Guidelines for the management of psychoactive substance intoxication and withdrawal

Management of substance use disorders (SUD)

NB: Always consult package inserts for recommended dosages

General information

The treatment of SUD begins with the medical stabilisation of the patient (dealing with intoxication, medical complications and withdrawal). Medical stabilisation is however not a sufficient intervention to ensure future sobriety. It needs to be followed by an intervention to prevent relapse back to substance use. Brief interventions may be used in cases of misuse or abuse. (See brief interventions below) Patients who fulfil criteria for dependence need a referral to a specialist addiction treatment service. This does not 'cure' the patient, but provide tools to maintain sobriety. Relapses and lapses (short periods of relapse) may still happen and should be viewed as a learning opportunity for the patient. (See flow diagram below for correct referral pathways.)

Where and by whom should intoxication and withdrawal be managed?

Substance intoxication and withdrawal are medical problems and should be treated at an appropriate medical centre.

Patients who require detoxification prior to rehabilitation, must present themselves to their nearest community health centre, where they should be evaluated, physically examined and have appropriate medication prescribed or else, where indicated, have inpatient care (at the appropriate level) arranged.

The following patients require referral for inpatient detoxification

These patients should be managed by admission to a district or regional hospital, or a tertiary hospital (only if secondary level is not available).

- Severe alcohol dependence (extended history of continuous heavy drinking with high levels of tolerance or severe withdrawal symptoms on presentation e.g. evidence of marked autonomic over-activity; multiple previous episodes of inpatient treatment)
- Past history of withdrawal seizures or a history of epilepsy
- Past history of Delirium Tremens
- Younger (<12 years) or older age (>60 years)
- Pregnancy
- Significant concomitant medical comorbidity (e.g. liver disease, cardiac disease, severe infections, diabetes, hypertension, malnutrition etc.)
- Significant concomitant psychiatric comorbidity (e.g. psychosis, suicidal intent)
- Significant polydrug use of CNS depressants
- Cognitive impairment
- Lack of support at home or homelessness, unless the patients is going to an inpatient rehabilitation facility where staff will administer medication
- Previous failed community detoxification attempts, unless the patients is going to an inpatient rehabilitation facility where staff will administer medication
- opioid detoxification – special arrangement apply- see opioid section.

Other patients should be managed as an outpatient at primary care level. This is the responsibility of the patients' nearest community health centre (supported by district and regional hospitals).

Guidelines for outpatient/community withdrawals

- Patients should have someone at home who is able to monitor and supervise the withdrawal process, especially with alcohol withdrawal.
- The treatment plan should be discussed with both the patient and the person providing supervision; it is helpful to write out the regime and keep a copy in the notes.

- Arrange for the patient to be seen daily where appropriate, especially initially
- If the patient resumes drinking or drug use, the regime needs to be stopped
- Ensure patient and carer has contact details so that they can contact the health facility if there are any problems

Screening and brief interventions

There is a good evidence base for the cost-effectiveness for routine screening and brief intervention and referral for specialist substance treatment where indicated. Various screening tools are available. The WHO's AUDIT and ASSIST (available online) are good screening tools.

A brief intervention is a 5-10 minute intervention, aimed at providing the patient with information in a caring and empathic manner, in order to create ambivalence in the patient about their substance habit. The idea is that this ambivalence may motivate change. It should be used by all health care workers as frequently as possible in all patients who are misusing substances or who are drink at risky levels. It may be used to motivate a client with substance dependence for further treatment, but is not a sufficient intervention for substance dependence. These patients need referral to a local registered specialist substance treatment service.

What if the patient refuses help?

- **Committals:** Substance abusers who cause harm to themselves, their families or their environment, cause a public health risk or commit a criminal act to sustain drug dependence (and are not certifiable under the MHCA) but are unwilling to seek treatment, may be legally committed for treatment under Section 22 of the Prevention of Drug Dependency Act of 1992. The new Prevention of and Treatment for Substance Abuse Act, Act 70 of 2008, will also allow for involuntary substance treatment. This involuntary substance treatment is not the same as involuntary treatment under the Mental Health Care Act. It is a process that goes through the court and takes a long time (months). Advise the relative or friend of patient to first obtain an application at the magistrate's office. This application must then be handed in to a social worker, who will investigate and then arrange an appropriate rehabilitation program through court.

