioxyamphetamine (MDA)	Adam	1 tablet/capsule $30–$70
Methylene Dioxymethamphetamine (MDMA)	Ecstasy, Utopia, E, XTC	1 tablet/capsule $30–$70
Phencyclidine (PCP)	Angel dust	
PMA	Dr Death	
Psilocybin	Magic mushrooms, gold tops	
Solvents	Glue, tol, toluene, bute, nitrus, amyls, petrol, super, aerosol paint-chroming	

* Adapted from the *Illicit Drug Data Report*. 2004–05 Australian Crime Commission

Appendix 7. Drug interactions with methadone

The following table shows drug interactions with methadone. (Adapted from Department of Health, Welsh Office et al. 1999).

Drug	Degree of interaction	Effect	Mechanism
Alcohol	Increased sedation	Additive CNS depression	
Barbiturates	Moderate	Reduced methadone levels, raised sedation	Raised hepatic metabolism, additive CNS depression
Benzodiazepines		Enhanced sedative effect	Additive CNS depression
Buprenorphine		Antagonist effect	Can only be used safely in low doses (20mg or less daily) methadone treatment
Carbamazepine	Moderate	Reduced methadone levels	Raised hepatic metabolism, methadone may need twice daily dosing regime
Chloral hydrate		Increased sedation	Additive CNS depression
Chlormethiazole		Increased sedation	Additive CNS depression
Cimetidine	Moderate	Possible increase in methadone levels	Inhibits hepatic enzymes involved in methadone metabolism
Cisapride Domperidone Metoclopramide		Morphine has an increased rate of onset of action and increased sedative effect when used with these drugs	Unknown
Cyclizine	Severe	Injection with opiates causing hallucinations reported	Unknown
Codeine		Enhanced sedative effect	Additive CNS depression
Desipramine	Moderate	Raised desipramine levels (x2)	Unknown. Interaction not seen with other tricyclic anti-depressants
Dextropropoxyphene		Enhanced sedative effect	Additive CNS depression
Disulfiram	Avoid in combination with methadone formulations containing alcohol (check with manufacturers)	Very unpleasant reaction to alcohol which can be alarming	Inhibits alcohol metabolism allowing metabolites to build up
Erythromycin	In theory, should interact but combination has not been studied	Increase in methadone levels	Decreased methadone metabolism
Fluconazole	In theory, same as ketoconazole		
Fluoxetine	Clinically important	Raised methadone methadone levels but not as significant as for fluvoxamine	Decreased methadone metabolism
Grapefruit juice	In theory, should interact and there have been several anecdotal reports	Raised methadone levels	Decreased methadone metabolism
Indinavir	Clinically important	Raised methadone levels	Decreased methadone metabolism
Ketoconazole	Clinically important	Raised methadone levels	Decreased methadone metabolism

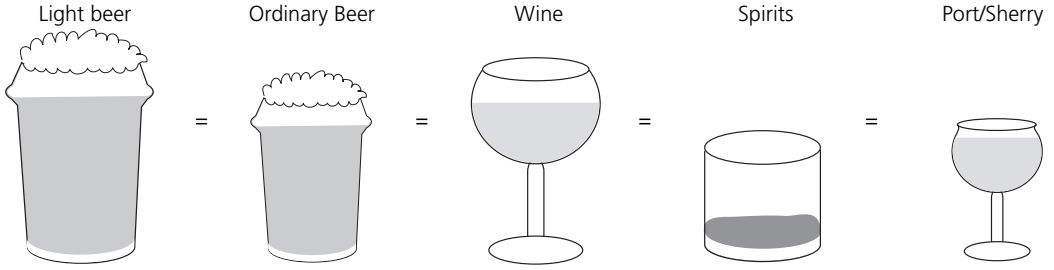
Drug	Degree of interaction	Effect	Mechanism
Monoamine oxidase inhibitors anti-depressants including moclobamide and selegiline	Severe with pethidine although rare with methadone. Concurrent use should be avoided	CNS excitation: delirium, hyperpyrexia, convulsions or respiratory depression	Unknown
Naltrexone	Severe	Reverses the effects of metha-done in overdose (long-acting)	Opiate antagonist works by competing for opioid receptors
Naloxone	Severe	Reverses the effects of methadone in overdose (long-acting)	Opiate antagonist works by competing for opioid receptors
Nevirapine	Clinically important	Decreased methadone levels	Increased methadone metabolism
Nifedipine	Has been demonstrated in vitro only	Increased methadone levels	Methadone increases the metabolism of nifedipine
Omeprazole	To date, demonstrated in animals only	Increased methadone levels	Possibly an effect upon metha-done absorption from the gut
Other selective seretonin in re-uptake inhibitors	Theoretical		
Phenobarbitone	Moderate	Reduced methadone levels	Raised hepatic metabolism (see carbamazepine)
Phenytoin	Moderate	Reduced methadone levels, withdrawal symptoms	Raised hepatic metabolism (see carbamazeine)
Rifabutin	Occasionally clinically important	Decreased methadone levels	Increased methadone metabolism
Rifampicin	Severe	Reduced methadone levels, withdrawal symptoms	Increased metabolism
Ritonavir	Clinically important	May reduce or increase plasma methadone levels	Increased or reduced methadone metabolism
Tricyclic anti-depressants, e.g. amitriptyline	Moderate	Increased sedation	Unknown
Urine acidifiers, e.g. ammonium chloride		Reduced methadone levels	Raised urinary excretion
Zidovudine		Possible raised levels of zidovudine	Unknown
Zopiclone		Increased sedation	Additive CNS depression

Screening tools, handouts

- Alcohol use disorders identification test screening instrument (AUDIT)
- Drug Quiz – ASSIST (Cannabis)
- Drug Quiz – ASSIST (Psychostimulants)
- Drug Quiz – ASSIST (Heroin)
- Making changes
- Minimising harm from alcohol or other drug use
- Cocaine
- Heroin
- Cannabis (Marijuana)
- Amphetamines (Speed)

Alcohol use disorders identification test screening instrument (AUDIT)

Thank you for agreeing to take part in this brief survey about alcohol. Below are some questions about your experience of drinking alcohol during the past 12 months. Please be assured that information on your drinking will be treated as strictly confidential. Please circle your answer to each question. Please see below for examples of "standard drinks".



1. HOW OFTEN DO YOU HAVE A DRINK CONTAINING ALCOHOL?

Never	Monthly or less	2–4 times a month	2–3 times a week	4 or more times a week
(0)	(1)	(2)	(3)	(4)

2. HOW MANY DRINKS CONTAINING ALCOHOL DO YOU HAVE ON ATYPICAL DAY WHEN YOU ARE DRINKING?

1or2	3or4	5or6	7to9	10 or more
(0)	(1)	(2)	(3)	(4)

3. HOW OFTEN DO YOU HAVE SIX OR MORE DRINKS ON ONE OCCASION?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
(0)	(1)	(2)	(3)	(4)

4. HOW OFTEN DURING THE LAST YEAR HAVE YOU FOUND THAT YOU WERE NOT ABLE TO STOP DRINKING ONCE YOU HAD STARTED?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
(0)	(1)	(2)	(3)	(4)

5. HOW OFTEN DURING THE LAST YEAR HAVE YOU FAILED TO DO WHAT WAS NORMALLY EXPECTED FROM YOU BECAUSE OF DRINKING?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
(0)	(1)	(2)	(3)	(4)

6. HOW OFTEN DURING THE LAST YEAR HAVE YOU NEEDED A FIRST DRINK IN THE MORNING TO GET YOURSELF GOING AFTER A HEAVY DRINKING SESSION?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
(0)	(1)	(2)	(3)	(4)

7. HOW OFTEN DURING THE LAST YEAR HAVE YOU HAD A FEELING OF GUILT OR REMORSE AFTER DRINKING?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
(0)	(1)	(2)	(3)	(4)

8. HOW OFTEN DURING THE LAST YEAR HAVE YOU BEEN UNABLE TO REMEMBER WHAT HAPPENED THE NIGHT BEFORE BECAUSE YOU HAD BEEN DRINKING?

