



Management of substance use-related disorders and common mental health problems among people who use drugs

Guidelines for health staff at HAARP sites

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HIV and AIDS Asia Regional Program (HAARP) Technical Support Unit

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These guidelines have been developed by the HIV and AIDS Asia Regional Program (HAARP) Technical Support Unit in response to a felt need among health-care workers at HAARP service sites who are required to work with substance-using populations in resource-constrained settings. They are to be used to help service providers in Myanmar and across South-East Asia to deal with drug use-related physical and mental health issues in outpatient settings, particularly at drop-in centres where substance-using populations access harm reduction and other health services. These guidelines are complimentary to existing harm reduction activities implemented at HAARP sites, which typically offer a comprehensive service package of access to sterile needles and syringes, condoms, referral to primary health care, and HIV and tuberculosis care and treatment services.

The key objective of these guidelines is to assist health workers in making a comprehensive assessment of drug use-related disorders and to promote the rational use of medication to treat conditions such as withdrawal symptoms, intoxication and common mental health problems within a harm reduction context. The guidelines have two sections. The first section is for use by health workers in HAARP service sites. The second section is for use by trained mental health and advanced practitioners only.

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Abbreviations

AIDS	acquired immune deficiency syndrome
AED	antiepileptic drug
ART	antiretroviral therapy
ATS	amphetamine-type stimulants
CIWA-Ar	Clinical Institute Withdrawal Assessment for Alcohol–Revised
CNS	central nervous system
CSE	common side-effects
DIC	drop-in centre
ECG	electrocardiogram
HAARP	HIV and AIDS Asia Regional Program
HIV	human immunodeficiency virus
ICD	International Classification of Diseases
IM	intramuscular
IV	intravenous
mmHg	millimetres of mercury
NMS	neuroleptic malignant syndrome
NRT	nicotine replacement therapy
OCD	obsessive–compulsive disorder
SSRI	selective serotonin reuptake inhibitor
WHO	World Health Organization

Section 1:

Assessment and management of people with substance use and related disorders

1.1 Assessment of people with substance use and related disorders who attend HAARP service sites

People who use drugs often present to health workers at drop-in centres (DICs) with health conditions that are consequences of drug use and dependence. People using substances usually have multiple medical problems that need to be assessed comprehensively to plan and implement appropriate treatment.

With appropriate attitudes, knowledge and skills, health workers can be the most powerful motivators for change in the lives of people who use drugs. Their role is vital in screening, treating and referring people who use drugs.

1.1.1 Role of health workers in helping people who use drugs

Box: The tasks of health workers

- Establish the relationship of drug use to the presented complaints.
- Diagnose drug use and related disorders.
- Assess specific problems related to drug use (harmful use, problem use, dependent use):
 - drug-induced disorders
 - concurrent disorders.
- Assess and manage intoxication and withdrawal.
- Explore the consequences of the patient's drug dependence on the following:
 - physical health
 - mental health
 - social and family relationships
 - economic and employment status.
- Determine the motivation and expectations of people using drugs in terms of treatment.
- Offer the appropriate intervention (direct intervention at the service site and referral).

Relationship between the health worker and people who use drugs: Treatment planning is a joint process between the health worker and people who use drugs. The health worker should be flexible and offer a range of services to people who use drugs. Often, multiple interactions are necessary between the health worker and the person using drugs before the latter is ready to engage in treatment. A partnership between the health worker and people who use drugs is vital to retaining users in treatment.

A fundamental task is to create a healthy relationship, in which the person using drugs does not feel judged and is comfortable disclosing information related to drug use and other behaviour, including sexual risk behaviour. The information provided by the person is confidential, and he or she should feel confident discussing with the health worker issues related to drug use. Developing a relationship based on trust between the health worker and the drug user requires the health worker to be consistent, honest, uncritical, empathetic, accepting and non-judgmental. Only a user-friendly relationship is capable of effecting behaviour change in people who use drugs.

Motivational interview

Where possible motivational interview techniques should be used from the first contact, as there is robust evidence of them having helped people to change dependent behaviour. Motivational dialogue is initially more important than slavishly checking for dependence symptoms, if the intervention is to be brief.

Four general principles and five basic skills of motivational interviews

Principles:

1. *Express empathy:* Listen in a supportive and reflective manner, demonstrate that you understand the client's concerns and feelings, and encourage a non-judgmental and collaborative relationship.
2. *Develop discrepancy:* The client, rather than the clinician, should present the arguments for change. Change is motivated by a perceived discrepancy between present behaviour and important personal goals or values.

3. *Roll with resistance*: Avoid arguing for change. Do not directly oppose the client. Invite new perspectives but do not impose them. The resistance that a person offers can be turned or reframed to move the person towards change. The client is the primary source of answers and solutions. Resistance is a signal to respond differently; the clinician turns the questions or problems back to the person.
4. *Support self-efficacy*: A person's belief in the possibility of change is an important motivator. The client, not the clinician, is responsible for choosing and carrying out change. The clinician's own belief in the person's ability to change becomes a self-fulfilling prophecy.

The World Health Organization (WHO) has online training courses on motivational interviews, such as the Alcohol, Smoking and Substance Involvement Screening Test for Trainers.

Skills:

1. Open-ended questions
2. Reflective listening
3. Self-motivational statements
4. Affirmation
5. Summary statement.

1.1.2 Substance use, dependence and drug-induced disorders

Certain terms related to drug use need to be defined and explained to ensure that health workers describe the same phenomena when they communicate with persons using drugs and with each other.

1.1.2.1 Drugs of use

Central nervous system (CNS) depressants (old system of classification):

- Alcohol
- Sedative/hypnotics and anxiolytics
 - benzodiazepines
 - barbiturates

- Opioids (e.g. opium, heroin, morphine, codeine, methadone, tramadol, propoxyphene and buprenorphine)
- Inhalants (e.g. solvents and glue).

CNS stimulants:

- Amphetamine-type stimulants (ATS), e.g. methamphetamine (*yama* and *yaba*), d-amphetamine, ecstasy
- Cocaine and crack cocaine
- Nicotine

Hallucinogens:

- Lysergic acid diethylamide (LSD)
- Ketamine
- Phencyclidine (PCP)

Cannabis:

- Marijuana (ganja, pot, weed)

1.1.2.2 Reasons for substance use

- Tradition: as part of symbolic or religious ceremonies.
- Self-medication: to relieve feelings of fear, anxiety and depression.
- Pain relief: to relieve physical symptoms of pain.
- Enjoyment: for their pleasurable effects, for fun.
- Lifestyle: peer pressure.
- Alleviation: to reduce misery, distress related to poverty and disadvantage.
- Genetics: inherent biological propensity of a person.

1.1.2.3 Levels of substance use

- Experimental: single or short-term use that is motivated by curiosity or a desire to experience new feelings or moods.
- Recreational: controlled use in social settings.
- Circumstantial: use in situations where specific tasks are to be performed or freedom from pain is sought.

- Regular: use many times in the month.
- Compulsive: persistent, frequent, high-dose use that produces psychological and physical dependence.

1.1.2.4 Commonly used terms

Substance use: the use of any substance that alters sensory experiences and provides rewards or pleasure or alleviates discomfort (Figure 1)

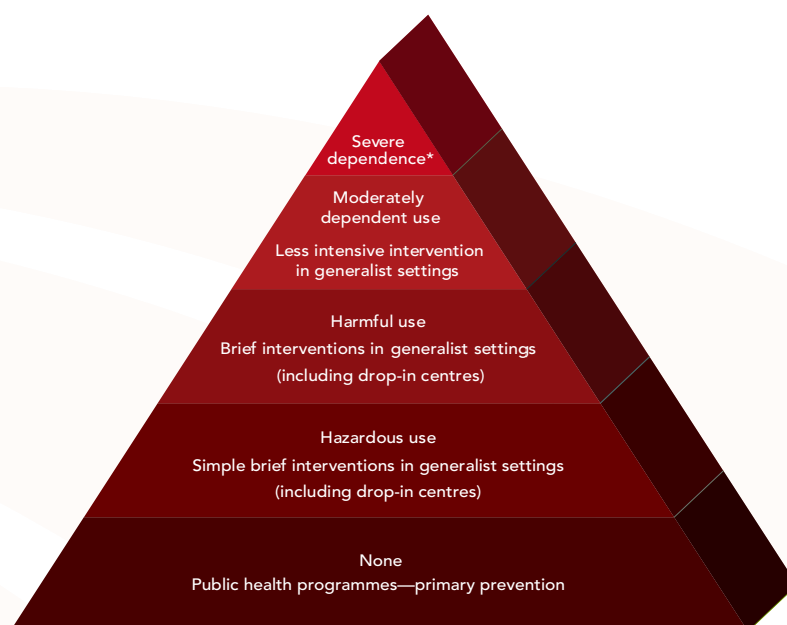
Harmful use: a pattern of use that damages health

Hazardous use: a pattern of use that increases the risk of harmful consequences

Problem use: a pattern of use with consequences in one or more domains of the person's life (e.g. alcohol use leading to liver disease)

Binge use: the cyclical consumption of large amounts of substances.

Figure 1 Levels of substance use



* Needs specialist services.

Source: D Raistrick et al. 2006. *A review of the effectiveness of treatment for alcohol problems*. National Treatment Agency for Substance Misuse, London.

Diagnosing substance dependence

Drug dependence is a maladaptive pattern of drug use leading to clinically significant impairment or distress in relation to behaviour, thought processes and physical change. This happens after the repeated use of one or more illicit substances.

WHO's International Classification of Diseases (ICD) 10 has the following syndromes, coded F10–F19:

- F10. Mental and behavioural disorders due to use of alcohol
- F11. Mental and behavioural disorders due to use of opioids
- F12. Mental and behavioural disorders due to use of cannabinoids
- F13. Mental and behavioural disorders due to use of sedatives or hypnotics
- F14. Mental and behavioural disorders due to use of cocaine
- F15. Mental and behavioural disorders due to use of other stimulants including caffeine
- F16. Mental and behavioural disorders due to use of hallucinogens
- F17. Mental and behavioural disorders due to use of tobacco
- F18. Mental and behavioural disorders due to use of volatile solvents
- F19. Mental and behavioural disorders due to use of multiple drugs and other psychoactive substances.

In ICD-10, the dependence syndrome is defined as a cluster of behavioural, cognitive and physiological phenomena that develop after repeated substance use. A definite diagnosis of the dependence syndrome usually should be made only if three or more of the following have been present together at some time during the previous year:

- evidence of tolerance.
- physiological withdrawal when substance use was ceased or reduced.
- strong desire or sense of compulsion to take the substance.
- difficulty in controlling substance-taking behaviour in terms of its initiation, termination or quantity.

- progressive neglect of alternative pleasures or interests.
- persistence with substance use despite clear evidence of overtly harmful consequences.

1.1.2.5 Substance-induced disorders

This category includes disorders that are associated with or caused by drugs. These disorders are better accounted for by excessive use (e.g. intoxication) or discontinuation of the drug (e.g. withdrawal).

Intoxication: This diagnosis is made when the patient is under the influence of the drug, leading to maladaptive behaviour. Intoxication is specific to a particular class of drugs. Intoxication delirium is a severe form of intoxication. It is a transient condition following the administration of a psychoactive substance, resulting in disturbances to consciousness, cognition and thought process, perception, mood or behaviour, or other psycho-physiological functions and responses.

Withdrawal: This diagnosis is made when the person experiences a distinct syndrome characteristic of the discontinuation of a drug. The onset is within hours or days of stopping or reducing the drug. Acute withdrawal for most drugs lasts 7–10 days. Withdrawal delirium is a more severe form of withdrawal.

Drug-induced mood disorders: A spectrum of clinically significant mood disturbances can occur within 30 days of drug intake or during intoxication or withdrawal that are not better explained by other causes.

Drug-induced anxiety disorders: A spectrum of clinically significant anxiety disturbances can occur within 30 days of drug intake or during intoxication or withdrawal that are not better explained by other causes.

Drug-induced psychotic disorders: A spectrum of clinically significant hallucinations, delusions and behavioural disturbances can occur within 30 days of drug intake or during intoxication or withdrawal that are not better explained by other causes.

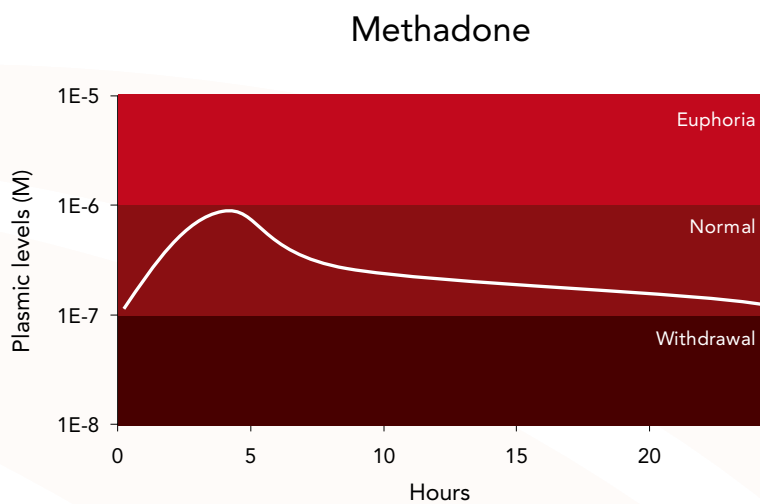
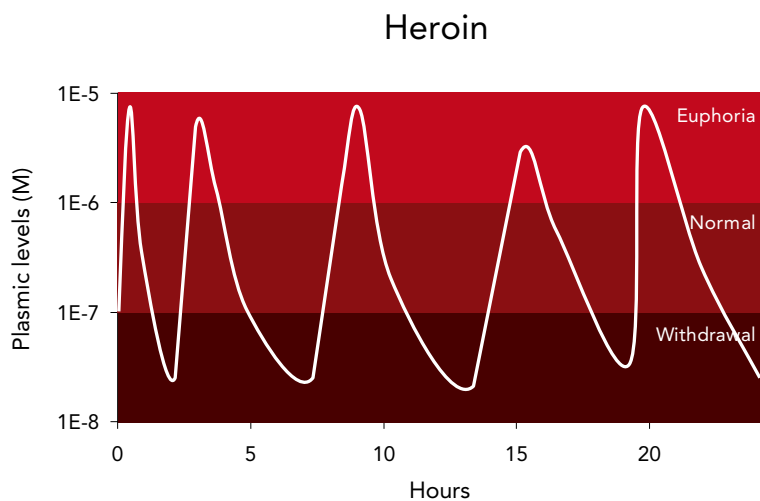
Factors that contribute to the negative consequences of substance use: In general, drugs that are most highly rewarding are associated with more harmful patterns of use. These drugs have characteristics that enable the rapid entry of a substance into the brain, including rapid

absorption, rapid onset of action, rapid entry into the CNS, high potency, a brief duration of action (short half-life), high purity, water solubility (for injectable use) and/or high volatility (ability to vaporise if smoked).

As various drugs have different abuse liability, health workers must be aware of the following factors that contribute to this:

- *Short half-life:* Drugs with a shorter half-life have to be taken frequently and develop dependence more quickly (e.g. heroin induces greater dependency than methadone; Figure 2).

Figure 2 Comparison of heroin and methadone



Source: Dole VP, Nyswamder ME, 'Pharmacological treatment of narcotic addiction'. 8th Nartan B. Memorial Award Lecture. National Institute on Drug Abuse, Bethesda, MD, 1982.