- **Detention under the Mental Health Care Act:** may only be used for patients who are in need of admission for a mental disorder. It generally does not apply to substance use disorders unless the patient also has a co-morbid mental disorder that it currently the primary focus of required care (e.g. depressed and suicidal, psychotic). Please discuss any such patient with the psychiatric registrar on call at the closest psychiatric hospital.

What about the patient, who is using drugs, is possible mentally ill or acting out?

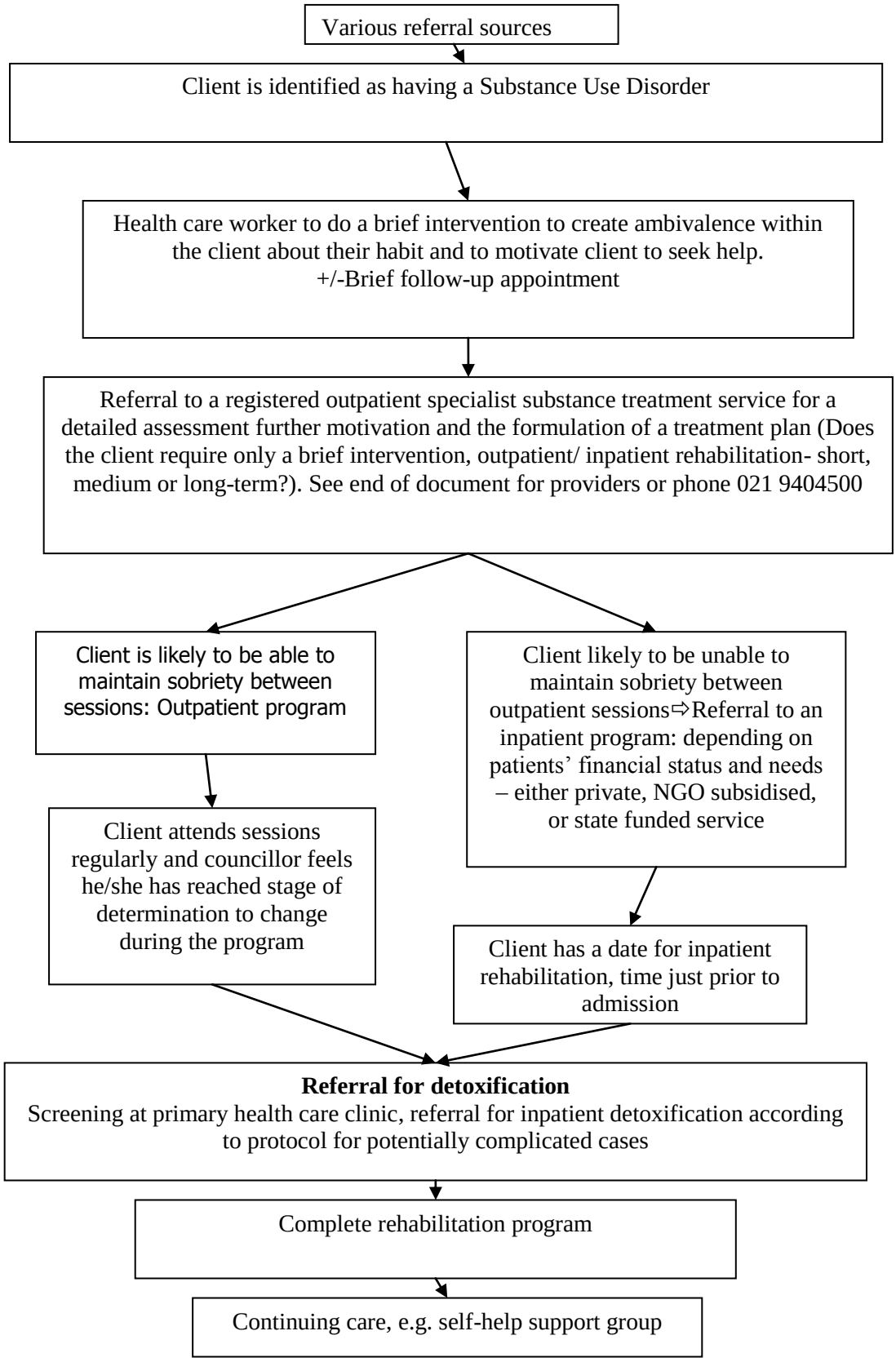
For patients with substance use and mental health problems with/without anti-social behaviour who presents to a health facility, it is the responsibility of the health care worker to determine the primary focus of the presenting problem.