Never	Less than monthly	Monthly	Weekly	Daily or almost daily
(0)	(1)	(2)	(3)	(4)

9. HAVE YOU OR SOMEONE ELSE BEEN INJURED AS A RESULT OF YOUR DRINKING?

No	Yes, but not in the last year	Yes, during the last year
(0)	(2)	(4)

10. HAS A RELATIVE OR FRIEND OR A DOCTOR OR OTHER HEALTH WORKER, BEEN CONCERNED ABOUT YOUR DRINKING OR SUGGESTED YOU CUT DOWN?

No	Yes, but not in the last year	Yes, during the last year
(0)	(2)	(4)

Add up all the points you have circled and write the Total below.

TOTAL SCORE:.....

What your score means...

If you scored 0–5 (women) 0–6 (men) then you are drinking at a "low risk" level. This means that if you continue to drink this amount in the long term there is only a minimal risk of harm and for some people the possibility of health benefits. No intervention is needed but feel free to read the handout Minimising harm from alcohol or other drug use.

If you scored 6–12 (women) 7–14 (men) then you are drinking at a "risky" level. This means that if you continue to drink this amount in the long term the risk of harm to your health is significantly increased. It is recommended that you read the handout "Minimising harm from alcohol or other drug use". Please consider talking to a drug and alcohol counsellor to help you control, cut down or stop your drinking.

If you scored 13 or more (women) 15 or more (men) then you are drinking at a high-risk level. This means that if you continue to drink this amount there is a substantial risk of serious harm to your health in both the short and long term. It is recommended that you see a drug and alcohol counsellor, to help you control, cut down or stop your drinking. Please read the handout "Minimising harm from alcohol or other drug use". If you are drinking 6 (women) or 8 (men) drinks or more nearly every day, then you are advised to seek medical advice before reducing your drinking, as stopping or significantly reducing your drinking suddenly, when drinking this amount can be dangerous.

Phone _____ for further advice/support

Source: World Health Organisation

Drug Quiz — ASSIST (Cannabis)

Thank you for agreeing to take part in this brief survey about cannabis. Below are some questions about your experience of using cannabis throughout your lifetime and in the past 3 months. Please be assured that information on your cannabis use will be treated as strictly confidential. We are only interested in helping you to keep safe and as well as possible. Please circle your answer to each question.

Question 1

1. During your lifetime have you ever used cannabis?	No (score 0) Yes (score 1)

Questions 2 – 5	Never	Once or twice	Monthly	Weekly	Daily or almost daily
2. In the past 3 months, how often have you used cannabis?	0	1	2	3	4
3. During the past 3 months, how often have you had a strong desire or urge to use cannabis?	0	1	2	3	4
4. During the past 3 months, how often has your cannabis use led to health, social, legal or financial problems?	0	1	2	3	4
5. During the past 3 months, how often have you failed to do what was normally expected of you because of your cannabis use?	0	1	2	3	4

Questions 6 – 8	No Never	Yes in the past 3 months	Yes but not in the past 3 months
6. Has a friend or relative or anyone else **ever** expressed concern about your cannabis use?	0	2	1
7. Have you **ever** tried and failed to control, cut down or stop using cannabis?	0	2	1
8. Have you **ever** used any drug by injection?	0	2	1

Add up all the points you have scored from 1–8 then see what form of treatment is recommended for your score or level of problem. **Total Score**: _____

What your score means

If you scored 0–3 then no intervention is needed but feel free to read the cannabis handout.

If you scored 4–15 then it is recommended that you read the cannabis handout. Please consider talking to a drug and alcohol counsellor to help you control, cut down or stop your drug use.

If you scored 16–20 then it is recommended that you see a drug and alcohol counsellor to help you control, cut down or stop your drug use. Please read the cannabis handout.

If you scored 2 for question 8 then it is recommended that you see a drug and alcohol counsellor.

Phone _____ for further advice/support

Source: World Health Organisation

Drug Quiz — ASSIST (Psychostimulants)

Thank you for agreeing to take part in this brief survey about psychostimulants (e.g. amphetamine and cocaine). Below are some questions about your experience of using psychostimulants throughout your lifetime and in the past 3 months. Please be assured that information on your psychostimulant use will be treated as strictly confidential. We are only interested in helping you to keep safe and as well as possible. Please circle your answer to each question.

Question 1

1. During your lifetime have you ever used psychostimulants?	No (score 0) Yes (score 1)

Questions 2 – 5	Never	Once or twice	Monthly	Weekly	Daily or almost daily
2. In the past 3 months, how often have you used psychostimulants?	0	1	2	3	4
3. During the past 3 months, how often have you had a strong desire or urge to use psychostimulants?	0	1	2	3	4
4. During the past 3 months, how often has your psychostimulants use led to health, social, legal or financial problems?	0	1	2	3	4
5. During the past 3 months, how often have you failed to do what was normally expected of you because of your psychostimulant use?	0	1	2	3	4

Questions 6 – 8	No Never	Yes in the past 3 months	Yes but not in the past 3 months
6. Has a friend or relative or anyone else **ever** expressed concern about your psychostimulant use?	0	2	1
7. Have you **ever** tried and failed to control, cut down or stop using psychostimulants?	0	2	1
8. Have you **ever** used any drug by injection?	0	2	1

Add up all the points you have scored from 1-8 then see what form of treatment is recommended for your score or level of problem. **Total Score**: _____

What your score means

If you scored 0–3 then no intervention is needed but feel free to read the Cocaine and Amphetamine handouts.

If you scored 4–15 then it is recommended that you read the Cocaine and Amphetamine handouts. Please consider talking to a drug and alcohol counsellor to help you control, cut down or stop your drug use.

If you scored 16–20 then it is recommended that you see a drug and alcohol counsellor to help you control, cut down or stop your drug use. Please read the Cocaine and Amphetamine handouts.

If you scored 2 for question 8 then it is recommended that you see a drug and alcohol counsellor.

Phone _____ for further advice/support

Source: World Health Organisation

Drug Quiz — ASSIST (Heroin)

Thank you for agreeing to take part in this brief survey about heroin. Below are some questions about your experience of using heroin throughout your lifetime and in the past 3 months. Please be assured that information on your heroin use will be treated as strictly confidential. We are only interested in helping you to keep safe and as well as possible. Please circle your answer to each question.

Question 1

1. During your lifetime have you ever used heroin?	No (score 0) Yes (score 1)

Questions 2 – 5	Never	Once or twice	Monthly	Weekly	Daily or almost daily
2. In the past 3 months, how often have you used heroin?	0	1	2	3	4
3. During the past 3 months, how often have you had a strong desire or urge to use heroin?	0	1	2	3	4
4. During the past 3 months, how often has your heroin use led to health, social, legal or financial problems?	0	1	2	3	4
5. During the past 3 months, how often have you failed to do what was normally expected of you because of your heroin use?	0	1	2	3	4

Questions 6 – 8	No Never	Yes in the past 3 months	Yes but not in the past 3 months
6. Has a friend or relative or anyone else **ever** expressed concern about your heroins use?	0	2	1
7. Have you **ever** tried and failed to control, cut down or stop using heroin?	0	2	1
8. Have you **ever** used any drug by injection?	0	2	1

Add up all the points you have scored from 1-8 then see what form of treatment is recommended for your score or level of problem. **Total Score**: _____

What your score means

If you scored 0–3 then no intervention is needed but feel free to read the heroin handout.

If you scored 4–15 then it is recommended that you read the heroin handout. Please consider talking to a drug and alcohol counsellor to help you control, cut down or stop your drug use.

If you scored 16–20 then it is recommended that you see a drug and alcohol counsellor to help you control, cut down or stop your drug use. Please read the heroin handout.

If you scored 2 for question 8 then it is recommended that you see a drug and alcohol counsellor.

Phone _____ for further advice/support

Source: World Health Organisation

Making changes

You have been given this sheet because you have discussed your alcohol or drug use with a health worker. After you have completed the exercise below, you'll be clearer about your use of alcohol or other drugs and whether or not you may have problems in this area.

Have a go at doing this brief exercise and after you have finished you may want to speak to a drug and alcohol counsellor.