- *Rapid onset and offset of action:* Drugs that act quickly on the brain induce greater dependence.
- *Route of administration:* Injecting is a more efficient means of drug delivery than 'chasing' the drug, with intravenous injection more efficient than intramuscular.

1.1.2.6 Medical harms associated with injecting drugs

- *Injection-related injuries*
 - Bruising
 - Scarring
 - Swelling and inflammation including hives
 - Venous or arterial injury
 - Ulcers
- *Injection-related infections*
 - Cellulitis and abscesses
 - Thrombophlebitis
- *Complications of injection-related infections*
 - Bacteraemia and septicaemia
 - Musculoskeletal infections
 - Endovascular complications
 - Tetanus
- *Injection-related infectious diseases*
 - HIV
 - Hepatitis C
 - Hepatitis B
- *Other common infections*
 - Sexually transmitted infections
 - Herpes simplex virus 2 infection
 - Tuberculosis and other respiratory infections. People who inject drugs have a 10-fold greater risk of community-acquired pneumonia. As tobacco smoking is common, respiratory clearance mechanisms may be impaired. Drug users are at an increased risk for aspiration, particularly during overdose. Inhaling or snorting drugs predisposes drug users to upper

respiratory tract infections, including sinusitis and, in rare instances, nasal septum abscesses.

- Embolization, such as blood clots, bacteria or undissolved injected drug in the brain (brain abscesses and meningitis), heart valves (endocarditis), joints (septic arthritis), fingers and toes (gangrene), bones (osteomyelitis), and other organs (spleen and liver abscesses, etc).
- *Other common health problems*
 - Pain
 - Constipation
 - Poor dental health and hygiene

For details related to this section, please refer to World Health Organization Regional Office for South-East Asia 2009. *Clinical manual on managing common health problems of injecting drug users*. Available at http://203.90.70.117/PDS_DOCS/B3230.pdf.

1.1.3 Assessment of substance use and related disorders

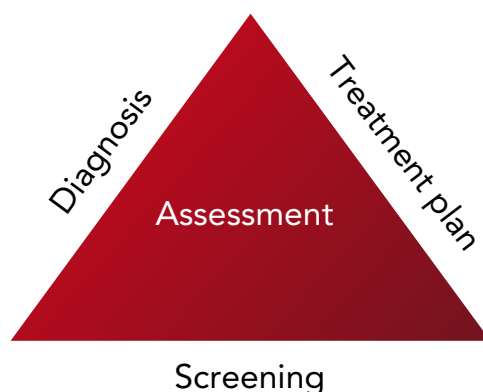
Comprehensive assessment is essential for the continuing care of people who use drugs. Assessment skills are important for health workers, as they help people who use drugs to get engaged in treatment and begin the process of change.

1.1.3.1 Aims of assessment

- Treat any emergency or acute problems.
- Confirm that the patient is taking drugs (history, examination and urine analyses).
- Assess the degree of dependence.
- Identify the complications of drug use and assess risk behaviour.
- Identify other medical and mental health problems.
- Advise on harm reduction, including, if appropriate, access to sterile needles and syringes, testing for HIV, and immunisation against hepatitis B.
- Assess withdrawal syndrome.
- Assess intoxication.

- Determine the patient's expectations of treatment and the degree of motivation to change.
- Assess the most appropriate level of expertise required to manage the patient (which may alter over time) and refer for appropriate care (Figure 3).

Figure 3 Assessment of drug use



1.1.3.2 Assessment and diagnosis of drug dependence

A. Drug history

i. Reasons for presentation

- In crisis because of overdose (incidental, accidental or both), financial and/or occupational crisis, physical health, relationship or family problems, loss of control over use, etc.
- Brought in by a concerned parent, relative, spouse, employer, friend or social worker.
- Wants help for drug dependence and be motivated to change behaviour.
- Referred by the police.
- Usual source of drugs not available.
- Referred by another medical practitioner.
- Suffering from mental illness (psychiatric co-morbidity).
- Pregnancy.

ii. Past and current drug use (past 4 weeks)

- Age when starting drug use, including alcohol and nicotine.
- Types and quantities of drugs taken, including concomitant alcohol and other drug use.
- Frequency of use and routes of administration.
- Experience of overdoses.
- Periods of abstinence and what helped prolonged abstinence.
- Triggers for relapse.
- Symptoms experienced when unable to obtain drugs.
- Cost of drug and alcohol use.
- Symptoms of dependence.
- Drug-funding activities.
- Social network.

iii. History of injecting and risk of HIV and hepatitis

- Past history.
- Reasons for change to injecting.
- Source(s) of needles and syringes.
- Needle-sharing behaviour, including lending and borrowing injection equipment.
- Knowledge of how to inject safely or its lack.
- Cleaning equipment before and after use or not.
- Disposal of used equipment.
- Knowledge of HIV and hepatitis B and C prevention and transmission.
- Use of condoms.

iv. Medical history

- Complications of drug use: abscesses, thromboses, viral illnesses and respiratory problems.
- Hepatitis B and C status, if known.
- HIV status, if known.
- Last menstrual period.
- Operations, accidents and head injuries or any other medical condition.

v. Psychiatric history

- Any psychiatric consultations.
- Any history of overdose, accidental or deliberate.

vi. Forensic history

- Any outstanding criminal charges.
- Past and present contact with the criminal justice system.
- Past custodial sentences.

vii. Social history

- Family situation.
- Employment situation.
- Housing situation.
- Financial situation including debts.

viii. Past contact with treatment services

- Previous efforts to reduce or stop drug taking.
- Contacts with doctors, social services, community services and drug treatment centres.
- Previous admissions for rehabilitation, how long they lasted and the causes of any relapses.

ix. Other relevant history

- Drug and alcohol use in partner, spouse and other family members.
- Impact of drug use on other aspects of the patient's life.

B. Examination

i. Assessing motivation

Is the client motivated to stop or change the pattern of drug use or to make other changes in his or her life? In which stage of behaviour change is the person? Is the person in pre-contemplation, contemplation, preparation, maintenance/termination or relapse?

ii. Assessing mental health

Are there coexisting psychiatric problems?

iii. Assessing general health

- General: anaemia, nutritional status, dental and overall hygiene.
- Skin: needle marks, tattoos, skin abscesses, scabies and open wounds.
- Route specific: smoking (asthma), injecting (abscesses, cellulitis).
- Sharing needles, syringes and injection equipment and implications for hepatitis B and C, HIV and other blood-borne infections.
- Drug-related: side-effects (e.g. constipation), overdose (e.g. respiratory depression) and withdrawal (e.g. irritability).

C. Special investigations with full informed consent

Haematological investigations

- Haemoglobin, complete blood picture.
- Liver function tests.
- Tests for hepatitis B and C and HIV.
- Venereal disease research laboratory test for syphilis.
- Chest x-ray.
- If in a delirious withdrawal state, may need additional investigations (e.g. serum electrolytes, sodium and potassium and blood sugar levels).
- Drug urine analysis, if facility is available.

1.1.4 Treatment planning for substance use and related disorders

1.1.4.1 Aims of treatment

- Help the patient to remain healthy until, with appropriate care and support, he or she can achieve improved socio-occupational functioning, controlled drug use or a drug-free life.
- Reduce the individual's use of illicit or non-prescribed drugs.
- Deal with the problems related to drug use including withdrawal and intoxication.
- Reduce the dangers associated with drug misuse, especially the risk of HIV, hepatitis B and C, and other blood-borne infections caused by injecting and sharing injecting paraphernalia.
- Reduce foetal exposure to drugs.

1.1.4.2 Various interventions in the process of treatment

- **Contact with a person using drugs:** This begins with attendance at a DIC or contact with an outreach worker.
- **Assessment:** Drug use and related problems need careful consideration of, notably, living conditions, family issues and legal problems. It is important to determine if there is any need for urgent medical care.
- **Diagnosis:** Are there coexisting psychiatric or medical disorders to be evaluated. Referral to a specialist in any or all of these areas may be necessary. Evaluate the presence and severity of dependence on any specific drug and the extent of other drug or alcohol use.
- **Therapy:** Various options depend on client choice, assessment and the availability of various therapies.
- **Follow up and long-term support:** This is probably the most important and neglected area because of the skills and time of health workers required, frustration because of relapse, and loss of contact with the patient.
- **Resource map:** Map the nearest secondary and tertiary facilities for HIV and AIDS treatment and care, as well as mental health services.

1.2 Management of withdrawal syndrome (detoxification)

Management of withdrawal, or detoxification, is the first step in drug dependence treatment; however, as a standalone treatment, detoxification has very little value.

1.2.1 Introduction to management of withdrawal (detoxification)

Management of withdrawal, or detoxification, diminishes the pain and discomfort the person feels when withdrawing over a short period from the drug of dependence (such as heroin, a sedative or hypnotic, ATS, or alcohol) by providing medical and psychological support. A detoxification protocol has twin objectives:

- Provide safe and humane treatment to enable the individual to remain abstinent during the acute phase of withdrawal.

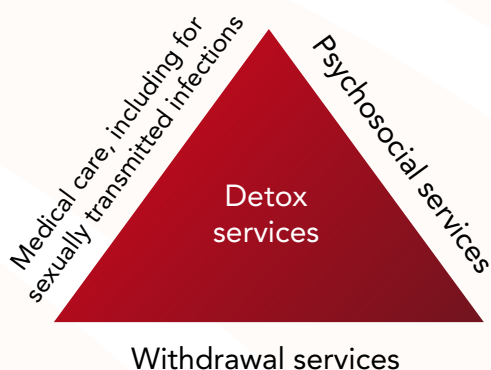
- Facilitate the patient's transition to a drug-free state.

Drug dependence is an enduring illness, and abstinence rates following treatment are alarmingly low. High relapse rates have nothing to do with lack of will power. The long-term use of dependence-inducing drugs changes the brain chemistry in such a way that the person experiences distress or cravings in their absence. Hence, long-term treatment is necessary to reduce drug-related harm.

It is important to provide an environment that increases the likelihood of a patient continuing in treatment after detoxification and to make referrals from the service site or DIC for subsequent treatment. Identifying coexisting medical or psychiatric problems and treating them or referring the client for additional care following detoxification is essential. Psychosocial services can address issues related to health (e.g. HIV and hepatitis C) and relapse prevention. Health workers at HAARP service sites can explore family, legal and vocational problems that may need further referral.

Successful detoxification entails not only safely completing the short-term treatment of withdrawal but also treatment retention and participation in long-term management (Figure 4). However, many young people using drugs believe that withdrawal management is all they need to get rid of their habit and remain off drugs. When they return to the service site for detoxification a second or third time, they are more realistic and understand the need for long-term management.

Figure 4 Detoxification services



1.2.1.1 General principles of drug detoxification services

- Carry out a comprehensive assessment to help with the treatment plan.
- Prepare the patient for the management of withdrawal.
- Provide factual, realistic information about drugs and withdrawal symptoms to alleviate the anxiety and fear associated with withdrawal symptoms.
- Ask the person undergoing detoxification to visit the service site every day during withdrawal management.
- Request a family member to accompany the person, if possible.
- The doctor should advise and direct the prescription of medications used for detoxification.
- Health workers such as nurses are responsible for monitoring withdrawal, dispensing medication and educating the patient on how to manage withdrawal.
- Advise the patient on good nutrition and avoiding dehydration. General vitamin and mineral supplements can be recommended, as many drug users are malnourished.
- Rigorous physical exercise may prolong withdrawal and worsen distress. Warm baths may be helpful.
- Encourage people undergoing detoxification to engage in calming practices such as relaxation exercises and meditation.
- If the patient becomes confused or behaviourally disturbed during withdrawal, arrange for hospitalisation to manage the symptoms.

1.2.1.2 Psychological interventions

Brief interventions: Offer opportunistic brief interventions focused on motivation to people in limited contact with the drug services (e.g. those attending a needle and syringe program). These interventions should aim to increase motivation to change behaviour and provide non-judgmental feedback.

Self-help: Provide people who use drugs with information about local self-help and support groups.

1.2.1.3 Management of opioid withdrawal

In general, it is wise to avoid poly-pharmacy to treat opioid withdrawal; provide effective treatment with opioid medications (methadone or buprenorphine) or clonidine.

1.2.1.4 Symptoms and signs of opioid withdrawal

Withdrawal from opioids is associated with a specific withdrawal syndrome with the following symptoms:

sweating	nausea and vomiting
watering eyes	diarrhoea
running nose	increased bowel sounds
yawning	sleep disturbance
hot and cold flushes	restlessness
goose bumps	generalised aches and pains
tremors (shakes)	rapid heart rate
loss of appetite	elevated blood pressure
abdominal cramps	dilated pupils

The signs and symptoms can be assessed by structured instruments such as the short opioid withdrawal scale (see Appendix).

1.2.1.5 Factors influencing the severity of withdrawal symptoms

The intensity, peak and course of withdrawal can differ between short-acting and long-acting opioids.

Table 1 Onset, peak and duration of opioid withdrawal

Drug	Duration of effects	Onset of withdrawal from the last dose	Peak withdrawal effects	Duration of withdrawal
Heroin	4 hours	8–12 hours	36–72 hours	7–10 days
Morphine	4–5 hours	8–12 hours	36–72 hours	7–10 days
Codeine	4 hours	8–12 hours	36–72 hours	7–10 days
Methadone	8–12 hours	36–72 hours	96–144 hours	10–20 days

When opioids are stopped, the severity of withdrawal symptoms depends on a number of factors:

- *Amount of opioids used daily:* In general, the more opioids ingested daily, the more severe the withdrawal syndrome.
- *Duration and regularity of use:* Generally, the more intermittent the drug use, the less severe the withdrawal. Consistent use over a longer duration appears to produce more severe symptoms.
- *Psychological and individual factors:* Personality and state of mind can influence the severity of withdrawal, as can general physical health and ability to cope with stress.

1.2.1.6 Treatment of opioid withdrawal

Patients should drink plenty of fluids during withdrawal to replace the fluids lost to excessive sweating and diarrhoea (health workers should be aware of the possibility of compromised renal function). Vitamin supplements can also be provided. For mild opioid withdrawal, supportive care and symptom management suffice. For moderate and severe withdrawal, pharmacological treatment with opioid medications or clonidine may be required.

Both methadone and buprenorphine are listed on the WHO Essential Medicines List. They are highly effective in the management of opioid dependency as part of a maintenance regime.

Evidence of effective opioid withdrawal management also exists for methadone and buprenorphine. Opioid withdrawal is not a life-threatening condition, but untreated opioid toxicity can be fatal.

Methadone

Evidence shows that methadone is useful in the management of moderate-to-severe opioid withdrawal and effective in controlling withdrawal symptoms. The preparation of choice is methadone mixture. As methadone is long acting, a stable daily dose is easy to achieve. It is also easy to determine the amount of methadone required to achieve the optimal dose for controlling withdrawal symptoms. Further, methadone is less likely to be injected and, if administered in a supervised setting, has less potential for diversion. All patients starting on methadone must be informed of the risk of toxicity and overdose.

Considering the potential of opium toxicity, the dosage regimen must take the following into account:

- Tolerance to opioids can be affected by a number of factors and significantly influences an individual’s risk of toxicity. Of particular importance in assessing this are the client’s report of the current quantity ingested and dosing frequency and route of administration. It is important to be wary of possible incorrect reporting of intake. A person’s tolerance to methadone can be significantly reduced within 3–4 days of not using opioids, so caution must be exercised after this time, with careful re-titration from the starting dose.
- Any use of other depressant drugs such as alcohol and benzodiazepines must be known.
- The long half-life of methadone means cumulative toxicity may develop. For this reason, a patient should be reviewed regularly for signs of intoxication and the dose omitted or reduced if there is any sign of drowsiness or other evidence of opioid toxicity.
- Inappropriate dosing can result in a potentially fatal overdose, particularly in the first few days.