If the patient is psychiatrically unstable, they are not able to fully benefit from psychosocial rehabilitation for their substance use disorder. Furthermore, many substance treatment providers are not trained to deal with psychiatric/medical pathology. These patients first need psychiatric stabilization, either as a voluntary or an involuntary patient. Once, stable, substance treatment is indicated.

Where a patient is known with psychiatric illness that is reasonable stable, but the patient continues to use substances, a substance intervention becomes the priority. These patients need to be referred to substance treatment facilities, while the mental health worker continues to provide mental health care for outpatient rehabilitation/ support and information on mental health status and treatment for inpatient rehabilitation. There are also a number of treatment programs for dual diagnosis that by be indicated if available.

Should the focus of the problem be antisocial behaviour, e.g. stealing, threatening behaviour, violence, involvement of the police, a criminal justice route may be indicated.

CURRENT REFERAL PATHWAYS



ALCOHOL

How to manage patients with alcohol withdrawal

- AIM of alcohol detoxification is to prevent delirium tremens, seizures and death
- Ethanol involves many serious effects on many organs and does not seem to protect against DT in established alcohol withdrawal and thus has NO place in modern medicine in the treatment of alcohol withdrawal.
- Determine whether complicated withdrawal could be anticipated: Severe alcohol dependence (extended history of continuous heavy drinking with high levels of tolerance or severe withdrawal symptoms on presentation e.g. evidence of marked autonomic over-activity , history of withdrawal delirium (DT's), convulsions, significant medical comorbidity (e.g. serious cardiac disease, significant liver disease) ⇨ arrange admission to a district or regional hospital for these patients and use regime 3
- Uncomplicated withdrawal that may also require admission to hospital include withdrawal in the elderly (>60 y), pregnancy, significant psychiatric co-morbidity (psychosis or suicidality), poor support at home, failed outpatient detoxification. ⇨ arrange admission to a district or regional hospital for these patients and use regime 1 or 2
- If uncomplicated withdrawal is anticipated ⇨ use regime 1 or 2
- Wernicke's encephalopathy is often missed and is associated with a significant mortality. Therefore, treat for suspected Wernicke's encephalopathy with any of the following: ataxia, hypothermia and hypotension, confusion, opthalmoplegia/nstagmus, memory disturbance, coma/unconsciousness
- Other high risk groups for Wernicke's include: malnourishment, decompensated liver disease, homelessness, hospitalised for another comorbid alcohol related problem.
- Hallucinations during withdrawal are not uncommon. Mild perceptual abnormalities usually respond to benzodiazepines. Short term haloperidol may be used for hallucinations.
- Skin itching is commonly seen and can be treated with antihistamines.

* Please refer to standard formularies and provincial guidelines for doses and details of withdrawal schedules.

Uncomplicated (outpatient) withdrawal

Regime 1

Use this regime for uncomplicated withdrawal if:
(1) Weight over 60kg and
(2) Between ages 18 and 60 years
Diazepam starting at a dose necessary to control symptoms, gradually reducing the regime of diazepam over 5-7 days.
Additionally: Thiamine; Vitamin B Co; Vitamin C 200mg/day
(Continue Thiamine if evidence of cognitive impairment and Thiamine, Vit B Co and Vitamin C if evidence of poor diet)

NOTE: Review patients daily until stable. Additional diazepam (on as needed basis up to a total maximum daily dose of 60mg) may be required in the initial four days of withdrawal. If higher doses are required to control withdrawal symptoms, refer for inpatient detoxification. The regime should be adjusted if necessary. Always consult the package insert for recommended dosages.

Regime 2
Use for uncomplicated withdrawal when:
(1) Weight below 60 kg
(2) Older than 60 years. (if younger than 18 years, see protocol for children and adolescents)
Diazepam 2-4 times daily, reducing gradually over 4 days
Additionally: Thiamine; Vitamin B Co; Vitamin C
(Continue Thiamine if evidence of cognitive impairment and Thiamine, Vit B Co and Vitamin C if evidence of poor diet)

NOTE: Review patients daily until stable. Additional diazepam (on as needed basis up to a total maximum daily dose of 60mg) may be required in the initial four days of withdrawal. If higher doses are required to control withdrawal symptoms, refer for inpatient detoxification. The regime should be adjusted if necessary. Always consult the package insert for recommended dosages.