Positive things about using alcohol tobacco or other drugs e.g. helps me to relax	**Negative things about using alcohol tobacco or other drugs** e.g. fights with my loved ones
Positive things about changing e.g. I will have more energy and feel proud	**Negative things about changing** e.g. Feeling shy around other people

Some other things you may want to consider at this stage include:

- "What do your loved ones think about your alcohol/drug use"?
- "How long do you think you can use alcohol/drugs before you start to do damage"?
- "If you were to do something, what do you think you could do or might do"?

Phone _____ for further advice/support

Source: Adapted from *Treatment Approaches for Alcohol and Drug Dependence: An Introductory Guide* by Tracey J. Jarvis, Jenny Tebbutt and Richard P. Mattick, NDARC UNSW.

Minimising harm from alcohol or other drug use

The safest way to minimise harm from many drugs is to not use the drugs. Following are things for you to think about before using alcohol, tobacco or other drugs:

- Use alcohol or drugs in a safe place with trusted people.
- Ask friends or partner to always call an ambulance if you become ill or overdose.
- Don't mix different drugs as this increases the risk of overdose and death.
- Maintain an otherwise healthy lifestyle—good diet, exercise, sleep etc.
- Drink plenty of fluids like water while using substances to help keep yourself well hydrated.
- Don't drive a car or boat or operate machinery, including household machines, after or while using substances.
- Be informed about substance use by obtaining accurate information and health education resources.

Alcohol

- Take Thiamine (Vitamin B1) 100mg tablets every day.
- Fill in and score the survey Alcohol use disorders identification test screening instrument (AUDIT) (ask the nurse for one of these) and follow the recommendations.
- Set a limit and count drinks.
- Try to have drinks in standard drink size glasses.
- Have a non-alcohol spacer (e.g. water or soft drink) between alcoholic drinks.
- Eat before drinking.
- Plan ahead—catch a taxi, stay overnight, arrange a non-drinking driver.
- Try low-alcohol alternatives such as light beers.
- Quench thirst with water or soft drinks.
- Avoid topping-up your drink—keep your own glass.
- Avoid drinking in rounds or "shouts".
- Avoid salty snacks.
- Drink one sip at a time, and put the glass down in-between each sip.
- Buy your own drink and do not leave it unattended.
- Don't drink your drink if it tastes funny, different or more bitter than usual.
- If you are with someone who may have a drink that has been spiked: stay with your friend; alert bar staff; seek medical help; and notify police.
- If you are drinking six (women) or eight (men) drinks or more nearly every day, then you are advised to seek medical advice before reducing your drinking, as stopping or significantly reducing your drinking suddenly when drinking this amount can be dangerous.
- Be aware of low risk drinking levels.
- Avoid drinking while pregnant.
- Have two alcohol-free days per week at minimum.

Drinking patterns and levels of risk

There are enormous variations in levels and patterns of drinking, from not drinking at all, drinking at levels ranging from low to high risk, as set out in the following tables.

- *Low risk* levels define a level of drinking at which there is only a minimal risk of harm. At this level, there may be health benefits for some of the population.
- *Risky levels* are those at which risk of harm is significantly increased beyond any possible benefits.
- *High risk* drinking levels are those at which there is substantial risk of serious harm, and above which risk continues to increase rapidly.

Short-term health consequences

MALES on any one day			
Low risk	Risky	High risk	Acute harm—risks from excessive drinking on a single day
up to 6 on any one day, no more than 3 days per week	7 to 10 on any one day	11 or more on any one day	Harms to physical health: ■ risk-taking behaviour, accidents, falls, injury and death, as consequences of the brain's reduced control over reaction time, coordination, thinking and speech, and—at highest levels—all systems of the body, leading to unconsciousness ■ some types of heart problems and stroke, by affecting heart rate, blood pressure and blood flow ■ gut irritation and diarrhoea ■ inflamed pancreas ■ sexual problems. Harms to mental health ■ suicidal behaviour ■ interacting with stress in some situations ■ aggravating sleep disorders.
FEMALES on any one day			
up 4 on any one day, no more than 3 days a week	5 to 6 on any one day	7 or more on any one day	

Long-term health consequences

MALES on an average day			
Low risk	Risky	High risk	Chronic harm—risks from regular excessive drinking
up to 4 per day	5 to 6 per day	7 or more per day	Harms to physical health: ■ cirrhosis of the liver ■ cancer, especially of the mouth, throat and oesophagus ■ range of diseases affecting the heart and blood, and including stroke and hypertension ■ problems with the nerves of the arms and legs ■ harm to the unborn baby ■ sexual problems, especially male impotence. Harms to mental health ■ alcohol dependence ■ problems with memory and reasoning ■ alcohol related brain injury.
MALES overall weekly level			
up to 28 per week	29 to 42 per week	43 or more per week	
FEMALES on an average day			
up 2 on per day	3 to 4 per day	5 or more per day	

Commonwealth Department of Health and Ageing, *National Alcohol Strategy, A Plan for Action 2001 to 2003-04*.

Illicit drugs

- Buy heroin from a regular, trusted dealer in order to be more certain of its strength—try a small "test" dose before using to gauge the strength and likely effect before using the whole amount to avoid accidental overdose or a "dirty deal" where the drug is contaminated with other substances.
- If using after a break from heroin/opioid use, tolerance will be low—use less than you used previously in order to test tolerance and reduce the risk of overdose.
- Fill in the survey **ASSIST** (Alcohol, Smoking and Substance Involvement Screening Test)—ask the nurse for one of these
- Only use new needles and syringes with small bore to protect skin and veins.
- Do not share injecting equipment (i.e. needles, tourniquets, syringes, spoons, filters or water for mixing drugs) due to the risks of transmission of blood-borne viruses like HIV AIDS and hepatitis C.
- Avoid becoming too hot when using drugs such as ecstasy.
- Mix powders with sterile water and filtering solution before injecting.
- Avoid using alone.
- Always wash hands and immediate environment (table or bench top) before and after injecting self or someone else and when handling injecting equipment including tourniquets, swabs.
- Always inject into a vein and rotate injecting sites to avoid tissue and vein damage.
- Avoid injecting into neck, groin, breast, feet, and hand veins or into infected areas.
- Do not inject into swollen limbs even if veins appear to be distended.
- Safely dispose of all used injecting equipment.
- Do not take more than one drug.
- Don't mix drugs including prescribed medication, alcohol, herbal preparation, naturopathic or homoeopathic preparations, caffeine and antidepressants.
- Trying to counterbalance one drug with another does not work and taking more drugs, to do this is likely to place the person at greater risk of toxic overdose and intensify the 'come-down' period.
- Avoid using caffeine, such as guarana and other caffeine-based drinks due to risk of dehydration.
- Avoid using alcohol with GHB due to the potentiation (increased) of depressant effect, which may lead to overdose.

Overdose prevention

- Never use drugs alone.
- Do not use opioids (e.g. heroin and morphine) with other drugs, especially central nervous system depressants such as benzodiazepines and/or alcohol.
- Buy heroin from a regular, trusted dealer in order to be more certain of its strength—try a small "test" dose before using.
- If using after a break from heroin/opioid use, tolerance will be low—use less than you used to in order to test tolerance and reduce the risk of overdose.

Cocaine

What cocaine does to you depends on…

…how much you take; the type of cocaine you take; your height and weight; your general health; your mood; your past experience with cocaine; whether you use cocaine on its own or with other drugs; whether you use alone or with others, at home or at a party, etc.

Immediate

When you have a small amount of cocaine, the effects can last from a few minutes to a few hours. You may: feel good and confident; be excited or upset; take more risks than usual; be less hungry; feel alert and energetic; feel aggressive; want to have sex.

Effects on your body may include that your heart beats faster; your body temperature rises; the pupils in your eyes become bigger; you move more quickly than usual.

Large amounts

If you take a large amount of cocaine you might: get headaches; feel dizzy; feel restless; become violent or aggressive; find it hard to concentrate; lose interest in sex; not feel like doing anything; have chest pain; have a heart attack; have convulsions (fits); overdose; have psychosis—a serious psychological problem when you hear voices, imagine things, get frightened that others want to hurt you.