The onset of action should be evident within half an hour, with peak plasma levels being reached within approximately 2–4 hours of dosing.

Table 2 Suggested methadone dosing to manage opioid withdrawal

Day	Dose in milligrams
1–4	30
5–8	35
9	30
10	25
11	20
12	15
13	10
14	5
15	0

There can be flexibility in the regimen shown in Table 2, depending on the symptoms exhibited by the person experiencing withdrawal. Methadone equivalents for different opioids are provided in Table 3. A patient who has been using large amounts of illicit opioids will require larger doses of methadone. In principle, methadone dose reduction for heavy drug users should be more gradual than for others. It may be necessary to maintain the methadone dose at a particular level over a few days to ease the patient’s distress and anxiety and strengthen his or her sense of control. Dose reduction should be accompanied by psychological support from health workers at service sites. Some symptoms that are not completely alleviated by the use of methadone can be resolved with symptomatic treatment, when required.

The detoxification program should be reviewed regularly and remain flexible, while taking into consideration the risk of relapse into illicit drug use and patients’ anxieties about the speed of reduction. Factors such as an increase in heroin and/or other drug use or worsening of the patient’s physical, psychological or social well-being may warrant slowing down of the reduction rate. Towards the end of detoxification, the dose reduction may be slower than 1–2 milligrams (mg) per week.

Table 3 Methadone equivalents

Opioids	Dose equivalent to 1 mg of methadone
Heroin	1.0–2.0 mg
Morphine	3.0–4.0 mg
Oxycodone	1.5 mg
Hydromorphone	0.5 mg
Codeine	30.0 mg

Tincture opium

This preparation of opium in alcohol and water is used to treat opioid withdrawal in some countries, notably Laos and Myanmar. Despite its use in clinical settings, evidence that tincture opium is an effective treatment for heroin withdrawal is ill established, unlike the evidence supporting the effectiveness of methadone or buprenorphine.

Buprenorphine

Buprenorphine is a partial μ -receptor agonist and K-receptor antagonist. This drug is the best opioid medication for managing moderate-to-severe opioid withdrawal. It has faster action onset than methadone and is superior in controlling withdrawal symptoms. In addition, it is safer than methadone. It is less likely to produce severe respiratory depression (reported cases of respiratory depression are usually due to the concomitant use of benzodiazepines). Like methadone, it is long acting and effectively administered by a non-parenteral, sublingual route. The drug's disadvantage is that it is readily soluble and injectable, requiring that all efforts be taken to supervise daily dispensing. Being a partial μ -receptor agonist, buprenorphine may precipitate withdrawal symptoms if given too soon following the use of a pure opioid agonist such as heroin. It should therefore be given after the emergence of opioid withdrawal symptoms. See Table 4 for suggested dosing to manage withdrawal.

Table 4 Buprenorphine dosing to manage opioid withdrawal

Day	Dose in milligrams
1	6
2	8
3	10
4	8
5	4

Detoxification using buprenorphine is safe, quick and effective, but it is more expensive than methadone. Also available is a combination of buprenorphine and naloxone that is less likely to be diverted for injection.

The same principles as for methadone apply when planning a buprenorphine detoxification regimen.

Table 5 Buprenorphine dose reduction during detoxification

Daily buprenorphine dose	Reduction rate
Above 16 mg	4 mg every 1–2 weeks
8–16 mg	2–4 mg every 1–2 weeks
2–8 mg	2 mg/week or fortnight
Below 2 mg	Reduce by 0.4–0.8 mg/week

Codeine-based drugs

These drugs are rarely recommended for managing opioid withdrawal, even though practitioners in different parts of the world use it. As an opioid, codeine alleviates opioid withdrawal symptoms. The disadvantage is that the drug has a short half-life and requires repeated tablet-taking throughout the day, which may actually reinforce patterns of drug-taking behaviour. The abuse of codeine-based drugs is widespread in certain Asian countries.

Propoxyphene

Though useful for medical analgesia, propoxyphene is a common street opioid in South Asia, notably in Bhutan, India and Nepal. Some people have used propoxyphene in a withdrawal regimen with a dosing schedule of 2–3 times daily. Often, a combination of a non-opioid medication with propoxyphene is required to control withdrawal symptoms, as propoxyphene is unable by itself to alleviate all withdrawal symptoms. It has a number of active metabolites. In general, it is not recommended for the effective treatment of opioid withdrawal.

Tramadol

This drug is a centrally acting analgesic with an atypical pharmacology; it weakly binds to μ -opioid receptors and additionally inhibits reuptake of serotonin and noradrenalin neurotransmitters. Because of its mild opioid-agonist effects, tramadol can suppress withdrawal but not as completely as other opioids. Even with orally administered doses of up to 400 mg, tramadol may produce μ -agonist effects equivalent to only 5–10 mg of hydromorphone similarly administered. The therapeutic use of tramadol to treat moderate-to-severe pain may lead to subsequent dependence on the drug, especially in patients with a history of drug misuse. Tramadol is not licensed anywhere for managing opioid withdrawal and should not be used for this purpose. On the contrary, the following needs to be considered before using tramadol for managing opioid withdrawal.

- As tramadol is a non-scheduled opioid, it is more readily available than other opioid analgesics.
- The inadequate efficacy of tramadol may prompt an increase in the number of doses, which can lead to tramadol dependence.
- Seizures and cerebral depressions are serious CNS disturbances caused by tramadol overdose.
- Tramadol is often combined with benzodiazepines, which increases the potential for overdose.

Withdrawal management using non-opioid medications

Clonidine

The α_2 -adrenergic agonist drug clonidine is marketed as an antihypertensive. It has been used to manage opioid withdrawal and can be used in outpatient settings such as service sites and DICs. Clonidine is now accepted as an alternative to gradual methadone reduction. At dosages of 0.6–2.0 mg/day, clonidine reduces many of the autonomic components of opioid withdrawal syndrome. However, opioid withdrawal symptoms such as craving, lethargy, sleep disturbance, restlessness and muscle aches are not well suppressed. Clonidine is only mildly analgesic.

As sedation and hypotension are major side-effects, the careful monitoring of blood pressure and heart rate is required to minimise the risk of significant hypotension and/or syncope. Clonidine should be stopped if the blood pressure drops below 90/50 millimetres of mercury (mmHg) or if the heart rate is slower than 50 beats per minute.

Table 6 Clonidine dosing for the management of opioid withdrawal

Day	Dose
1	150 micrograms 3 times daily
2	150–300 micrograms 3 times daily
3	150–300 micrograms 3 times daily
4	75 micrograms 3 times daily
5	75 micrograms twice daily

Other drugs and supportive measures

Insomnia, or sleep disturbance, is one of the most distressing withdrawal symptoms. The problem may not be significant for people receiving opioid medications for withdrawal. In others receiving only symptomatic treatment for opioid withdrawal, sedating medications are needed to deal with sleep disturbance. Commonly used sedating drugs include sedating antidepressants (e.g. trazodone and amitriptyline), antihistamines (e.g. chlorpheniramine maleate) and benzodiazepines (e.g. diazepam).

Benzodiazepines must be given carefully, if at all, to people withdrawing from opioids, especially those treated as outpatients at service sites due to the high risk of respiratory depression. As benzodiazepines can be significantly misused and cause a range of problems (see section 1.2.4), it is better to prescribe sedating antidepressants (e.g. trazodone) for insomnia. While prescribing conventional antidepressants such as amitriptyline, it is necessary to watch out for side-effects such as dry mouth, blurred vision, constipation and hypotension. Antipsychotics such as chlorpromazine and haloperidol are not indicated for managing withdrawal, as they can produce alarming extrapyramidal side-effects (see the drug tables in the Appendix and section 2.3.5).

Table 7 Medications for treating ancillary withdrawal symptoms

Symptoms	Drug	Dose
Pain or muscle cramps	Ibuprofen	600–800 mg every 6–8 hours for no more than 5 days
	Ketorolac tromethamine	30 mg intramuscularly every 6 hours for no more than 5 days
Abdominal cramps	Dicyclomine	10 mg every 6 hours
Nausea or vomiting	Prochlorperazine	10 mg intramuscularly 3 times a day
	Ondansetron	8 mg orally every 8 hours
Diarrhoea	Loperamide	4 mg initially, then 2 mg after each stool

1.2.1.7 Post-detoxification care and treatment

All patients completing detoxification must be connected to after-care psychosocial support services. Following the acute withdrawal phase, protracted withdrawal can last for a few months. This phase is characterised by significant craving for the preferred opioid and a diminished sense of well-being. Relapse is extremely common following detoxification in those not provided adequate psychosocial support.

Those with moderate to severe opioid dependency and a history of injecting should be considered for opioid substitution therapy with methadone or buprenorphine.

1.2.1.8 Special issues in opioid withdrawal

Management of withdrawal from poly-drug use

A person using three or more substances (excluding caffeine and nicotine) and meeting the criteria for dependence is a poly-drug-dependent user. Additional sedative–hypnotic dependence can lead to serious hazards, including seizures, toxic psychosis, hyperthermia and even death. Withdrawal from stimulant drugs is much less of a physical hazard, though it is associated with severe depression and suicide. Depending on the nature and extent of the withdrawal symptoms, appropriate treatment should be instituted. If sedative–hypnotic dependence is present, it may be preferable to maintain the patient on methadone or buprenorphine, withdraw the sedative gradually, and finally withdraw the methadone or buprenorphine.

Seizures

Opioid intoxication and withdrawal do not cause seizures. However, seizures can occur with the chronic use of propoxyphene. Often, a seizure signifies undiagnosed sedative–hypnotic withdrawal, stimulant intoxication or another medical condition (e.g. epilepsy or head injury). Immediate removal to hospital is recommended in case a patient presents with seizures.

Medical conditions

When serious medical or surgical conditions are present, withdrawal should be delayed or done very gradually to minimise stress.

Pregnancy

Withdrawal is not recommended during pregnancy. Methadone maintenance therapy is accepted as standard for a pregnant woman dependent on heroin. The need for increased dosage because of quickened metabolism can be handled by splitting the dose of methadone during the day. Buprenorphine maintenance is also effective. Pregnancy can be a strong motivator for giving up drug misuse. Every pregnant woman attending the service site should be

referred for specialist opinion and counselling, as opting for total withdrawal and abstinence can be complicated.

1.2.2 Management of withdrawal from amphetamine-type stimulants (ATS)

The withdrawal syndrome from ATS use may mimic intoxication. Symptoms of depression and associated suicidal ideation may complicate ATS withdrawal.

1.2.2.1 Clinical features

People dependent on CNS-depressant drugs such as opioids and alcohol suffer withdrawal symptoms that are the opposite of the acute pharmacological effects of these drugs. In contrast, several features of ATS withdrawal mimic those of intoxication.

Table 8 Comparison of the features of ATS withdrawal and intoxication

ATS intoxication	ATS withdrawal
Increased confidence	The initial 'crash' period (excessive sleeping, eating and irritability) followed by the withdrawal syndrome:
Anxiety	
Agitation	Dysphoria (distressed mood)
Motor hyperactivity	Depression
Sleep disturbance	Slowing of physical movements
Excitement	Poor concentration
Rapid speech	Agitation
Irritability	Sleep disturbance
Hyper vigilance	Irritability
Muscle twitches	Lethargy
Hand tremors	Exhaustion
Sweating	Craving to use ATS
Rapid heart rate	Anxiety
Raised blood pressure	Variable appetite
Dilated pupils	Anhedonia (lack of interest in pleasurable activities)
Increased body temperature	(Some symptoms of methamphetamine withdrawal may last for many months.)
Dry mouth	
Jaw clenching	
(Psychosis, hyperthermia and seizures are features of toxicity.)	

The severity of withdrawal symptoms is influenced by the following:

- severity of dependence
- duration of use
- frequency of ATS use
- potency of the ATS used
- duration of action of the ATS consumed
- route of administration
- presence of other psychiatric disorders
- presence of other medical disorders
- physical environment in which withdrawal occurs
- fears and expectations about withdrawal.

1.2.2.2 ATS Detoxification

General principles

- Supervised detoxification ensures that withdrawal symptoms and attendant risks are minimised.
- Detoxification as a stand alone process has little value.
- Rates of relapse following detoxification from ATS are high.
- Psychosocial interventions are an extremely important component of post-detoxification treatment for ATS dependence

Assessment for detoxification

Drug-use history:

- Amount of ATS used.
- Type of ATS used.
- Route of administration (e.g. inhalation, intranasal, oral or injected).
- Frequency of use (e.g. irregular binges or regular daily use).
- Duration of use.
- Use of other drugs including alcohol, benzodiazepines and opioids.
- Dependence on ATS (are the criteria for dependence met?).
- Dependence on other drugs and/or alcohol (are the criteria for dependence met?).
- Experience of previous detoxification attempts, withdrawal symptoms, severity, course and outcome.

Other conditions:

- Concomitant illnesses (HIV infection, hepatitis B or C infection, tuberculosis, etc.).
- Concomitant psychiatric disorders or psychiatric symptoms (depression, paranoia, psychosis, suicidal ideation, etc.).

Other factors:

- Reasons for seeking treatment
- Availability of family support
- Availability of social support
- Employment status
- Presence of legal problems
- Availability of stable accommodation
- Patient's understanding of withdrawal
- Expectation from treatment

Outpatient detoxification: During outpatient detoxification, the person is regularly supervised at the service site by a nurse or doctor. The criteria for outpatient detoxification are as follows:

- no previous history of complicated withdrawal
- no severe withdrawal
- no concomitant medical or psychiatric illness that cannot be managed as an outpatient
- a stable home environment.

There is no evidence that tapered withdrawal from ATS is preferable to abrupt cessation.

1.2.2.3 Treatment interventions

Specific pharmacotherapies such as antidepressants, antipsychotics and benzodiazepines are effective for the concurrent management of specific co-morbid symptoms.

Antidepressants

Antidepressants have limited benefit in the treatment of amphetamine dependence but are suitable for managing concurrent depression. Antidepressants have side-effects, and may have a lag period of 4–6 weeks for onset of action. When ATS is taken together with antidepressants, there is an increased risk for serotonin toxicity. Warning: Fluoxetine may potentiate the effects of cocaine (see section 2.3.2.)

Anxiolytics

Anxiety that requires special attention during management is often a feature of ATS withdrawal. Benzodiazepines (preferably diazepam as it is long-acting) are indicated for managing anxiety or to initiate sleep in early withdrawal. They should be prescribed for a maximum of 2 weeks and preferably dispensed daily.

Antipsychotics

If psychotic symptoms become manifest, antipsychotic medications such as haloperidol or chlorpromazine—or second-generation antipsychotics such as risperidone, olanzapine, quetiapine, aripiprazole and amisulpride, depending upon local availability—may be prescribed in the short term, up to 2 weeks. If psychosis persists, a specialist needs to carry out a psychiatric evaluation.

Psychological therapies

Any psychological or supportive therapy aims to help the person safely complete withdrawal and engage in post-detoxification management. As fear of withdrawal is a key obstacle for those completing detoxification, it is necessary for them to be prepared for this process

and be reassured of a safe and comfortable withdrawal process. Patient education and ongoing support from the team members at the service site is vital. If outpatient detoxification is being provided then family members and friends of the patients should also be educated.