Complicated (inpatients) withdrawal

Regime 3
1. Admit to district or secondary hospital.
2. Fluids:
   - Dehydrate with care ONLY IF DEHYDRATED. Glucose drip WITH CARE (depletes thiamine) thus always give thiamine IV per litre of IV fluid. (Risk of anaphylaxis)
   - Remember that during alcohol withdrawal, a state of inappropriate ADH secretion often exists, that may lead to over-hydration (check serum sodium).
3. Thiamine:
   - Minimum of parenteral Thiamine, IM or IV for 3-5 days in patients at high risk of Wernickes's encephalopathy.
   - In suspected or established Wernicke's, higher doses of parenteral Thiamine IV or IM should be given 3 times per day for 2 days, followed by lower doses for 5 days, depending on response.
   - Facilities to treat anaphylaxis should be available
   - Note that diagnosis of Wernicke's requires high index of suspicion as only 10% of patients have full triad and up to 80% of cases are only diagnosed at pot-mortem.
   - Follow parenteral thiamine up with oral thiamine for 1 month, continue longer if evidence of cognitive impairment or poor diet.
3. Physical workup and investigations:
   - Detailed physical examination.
   - Urea and electrolytes, full blood count if indicated. (There is a high risk of comorbid infections and other pathology.)
4. Medication:
   - **Diazepam** 2-4 hourly orally (or slowly IV if unable to tolerate orally) PRN according to withdrawal symptoms. (High doses initially, taper down over 7 to 10 days). **EXTREME CAUTION** when using doses > 60mg/day.
   - **Lorazepam** IM if VERY restless. NOT MORE THAN 6 mg/day as an adjunct to diazepam; use with **CAUTION**. Avoid over sedation and be aware of respiratory suppression risk
   - **Vitamin B Co**.
   - **Vitamin C**
   - **Folic acid**
   - **Multivitamins**
   - **Antipsychotics,** like **Haloperidol,** may be used in delirium tremens, but only if adequate benzodiazepines have been used
5. Monitor physical condition throughout withdrawal.

- Intensive treatment of concurrent somatic disorders
- Rest, sleep, good nutrition
- Nurse patient in a safe area and do not restrain.

6. Do brief intervention only after withdrawal and refer to a social worker or registered outpatient specialist substance treatment program for further evaluation and treatment.

NOTE: In the case of severe liver damage, diazepam should be used with caution. It is metabolised by the liver and may build up in the body, leading the respiratory depression and other complications. **Oxazepam** may then be a safer option.

Seizures

First seizures should always be investigated to rule out organic pathology. Some units advocate carbamazepine loading for patients with untreated epilepsy, or with 2 or more seizures during past withdrawal despite adequate diazepam use. Phenytoin does not prevent withdrawal seizures. There is no need to continue carbamazepine if it was used to treat a withdrawal seizures.

Managing intoxication

Severe intoxication may be life threatening especially in the aged and malnourished and admission may be indicated. General supportive care is required.

CANNABIS

General information

- **Street names:** 'Dagga', 'grass', 'boom', 'groen goud', 'Durban poison', 'marijuana', 'weed', 'dope', 'pot', 'ganja', 'herb', 'bung'.
- **Symptoms of intoxication:** Red eyes (vasodilatation), tachycardia, postural hypotension, motor in-coordination, heightened sense of awareness, impaired estimation of time and distance, impaired judgment, increased appetite, dry mouth, various psychological reactions, such as euphoria, anxiety, perceptual distortions/ hallucinations, paranoid thoughts, impaired short term memory and other abnormalities.
- **Severe intoxication:** Ataxia, sedation, slurred speech, poor concentration.
- **Chronic heavy use:** Associated with long-term impairment in performance, especially of attention, memory, ability to process complex information (Amotivational Syndrome).
- **Medical complications:** include acute cardiac incidents, bronchitis and emphysema, lung cancer, immunosuppressant.
- **Withdrawal:** Withdrawal is mild - agitation, tremor, insomnia few days only, 'flashbacks' may occur.
- **Toxicology screen:** Urine

Outpatient detoxification regime

- No medication is generally required.
- If anxiety and insomnia is uncomfortable and this discourages abstinence, give withdrawal medication.
- Regime of gradually reducing diazepam over 3 days.
- For severe withdrawal, this regime can be stretched over 5-7 days.