Long term

If you use cocaine often and for a long time you may: become dependent/addicted to it; become aggressive, violent or have more arguments than usual; have relationship, work, money, legal or housing problems.

The way a person takes cocaine over a long time can also cause some problems

- Snorting cocaine can lead to nosebleeds, sinus problems and damage inside the nose
- Injecting cocaine with used or dirty needles or other equipment makes you more likely to get infected with hepatitis C, hepatitis B and/or HIV, get blood poisoning (septicaemia) and skin abscesses (sores with pus).
- Injecting cocaine over a long time can result in:
  - Blocked blood vessels (caused by the things sometimes mixed with cocaine) leading to serious damage to the body's organs such as the liver, heart, etc.
  - Inflamed blood vessels and abscesses (sores with pus)
  - A person picking at their own skin, sometimes resulting in serious damage that needs skin grafts (operations) to heal.
- Smoking freebase cocaine (crack) can cause breathing difficulties, a long-term cough, chest pain and lung damage.

Overdose

Overdose of cocaine can happen to anyone. Even small amounts may cause overdose with some people who have an especially strong reaction to it.

When a person overdoses, it may cause faster, irregular or weak heartbeat; breathing problems; heart failure; bleeding blood vessels in the brain; death.

Mixing cocaine with other drugs

People who use cocaine sometimes take other drugs at the same time to try to cope with some of the things cocaine does to the body. Some people take drugs such as minor tranquillisers (pills like Valium), alcohol, marijuana or heroin to help them sleep.

This can make you dependent on several drugs at once. For example, some people need cocaine each day to get them going and minor tranquillisers each night to get to sleep. This type of dependence can lead to many serious physical and psychological problems.

Mixing different drugs can also make you more likely to overdose.

Cocaine and pregnancy

Using cocaine when you are pregnant may increase the chance of losing your baby before it is born, having your baby too early and other problems. Babies of cocaine-using mothers tend to weigh less (small babies can be sicker babies) and may get withdrawal symptoms from their mother's cocaine use. Your baby may also have a heart attack or a stroke in the womb. Little is known about the long-term effects on the child as it grows.

Cocaine and driving

Cocaine can make you feel more confident when you drive. This can make you take dangerous risks and have accidents. It is illegal to drive under the influence of drugs, including cocaine. Penalties include losing your licence, a fine and/or jail.

Tolerance and dependence

Anyone can develop a "tolerance" to cocaine. Tolerance means that you must take more of the drug to feel the same effects you had previously with lower amounts.

"Dependence" on cocaine means that it takes up a lot of your thoughts, emotions and activities. Dependence on cocaine can lead to a variety of health, money, legal, work and relationship problems.

Withdrawal

People who are dependent on cocaine may find it very hard to stop using or cut down because of withdrawal symptoms. These can include the following—please tick the box if you have any of these signs:

- ☐ Wanting cocaine very badly (cravings)
- ☐ Shaking
- ☐ Tiredness and weakness
- ☐ Long but disturbed sleep
- ☐ Muscle pain
- ☐ Wanting to kill yourself
- ☐ Deep depression (feeling very down or sad)
- ☐ Hunger
- ☐ Feeling angry or upset
- ☐ Vomiting
- ☐ Feeling sick

These symptoms are usually fairly short-lived and most withdrawing people don't need medication. However, if you are worried about withdrawal, contact your doctor or Drug and Alcohol Service. If you are in hospital let the nurse know about these symptoms.

Source: NSW Department of Health

Heroin

What heroin does to you depends on…

… how much you take; how pure the heroin is; your height and weight; your general health; your past experience with heroin; whether you use heroin on its own or with other drugs; whether you use alone or with others, at home or at a party etc.

Immediate effects

Makes you feel really good; makes physical pain disappear; makes you feel nauseous or wanting to vomit; makes the pupils in your eyes get smaller ("pinpoint pupils"); makes your breathing become slow and shallow; causes constipation; makes you feel sleepy ("on the nod").

Longer term effects

You may overdose (have too much heroin— the longer you use heroin, the more likely you are to overdose); you may get constipated; get damaged veins from injecting a lot in the same site; get skin abscesses (sores with pus); you may lose your appetite or get sick from the lack of healthy food; have your menstrual period at the wrong time or not at all (women); find it difficult to get pregnant (women); find it difficult to get an erection (men); get pneumonia—a serious lung disease; have heart and lung problems; get tetanus—a disease caused by infection through the places on your body where you inject.

The way a person uses heroin can also cause some problems

Street heroin is usually mixed with other things. Therefore, it is hard to know how strong the heroin is and this can lead to accidental overdose or death.

Injecting heroin with used or dirty injecting equipment makes you more likely to get infected with HIV, hepatitis B or C, get blood poisoning (septicaemia) and skin abscesses (sores with pus). So that you don't get these problems, DO NOT SHARE fits (needles and syringes), spoons, water, filters, alcohol swabs or tourniquets.

Overdose

Overdose of heroin ("dropping") is very common and can happen to anyone. Even small amounts of heroin may cause some people to overdose, for example, new users or those who started using again. This can happen after even a short time of not using.

Heroin and pregnancy

Using heroin during pregnancy can affect both the mother and her unborn child. Heroin-dependent women are more likely than other women to: lose their baby during pregnancy; have their baby too early; have their baby born dead; pass on infections such as hepatitis B or C or HIV/AIDS; have health and social problems during pregnancy and childbirth. It can be medically dangerous for a heroin dependent pregnant woman to stop or reduce using heroin. It is much safer to stabilise on a methadone program.

Mixing heroin with other drugs

You are more likely to overdose if you use heroin at the same time as other drugs, especially alcohol or minor tranquillisers (pills like valium). Mixing other drugs with heroin can also cause other physical and mental problems.

Heroin and driving

Heroin slows down the workings of your brain and your body, so it may make you drive dangerously. It is illegal to drive under the influence of drugs. Penalties include losing your licence, a fine and/or jail.

Tolerance and dependence

Anyone can develop a "tolerance" to heroin or other drugs. Tolerance means that you must take more of the drug to feel the same effects you used to have with smaller amounts.

"Dependence"on heroin means that it takes up a lot of your thoughts, emotions and activities. You spend a lot of time thinking about using heroin, looking for heroin, using it and getting over the effects of using it. You also find it difficult to stop using or control how much you use. Dependence can lead to a variety of health, money, legal, work and relationship problems.

Withdrawal

People who are dependent on heroin may find it very hard to stop using or cut down because of withdrawal symptoms. These can begin to occur only a few hours after last using heroin. Symptoms include the following. Please tick the box if you have any of these signs:

☐ Feeling restless

☐ Low blood pressure

☐ Yawning

☐ Goosebumps

☐ A runny nose

☐ Stomach and leg cramps

☐ Crying

☐ Diarrhoea

☐ Wanting heroin very badly (cravings)

If you are worried about withdrawal, contact your doctor or Drug and Alcohol Service. If you are in hospital let the nurse know about these symptoms.

Source: NSW Department of Health

Cannabis (Marijuana)

The effects of marijuana will depend on how much you take; how strong the marijuana is; how the marijuana is taken (joint, one/bong, food); your size, weight, health; your mood; your experience with marijuana; whether marijuana is taken with other drugs; whether you are alone or with other people, at home or at a party.

If you take a large amount of marijuana, you may: feel confused; be restless; feel excited; see or hear things which are not there; feel anxious or panicky; feel distant or separate from reality.

Marijuana can also cause problems with…

…remembering things, thinking clearly, ability to do things like drive or operate machines. These symptoms usually disappear when the effects of marijuana wear off.

Long-term effects

An increase in the risk of getting bronchitis, lung cancer and other diseases of the respiratory system; a decrease in motivation; a decrease in concentration, memory and ability to learn new things; a decrease in sex drive; a decrease in sperm able to work in men; irregular menstrual cycles in women; some people may have psychological effects and these are more likely if the person already has a schizophrenic condition.

Mixing marijuana with other drugs

It can be dangerous to mix marijuana with alcohol or other drugs (prescribed or non prescribed). This is because the effects of marijuana can become stronger.