Brief interventions: Brief, opportunistic interventions focused on motivation should be offered to people who use ATS. These interventions should aim to increase motivation to change behaviour and provide non-judgmental feedback.

Self-help groups: Provide people who misuse drugs with information about local self-help and support groups.

Relapse following detoxification is common.

1.2.3 Management of alcohol withdrawal

The management of alcohol withdrawal requires thorough awareness of any illness afflicting the patient, the careful selection of pharmacological agents, education and reassurance.

Table 9 Recognition of alcohol withdrawal symptoms

Tremors of the extended hands, tongue or eyelids	Fever
Sweating	Decreased attention
Nausea or vomiting	Disorientation
Tachycardia (rapid heart rate)	Clouding of consciousness
Psychomotor agitation	Hallucinations that may be visual, tactile or auditory
Sleep disturbance	Withdrawal seizures or fits
Anxiety	Delirium
Headache	

Patients will often complain of withdrawal symptoms but may not have objective evidence of withdrawal.

1.2.3.1 Basic assessment for alcohol withdrawal

- History, including history of previous episodes of alcohol withdrawal
- Physical examination
- Time of most recent drink
- Concomitant intake of illicit and prescribed drugs
- Severity of withdrawal symptoms
- Coexisting medical or psychiatric disorders

Diagnosis of alcohol withdrawal syndrome

Alcohol withdrawal syndrome is common when heavy or prolonged use is suddenly stopped or reduced. Diagnosis requires that two or more of the following symptoms are present:

- autonomic hyperactivity (e.g. sweating or pulse rate higher than 100 beats per minute)
- increased hand tremors
- insomnia
- nausea or vomiting
- transient visual, tactile or auditory hallucinations or illusions
- psychomotor agitation
- anxiety
- seizures.

Significance of alcohol withdrawal syndrome

Alcohol withdrawal syndrome is a common medical problem. Mortality in alcohol withdrawal can be as high as 15%. Outpatient withdrawal for heavy alcohol users is not recommended.

Whereas mild-to-moderate symptoms of alcohol withdrawal can be managed on an outpatient basis at the service site, severe symptoms such as seizures or delirium need to be treated in a hospital.

1.2.3.2 Management of alcohol withdrawal syndrome

The aims of detoxification are as follows:

- provide safe withdrawal from alcohol and enable the patient to become alcohol free.
- provide withdrawal that is humane, thus protecting the patient's dignity and minimising discomfort.
- prepare the patient for ongoing treatment of dependence on alcohol.

Key issues in alcohol detoxification:

- Conduct a thorough physical examination, as physical illness markedly increases the risk of convulsions or delirium.
- During detoxification, avoid intravenous fluids unless there are medical indications for them.
- Provide education and reassurance, as they are extremely important.
- The patient's symptoms are likely to markedly diminish with any CNS depressant such as any benzodiazepine in adequate doses.
- Withdrawal treatment does not usually require an anticonvulsant unless the patient has seizures.

Medications used to manage alcohol withdrawal

The ideal drug for managing alcohol withdrawal should:

- have few significant side-effects
- have a wide margin of safety
- not depend on liver function for its metabolism
- not have potential for abuse.

Benzodiazepines (the main drugs used in alcohol detoxification)

Longer-acting benzodiazepines (e.g. diazepam and chlordiazepoxide) may be more effective than shorter-acting ones at preventing seizures. They may produce a smoother withdrawal course with less breakthrough or rebound symptoms than shorter-acting agents. Drugs with a rapid onset of action may have a higher abuse potential than those with a slower onset of action.

Benzodiazepines can be given in a number of ways:

- in 'front loading', a loading dose is followed by doses every 90 minutes or so to achieve light sedation.
- symptom-triggered therapy for patients without a history of complications.
- a tapering dose regimen (Table 10).

Table 10 Treatment of alcohol withdrawal: Chlordiazepoxide* regimen

Day	Dose
1	20 mg 4 times
2	15 mg 4 times
3	10 mg 4 times
4	5 mg 4 times
5	5 mg twice
6	5 mg at bedtime
7	Stop

* Chlordiazepoxide 15 mg = diazepam 5 mg = oxazepam 15 mg (approximately).

When administering benzodiazepines, bear the following in mind:

- Observe the patient at regular intervals.
- Check the pulse and blood pressure regularly.
- Many clinicians prefer diazepam for those with a history of seizures.
- Oxazepam may be preferable to benzodiazepine for some patients who show abnormal liver function or who have chronic liver disease.

Thiamine

As alcohol interferes with the absorption of the B group of vitamins, all patients should receive vitamins orally including thiamine (which is not stored well in the body) at a dose of 100 mg twice daily. Thiamine is one of the essential vitamins which helps in glucose metabolism directly. In an alcohol withdrawal state if glucose is not metabolised properly the brain gets affected badly which in turn increases the chance of Korsakoff's psychosis. When Wernicke encephalopathy or Korsakoff's

psychosis is suspected, prophylactic parenteral administration of B vitamins is appropriate. IM/IV (intramuscular/intravenous) ampoules of highly potent vitamin B complex containing at least 200–300 mg of thiamine should be given daily for 3–5 days. This is an absolute minimum regimen that should be replaced after 5 days by oral thiamine 100 mg twice daily.

Antipsychotics

Patients who continue to show psychotic symptoms such as hallucinations or delusions despite appropriate doses of benzodiazepines should be given haloperidol 5 mg orally or IM (rarely IV) and the dose repeated once, if needed. Caution is required because haloperidol can worsen the risk of seizures. Parenteral procyclidine or oral procyclidine or trihexyphenidyl should be available for extrapyramidal syndrome and dystonic reaction.

β-adrenoceptor-blocking drugs reduce the autonomic features of withdrawal but have no anticonvulsant activity and are known to cause delirium.

Clonidine ameliorates mild-to-moderate withdrawal but is not effective in preventing seizures or delirium.

Table 11 Symptomatic therapy in alcohol withdrawal syndrome

Symptom	Treatment
Dehydration	Ensure adequate fluid intake to maintain hydration and electrolyte balance. Dehydration can cause cardiac arrhythmia and death.
Pain	Paracetamol 0.5–1.0 grams every 4–6 hours to a maximum of 4 grams daily
Nausea and vomiting	Metoclopramide 10 mg or prochlorperazine 5 mg 4–6 hourly
Diarrhoea	Diphenoxylate and atropine (trade name Lomotil), loperamide
Itchy skin (occurs commonly and not only in individuals with alcoholic liver disease)	Antihistamines

Flexible regimen to treat alcohol withdrawal

Patients should be treated with patient-specific and flexible regimens that respond to changes in the severity of the withdrawal symptoms triggered. Fixed treatment schedules, in which the patient is given a standard regimen irrespective of symptoms, are inappropriate.

The Clinical Institute Withdrawal Assessment for Alcohol—Revised (CIWA-Ar) scale is a validated 10-item assessment tool that can be used to quantify the severity of alcohol withdrawal syndrome and to monitor and medicate patients going through withdrawal (see appendix 2). Treatment should be initiated using a symptom-triggered regimen when the CIWA-Ar score is >8, as this will benefit the patient symptomatically. When the CIWA-Ar score is ≥15, using a symptom-triggered regimen reduces the risk of developing major complications.

Table 12 Managing alcohol withdrawal using the revised Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar) scale

CIWA-Ar score	Management
All patients irrespective of score	Thiamine 100 mg IM, then thiamine 100 mg orally twice daily for 3 days
>0 but <8 Vital signs are stable	No medication; repeat vital signs every 4 hours and the CIWA every 8 hours
>8 but <15	Lorazepam 2 mg orally or IM and repeat vital signs every 2 hours and the CIWA every 4 hours
>15 or diastolic blood pressure >110 mmHg	Lorazepam 2 mg orally or intramuscularly every hour until patient has a CIWA of <15 or diastolic blood pressure <110 mmHg (CIWA- and vital signs checked every hour until patient's CIWA is <15 and diastolic blood pressure <110 mmHg) Call physician if patient requires >6 mg of lorazepam in 3 hours Wait until CIWA is <8 for 3 consecutive 8-hour increments

It may be necessary to wake up the patient to record vital signs and complete the CIWA-Ar.

1.2.4 Management of benzodiazepine withdrawal

Patients who become physically dependent on benzodiazepines are usually either poly-drug users of heroin, ATS such as methamphetamine and alcohol or patients who have been prescribed benzodiazepines without proper supervision and monitoring.

1.2.4.1 Benzodiazepine misuse

Benzodiazepines are sedative–hypnotics prescribed to ameliorate anxiety, panic and insomnia. Although benzodiazepines are relatively safe when taken alone even in doses over the safety limit, the potential for death markedly increases in combination with alcohol or other sedative–hypnotics. In combination with opioids that are used for treatment such as methadone or buprenorphine, they contribute to an increased risk of mortality from overdose.

While many people who are prescribed benzodiazepines may not find their effects pleasurable or reinforcing, alcohol and prescription drug users may be vulnerable to benzodiazepine dependency. Street drug users may take benzodiazepines for the following reasons:

- to ameliorate the adverse effects of methamphetamine.
- to self-medicate for heroin or alcohol withdrawal.
- to enhance the effect of an opioid such as methadone or buprenorphine.
- to get high when preferred drugs are unavailable.

1.2.4.2 Signs and symptoms of benzodiazepine (sedative–hypnotic) withdrawal

- | | |
|--|--|
| • Anxiety | • Anorexia (loss of appetite) |
| • Tremors | • Nausea |
| • Nightmares | • Vomiting |
| • Postural hypotension
(significant reduction in blood
pressure due to postural changes) | • Hyperpyrexia (increased
body temperature) |
| • Seizures | • Delirium |

Abruptly discontinuing benzodiazepines to patients who are physically dependent on them can have serious adverse medical consequences, including death. With short-acting benzodiazepines (e.g. oxazepam, alprazolam and triazolam), withdrawal symptoms typically begin 12–24 hours after the last dose and peak in intensity between 24 and 72 hours. Symptoms may develop slowly in people with liver disease and the elderly because of slow drug metabolism. With long-acting drugs such as diazepam and chlordiazepoxide, withdrawal symptoms peak after 5–8 days.

Table 13 Characteristics of benzodiazepine withdrawal syndrome

Withdrawal syndrome	Signs and symptoms	Time course
Re-emergence of symptoms	Recurrence of the same symptoms present before taking benzodiazepines (e.g. anxiety and insomnia)	Symptoms emerge on stopping benzodiazepines and continue unabated over time
Symptoms rebound	Same symptoms that were present before taking benzodiazepines	Begins 1–2 days after stopping short-acting benzodiazepines and 3–8 days after stopping long-acting benzodiazepines, lasting 7–14 days
Protracted low-dose withdrawal	Anxiety, agitation, tachycardia, anorexia, blurred vision, muscle cramps, insomnia, nightmares, confusion, muscle spasms, psychosis, increased sensitivity to sounds and light, and paraesthesia	Signs and symptoms emerge 1–7 days after a benzodiazepine is stopped
High-dose withdrawal	Anxiety, insomnia, nightmares, seizures, psychosis, hyperpyrexia and death	Starts 1–2 days after stopping short-acting benzodiazepines and 3–8 days after stopping long-acting benzodiazepines

1.2.4.3 Management of benzodiazepine withdrawal

People dependent on benzodiazepines should be regularly monitored for symptoms and complications. As withdrawal symptoms can fluctuate rapidly, health workers must communicate regularly with the person about them. Patient education and reassurance are necessary.

The safest way to manage benzodiazepine withdrawal is to gradually reduce the dose. To stabilise the person, an appropriate dose of diazepam needs to be given. The calculated dose of diazepam is provided in divided doses to the patient. There has to be at least a week between dose reductions to make withdrawal safe and comfortable.

Table 14 Equivalent doses of benzodiazepines for 5 mg diazepam

Drug	Dose
Triazolam	0.25 mg
Alprazolam	0.50 mg
Lorazepam	0.50 mg
Flunitrazepam	1.00 mg
Midazolam	2.50 mg
Nitrazepam	5.00 mg
Clonazepam	1.00 mg
Temazepam	10.00 mg
Oxazepam	15.00 mg

Table 15 Benzodiazepine dose-reduction schedule (>50 mg/day diazepam equivalent)

Reducing doses*	Daily dose
Starting dose	15.0 mg (5.0 mg 3 times daily)
First reduction	12.5 mg 3 times daily (5.0 mg, 2.5 mg, 5.0 mg)
Second reduction	10.0 mg twice daily (5.0 mg, 5.0 mg)
Third reduction	7.5 mg twice daily (2.5 mg, 5.0 mg)
Fourth reduction	5.0 mg (once at night)
Fifth reduction	2.5 mg (once at night)

* The interval between dose reductions should be at least 1 week.

Table 16 Benzodiazepine dose-reduction schedule (<50 mg/day diazepam equivalent)

Reducing doses*	Daily dose
Starting dose	40 mg (10 mg four times daily)
First reduction	30 mg 4 times daily (10 mg, 5 mg, 5 mg, 10 mg)
Second reduction	20 mg 3 times daily (5 mg, 5 mg, 10 mg)
Third reduction	10 mg (once at night)
Fourth reduction	5 mg (once at night)

* The interval between dose reductions should be at least 1 week.

1.2.5 Management of tobacco withdrawal

Tobacco is the leading avoidable cause of disease, accounting for massive death and morbidity. Tobacco cessation interventions can be beneficial and cost-effective for the tobacco user.

1.2.5.1 Nicotine withdrawal syndrome

Nicotine is highly dependence-inducing, and nicotine-dependent individuals experience withdrawal symptoms on abstinence. The tobacco withdrawal syndrome is characterised by the following:

- depressed mood
- insomnia
- irritability, frustration and anger
- anxiety
- difficulty in concentration
- restlessness
- decreased heart rate
- increased appetite or weight gain.

These withdrawal symptoms cause distress in individuals who quit tobacco. Nicotine withdrawal symptoms typically resolve over 10–14 days but can last for up to a month. Associations that trigger thoughts about smoking can persist for several years.

Smoking cessation for tobacco users

Assess

Health workers should base their approach on an assessment of the person's current readiness to change. For example, if a person using drugs has already decided to quit smoking, helping them implement the decision is useful; however, if the patient is not convinced of the reasons for quitting, then health workers should address this first, rather than advising on ways of trying to quit. Increasing the motivation to stop smoking can be done through motivational interviews. Special counselling sessions by trained health workers can assess and address motivation, readiness to change and self-efficacy in stopping smoking.

Advise

Smoking tobacco is extremely common among people who use drugs, and it is a challenge to help users quit. At every opportunity, health workers should encourage users to give up smoking. As health workers establish good rapport with people who use drugs, they should advise users to stop using tobacco in a sensitive way. Simple advice from the doctor treating the person increases the chances of stopping use. In addition, all people attempting to quit must receive support and encouragement. Advice on stopping smoking should be offered during routine consultations with persons using drugs. All health workers play an important role in this.

Assist

Behavioural coping strategies are helpful and they include the 4 Ds.

- Delay acting on the desire and urge to smoke
- Deep breathe and repeat at least three times
- Drink water slowly
- Do something else to take the mind off smoking.

Medications to facilitate smoking cessation: Nicotine replacement therapy (NRT) and bupropion (an antidepressant), varenicline (a partial agonist binding with high affinity to the alpha4 beta2 nicotinic acetylcholine receptor) are recommended for tobacco-dependent smokers who express a desire to quit and feel they need pharmacological help or who have a history of multiple failed attempts to quit.

NRT preparations and dose: All NRTs should be used for about 8–12 weeks but may be continued longer, if needed, to prevent relapse. They can be used in combination if required, usually a patch plus a faster-acting oral NRT, for relief of situational urges to smoke.