Management of common abnormal reactions

- **Panic and anxiety during intoxication:**
  - reassurance, supportive atmosphere, 'talk down'.
  - diazepam if indicated.

- **Psychotic reactions as a result of intoxication**
  - patients mainly present with delusions of persecution, poor reality contact, afraid and reactive towards environment.
  - presents on day of smoking or within the first few days thereafter
  - requires supportive environment, may need admission.
  - if restless and a management problem, lorazepem orally or IM stat and if not effective haloperidol orally/IM stat. If symptoms persist, commence on risperidone. If psychosis does not remit in one week, refer to psychiatry.

How to manage patients with cannabis problems further

All patients in whom cannabis use is diagnosed should receive a brief intervention and should be referred to a social worker or a local registered outpatient specialist substance treatment program.

MANDRAX/ METHAQUALONE

General information

- **Street names:** 'Mx', 'Sproetjie', 'buttons', 'omo wit','henna', 'pille', 'whites', 'witpyp', 'mandies', 'cremora', 'Volkswagen', 'Macarena', 'cream', 'gholfsticks', 'doodies', 'lizards', 'germans', 'flowers', 'hits'.
- **Symptoms of intoxication:** Mandrax initially causes feelings of relaxation and euphoria. The person feels less inhibited and 'witty'. It is a depressant and users may become drowsy and have impaired co-ordination and slurred speech. They may lose consciousness. (Street slang for this is 'ert'). In many cases, users feel tired and may go to sleep for protracted periods. The user may have a dry mouth, reduced appetite and may have bloodshot, glazed or puffy eyes (especially if used with cannabis). Nausea, vomiting and stomach pains can also occur. The effects last for several hours. Some people will feel aggressive as the effects to start wear off. Depression is common and occurs as part of the Mandrax 'hangover'.
- **Symptoms of an overdose:** Ataxia, lethargy, respiratory failure, hypotension, coma, death.
- **Withdrawal symptoms:** Anxiety and restlessness, nausea and vomiting, abdominal cramps, poor appetite, headaches, insomnia, tremors, weakness, and seizures. Withdrawal symptoms start 12-24 hours after the last dose and are worse at 24-72 hours.
- **Toxicology screening:** Urine

Management of withdrawal

Withdrawal may only be mild and then no intervention is required.
If withdrawal is uncomfortable, the following regime should be followed. (Remember there is a risk of seizures with high tolerance so rather treat if you feel unsure.)

- Gradually reducing regime of diazepam over 3 days.
- For severe withdrawal, this regime may be stretched to last 5-7 days.

Please do brief intervention after stabilisation and refer to a social worker or a local registered outpatient specialist substance treatment service

Management of an overdose

- General life support measures
- Do brief intervention after stabilisation and refer to a social worker or a local registered outpatient specialist substance treatment service

OPIOIDS (NARCOTICS)

General information

- **Types of opioids**

OPIATES	SYNTHETIC OPIOIDS:
Morphine	Pethidine
Heroin	Wellconal
Codeine	Methadone
Omnopon	Valoron

- **Toxicology screening:** Urine. (Will test positive for opiates but negative for related analgesics, unless specified.)
- **Symptoms of intoxication:** Euphoria followed by apathy and drowsiness, pupillary constriction, constipation, slurred speech, , poor memory and poor attention, respiratory suppression, cough suppression, difficulty in passing urine, nausea and vomiting, sweating, flushing, itching, dry secretions, loss of libido, rarely convulsions.
- **Opioid withdrawal:** Poorly tolerated, but not dangerous, except in very frail debilitated patients or during pregnancy.
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SYMPTOMS	SIGNS
Abdominal cramps	Diarrhoea
Anxiety	Increased blood pressure
Craving	Increased pulse
Irritability, dysphoria	Lacrimation
Fatigue	Muscle spasms
Hot and cold flushes	dilated pupils
Muscle aches	Pilo-erection
Nausea, sweating	Rhinorrhoea
Restlessness	Vomiting
Yawning	Fever