Marijuana and pregnancy

It is not wise to use any drugs during pregnancy. Marijuana passes from the mother to her baby through the placenta. There is some evidence that women who smoke marijuana may give birth to smaller babies. Smaller babies can be sicker babies. Other studies show that newborn babies of women who smoke marijuana may have trouble sleeping.

Marijuana and driving

Marijuana makes it more difficult to drive safely. If a police officer suspects marijuana or other drugs, then you can be arrested and taken to a hospital for a blood and urine test. This will show whether there is marijuana or any other drug in your body.

Dependence

Physical dependency on marijuana can develop. This means that you may experience withdrawal symptoms if you stop or suddenly cut down. Marijuana withdrawal symptoms usually consist of the following. Please tick the box if you have any of these signs:

- ☐ Headaches
- ☐ Depression
- ☐ Anxiety/restlessness
- ☐ Loss of appetite
- ☐ Difficulties in sleeping
- ☐ Irritability/anger
- ☐ Nausea

If you are worried about withdrawal, contact your doctor or Drug and Alcohol Service. If you are in hospital let the nurse know about these symptoms.

Source: NSW Department of Health

Amphetamines (speed)

Effects

What speed does to you depends on how much you take and how pure it is; your height and weight; your general health; your mood; your past experience with speed; whether you use speed on its own or with other drugs; whether you use alone or with others, at home or at a party, etc.

Immediate

When you take a small amount of speed, the effects can last from a few hours to a few days. You may: feel very good and confident; feel alert and energetic; be excited or agitated; talk a lot; feel aggressive; feel anxious or panicky; take more risks than usual.

Effects on your body may include that your heart beats faster; you breathe faster; you feel less hungry; your blood pressure rises; the pupils in your eyes get bigger; you move more quickly; it is hard to sleep

If you take a **large amount of speed** you might get headaches; feel dizzy; feel restless; shake; have irregular breathing; have a very fast or irregular heartbeat; become pale; feel very powerful or better than others; become hostile or aggressive; have psychosis—a serious psychological problem where you hear voices, imagine things, fear that others want to hurt you.

Long term

Often become violent for no reason; get sick more often because your body can't resist disease properly; be upset or depressed; have periods of psychosis; have relationship, work, money, legal or housing problems.

The way a person takes speed over a long time can also cause some problems

- Snorting speed can lead to nosebleeds, sinus problems and damage inside the nose.
- Injecting speed with used or dirty needles or other equipment makes you more likely to get infected with hepatitis C, hepatitis B and/or HIV, get blood poisoning (septicaemia) and skin abscesses (sores with pus).
- Injecting speed over a long time can result in:
  - Blocked blood vessels (caused by the things sometimes mixed with speed) leading to serious damage to the body's organs such as the liver, heart etc.
  - Inflamed blood vessels and abscesses (sores with pus)
- Injecting speed also increases the risk of becoming dependent on the drug and of getting other health problems.

Overdose

Overdose of speed can happen to anyone. Even small amounts may cause overdose with some people who have an especially strong reaction to it.

Mixing speed with other drugs

People who use speed sometimes take other drugs at the same time to cope with some of the things speed does to the body. Some people take drugs such as minor tranquillisers (pills like valium), alcohol, marijuana or heroin to help them sleep.

This can make you dependent on several drugs at once. For example, some people need speed each day to get them going and minor tranquillisers each night to get them to sleep. This type of dependence can lead to many serious physical and psychological problems.

Mixing different drugs can also make you more likely to overdose.

Tolerance and dependence

Anyone can develop "tolerance" to speed. Tolerance means that you must take more of the drug to feel the same effects you used to have with lower amounts.

"Dependence" on speed means that it takes up a lot of your thoughts, emotions and activities.

Dependence on speed can lead to a variety of health, money, legal, work and relationship problems.

Withdrawal

People who are dependent on speed may find it very hard to stop using or cut down because of withdrawal symptoms.

These can include:

- ☐ Tiredness
- ☐ Being 'nervy' or restless
- ☐ Hunger
- ☐ Feeling angry or upset
- ☐ Feeling anxious
- ☐ Long but disturbed sleep

☐ Feeling irritable

☐ Deep depression (feeling very down or sad)

☐ Wanting speed very badly (cravings)

These symptoms are usually fairly short-lived and most withdrawing people don't need medication. However, if you are worried about withdrawal, contact your doctor or Drug and Alcohol Service. If you are in hospital let the nurse know about these symptoms.

Source: NSW Department of Health

Amphetamines and pregnancy

The health risks of amphetamine use during pregnancy have not been clearly established. However, a history of use (especially IV use) should be considered as a high-risk pregnancy. Use during pregnancy is associated with higher rates of obstetric complications (spontaneous abortion, miscarriage and placental abruption). If amphetamines are used close to the birth, the baby may be born affected and have agitation and be overactive. There are only limited reports of neonatal abstinence syndrome, however, the need for medication for withdrawal has not been reported.

A mother who wishes to breastfeed should be supported unless she is using regularly and is unstable. Women who rarely use or binge use should be informed of the risks and provided with information on minimising harm to their baby, for example:

- Express and discard milk after psychostimulant use.
- Do not breastfeed for 24 hours after amphetamine or cocaine use.
- Do not breastfeed for 24-48 hours after using ecstasy.

For further information, refer to the *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn*. (March 2006) http://www.health.nsw.gov.au/pubs/2006/ncg_druguse.html

Glossary

(Adapted from *Lexicon of Alcohol and Drug Terms*, World Health Organisation, Geneva, 1994 and Ordinary People, Western Sydney Area Health Service, 1997).

Note: "Inverted commas" around a word means that the expression is slang or jargon.

AA. (Alcoholics Anonymous) A self-help group, based on a 12-step philosophy in which participants support each other in recovering or maintaining recovery from alcohol dependence.

Abstinence. Refraining from drug use at all times.

Alcoholic Hallucinosis. Perceptual disturbances occur in up to a quarter of patients with acute alcohol withdrawal, and include vivid dreams, nightmares, illusions, and, less frequently, hallucinations. Hallucinations can be auditory, visual, tactile, olfactory, or a combination (alcoholic hallucinosis). Visual hallucinations are most common, with imagery of insects, animals, people, or disembodied heads. Sometimes occurring with eye closure or in a darkened room, they are mostly fragmentary and tend to last minutes at a time over several days. Insight varies, and there may be paranoid delusions. Brust, JCM. (1993.)

Alcohol related brain injury (ARBI). A generic term that encompasses chronic impairment of memory and higher mental functions associated with the frontal lobe and limbic system.

Amphetamine. The group of drugs commonly known as "speed". Sold as white or yellow powder, they can also be sold as tablets or as a liquid in capsules. Amphetamines can be swallowed, inhaled ("snorted") or injected. One form (ice) can be smoked. When bought illegally, they are often mixed with other substances. Amphetamine is a stimulant.

Anti-depressant. One of a group of psychoactive drugs prescribed for the treatment of depressive disorders. Also used for other conditions such as panic disorder.

"Bad trip". Substance users' jargon for an adverse effect of drug use, consisting of any mixture of the following feelings: losing control, distortions of body image, bizarre and frightening hallucinations, fears of insanity or death, despair, suicidal thoughts and strong negative mood. Physical symptoms may include sweating, palpitations, nausea and paraesthesia. A "bad trip" usually refers to the effect of a hallucinogen, but can also refer to amphetamines and other stimulants, antihistamines and sedatives/hypnotics.

Barbiturate. One of the sedative-hypnotic group of drugs that were previously prescribed but are now rarely seen in Australia. With increasing dosage they produce progressive CNS depression, ranging from mild sedation to anaesthesia. Very dangerous in overdose.

Benzodiazepine. One of the sedative-hypnotic group of drugs. Introduced as safer alternatives to barbiturates, they have a general depressant effect on the central nervous system that increases with the dose, from sedation to hypnosis to stupor. Benzodiazepines have significant potential for dependence.

Blood level alcohol. The concentration of alcohol (ethanol) present in blood. The legal blood alcohol limit for driving in NSW is .05.