- Gum (2 mg or 4 mg) is chewed slowly when the urge to smoke occurs, up to a maximum of 15 pieces daily. The gum needs to rest against the gums or *buccal mucosa* for absorption to occur.
- Patches come in two different types, 24 hour or 16 hour, with no difference in efficacy. Sixteen-hour patches (25 mg, 15 mg, 10 mg and 5 mg) are removed at bedtime, while 24-hour patches (21 mg, 14 mg and 7 mg) are worn throughout the night and replaced in the morning.

In many countries, the following are also used as NRT:

- sublingual tablet of nicotine (2 mg): recommended dose 1 tablet/hour or, for heavy smokers of more than 20 cigarettes/day, 2 tablets/hour.
- nasal spray: each metered spray delivers 0.5 mg of nicotine, with a dose being one spray to each nostril and administered up to twice per hour, or 32 doses per day; this is most suitable for highly dependent smokers.
- inhaler: 10 mg/cartridge used with a plastic mouth piece., with dosage initially up to 12 cartridges/day, puffed for 20 minutes every hour.
- lozenge (1 mg, 2 mg and 4 mg): up to 15/day and, like the chewing gum, needs to be rested against the *buccal mucosa*.

Bupropion: Start 1–2 weeks before the planned quit date at 150 mg daily for 6 days, then 150 mg twice daily for a maximum of 2 months.

Side-effects of bupropion: These are insomnia, dry mouth, headache, hypersensitivity and rash. The risk of seizure is about 1 in 1000. Bupropion is contraindicated with eating disorders, CNS tumours, bipolar disorder, pregnancy, breastfeeding, age below 18 years, and acute benzodiazepine or alcohol withdrawal.

Table 17 Varenicline in tobacco cessation

Period	Dose
Days 1–3	0.5 mg orally
Days 4–7	0.5 mg twice daily
Day 8–end of week 12	1.0 mg twice daily
If successful after 12 weeks, the next 12 weeks	1.0 mg daily may be continued as maintenance treatment

Smokers should set a quit date between days 8 and 14 of starting to take varenicline.

Arrange

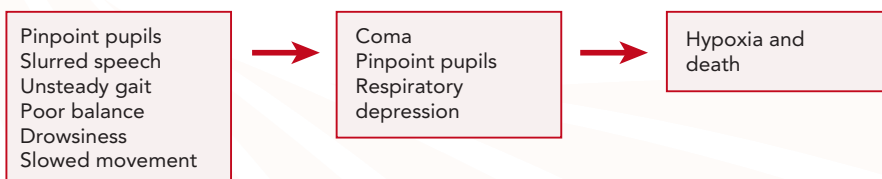
It is necessary to arrange supportive social networks and follow up with those who are quitting smoking, as these interventions improve the likelihood of abstinence from tobacco. Advice on relapse prevention and coping strategies to handle high-risk situations are effective in preventing relapse.

1.3 Management of intoxication

1.3.1 Opioid intoxication

A triad of symptoms is typical of opioid overdose: pinpoint pupils, respiratory depression and CNS depression.

Figure 5 Symptoms of opioid intoxication and overdose (stages of exacerbation)



1.3.1.1 Facts about overdose

- High purity of heroin is seldom the cause of a fatal overdose.
- The mixing of heroin, alcohol and benzodiazepines is the most common cause of fatal overdose.
- Death from overdose often occurs several hours after heroin is taken.
- Death from overdose is less common among new or inexperienced users.
- Interventions are possible, as many cases of overdose are witnessed by others.

Risk factors for overdose-related morbidity

- Old age
- Male gender
- Long history of drug use
- Injecting alone
- Poly-substance use
- Previous history of overdose.

After voluntary or involuntary cessation of opioids the physical, tolerance for opioids decreases. When people relapse and use the same quantity that they used earlier, it often results in overdose. Similarly, substance users who have been released after prolonged incarceration who go back to using are at high risk of overdose. The strength, quality and purity of heroin also varies considerably, and those using the drug without testing it are in greater danger of overdose. Mixing benzodiazepine and opioids, and mixing alcohol and opioids, may cause an overdose. Sometimes factors unrelated to drug use such as poor health and depression can also contribute to overdoses.

Preventing overdose

- Avoid mixing drugs.
- Drug users should have good knowledge about the effects of the specific drugs they are taking. They should be educated in simple language about the pros and cons of drug misuse with a specific focus on overdose.
- Test small amounts of drugs of unknown quality first.
- Use a smaller amount of drugs if they have not been used lately, and beware of lowered tolerance.
- Try to use drugs with a friend rather than alone.
- Try not to take too much too quickly.
- Use less if sick or recovering from an illness.
- Use the drug in a way that gets a slower high (e.g. snorting heroin instead of injecting).
- Use with someone who knows what to do in case of overdose.
- Wait to experience the effects of the drugs before using more.
- Buy from a regular source that can be trusted.

- Keep track of how much one has used.
- Do not use regular dose if you have come recently out of detoxification, rehabilitation or prison.

1.3.1.2 Management of opioid intoxication

Warning signs

- The person appears asleep or unconscious.
- The face or lips appear pale or blue.
- The person has trouble breathing or breathing is very slow.

Assessment of consciousness

- See if the person can open his or her eyes and respond to his or her name.
- Test response to pain by rubbing the chest with the knuckles or pressing hard with a pencil in the space between the fingers.
- If possible, ask the person to get up and walk.
- If the person feels sick, has tightness of the chest or is short of breath, seek help immediately.
- Detect respiratory depression in opioid overdose, by noting respiratory arrest with slow/undetectable pulse, pinpoint pupils unreactive to light, and snoring giving way to shallow respiration (eight or less breaths per minute).

Managing a person who has stopped breathing

Step 1

- Check to see if the person's airway is clear.
- If something is blocking the airway, make the person lie down on his or her side, clear the mouth and airway of food or vomit . This is best done by pulling the chin down with one hand while simultaneously tilting the head of the patient backwards. Use the other hand to reach into the mouth and clear any foreign objects or blockages.
- Once the airway is clear, roll the person gently onto his or her back.

Step 2

- Look at the chest and check for rise and fall. Listen and feel for breathing. Take no more than 10 seconds to do this. If no breathing is detectable, give mouth to mouth breathing support.

Step 3

- Tilt the head back and pinch the nose shut.
- Take a breath, then seal your lips around the person's mouth.
- Give two initial breaths.
- Visualise the centre of the chest and compress at that point with straight arms locked at the elbow.
- Maintain a compression–ventilation ratio of 30 compressions to 2 ventilations (press 30 times followed by two breaths).
- Do not deliver compressions fast and hard; avoid over ventilation (i.e. more than two breaths for every 30 compressions).

Shift the person to a hospital as soon as possible in an ambulance. All health workers and outreach workers must be trained in cardiopulmonary resuscitation.

In addition Naloxone should be available at DICs, methadone clinics and township and county level hospitals. Where possible, outreach workers should also be trained (in addition to health staff) to provide Naloxone injections to reverse opioid overdose.

What is Naloxone?

- A pure opioid antagonist.
- Highly effective at reversing opioid overdose.
- Safe and with essentially no side-effects except may induce withdrawal symptoms.
- Available in liquid form, usually 0.4 mg/ml.
- May be administered by intramuscular, subcutaneous or intravenous injection, or intranasally with an aerator.

Naloxone administration steps:

- prepare an intramuscular syringe (with a long needle if possible) and draw up 1-2ml of naloxone.

- Gently push the plunger to release any air bubbles before injecting.
- Inject into a large muscle such as upper arm, buttocks or thigh (if possible, swab the area first).
- there is no need to inject Naloxone into a vein – intramuscular injection is effective.

After administering Naloxone

- Naloxone takes effect in 1-3 minutes.
- Continue rescue breathing and supporting the person until it does.
- Re-administer naloxone if first dose is not effective.
- If multiple naloxone doses don't revive someone, it's probably something other than an opioid overdose causing the problem: call for help immediately if you haven't done so already.

Naloxone will usually wear off in 30-90 minutes. It is not wise to leave a person who has overdosed alone even if they seem awake and fine after the injection as sedation may return after the effect of Naloxone wears off. It is also often the case that withdrawal will set in. It is important to reassure the person that the naloxone will wear off soon and they should not use more drugs to feel better.

1.3.2 ATS intoxication

The skilful management of manifestations of ATS toxicity requires accurate assessment, a safe environment, careful monitoring and a prompt response.

1.3.2.1 Assessment

Important questions that should be asked if ATS use is suspected are:

- Have you taken drugs such as yaba or yama?
- When did you take them last?
- What other drugs have you taken along with yaba or yama?

Suspect problems with ATS use if the person is:

- severely agitated
- difficult to calm
- suspicious or paranoid
- acting impulsively
- easily startled
- out of touch with reality.

Suspect ATS use also if the person has:

- dilated (big) pupils
- increased sweating
- severe headache
- high temperature
- rapid breathing
- body stiffness or rigid limbs.

1.3.2.2 Management

Uncomplicated intoxication may require observation at the service site and monitoring for several hours. Management is supportive; the use of sedation for managing acute behavioural disturbances and severe psychotic symptoms may be required.

Communicating with people with suspected ATS intoxication

- Personalise the interaction with the person, using his or her first name, if known.
- Offer calming communication in a private space if possible; question and interact with the person in a calm way to de-escalate potentially aggressive interaction.
- Preferably ask open-ended questions to elicit information from the person.
- Even if the person is hostile or aggressive, communicate with him or her in a consistently even tone of voice.

- Avoid using terms that may provoke or prompt an aggressive outburst.
- Avoid sustained eye contact, as this may provoke individuals who are suspicious or paranoid.
- Prompt medical assistance such as sedation will avoid any need to restrain individuals.

Indicators of medical emergency requiring treatment in a hospital

- Fits
- Rigidity
- Rapidly escalating body temperature
- Chest pain
- Alteration in levels of consciousness
- Uncontrolled blood pressure
- Severe headache
- Severe agitation

Managing acute behavioural disturbance in substance users

General principles of using sedative drugs

- Non-specific sedation is required for managing acutely agitated or violent people.
- The ideal medication should possess a rapid sedative action, providing quick control of violent behaviour.
- Sedation should be given to the point of rousable sleep, not unconsciousness; over-sedation should be avoided.

Benzodiazepines

- These are the drugs of choice, as they are safer than antipsychotics.
- They exert benefits in cases with serotonin toxicity (see immediately below) and agitation.
- They are the first line of treatment for cardiac toxicity associated with ATS use.
- Among benzodiazepines, lorazepam may be the best choice because it is as effective as haloperidol in controlling agitation and can be administered IM.

Typical antipsychotics

- Haloperidol is frequently used for sedation.
- Compared with other typical antipsychotics, it causes less hypotension, fewer anticholinergic side-effects and less of a seizure threshold decline.
- It can be administered orally, IM or IV.
- One disadvantage is that haloperidol is not the most sedating of neuroleptics and so may not be appropriate for emergency sedation.
- The other disadvantage is that it may cause extrapyramidal symptoms such as acute dystonia (see appendix 4 and section 2.3.5).

Combination regimens

A combination of lorazepam (2 mg IM) and haloperidol (5 mg IM) is used, as this may be more efficacious than single agents. Patients receiving this combination report fewer extrapyramidal symptoms.

Serotonin toxicity

Serotonin toxicity may occur after ATS ingestion alone or if taken together with other serotonergic drugs such as antidepressants.

Diagnosis

The presence of at least three of the following symptoms along with a history of recent serotonergic drug use should alert the health worker to the possibility of serotonin toxicity:

- | | |
|---|------------------------------------|
| • altered mental status
(confusion, hypomania) | • myoclonic jerks |
| • agitation | • ataxia |
| • tremors | • fever |
| • shivering | • diaphoresis (excessive sweating) |
| • diarrhoea | • convulsions |
| • hyperreflexia | • multiple organ failure |
| | • death (if poorly managed). |

Well-defined clinical features such as clonus, agitation, diaphoresis, tremors, hyperreflexia, hypertonia and fever are sensitive and specific for serotonin toxicity.

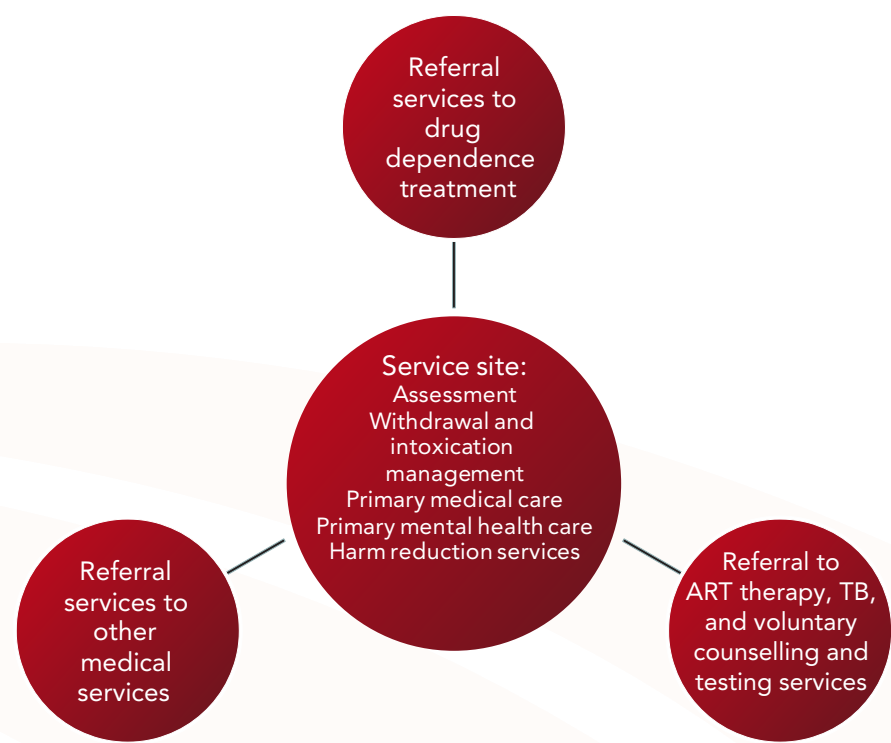
Managing serotonin toxicity

- Provide prompt supportive care including cooling blankets and fans.
- Discontinue all serotonergic drugs, including sympathomimetics such as amphetamines and methamphetamines.
- Chlorpromazine may have a role in management, but rule out neuroleptic malignant syndrome before administering chlorpromazine.
- Benzodiazepines may help reduce muscle rigidity, agitation and seizures. The drug of choice is lorazepam (1–2 mg by slow IV injection every 30 minutes until adequate sedation occurs).
- Cyproheptadine 4–8 mg up to 10–20 mg orally, repeated every 2–4 hours up to a maximum of 0.5 mg/day per kilogram of body weight has been claimed to be the best antiserotonergic drug strategy. Beware of urinary retention.
- Mirtazapine may reduce serotonin toxicity.
- Nitroglycerine 2 mg/minute per kilogram of body weight has been reported to rapidly relieve severe serotonin syndrome.

1.4 Other services including referrals for people using drugs

People who use drugs have multiple requirements that need to be addressed. If a menu of options for drug dependence treatment is available, it will help people who use drugs to choose from the various options and improve their health and quality of life.

Figure 6 Referral services at the service site



Apart from assessing and managing withdrawal and intoxication, health workers can offer a range of medical and psychosocial services to people who use drugs and attend service sites.