DRUG	TIME FROM END OF USE TO WITHDRAWAL	PEAK WITHDRAWAL
Pethidine	4-6 h	8-12 h
Heroin	6-8 h	36-72 h
Morphine	8-12 h	
Codeine	24 h	
Methadone	36-72 h	72-96 h

Treatment of an overdose

- **Signs of an overdose**: As with intoxication plus respiratory depression (may need ventilation), hypoglycaemia, seizures or coma.
- **Treatment of an overdose:** Naloxone I.V. slowly at 5 minute intervals. Give subcutaneously or intramuscularly if no intravenous route obtainable. If no response after 5 doses, reassess diagnosis of opioid toxicity.
- NB: The duration of action of Naloxone is much shorter than most opioids of abuse. (+/- 45 minutes) Thus, careful observation and repeat of Naloxone may be necessary. Naloxone, in itself, can precipitate a short-lived (20-40 min) withdrawal syndrome in a person dependant on opioids. Correct hypoglycaemia.

- **Seizures due to overdose**
  Treat with IV diazepam and repeat if necessary (rarely required).

Treatment of withdrawal

General guidelines

- Detoxification should ideally be postponed until rehabilitation is available. Exceptions: admissions for medical or surgical indications.
- Patients should be educated that their level of tolerance is reduced during detoxification. The dose of illicit drug that was used prior to detoxification may be enough to cause an overdose following detoxification.
- Monitor patients and visitors carefully during hospital stay to prevent patients from using illicit drugs during their admission.
- Opioid detoxification should be managed on an **inpatient basis**. Exceptions are patients who do not require substitution detoxification (e.g. low levels of tolerance, low potency opioids) and at the discretion of a specialist in addiction care.
- Patients, who present with medical, obstetric, trauma-related or psychiatric emergencies complicated by opioid withdrawal, need to be managed at the relevant hospital. (District hospitals, supported by secondary and tertiary hospitals). Patients may not be refused medical or surgical help due to opioid withdrawal and need to be treated for opioid withdrawal, should it be indicated. Following stabilisation, they need to be referred to a substance treatment program.

First line treatment for opioid withdrawal – buprenorphine-naloxone

- Detailed assessment –detailed drug history, physical, mental health assessment, take special care to diagnose undiagnosed pregnancy (rather use methadone), intravenous drug use (expect more severe withdrawal, offer VCT, educate about needle sharing), liver disease (caution), concomitant use of GABA-nergic drugs, like alcohol, GHB or benzodiazepines may complicate withdrawal.
- Buprenorphine-naloxone is partial opioid agonist and can precipitate opioid withdrawal if not used correctly. Therefore, ensure the patient is in established withdrawal before the first dose of buprenorphine-naloxone.
- Buprenorphine-naloxone is a safer alternative than other substitution drugs, but should not be used unsupervised with other sedative drugs, especially benzodiazepines, alcohol and other opioid drugs, as this can result in a potential overdose.
- Buprenorphine-naloxone should be taken sublingually. The dose may be given in large broken pieces, but should NOT be powdered as this promotes the development of an easily swallowed solution. Patients should be told not to swallow their saliva during this period as buprenorphine is not effectively absorbed if swallowed. Patients should be told that 3-5 minutes is the time required to get the most from of the drug.
- Patients may be given concomitant symptomatic treatment, including
  - Headache, general aches: Paracetamol if needed
  - Muscle and joint pains: ibuprofen
  - Diarrhoea: Loperamide after each loose stool until diarrhoea is controlled.
  - Abdominal cramps Hyoscine butylbromide
  - Nausea and vomiting: Metoclopramide as needed (orally, intramuscularly or intravenous);
  - Irritability, dysphoria and anxiety: Diazepam 3-4 times per day as needed, may also help with muscle cramps (Risk of respiratory depression, dependence, **use with caution**)
  - Indigestion: Antacid e.g. magnesium tricilicate Co as needed, or aluminum hydroxide
  - Non-medications: hot/cold packs, relaxation, baths, massages, rubbing ointments, music, acupuncture, aromatherapy etc.

Gradually reducing regime of buprenorphine-naloxone over 5 days. Please refer to provincial guidelines for scheduling details.