"Blowing out". Giving somebody heroin for free.

"Bodgie". A half-weight or cap that looks like heroin but is mainly rock or chalk, sold as heroin. Also know as a fake.

Brief intervention. A treatment strategy in which a short structured therapy is offered (between five minutes and two hours), on one occasion or spread over several visits. Aimed at helping a person to reduce or stop substance use.

Cannabis. The generic name given to the psychoactive substances found in the marijuana plant *Cannabis sativa*. The main active constituent is Delta 9-tetra-hydrocannabinol (THC).

Cap. A small amount of heroin, slightly bigger than a match-head, wrapped in foil.

Cocaine. A powerful CNS stimulant derived from the coca plant, used non-medically to produce euphoria or wakefulness. Often sold as white, translucent, crystalline flakes or powder.

Controlled drinking. Drinking that is moderated to avoid intoxication or hazardous use of alcohol.

Craving. Very strong desire for a substance or for the intoxicating effects of that substance.

Delirium tremens (DTs). An acute confusional state occurring during withdrawal from alcohol, characterised by rapid pulse, clouding of consciousness, dehydration, delirium, elevated body temperature, sweating, extreme fear, hypertension, tachycardia, tremor and hallucinations.

Dependence. A preoccupation with obtaining and using a drug for its psychic effects; the need to keep taking a drug to feel okay. Physical dependence is referred to as neuroadaptation, and means that a person's body has become adjusted to the substance so that the body needs it to function as normal.

Depressant. Any substance that suppresses, inhibits or decreases some aspects of CNS activity. The main classes of CNS depressants are sedatives/hypnotics, opioids and neuroleptics.

Detoxification. The process by which a person is withdrawn from a psychoactive substance on which they are dependent. Usually detoxification refers to supervised withdrawal, which may or may not involve the administration of medication.

Disinhibition. A state of mind where the person feels free from internal constraints on their own behaviour—a loss of inhibitions.

"Drop". To overdose.

Drug. Any chemical substance used for its effects on bodily processes.

Dual diagnosis. Where a person has a substance use problem(s) and a mental health problem(s) at the same time.

"E". Ecstasy.

Fit. A needle and syringe, used for injecting any drugs, including opioids and/or amphetamines.

Flashbacks. A perception disorder that can follow hallucinogen use. Flashbacks are a spontaneous recurrence of the feelings that occurred when the person was intoxicated with hallucinogens. These feelings include visual distortions, physical symptoms, loss of ego boundaries, or intense emotions, and the flashbacks can last from a few seconds to a few hours.

Foetal alcohol spectrum disorder. The full range of possible effects of foetal exposure to alcohol, from a small decrease in cognitive functioning to poor coordination and motor skills, brain damage, facial deformities, and growth deficits before and after the birth. The term Foetal Alcohol Syndrome (FAS) is used to indicate the severe end of the range.

"Gear". Heroin.

Glue sniffing / petrol sniffing. Inhaling fumes from glue, petrol or other volatile substances (also called inhalants, solvents) for their psychic effect.

"Half-weight". Half a street gram of heroin (the percentage of pure heroin is variable).

Hallucinogen. A substance that alters perception, typically by inducing illusions or even hallucinations. Hallucinogens can include naturally occurring compounds (e.g. magic mushrooms) and are usually taken orally.

"Hanging out". Withdrawing from opioids.

Hangover. A state that follows excessive consumption of alcohol. Physical features may include fatigue, headache, thirst, vertigo, gastric disorder, nausea, vomiting, insomnia, fine tremors of the hands, and raised or lowered blood pressure. Psychological symptoms include anxiety, guilt, depression, irritability and extreme sensitivity. Usually lasts not more than 36 hours after all traces of alcohol have left the system.

Harm minimisation / harm reduction. The concept of reducing harm associated with substance use without necessarily stopping use. Harm minimisation is the key philosophy for people working with alcohol and other drug issues in NSW. While abstinence is a part of harm minimisation, it is not the only goal.

Harmful use. A pattern of substance use that is likely to cause damage to health—either physical (e.g. hepatitis following injecting of drugs) or mental (e.g. depressive episodes after heavy alcohol intake). Harmful use also commonly has adverse social consequences.

Hashish. A form of cannabis.

Hazardous use. A pattern of substance use that increases the risk of harmful consequences for the user.

Illicit drug. An illegal substance.

Inhalant. Any of a group of gases and highly volatile compounds or mixtures of compounds that are inhaled for their intoxicating effects. Inhalants are also called solvents or volatile substances.

Intoxication. The condition—resulting from use of a psychoactive substance—that produces behavioural and/or physical changes.

"Junkie half". A half-weight, which is actually only about 0.3 of a gram.

LSD. A type of hallucinogenic substance.

Maintenance therapy. A form of treatment of substance dependence that involves prescribing a substitute drug, e.g. methadone for the treatment of heroin dependence and nicotine replacement therapy for the treatment of tobacco dependence.

Marijuana. Cannabis

Mescaline. A type of hallucinogenic substance, found in the peyote cactus in the south-western United States and northern Mexico.

Methadone. A synthetic opioid drug used in maintenance therapy for those dependent on opioids.

Naloxone. An opioid receptor blocker that reverses the features of opioid intoxication. It is sometimes prescribed for the treatment of opioid overdose.

Narcotic. A chemical agent that induces stupor, coma, or insensibility to pain. The term usually refers to opioids, which are called narcotic analgesics. In general use the term is often used incorrectly to refer generally to illicit drugs.

Narcotics Anonymous (NA). A self-help group based on the 12-step philosophy of Alcoholics Anonymous, in which participants support each other in recovering or maintaining recovery from opioid dependence.

Narrowing of repertoire. The tendency of substance use to become progressively stereotyped around a self-imposed routine of custom and ritual. Characterised by reduced variation of dose and type of substance taken, and of time, place and manner of self-administration.

Neuroadaptation. Physical dependence on a psychoactive substance. This means that a person's body has become adjusted to the substance so that if its use is reduced or ceased, the body experiences withdrawal symptoms.

Neuroleptic. One of a class of drugs used for treating acute and chronic psychoses. Also known as major tranquillisers and antipsychotics.

Nicotine. The major psychoactive substance in tobacco, which has both stimulant and relaxing effects Considerable tolerance and dependence develop to nicotine.

"Nodding", "on the nod". The semi-stuporous state experienced by heroin and high-dose methadone users after the euphoric effects accompanying use have subsided; characterised by head bobbing, bowed head and drooping eyelids.

Opiate. One of a group of substances derived from the opium poppy (opiates), with the ability to induce analgesia, euphoria and, in higher doses, stupor, coma, and respiratory depression. This term excludes synthetic opioids.

Opioids. The generic term applied to alkaloids from the opium poppy, their synthetic analogues, and compounds synthesised within the body.

Overdose. The use of any drug in such an amount that acute adverse physical or mental effects are produced; a dose that exceeds the individual's tolerance. Overdose may produce transient or lasting effects, or death.

Passive smoking. The involuntary inhalation of smoke, usually tobacco smoke, from another person's smoking. Also generally referred to as environmental tobacco smoke.

Pharmaceutical drugs. Substances available from pharmaceutical sources, i.e. manufactured by the pharmaceutical industry or dispensed by a pharmacist.

Polydrug use. Where a person uses more than one drug, often at the same time or following one another, and usually with the intention of enhancing, potentiating, or counteracting the effects of another substance.

Psychoactive substance. A substance that, when ingested, affects mental processes, emotions and behaviour.

Psychotropic. In its most general sense, a term with the same meaning as "psychoactive" i.e. affecting the mind or mental processes.

"Rave". A dance party, often involving the use of psychoactive substances—especially amphetamines and hallucinogens—by participants.

Recreational use. Use of a drug, usually an illicit substance, in social or relaxing circumstances. This term implies that the user is not dependent on the substance; it has the same connotations as "social drinking'".

Rehabilitation. The process by which a person with a substance use disorder achieves an optimal state of health, psychological functioning, and well-being.

Reinstatement. Returning to substance use following a period of abstinence.