1.4.1 Medical care: referral services

As outlined above, people who use drugs have a range of medical problems, and primary health care can be organised and provided at the service site. Such sites can link drug users to a range of other social, welfare and medical services. People who want to be abstinent can be referred to abstinence-oriented drug treatment and rehabilitation centres. Appropriate referrals can be made to voluntary counselling and testing centres, antiretroviral therapy clinics, tuberculosis clinics or hospitals, and other tertiary medical and surgical services. Some people enter closed settings where withdrawal management can be provided. For details related to management in closed settings, please refer to *Training manual for clinical guidelines for withdrawal management and treatment of drug dependence in closed settings*, published by the WHO Regional Office for the Western Pacific in 2009.

1.4.2 Mental health: referral services

Many people who use alcohol and drugs have mental health problems, with half of those dependent on drugs estimated to have mental health problems of varying severity. It is necessary to screen regularly for mental health problems and be able to provide essential mental health interventions for people who use drugs and attend the service site.

Whereas serious psychiatric disorders can be referred to specialist services, identifying and assessing common mental disorders can be efficiently done by health workers at the service site. The following section deals with the diagnosis and management of common mental health problems among people who use drugs.

Detailed information related to primary health care for injecting drug users can be obtained from the following:

- WHO Myanmar Country Office 2006, *Guidelines for primary health care services for injecting drug users*, Yangon.
- WHO Regional Office for South-East Asia 2009, *Management of common health problems of drug users*, New Delhi.

Section 2:

Assessing and managing common mental health problems among people who use drugs and attend HAARP service sites (for use by trained mental health professionals)

2.1 Psychiatric assessment

A health worker's encounter with people who use drugs is an opportunity to understand their difficulties and begin to establish a therapeutic relationship.

As people who use drugs often have co-occurring mental health problems, it is important to detect them at an early stage so that they can be managed effectively. Service sites provide opportunities for health workers to establish good therapeutic relationships with people who use drugs, and this can facilitate comprehensive psychiatric assessment. Psychiatric histories and mental status examinations are the two essential components of assessment for psychiatric disorders.

2.1.1 Psychiatric history

The psychiatric history allows one to understand the patient, as it is a record of the patient's life. Apart from obtaining information from the patient, it may be necessary to gather information from significant family members such as parents, the spouse or siblings. The information is gathered through interviews. Setting the stage for a meaningful interview requires patients to feel comfortable and assured of the privacy and confidentiality of the information provided to the health worker. Maintaining eye contact during the interview facilitates good communication between the health worker and the patient. Sufficient time needs to be allotted to listen to the life story of the individual. Before beginning the interview, the health worker needs to explain the purpose of the interview and outline its objectives, which are to find out what kind of problems the person has and how the health worker can help. Knowing about the client's expectations, needs and preferences from the service is important.

A structure for the psychiatric history is provided below.

Box. Outline of a psychiatric history

Identification data

- Age
- Gender
- Occupation
- Marital (or relationship) status
- Living arrangements
- Employment status

Presenting complaints

- Chief complaints and their duration

History of present illness

- Onset of illness
- Precipitating factors
- Course of illness
- Current status

Past psychiatric history

Family psychiatric history

Medical history

Personal history

- Childhood, education, employment, relationships, children

Substance use history

- Screening for alcohol and drug use (see appendix)
- Detailed history of substance use (see section 1.1.3)

Premorbid personality

- Premorbid characteristics and personality traits

2.1.2 Mental status examination

The mental status examination describes the observations and impressions of the patient obtained during the interview by the examiner (the health worker interviewing the patient). It is the description of the patient's appearance, speech, thoughts, emotions and actions during the interview. The examiner records careful observations in a structured format. Whereas psychiatric history does not change, mental status can

change from day to day or even within hours. The format of a mental status examination is outlined below.

Box: Outline of a mental status examination

Appearance and behaviour

Appearance, psychomotor behaviour, eye contact and rapport

Speech

Rate, rhythm and volume and whether relevant and coherent or not (comment)

Mood and affect

The client's subjective description of his or her mood

The examiner's objective observation (anxious, sad, euphoric, irritable, incongruous or blunted)

Intensity, diurnal variation of mood

Thoughts

Content

Persecutory, grandiose, hypochondriacal, guilty or jealous

Obsession, overvalued ideas or delusions

Suicidal thoughts

Perception

Illusions

Hallucinations

Content (auditory, visual, tactile or olfactory)

Cognitive state

Alertness

Attention and concentration

Orientation

Memory

Calculations

Abstract reasoning

Insight

Judgement

2.2 Assessing and managing common mental health symptoms

2.2.1 Anxiety

Anxiety that is pathological occurs in two forms: anxiety that is more or less persistent (generalised anxiety) and anxiety that occurs in discrete attacks (acute anxiety attacks).

2.2.1.1 Clinical features

Persistent anxiety is manifested as fear of unknown origin, a feeling of tremulousness, palpitation, racing of the heart and profuse sweating (evident on a handshake with an anxious person). Depending on the cause, the duration of anxiety may vary. This condition is also known as generalised anxiety disorder.

In acute anxiety, the attacks typically arise suddenly and have a span of some minutes, with symptoms rapidly reaching a crescendo. In addition to extreme anxiety, the patient has tremors, palpitations, excessive sweating, difficulty in breathing, light-headedness, nausea and altered sensations. The duration is generally brief. Acute anxiety attacks may be seen in panic disorder, post-traumatic stress disorder and phobias.

The common causes of persistent anxiety among people who use drugs are alcohol withdrawal, benzodiazepine withdrawal and generalised anxiety disorder. The frequent causes of acute anxiety attacks are panic disorder, substance-induced panic episodes, hypoglycaemia and hyperventilation.

Table 18 Causes of anxiety

Substance withdrawal
Alcohol
Sedative/hypnotic– benzodiazepines
Nicotine
Toxic
Caffeine
Theophylline
Sympathomimetic drugs
Cannabis
Hallucinogens
Cocaine
Others
Temporal lobe epilepsy
Angina
Pulmonary embolus
Parkinson disease
Traumatic brain injury
Chronic obstructive pulmonary disease
Hyperthyroidism
Metabolic
Hypoglycaemia
Hyperventilation

2.2.1.2 Clinical assessment

Take a psychiatric history and conduct a mental state examination and appropriate physical examination.

Key points

- Is there a temporal relationship between substance use and anxiety?
- Is there a physical illness that explains the anxiety?
- When did the anxiety appear first? During adolescence?
- Is there any evidence of a psychiatric disorder such as generalised anxiety disorder or panic disorder?

2.2.1.3 Risk management

Distress and suicidality that are secondary to anxiety can be acutely alleviated with sedation administered orally (diazepam 5–10 mg or lorazepam 1–2 mg) or by IM (Lorazepam 1–2 mg).

Manage the underlying disorder.

Generalised anxiety disorder

Diagnosis

Table 19 Diagnostic features of generalised anxiety disorder

Excessive worry and apprehension
Difficulty in controlling worry
Associated symptoms
Restlessness or nervousness
Fatigue
Difficulty in concentrating
Irritability
Tension
Trembling
Muscular tension
Sweating
Light-headedness
Palpitations
Dizziness
Discomfort in the abdomen
Sleep disturbance

Treatment

- Relaxation techniques (e.g. Jacobson muscle relaxation technique).
- Supportive psychotherapy (reassurance, explanation, expert advice, suggestions, guidance, ventilation, support and facilitating emotional support from key people).
- Pharmacotherapy.
Selective serotonin reuptake inhibitors (SSRIs) are effective in controlling symptoms and should be used as a first line of therapy.

Other treatments are mirtazapine, venlafaxine, beta blockers (useful for somatic symptoms, particularly tachycardia), imipramine, clomipramine, etc. (see section 2.3.2).

Benzodiazepines are prescribed only for a short period of time. It is better to avoid benzodiazepines for treating generalised anxiety disorder, as they should not be used in response to the minor stresses of everyday life. Alcohol and CNS depressants potentiate the effects of benzodiazepines. Driving should be avoided.

Patient education is critical to effectively managing generalised anxiety disorder.

Panic disorder

Diagnosis

Table 20 Diagnostic features of panic disorder

Discrete and intense period of anxiety, apprehension and distress
Associated symptoms
Palpitations
Sweating
Trembling
Dizziness or light-headedness
Depersonalisation or derealisation
Fear of becoming insane
Fear of dying
Dyspnoea or choking sensation
Chest pain or discomfort
Paraesthesia or altered sensations
Gastrointestinal upset
Chills or hot flushes
Urgent desire to flee (agoraphobia may occur with or without panic and vice versa)

Treatment

Antidepressants: SSRIs are the first-line drug treatment.

Other drugs: These are mirtazapine, venlafaxine, sodium valproate, imipramine and clomipramine (see section 2.3.2).

Benzodiazepines: The target dose of clonazepam for panic disorder is 1 mg per day, though some people benefit from doses up to 4 mg per day. When a person stops taking clonazepam, the drug should be gradually discontinued. Decrease the twice-daily dose by 0.125 mg every 3 days. To prevent misuse, the prescription should be short term and patients provided with counselling. If necessary, medication should be dispensed daily.

Table 21 Comparison of generalised anxiety disorder and panic disorder

	Generalised anxiety disorder	Panic disorder
Clinical presentation	Irrational worries Motor tension Hypervigilance Somatic symptoms	Sudden, unpredictable episodes of severe anxiety Shortness of breath Fear of suffocation and dying Urgent desire to flee
Emergency management	Benzodiazepines for short-term use only, up to 2–4 weeks	Benzodiazepines for short-term use only
First-line drug treatment	SSRIs Venlafaxine	SSRIs

2.2.2 Agitation and aggression

Agitation is an extremely common symptom. Agitated people are tense and restless, and some may become assaultive and violent. A variety of conditions can cause agitation and aggression.

2.2.2.1 Common causes of agitation

- Stimulant intoxication
- Withdrawal from substances
- Psychosis
- Delirium
- Mania

2.2.2.2 Clinical features of an agitated person

- Tense and restless
- Pacing up and down
- Shouting and cursing
- Violent
- Assaultive

2.2.2.3 Short-term risk management

Risks to self

- From deliberate self-harm
- From self-neglect
- From being vulnerable to others

Risks to others

- By aggression
- By neglect of others

Assessment consists of a mental status examination and collecting the information necessary to establish a diagnosis.

Table 22 Short-term management of aggressive behaviour

Step	Intervention
1.	De-escalation Try to reduce arousal. Remove the person to a place with little stimulation. Shift the person to a place where she or he feels more comfortable.
2.	Offer oral treatment An oral antipsychotic is an option for patients who are not already taking a antipsychotic: haloperidol 5 mg, olanzapine 10 mg, risperidone 1–2 mg or quetiapine 100–200 mg. If the patient is prescribed a regular antipsychotic, use lorazepam 1–2 mg or promethazine 25–50 mg. Repeat after 45–60 minutes. Go to step 3 if step 2 fails (or sooner if the patient is placing self or others at significant risk).
3. From this step, consider consulting a specialist.	Consider IM treatment Inject lorazepam 1–2 millilitre Inject promethazine 50 mg, which is a useful option for benzodiazepine-tolerant patients Inject haloperidol 5–10 mg. Repeat after 30–60 minutes if the effect is insufficient.

Injecting lorazepam alone or in combination with haloperidol is useful for containing aggression in psychotic disorders and substance-induced intoxication such as ATS toxicity and agitation related to acute alcohol withdrawal. Some patients may require hospitalisation to manage the condition. For the treatment of stimulant intoxication and alcohol withdrawal, see sections 1.3.2 and 1.2.3. The treatment of psychosis and mania is dealt with in section 2.2.5 and the management of delirium in section 2.2.3.

2.2.3 Delirium

Given high mortality among patients with delirium, identifying delirium and referring patients to hospital is important. The tasks are to assess the underlying cause of delirium, provide support and offer pharmacological treatment for symptomatic relief.

2.2.3.1 Causes of delirium

Substance use

Withdrawal

Alcohol withdrawal (delirium tremens)

Benzodiazepine withdrawal

Barbiturate withdrawal

Intoxication

Amphetamine

Cocaine

Cannabis

Inhalants

Phencyclidine

Medications that induce delirium

Analgesics (propoxyphene)

Anticholinergics (trihexyphenidyl)

Anticonvulsants (phenytoin)

Antidiabetics (insulin and oral antidiabetic drugs)

Antihypertensives (clonidine)

Corticosteroids (prednisone)

Cardiovascular drugs (digoxin)
Gastrointestinal agents (cimetidine)
Psychotropics (antidepressants, anxiolytics)

Other disorders and illnesses that can cause delirium

Thiamine deficiency
Infection
Hypoglycaemia
Fluid and electrolyte imbalance
Head trauma
Seizures
Hepatic failure
Hypoxia
Anaemia
Heart attack
Congestive cardiac failure

2.2.3.2 Clinical features of delirium

- Confusion (clouding of the senses) and disorientation are the cardinal signs of delirium.
- 'Sundowning' is common, wherein the confusion worsens with the coming of darkness.
- Other signs may or may not be there, such as disturbance of attention, thinking, memory, psychomotor behaviour, emotion, sleep–wake cycle, etc.
- One may also notice perceptual disturbances (hallucinations) or, at times, fragmentary delusions, agitation or disquietude.
- The onset of delirium is often acute or subacute.

2.2.3.3 Treatment of delirium

1. Identify the underlying condition.
2. Initiate interventions for acute conditions.

- 3. Monitor and ensure safety.
- 4. Educate patients and families about the nature of the problem.

Table 23 Non-pharmacological treatment of delirium

Environmental measures
Provide consistent, supportive nursing care.
Minimise the number of attendants.
Place the patient in a well-lighted room with a window.
Have a familiar person by the side of the patient.
Supportive measures
Provide fluid and electrolyte balance.
Ensure nutrition and vitamin intake.
Moderate sensory input.
Encourage ambulation.
Impose physical restraint when necessary.

Pharmacological treatment

Regarding withdrawal from substances such as alcohol and benzodiazepines, see sections 1.2.3 and 1.2.4. Withdraw the offending agent or treat the underlying condition.

Table 24 Pharmacological treatment of symptoms in delirium

Symptom	Pharmacological treatment
Sleep disturbance	Lorazepam oral or IM 0.25–1.00 mg every 2–4 hours as needed, up to 3.00 mg in 24 hours Diazepam oral starting dose of 5–10 mg
Disruptive behaviour	Haloperidol oral 0.5–1.0 mg twice daily with additional doses every 4 hours as needed; IM 0.5–1.0 mg, observe for 30–60 minutes and repeat every 4 hours as necessary Watch for extrapyramidal symptoms such as rigidity, tremors or dystonia. Second-generation antipsychotics are indicated for oral use: olanzapine 2.5–5.0 mg once daily, usual maximum of 20.0 mg/day. Risperidone 0.5 mg twice daily with additional doses every 4 hours as needed, usual maximum of 4.0 mg/day Quetiapine 12.5–25.0 mg twice daily, which may be increased every 1–2 days to 100.0 mg daily if it is well tolerated

2.2.4 Depression

Depression is a common mental health problem that is more prevalent in women than in men. Its sequelae include suicide; dependence on sedative–hypnotics, alcohol and drugs; disability; and elevated rates of medical morbidity and mortality. The impact of recognition and effective treatment of depression is considerable.

Depression is a common mental health problem, affecting 20% or more of people at some point during their lifetime. It is more prevalent in people who use drugs and the most common co-morbid psychiatric disorder.

2.2.4.1 Causes of depression

Primary disorders

- Major depressive disorder
- Bipolar depression
- Premenstrual depression
- Postpartum depression

Chronic alcoholism

Substance withdrawal

- Stimulants
- Anabolic steroids

Toxic depression (medication-induced)

- Prednisone
- Alpha interferon
- Propranolol
- Nifedipine
- Ranitidine

Metabolic

- Vitamin deficiency including Pellagra

Endocrine

- Hypothyroidism
- Cushing syndrome

Others

- Multi-infarct dementia
- Traumatic brain injury
- Stroke

2.2.4.2 Clinical features

Table 25 Clinical features of depression

Depressed or sad mood, crying
Irritability
Low self-esteem; guilt or pessimism
Suicidal ideation
Difficulty in concentrating or forgetfulness
Lack of interest in pleasurable activities (anhedonia)
Lack of energy (anergia)
Sleep disturbance
Appetite disturbance (anorexia)
Agitation or retardation

2.2.4.3 Risk assessment and management

The most important aspect of depression is suicidality. Assessing the risk of suicide is important in all patients presenting depressive symptoms. People who use drugs have a higher risk for suicidality, particularly those with co-morbid depressive disorders.

Table 26 Assessment of suicide risk

1. What is the current degree of suicidal ideation?
a. Actively suicidal (any plans?)
b. Ambivalent about suicide
c. Passively suicidal
d. No ideation
2. Previous suicide attempts
a. Number of previous attempts
b. Those that required medical intervention
3. What is the psychiatric status?
a. Is the person psychotic?
b. Is there drug or alcohol dependence?
4. What is the level of social support?
5. What are the other risk factors (older, male, living alone, unemployed)?

It is important to arrange appropriate treatment, depending on the underlying condition. Depressive patients who are suicidal may be helped by hospitalisation and by specialist care with electroconvulsive therapy and antidepressants. It is extremely important to be vigilant, and family members have to be educated and counselled about the suicidal behaviour of the patient.

2.2.4.4 Major depressive disorder

Major depressive disorder is the one of the most common causes of depressive syndrome and is a prevalent co-morbid psychiatric disorder among people who use drugs.

Diagnostic features

- Any five of the following:

Depressed mood

Lack of pleasure or loss of interest in usual activities such as work and household duties

Appetite disturbance or weight loss or gain

Sleep disturbance

Motor agitation or retardation

Fatigue or loss of energy

Guilt or feelings of worthlessness

Concentration difficulties or indecisiveness

Suicidal ideation or thoughts of death.

- Distress or impairment in social, occupational or other areas of functioning.
- Not attributable to general medical condition or caused by substance use, grief or bereavement.

Pharmacotherapy for major depressive disorder

For moderate-to-severe depressive disorder, antidepressants are the first choice. For those who experience additional psychotic symptoms, the addition of second-generation antipsychotics may be considered.

Antidepressants (see section 2.3.2):

Tricyclic antidepressants: imipramine, amitriptyline, dothiepin, trazodone

Selective SSRIs: fluoxetine, sertraline, citalopram, escitalopram, paroxetine

Serotonin norepinephrine reuptake inhibitors: venlafaxine

2.2.5 Psychosis

Psychosis is a disruptive mental state in which an individual has difficulty distinguishing external reality from his or her own internal experiences and perceptions. As psychosis can be caused by several disorders, it is important to diagnose the underlying condition to enable evidence-based treatment. Antipsychotics are beneficial in managing psychotic disorders.

2.2.5.1 Causes of psychosis

- Psychosis induced by ATS or other substances
- Alcoholic hallucinosis
- Acute psychotic disorder
- Schizophrenia
- Bipolar disorder, mania
- Depression
- Delusional disorder
- Delirium
- Dementia
- Head injury.

2.2.5.2 Presenting complaints

- Hearing voices when no one is around, seeing visions
- Strange beliefs or fears
- Confusion
- Apprehension
- Abnormal behaviour.

2.2.5.3 Diagnostic features

Recent onset of the following:

- hallucinations (e.g. hearing voices when no one is around, seeing visions).
- delusions (firmly held ideas that are often false and not shared by others in the patient's social, cultural or ethnic group, e.g. patient believes he or she is being poisoned by neighbours, receiving

messages from the television, or being looked at and talked about by others in some special way).

- strange (disjointed) speech.
- agitation.
- bizarre behaviour.
- extreme and labile emotional states.
- These symptoms may be preceded by a period of deteriorating social, occupational or academic functioning.

2.2.5.4 Management of psychosis

Psychosis can be effectively managed using antipsychotics (see section 2.3.3).

Antipsychotics that are available as injectable preparations and can be used for acute management include haloperidol and chlorpromazine, though the latter is no longer recommended.

Table 27 Injected haloperidol dosage for the acute management of psychotic behaviour

Degree of agitation	Dose (mg)
Mild	0.5–2.0
Moderate	2.0–10.0
Severe	10.0–40.0

Symptoms that are modified by antipsychotics include the following:

- hallucinations and illusions
- delusions and suspiciousness
- thought disturbances
- hyperactivity and agitation
- mental confusion
- perplexity.

Social withdrawal and negative symptoms generally respond poorly to conventional antipsychotic medications such as haloperidol and chlorpromazine. Atypical antipsychotics such as risperidone and olanzapine are the drugs of choice for managing negative symptoms.

For managing the side-effects of antipsychotics, see the appendix.

2.2.5.5 Features of the major causes of psychosis

Schizophrenia

Diagnostic features

At least two of the following should be present for at least 6 months and not attributable to substance use, general medical disorders or mood disorders:

- delusions
- hallucinations
- disjointed speech
- grossly disorganised or catatonic behaviour
- negative symptoms
- social or occupational dysfunction.

Criteria for paranoid schizophrenia (subtype)

Preoccupation with delusions or frequent auditory hallucinations

Bipolar disorder, mania

Diagnostic features

Manic episode

Diagnosis requires a distinct period of mood disturbance lasting more than a week and any three of the following symptoms, not attributable to substance use or general medical conditions:

- inflated self-esteem and grandiosity
- decreased need for sleep
- more talkative than usual
- flights of ideas and racing thoughts
- distractibility
- increase effort in goal-directed activity
- extensive involvement in pleasurable activities.

Alcoholic hallucinosis

Alcoholic hallucinosis usually occurs during alcohol withdrawal. This condition is a hallucinatory or delusional state with clear or relatively clear consciousness. Hallucinations tend to be voices with sexual or derogatory content, and delusions are paranoid. These states are related not only to sudden withdrawal of alcohol but can also occur during prolonged, steady drinking. The course of these states sets them apart from other alcohol withdrawal states, as the condition lasts for months rather than days or weeks. At times, it is a challenge to differentiate this from paranoid schizophrenia.

Table 28 Differences between alcoholic hallucinosis and paranoid schizophrenia

Feature	Alcoholic hallucinosis	Paranoid schizophrenia
Age of onset	40–50 years	Before 40 years
Type of onset	Usually acute	Insidious
Duration of illness	3 months	Chronic
Pre-morbid personality	Varied	Shy, aloof, withdrawn
Alcohol dependence	Over many years	Not usually present
Family history of alcoholism	Likely	Not usually present
Family history of schizophrenia	No evidence	Increased prevalence
Hallucinations and delusions	Auditory but may also be visual and tactile	Auditory Incoherent
Thought processes	Coherent	Inappropriate
Affect	Anxious, depressed and perplexed but appropriate	Not compromised
Intellectual function	Fleeting memory disturbance	Not compromised
Orientation	At times not oriented to time	

For drug-induced psychosis, refer to section 1.3.2.

2.2.6 Sleep disturbance (insomnia)

Sleep problems are highly prevalent among people who use drugs. Episodes of insomnia are extremely distressing and can trigger relapse following a period of abstinence.

2.2.6.1 Presenting complaints

- Difficulty in falling asleep
- Recurrent waking during the night
- Early morning awakening
- Not feeling fresh after a night's sleep
- Falling asleep at inappropriate times during the day.

Features associated with sleep disturbance are as follows:

- reduced quality of life
- general ill health, alcohol and drug misuse
- poor work performance
- difficulties in concentration.

2.2.6.2 Differential diagnosis

Table 29 Differential diagnosis of insomnia

Type of insomnia	Causes
Transient insomnia	Worries, family disputes Withdrawal from hypnotic drugs Brief illness
Short-term insomnia	Bereavement
Chronic insomnia	Poor sleep hygiene Drug or alcohol dependence Depression Bipolar disorder Anxiety disorder Psychotic illnesses Drug withdrawal and intoxication Tolerance of benzodiazepines and alcohol

2.2.6.3 Management of insomnia

Risk management

Sleep disorder must be comprehensively assessed. Assessment should include a full sleep history from the patient; examination of the mental state; and review of medical, psychiatric and family histories. A sleep diary can be valuable. Suicide is often associated with chronic sleep problems.

Distinguishing the nature of insomnia and its underlying cause is important. The common causes are poor sleep hygiene, depression and substance use. Sleep hygiene is most important. Treat the underlying disorder with appropriate medications. For patients already using psychotropics, one can avoid using hypnotics by choosing or changing to a sedative type of psychotropic medication. If a hypnotic is required, administer it for only a short period. Hypnotics should not be prescribed long term to people who use drugs.

Measures used to improve sleep hygiene

- Arise at the same time each day.
- Limit time in bed to a normal duration of 6–7 hours daily.
- Discontinue the use of drugs that act on the CNS such as caffeine, tobacco, alcohol, opioids and stimulants.
- Avoid daytime napping.
- Exercise in the morning and remain active throughout the day.
- Substitute watching television at night with light reading and listening to music.
- Have a warm bath near bedtime.
- Eat on schedule and avoid large meals at night.
- Follow an evening relaxation routine.
- Ensure comfortable sleeping conditions.
- Spend no longer than 20 minutes awake in bed.
- Use the bed only for sleep (and sex!).

Drugs used as hypnotics (dose per day)

- Nitrazepam or diazepam 5–10 mg
- Zolpidem 5–10 mg
- Zopiclone 3.75–7.50 mg
- Zaleplon 10 mg
- Promethazine 25–50 mg
- Melatonin 2 mg

2.2.7 Seizures (fits)

A seizure, or ictus, is paroxysmal in onset, generally brief in duration and secondary to an equally paroxysmal electrical discharge within the grey matter of the brain. As a variety of conditions can cause seizures, it is important to recognise the underlying condition to appropriately treat it.

2.2.7.1 Causes of seizures

- Idiopathic generalised seizures
 - Generalised epilepsy with tonic–clonic seizures
- Alcohol, sedative or hypnotic withdrawal
 - Alcohol
 - Benzodiazepines
- Intoxicants
 - Cocaine
 - Phencyclidine
- Metabolic
 - Hypoglycaemia
 - Hypernatraemia
 - Uraemia

- Medications

- Tricyclic antidepressants

- Phenothiazines

- Isoniazid

- Theophylline

- Others

- Meningitis, encephalitis

- Cerebrovascular disorders

2.2.7.2 Treatment

Treating the underlying condition is important. When this is not possible, utilising an antiepileptic drug (AED) is appropriate. Idiopathic generalised epilepsy generally responds to treatment with valproic acid, which is a reasonable choice for non-focal grand mal seizures. Phenytoin is another AED that is widely employed to control grand mal seizures. Carbamazepine is used to treat grand mal and partial seizures. Phenobarbital is an AED that is cheap and effective and has few side-effects. Diazepam is the drug of choice for managing status epilepticus. Lorazepam, a long-acting benzodiazepine, is another drug used to treat status epilepticus.

2.3 Psychotropic drugs commonly used to manage mental health problems

2.3.1 Antianxiety agents

Table 30 Commonly used antianxiety agents and their side-effects*

Drug** and its half-life	Dose range	Use and common side-effects (CSE)	Caution
Alprazolam 12–15 hours	0.25–0.50 mg 3 times daily for panic, not to exceed 3.00 mg/day	Use: panic CSE: drowsiness, dizziness, lethargy, confusion, paradoxical excitation, nausea, vomiting	Risk for dependence; withdrawal syndrome on sudden discontinuation; interaction with alcohol, antidepressants, antihistamines, opioids and other benzodiazepines
Chlordiazepoxide 5–30 hours	Anxiety: 10 mg orally 3–4 times daily Alcohol withdrawal: 30–90 mg	Use: adjunct to anxiety management; alcohol withdrawal CSE: drowsiness, dizziness	Contraindicated: narrow-angle glaucoma, caution in hepatic or renal impairment, history of substance use
Clonazepam 18–50 hours	Range: 0.5–4.0 mg/day orally, up to 6.0 mg/day	Use: panic, seizure disorder CSE: drowsiness, ataxia, behavioural changes	Contraindicated: severe liver disease
Diazepam 20–50 hours	Range: 4–40 mg/day Anxiety: 2–10 mg orally 2–4 times daily Alcohol withdrawal: 10 mg orally 3–4 times in first 24 hours, then 5 mg 3–4 times daily	Use: adjunct to anxiety management; alcohol withdrawal CSE: drowsiness, dizziness, lethargy	Monitor for dependence; in prolonged therapy, monitor liver and renal functions
Lorazepam 10–16 hours	Range: 2–4 mg/day in divided doses Insomnia: 2–4 mg orally at bedtime	Use: anxiety, alcohol withdrawal, insomnia CSE: drowsiness, dizziness, lethargy Rapid intravenous: apnoea, cardiac arrest	Contraindicated: CNS depression, pregnancy, lactation, glaucoma Caution: hepatic, renal or pulmonary impairment; monitor for dependence

* For warnings related to benzodiazepines, see appendix.