Relapse. A return to substance use after a period of abstinence.

"Rush". An immediate, intense, pleasurable effect that follows injection of certain substances (e.g. heroin, amphetamine, cocaine).

Salience. A preoccupation with substance use, or seeking the substance, in the user's thoughts or actions.

Sedative/hypnotic. Any of a group of central nervous system depressants that can relieve anxiety and induce calmness and sleep.

"Snowcone". Cannabis sprinkled with heroin.

Solvent. See *inhalant*.

Somnolence. Sleepiness, the state of feeling drowsy, ready to fall asleep.

"Speed". See *amphetamine*.

"Speedball". A combination of a stimulant and an opioid, e.g. cocaine and heroin, amphetamine and heroin.

Steroid. One of a group of naturally occurring or synthetic hormones that affect chemical processes in the body, growth, and sexual and other physiological functions. Steroids can be taken orally or injected.

Stimulant. Any agent that activates, enhances, or increases neural activity of the central nervous system. Stimulants include the amphetamines, cocaine, caffeine, nicotine.

THC. Tetrahydrocannabinol, the main active constituent in cannabis.

Therapeutic community. A structured environment in which people with substance use problems live in order to achieve rehabilitation. Such communities are often specifically designed for drug-dependent people.

Tolerance. A decrease in response to a drug dose that occurs with continued use. Increased doses of the substances are required to achieve the effect originally produced by lower doses.

Tranquilliser. General term for several classes of drugs employed to manage symptoms of various mental disorders. The tranquillisers have a quieting or dampening effect on psychomotor processes without—except at high doses—interfering with consciousness and thinking. In this way they differ from the sedatives/hypnotics, which are used to, among other things, induce sleep. The term tranquilliser is often used to refer to any drug that is used for treating anxiety disorders.

Volatile substance. See *inhalant*.

Wernicke's Encephalopathy. An acute, life-threatening, neurological syndrome consisting of confusion, palsies of the ocular muscles and of gaze (nystagmus), peripheral neuropathy and ataxia. Its most common cause is thiamine deficiency, often associated with long-term excessive use of alcohol. If not treated immediately with thiamine, the patient is likely to progress to a permanent amnesic syndrome (Korsakoff's psychosis). In some cases fatality can occur. **NB:** *Always ensure thiamine is given before glucose if there is any suspicion of Wernicke's*.

Withdrawal syndrome. A series of symptoms that occur when a person stops or substantially reduces substance use, if they have been using for a long period and/or at high doses.

Useful contacts and resources

Area Health Service	Central Intake Number
Greater Southern Area Health Service	
Greater Murray	1800 800 944 / 02 9425 3923
Southern	1800 809 423
Greater Western Area Health Service	
Far West	1800 665 066 / 08 8080 1556
Macquarie	1800 092 881 / 02 6841 2360
Mid Western	1300 887 000
Hunter / New England Area Health Service	
Hunter	02 4923 2060
New England	1300 660 059
North Coast Area Health Service	1300 662 263
Mid North Coast	1300 662 263
Northern Rivers	02 6620 7612
Northern Sydney / Central Coast Area Health Service	
North Sydney	1300 889 788
Central Coast	4394 4880
South Eastern Sydney / Illawarra Area Health Service	
South East Sydney	02 9113 4444
Illawarra	1300 652 226
Sydney South West Area Health Service	
South West Sydney	02 9616 8586
Central Sydney	02 9515 6311
Sydney West Area Health Service	
Wentworth	02 4734 1333
Western Sydney	02 9840 3355

The Alcohol and other Drugs Council of Australia (ADCA)
PO Box 269
WODEN ACT 2606
Telephone: 02 6281 0686
Email: adca@adca.org.au

Alcohol and Drug Information Service (ADIS)
24hr hotline
Telephone: 02 9361 8000
Toll free number: 1800 422 599

Australian Drug Foundation/Australian Drug Information Network (ADIN)
PO Box 818
North Melbourne, VIC 3051
Telephone: 03 9278 8100
Email: adin@adf.org.au

The Australasian Professional Society on Alcohol & Other Drugs (APSAD)
PO Box 73
Surry Hills NSW 2010
Telephone: 02 9331 7747
www.apsad.org.au

Drug and Alcohol Nurses of Australasia (DANA)
The Secretary
PO Box 5095
Warrnambool VIC 3280
Telephone: 1300 557 594
www.danaonline.org

Drug & Alcohol Services South Australia
161 Greenhill Road
Parkside SA 5063
Telephone: 08 8274 3333
www.dassa.sa.gov.au

The Drug and Alcohol Specialist Advisory Service (DASAS)
Country: 1800 023 687
Sydney 9361 8006

Family Drug Support Head Office
PO Box 7363
Leura NSW 2789
Telephone: 1300 368 186
www.fds.org.au

National Centre for Education and Training on Addiction (NCETA)
Flinders University
GPO Box 2100
Adelaide SA 5001
Telephone: 08 8201 7535
www.nceta.flinders.edu.au

National Drug and Alcohol Research Centre (NDARC)
University of New South Wales
Sydney NSW 2052, Australia
Telephone: (02) 9385 0333
http://ndarc.med.unsw.edu.au/

The National Drug Research Institute (NDRI)
GPO Box U1987
Perth WA 6845
Telephone: 08 9266 1600
www.ndri.curtin.edu.au

NSW Department of Health
73 Miller Street
North Sydney NSW 2060
Telephone: 02 9391 9000
www.health.nsw.gov.au

The Hepatitis C Council of NSW
Telephone: 02 9332 1599
Freecall: 1800 803 990 (country)
Email: hccnsw@hepatitisc.org.au

The Network of Alcohol and Drug Agencies Inc (NADA)
PO Box 2345
Strawberry Hills NSW 2012
Telephone: 02 9698 8669
www.nada.org.au

The Quitline Service
(A telephone-based service designed to help smokers quit smoking)
Telephone: 13 7848 (13 QUIT)

References

American Psychiatric Association 1994. *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Australian Crime Commission. *Illicit Drug Data Report.* 2004–05

Benowitz N. 1998. *Nicotine Safety and Toxicity*. New York: Oxford University Press.

Budney, A.J.; Hughes, J.R.; Moore, B.A.; Novy, P.L. Marijuana abstinence effects in marijuana smokers maintained in their home environment. *Archives of General Psychiatry* 58(10):917π924, 2001

Budney, A.J., Hughes, J.R., Moore, B.A. and Vandrey, R. 2004 "Review of the validity and significance of cannabis withdrawal syndrome", *American Journal of Psychiatry*, 161, pp. 1967–1977.

Brust JCM, *Neurological Aspects of Substance Abuse.* Butterworth Heinemann, Boston 1993; pp 200 201

Caldicott, D. and Kuhn, M. 2001, "Gamma-hydroxy butyrate overdose and physostigmine: teaching new tricks to an old drug?", *Accident and Emergency Medicine*, vol. 37, pp. 99–102.

Clancy, C. 1997, *Substance use: guidance on good clinical practice for nurses, midwives and health visitors: working with children and young people*, Association of Nurses in Substance Abuse (ANSA), London.

Clancy, C. and Coyne, P. 1997, 'Specialist assessment in a multidisciplinary setting', in *Addiction nursing: perspectives on professional and clinical practice*, eds. H. Rassool and Gaffor, Stanley Thornes, Gloucestor, UK>

Commonwealth Department of Health and Ageing, *Guidelines For the Treatment of Alcohol Problems*, National Drug and Alcohol Research Centre, Fiona Shand, Jennifer Gates, Julia Fawcett, and Richard Mattick National Alcohol Strategy 2003

Commonwealth Department of Health and Ageing, *National Alcohol Strategy, A Plan for Action 2001 to 2003–04*.

Commonwealth of Australia (2006). *National clinical guidelines for the management of drug use during pregnancy, birth and the early development years of the newborn*. Commissioned by the Ministerial Council on Drug Strategy.

Coyne, P. and Wright, S. 1997, *Substance use: guidance on good clinical practice for specialist nurses: working with alcohol and drug users*, series ed. C. Clancy, Association of Nurses in Substance Abuse (ANSA), London.

Crofts N, Dore G, Locarnini S. *Hepatitis C: An Australian Perspective*. Melbourne: IP Communications, 2001.

Degenhardt, L., Hall, W., Teeson, M. & Lynskay, M. 2000, *Alcohol use disorders in Australia: findings from the national survey of mental health and well-being*, National Drug and Alcohol Research Centre, Kensington, NSW.

Dawe, S., Loxton, N.J., Hides, L., Kavanagh, D.J. & Mattick, R.P. 2002, *Review of Diagnostic Screening Instruments for Alcohol and Other Drug Use and Other Psychiatric Disorders*, 2nd edn., Commonwealth Department of Health and Ageing, Canberra.

Drug & Alcohol Services Council (DASC) 1996 (revised), *Alcohol: hospital management of intoxication and withdrawal*. Guidelines 1, DASC, Parkside, South Australia.

Drug & Alcohol Services Council (DASC) 2002, *Terms of reference: managing diversity advisory group*, DASC, Parkside, South Australia.

de Bellis, A., de Crespigny, C., Cruse, S., Kowando, I., Murray, I. and Turner, M. 2001 December, *Better medication management for Aboriginal people with mental health disorders and their carer*s, report of the pilot study funded by an Australian Rotary Health Research Grant, Flinders University, Adelaide.

de Crespigny, C. 1996, "Alcohol and other drug problems in Australia: The urgent need for nurse education", Collegian, *Journal of the Royal College of Nursing Australia*, vol. 3, no. 3, July, pp. 23–29.

Eckerman, A., Dowd, T., Martin, M. Nixon, L., Gray, R. and Chong, E. 1995. *Binan Goonj: bridging cultures in Aboriginal health*, University of New England Press, Armidale, NSW.

Fink, A., Morton, S.C., Beck, J.C., et al. (2002, October). The alcohol-related problems survey: identifying hazardous and harmful drinking in older primary care patients. *Journal of the American Geriatrics Society*, 50(10):1717.

Fiore MC, Bailey WC, Cohen SJ et al. *Treating Tobacco Use and Dependence. Clinical Practice Guideline*. Rockville MD: US Department of Health and Human Services. Public Health Service. June 2000

Flinders University and D&A Services Council, South Australia 2003. *ATOD Guidelines for Nurses and Midwives*.

Frank L, Pead J. New concepts in drug withdrawal: a resource handbook. © 1995

Gowing, L. et al. 2001, *Evidence supporting treatment: the effectiveness of interventions for illicit drug use,* Australian National Council on Drugs, ACT.

Heather, N., Rollnick, S., Bell, A. and Richmond, R. 1996, 'Effects of brief counselling among male heavy drinkers identified on general hospital wards', *Drug and Alcohol Review,* vol. 15, pp. 29–38.

Hegarty, M. (2004). *Mind the Gap*: *The National Illicit Drug Strategy (NIDS) Project to Improve Support for Children from Families where there are Mental Illness and Substance Abuse (MISA) Issues*. Literature Review for the NIDS MISA Project. Sydney: Mental Health Coordinating Council/ DoCS.

Hulse, G., Basso, M. and Wodak, A. 2002, "The injecting drug user" in *Management of alcohol and drug problems*, eds G. Hulse, J. White and G. Cape, Oxford University Press, Melbourne.

Latt, N., White, J., McLean, S. et al. 2002, "Central nervous system stimulants", in *Management of alcohol and drug problems*, eds. G. Hulse, J. White and G. Cape, Oxford University Press, Melbourne.

Li, J., Stokes, S. and Woeckener, A. 1998, "A tale of novel intoxication: A review of the effects of gamma-hydroxy butyric acid with recommendations for management", *Accident and Emergency Medicine*, vol. 31, pp. 729–736.

Lopatko, O., McLean, S. and Saunders, J. et al. 2002, 'Alcohol' in *Management of alcohol and drug problems*, eds G. Hulse, J. White and G. Cape, Oxford University Press, Melbourne.

Mattick, R.P. and Jarvis, T.J. 1993, *An outline for the management of alcohol problems: quality assurance in the TX of drug dependence project*. AGPS, Commonwealth Department of Health, Canberra, ACT.

Miller, M. and L. Wood (2002). *Smoking cessation interventions*. Review of evidence and implications for best practice in health care settings., Commonwealth of Australia.

National Aboriginal and Torres Strait Islander Social Survey 2002 (NATSISS).

National Centre for Education and Training on Addiction (NCETA) Consortium. (2004), *Alcohol and Other Drugs: A Handbook for Health Professionals*. Australian Government Department of Health and Ageing.

NSW Department of Health, 1999, *NSW Detoxification Clinical Practice Guidelines.*

NSW Department of Health, 2000, *Alcohol and other drugs policy for nursing practice in New South Wales: Clinical Guidelines 2000–2003*.

NSW Department of Health, 2004, *The Health Behaviours of Secondary School Students in New South Wales 2002*. NSW Public Health Bulletin 2004; 15(S-2)

NSW Department of Health, 2005, *Framework for Suicide Risk Assessment and Management for NSW Health Staff*.

NSW Department of Health, 2005, *Rapid Detoxification From Opioids—Guidelines.*

NSW Department of Health, 2006, *Psychostimulant users.*

NSW Department of Health, 2006, *NSW Opioid Treatment Program: Clinical Guidelines for methadone and buprenorphine treatment.*

NSW Department of Health, 2007, *NSW Drug and Alcohol Withdrawal Clinical Practice Guidelines.*

Queensland Department of Health 1997, *The Queensland steroid book. Statewide HIV and injecting drug use programme* (draft), Queensland Health and Gold Coast AIDS Association (GAIN), March.

Regier, D.A., Farmer, M.E., Rae, D.S., Locke, B.Z., Keith, S.J., Judd, L.L., and Goodwin, F.K. Comorbidity of mental disorders with alcohol and other drug abuse: results from the Epidemiologic Catchment Area (ECA) study. *Journal*

of the American Medical Association 264(19):2511–2518, 1990.

Shapiro, H. 1992, *Ketamine factsheet*, Druglink, May/June, p. 7.

Sullivan J, Sykora M, Schneiderman J, et al. Assessment of alcohol withdrawal: the revised Clinical Institute withdrawal for alcohol scale (CIWA-Ar). *Br J Addict* 1989; 84: 1353–1357.

Taylor, S. 1999. "Anabolic steroids", *APJ,* March.

The National Health and Medical Research Council (NHMRC) *Drinking Guidelines* (2001).

Thomson, A., Cook, C., Touquet, R. and Henry, J. 2002, *The Royal College of Physicians Report on Alcohol: guidelines for managing Wernicke's*, vol. 37, no. 6. pp. 513–21.

Todd, F., McLean, S. and Krum, H. et al. 2002, "Cannabis" in *Management of alcohol and drug problems*, eds. G. Hulse, J. White and G. Cape, Oxford University Press, Melbourne, pp. 141–145.

Todd FC, Sellman JD & Robertson PJ 2002 "Barriers to optimal care for patients with coexisting substance use and mental health disorders.", *Australian and New Zealand Journal of Psychiatry*, 36 :6, pp.792–99.

White, J., Martin, J., Drum, H. et al. 2002, "Hallucinogens" in *Management of alcohol and drug problems,* eds. G. Hulse, J. White and G. Cape, Oxford University Press, Melbourne.

White, J.M. and Ryan, C.F. 1996, "Pharmacological properties of ketamine", *Drug and Alcohol Review*, vol. 15, no. 2, pp. 145–155.

Wickes,W. 1993, *Amphetamines and other psychostimulants: a guide to the management of the user,* AGPS, Canberra.

Wirdefeldt, K., Gatz, M., Pawitan, Y., Pedersen, N. *Risk and Protective Factors for Parkinson's Disease: A Study in Swedish Twins. Annals of Neurology*, Volume 57, (January 2005).

Young, R. Saunders, J. and Hulse, G. 2002, "Opioids" in *Management of alcohol and drug problems,* eds. G. Hulse, J. White and G. Cape, Oxford University Press, Melbourne.