** Regarding the use of benzodiazepines in the acute management of agitation and aggression, see section 2.2.1.

2.3.2 Antidepressants

Table 31 Commonly used antidepressants and their side-effects*

Drug and its half-life	Dose range	Use and common side-effects (CSE)	Caution
Amitriptyline 9–25 hours	25–200 mg/day; dosage 75 mg/day orally in divided doses, up to 200 mg/day; increase by 25–50 mg	Use: depression CSE: blurred vision, dry eyes, dry mouth, sedation, hypotension, constipation, arrhythmia	Contraindicated: cardiovascular disease High doses have more side-effects. Monitor electrocardiogram (ECG)
Dothiepin 8–25 hours	25–225 mg/day orally; 25 mg orally 3 times daily, up to 225 mg/day	Use: depression, anxiety CSE: blurred vision, dry eyes, dry mouth, sedation, hypotension, constipation	ECG monitoring of patients with history of cardiovascular disease Monitor blood pressure and pulse
Imipramine 19 hours	10–200 mg/day; 25–50 mg orally 3–4 times daily, up to 300 mg/day for hospitalised patients	Use: depression, panic CSE: blurred vision, dry eyes, dry mouth, sedation, hypotension, constipation, arrhythmia	ECG monitoring of patients with history of cardiovascular disease Monitor blood pressure and pulse Avoid use with clonidine
SSRIs Fluoxetine 4–6 days	20 mg orally Depression: start 20 mg/day orally	Use: depression, obsessive–compulsive disorder (OCD), bulimia nervosa CSE: anxiety, drowsiness, headache, insomnia, nervousness, diarrhoea, sexual dysfunction, itchiness, increased sweating, tremors	Caution: Hepatic or renal impairment, pregnancy, seizures, history of mania, hyponatraemia
SSRIs Sertraline 26 hours	50–200 mg/day Depression: start 50 mg/day orally; may increase slowly to 200 mg/day Panic disorder: start 25 mg/day orally, up to 50 mg/day	Use: depression, panic disorder, OCD, post-traumatic stress disorder, social anxiety disorder CSE: drowsiness, dizziness, headache, fatigue, insomnia, nausea, diarrhoea, sexual dysfunction, dry mouth, increased sweating, tremors	Caution: Hepatic or renal impairment, pregnancy, lactation, seizures, history of mania

Drug and its half-life	Dose range	Use and common side-effects (CSE)	Caution
SSRIs Citalopram 33 hours	20–60 mg/day (use lower dose) Depression: start with 20 mg Panic disorder: start with 10 mg	CSE: drowsiness, dizziness, headache, fatigue, insomnia, nausea, diarrhoea, sexual dysfunction, dry mouth, increased sweating, tremors	Caution: Hepatic or renal impairment, pregnancy, lactation, seizures, history of mania
SSRIs Escitalopram 30 hours	10–20 mg/day Depression: start with 10 mg/day Panic disorder: start with 5 mg/day for 1 week, increasing to 20 mg/day	Use : depression, panic, social anxiety, generalised anxiety disorder, OCD CSE: drowsiness, dizziness, headache, fatigue, insomnia, nausea, diarrhoea, sexual dysfunction, dry mouth, increased sweating, tremors	Caution: Hepatic or renal impairment, pregnancy, lactation, seizures, history of mania
SSRIs Paroxetine 24 hours	20–50 mg/day (use low dose)	Use and CSE: drowsiness, dizziness, headache, fatigue, insomnia, nausea, diarrhoea, sexual dysfunction, dry mouth, increased sweating, tremors	Caution: Hepatic or renal impairment, pregnancy, lactation, seizures, history of mania
Mirtazapine 20–40 hours	15–45 mg/day	Use: depression CSE: increased appetite, weight gain, drowsiness, oedema, dizziness, headache, blood dyscrasia	Caution: Hepatic or renal impairment, pregnancy, lactation, seizures, history of mania and blood disorders
Trazodone 5–13 hours	150–300 mg/day	Use: depression, generalised anxiety disorder CSE: sedation, dizziness, headache, nausea, vomiting, tremors, postural hypotension, tachycardia, priapism	Caution: Hepatic or renal impairment, pregnancy, lactation, seizures, history of mania and avoid use with sedatives, alcohol, other antidepressants, digoxin or phenytoin
Venlafaxine 5 hours	75–375 mg/day	Use: depression, generalised anxiety disorder CSE: sedation, dizziness, headache, nausea, vomiting, tremors, postural hypotension, tachycardia, priapism	Caution: Hepatic or renal impairment, pregnancy, lactation, seizures, history of mania and avoid in arrhythmia

* Antidepressants are also used often as antianxiety drugs; SSRIs are the first line of treatment for depression and anxiety disorders.

2.3.3 Antipsychotics

Table 32 Commonly used antipsychotics and their side-effects

Drug and its half-life	Dose range	Use and common side-effects (CSE)	Caution
Chlorpromazine 16–30 hours	25–1000 mg/day orally Psychosis: 10–25 mg orally 2–4 times/day; may increase to 1000 mg/day IM: start 25–50 mg IM, up to 400 mg/day for acute psychotic conditions	Use: psychoses, bipolar disorders, agitation CSE: hypotension, dry eyes, sedation, blurred vision, constipation, dry mouth, photosensitivity, neuroleptic malignant syndrome (NMS)	Contraindicated: glaucoma, bone marrow depression, severe liver disease Monitor blood pressure, pulse and respiration Watch for extrapyramidal symptoms (akathisia), tardive dyskinesia, NMS
Haloperidol 12–36 hours	1–30 mg/day; 0.5–5.0 mg orally 2–3 times daily up to 30.0 mg/day IM: 5.0–10.0 mg stat	Use: psychoses, drug-induced psychoses, bipolar disorder, aggressive states CSE: extrapyramidal symptoms, blurred vision, dry eyes, dry mouth, constipation NMS, seizures	Monitor blood pressure and pulse, respiration, extrapyramidal symptoms (akathisia), tardive dyskinesia, NMS, corrected QT interval prolongation on ECG
Trifluoperazine 13 hours	10–30 mg/day, starting with 5 mg/day; can be given into two divided doses	Use: psychoses CSE: extrapyramidal symptoms, blurred vision, dry eyes, dry mouth, constipation, NMS	Contraindicated: bone marrow problems, hepatic impairment, blood disorders, allergy to chlorpromazine
Risperidone 20–24 hours	1–16 mg/day Dosing may be once daily Start 1 mg orally twice daily and slowly increase	Use: psychoses, bipolar disorder, aggression, irritability associated with autism CSE: extrapyramidal symptoms (akathisia), dizziness, aggression, insomnia, sedation, dry mouth, cough, itching, constipation, weight gain, NMS	Caution: Renal or hepatic impairment Increased dose >6 mg heightens risk of developing extrapyramidal symptoms Monitor blood pressure and pulse
Olanzapine 21–54 hours	5–20 mg/day Start 5–10 mg/day	Use: psychoses, bipolar disorder CSE: agitation, dizziness, sedation, constipation, weight gain	Monitor for treatment-emergent diabetes, blood sugar, basal metabolic rate, lipid profile, NMS, seizure

Drug and its half-life	Dose range	Use and common side-effects (CSE)	Caution
Quetiapine 4–10 hours	150–800 mg/day Start with 25 twice on first day, 50 mg twice on second day, then increase by 50 mg/day	Use: psychoses, bipolar disorder CSE: rash, problems with balances, mood changes, weight gain, constipation dizziness or drowsiness	Monitor for treatment-emergent diabetes, blood sugar, basal metabolic rate, lipid profile, NMS, seizure
Aripiprazole 75–146 hours	10–30 mg/day	Use: psychoses, bipolar disorder CSE: as above, insomnia (but fewer metabolic side-effects than risperidone, olanzapine, quetiapine)	Monitor for treatment-emergent diabetes, blood sugar, basal metabolic rate, lipid profile, NMS, seizure

2.3.4 Antiepileptic drugs

Table 33 Commonly used antiepileptic drugs (AEDs) and their side-effects*

AED	Usual daily dosage	Common side-effects
Phenytoin	300–600 mg/day in divided doses	Sluggishness, ataxia, nystagmus, confusion, slurred speech, dizziness, insomnia, nervousness, fatigue, nausea, vomiting, gingival hyperplasia, photophobia, skin rashes, megaloblastic anaemia
Carbamazepine	800–1200 mg/day in divided doses	Drowsiness, dizziness, fatigue, headache, unsteadiness, nausea, diplopia, skin rashes. Stevens–Johnson syndrome (requires discontinuation), agranulocytosis, aplastic anaemia, thrombocytopenia
Valproate	750–3000 mg/day in divided doses	Few serious side-effects; weight gain Monitor for hepatotoxicity, pancreatitis A teratogenic drug, it can cause neural tube defects
Phenobarbitol	60–100 mg/day in divided doses	Few side-effects; CNS depression, excitability in children Contraindicated: history of porphyria

*AEDs require careful titration.

2.3.5 Other psychotropic drugs

Table 34 Other psychotropic drugs and their side-effects

Drug	Dose range	Use and common side-effects (CSE)	Caution
Trihexyphenidyl	5–10 mg/day, up to 15 mg/day Start 1–2 mg/day orally and increase by 2 mg every 3–5 days	Use: drug-induced Parkinsonism CSE: dizziness, nervousness, drowsiness, orthostatic hypotension, dry mouth, mydriasis, blurred vision, constipation, dry mouth, tachycardia, urinary hesitancy	Contraindicated: glaucoma, thyrotoxicosis, acute haemorrhage, tardive dyskinesia Additive effects with anticholinergic drugs and CNS depressants
Procyclidine	5–30 mg/day orally in 2–4 divided doses IM: 5–10 mg stat dose	Use: extrapyramidal symptoms, acute dystonia	As above
Propranolol	40–120 mg/day orally	Use: essential tremors, anxiety, akathisia CSE: Fatigue, low mood, weakness, impotence, arrhythmia, bradycardia, pulmonary oedema	Contraindicated: heart block, bradycardia Monitor blood pressure and pulse

Appendix

1. Short Opioid Withdrawal Scale*

For each of the following symptoms, assign a score of 0 if not present, 1 if mild, 2 if moderate and 3 if severe:

- Feeling sick
- Stomach cramps
- Muscle spasms or twitching
- Feeling cold
- Pounding heart
- Muscular tension
- Aches and pains
- Yawning
- Running watery eyes
- Difficulty in sleeping.

Add scores for the total score, and compare it with the table below to guide the management of withdrawal.

Table A.1 Short Opioid Withdrawal Scale management by score

Score	Suggested withdrawal management
0–10	Mild withdrawal; symptomatic medication only
10–20	Moderate withdrawal; symptomatic or opioid medication
20–30	Severe withdrawal; opioid medication

*Source: M Gossop, 'The development of a Short Opiate Withdrawal Scale (SOWS)', Addictive Behaviors, vol 15(5),1990, pp. 487–90.

2. Revised Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar) scale

Patient Date Time Pulse or heart rate (taken for 1 min) Blood pressure

NAUSEA AND VOMITING – ‘Do you feel sick to your stomach? Have you vomited?’	VISUAL DISTURBANCES – ‘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?’
0 – No nausea and no vomiting	0 – Not present
1 – Mild nausea with no vomiting	1 – Very mild sensitivity
2	2 – Mild sensitivity
3	3 – Moderate sensitivity
4 – Intermittent nausea with dry heaves	4 – Moderately severe hallucinations
5	5 – Severe hallucinations
6	6 – Extremely severe hallucinations
7 – Constant nausea, frequent dry heaves and vomiting	7 – Continuous hallucinations

TREMORS – Arms extended and fingers spread apart

0 – No tremors

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 extended

TACTILE DISTURBANCES – 'Have you any itching, pins and needles, burning, numbness? 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

PAROXYSMAL SWEATS

0 – No sweat visible

1 – Barely perceptible sweating; palms moist

2

3

4 – Beads of sweat on forehead

5

6

7 – Drenching sweats

AUDITORY DISTURBANCES – 'Are you more aware of sounds? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing? Are you hearing things you know aren't there?'

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

ANXIETY – ‘Do you feel nervous?’	HEADACHE, FULLNESS IN THE HEAD – ‘Does your head feel different? Does it feel like there is a band around it?’ (Do not rate for dizziness or light-headedness; otherwise, rate severity)
0 – No anxiety, at ease	
1 – Mildly anxious	
2	
3	0 – Not present
4 – Moderately anxious, or guarded, so anxiety is inferred	1 – Very mild
5	2 – Mild
6	3 – Moderate
7 – Equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions	4 – Moderately severe
	5 – Severe
	6 – Very severe
	7 – Extremely severe

AGITATION	ORIENTATION AND CLOUDING OF SENSORIUM – ‘What day is this? Where are you? Who am I?’
0 – Normal activity	
1 – Somewhat more than normal activity	0 – Oriented and can do serial additions
2	1 – Cannot do serial additions or is uncertain about date
3	
4 – Moderately fidgety and restless	2 – Disoriented for date by no more than 2 calendar days
5	
6	3 – Disoriented for date by more than 2 calendar days
7 – Paces back and forth during most of the interview or constantly thrashes about	4 – Disoriented for place and/or person

Total CIWA-Ar Score Rater’s name

Source: <http://adai.washington.edu/instruments/pdf/>

3. Screening for alcohol and drug use

Screening for alcohol use: CAGE questionnaire

Please check the one response to each item that best describes how you have felt and behaved over your whole life.

1. Have you ever felt you should cut down on your drinking?

Yes

No

2. Have people annoyed you by criticising your drinking?

Yes

No

3. Have you ever felt bad or guilty about your drinking?

Yes

No

4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye-opener)?

Yes

No

Source: JA Ewing, 'Detecting alcoholism: The CAGE questionnaire', *Journal of the American Medical Association*, vol 252, 1984, pp.1905–7.

Screening for other drug use

Screen for other drugs: ATS, opioids, cannabis, benzodiazepines and other drugs of misuse.

Cannabis

Cannabis use may be frequent for many people using drugs. It is important to recognise the impact of cannabis on the person's symptoms and quality of life.

Acute effects

- Anxiety and panic, especially in naïve users.
- Impaired attention, memory and psychomotor performance while intoxicated.
- Possibly an increased risk of accident if a person drives a motor vehicle while intoxicated with cannabis, especially if cannabis is used with alcohol and other drugs.
- Increased risk of psychotic symptoms among those who are vulnerable because of personal or family history of psychosis.

Chronic effects

Cannabis dependence syndrome is characterised by an inability to abstain from or control cannabis use.

- Subtle impairments of attention and memory can persist for longer periods.

4. Side-effects of antipsychotics and their management

The common side-effects are extrapyramidal side-effects, which should be recognised and managed.

Table A.2 Side-effects of antipsychotics and their management

Extrapyramidal side-effects	Management
Dystonia	Appears early in treatment Includes oculogyric crisis, tongue protrusion, torticollis, and laryngeal-pharyngeal constriction Common in young males Give antihistaminic or anticholinergic drug immediately IM route preferable Reassure the patient
Akathisia	Chief cause of noncompliance with treatment Reassure the patient Reduce the current dose Switch to a different antipsychotic drug Start an antiparkinson drug Benzodiazepines or propranolol may help
Akinesia	Absence of movement More commonly slow movement (bradykinesia) Symptoms include fatigue, hypotonia, painful muscles and anergy. Most anticholinergics are helpful
Drug-induced Parkinsonism (extrapyramidal symptoms)	Assess for tremors, rigidity and bradykinesia Give anti-Parkinson drugs
Tardive dyskinesia	Often seen after withdrawal of antipsychotics Anticholinergic drugs worsen tardive dyskinesia
Neuroleptic malignant syndrome	Assess for fever, rigidity and tremors. Potentially fatal. Encourage adequate water intake for all patients taking antipsychotics. It is a medical emergency.

Key strategies to deal with extrapyramidal side-effects

- Use second-generation antipsychotics.
- Reduce the dose of the antipsychotic drug.
- Stop the antipsychotic drug and change to a different one.
- Add an appropriate anticholinergic agent depending on the symptoms.
- Give the anticholinergic drug at the lowest effective dose.
- Withdraw the anticholinergic drug after a period of time, usually 3 months.
- If symptoms recur, reinstitute the anticholinergic drug at the lowest effective dose.

5. Benzodiazepine warnings for patients

Benzodiazepines are useful for controlling anxiety and facilitating sleep. Patients like these drugs as they have rapid therapeutic effects towards alleviating distress. However, patients have to be educated about their various side-effects.

Residual sedation: The benzodiazepine group of drugs often causes significant sedation.

Impaired daytime performance: Sedation, combined with lowered mental acuity, can impair the individual's daytime performance. This may cause occupational inefficiency, low productivity, and heightened risk of accidents at the workplace and outside.

Combining these drugs with alcohol significantly increases the adverse effects.

Benzodiazepines may be associated with irritability, agitation and uninhibited behaviour.

Benzodiazepines shorten the duration of slow-wave sleep and also decrease rapid eye movement sleep.

Benzodiazepines can cause anterograde amnesia and cognitive impairment.

After stopping benzodiazepines, the patient may experience rebound insomnia.

These drugs cause muscles to relax, which may make the person feel lethargic.

Dependence: The most serious untoward effect of benzodiazepines is their tendency to produce tolerance, physiological dependence and psychological habituation. Tolerance can contribute to dose escalation.

Because the drugs can produce euphoria, they have street value.

It is not advisable to abruptly discontinue benzodiazepines after prolonged use, particularly high-potency types.

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