NOTE
- If patient's withdrawal symptoms worsen within an hour of the first dose of buprenorphine/naloxone, they have precipitated withdrawal and withdrawal with clonidine and symptomatic medication is indicated.

Use of methadone: (specialist use; or in consultation with doctor at opioid unit)

- Indications: Pregnancy, documented evidence of previous side-effects or complications with buprenorphine-naloxone, patients on methadone who take doses higher than 30-40mg/day
- Consider possibility of drug interactions, e.g. SSRI's, SNRI's, antifungals, antibiotics, antiretroviral, hormones, calcium channel blockers, antiepileptic, anti-TB medication, glucocorticoids, MAOI's, CNS depressants etc.
- Methadone may cause prolonged QTc interval. Ask about unexpected fainting, pre-existing heart problems, and possible hypokalaemia.
- Consumption of **all doses of methadone should be supervised**. Ask patient to speak after he/she has swallowed the medication.
- Vomiting of doses: if a member of staff has directly witnessed vomiting, doses may be replaced; alternatively patients are medicated according to objective signs of withdrawal. Emesis less than 15 minutes after consumption: replace 50-75% of dose; 15-30 minutes after the dose: replace 25-50% of dose; more than 30 minutes: do not replace dose. Omit doses if patient appears objectively intoxicated.
- Use non-substitute medication (see under buprenorphine-naloxone) for any additional symptoms
- Gradually reducing regime of methadone over 3-5 days. Please refer to provincial guidelines for details of dose scheduling.

STIMULANTS: a) COCAINE

General information

- **Street names:**
  - Cocaine powder (hydrochloride): 'coke', 'Charlie', 'snow', 'C', 'dust'
  - Crack cocaine (freebase): 'rocks', 'bananas', 'golf balls'.
- **Effects and pattern of abuse:** Cocaine causes profound subjective feelings of well being and alertness. Tolerance develops very quickly. It has a short half-life (<90 min, compared to amphetamine: about 4 hours; methamphetamine: up to 12 hours). Stimulants are often taken in *binges* where repeated use cause extreme compulsive urges to take more. The binge is usually followed by a *crash*, (exhaustion, depression, cravings) which lasts from 9 hours to 4 days for cocaine. This is the followed by a *withdrawal phase* (anhedonia, anergia, anxiety and severe cravings) that may last for months. An *extinction phase* eventually ensues, with the return of normal hedonic responses together with episodes of craving brought on by conditioned triggers.
- **Routes of abuse:** Inhalation ('snorting'); Oral; Anal ('charging'); Smoking ('Free-basing'); Intravenous ('Mainlining'); IV with heroin ('speedballing')
- **Toxicology screening:** Urine

Intoxication

Symptoms

- Psychiatric symptoms: Euphoria, hyperarousal, heightened self-esteem, agitation, impulsivity, reduced appetite, rapid and excessive talking, over activity, anxiety/ panic, violence, paranoia, formication. Late: exhaustion, hypersomnia, hyperphagia
- Physical symptoms: Tachycardia, hypertension, chest pain, dilated pupils, seizures, nausea, chills, teeth grinding, weight loss, cardiac arrhythmias.

Management

- Mostly too brief to treat, support only.
- Diazepam or lorazepam for anxiety, restlessness or convulsions.
- Monitor for complications (e.g. hyperthermia, convulsions)

Crash and withdrawal

Symptoms:

- **Crash**- 9 hours – 4 days

During the early stages of this phase agitation, anorexia, depression and severe craving occur, followed by exhaustion and insomnia but with the desire to sleep. Hypersomnia and hyperphagia occur late.

- Late: **withdrawal**- often months

During this phase anhedonia, anergia, anxiety and severe cravings are prominent. This often builds up to a binge, which can perpetuate the cycle.

Management:

- Does not require admission unless medical or mental health complications
- Treat withdrawal symptomatically (e.g. short term benzodiazepine use)
- Monitor mental state and asses for psychosis/suicide risk
- Once the patient is stabilised, do brief intervention and refer to social worker or local registered outpatient substance treatment service provider.
- Evidence for long-term, intensive outpatient programs, like Matrix model

Psychiatric complications

- **Depression:** If depressive symptoms persist, consider an antidepressant. Refer to psychiatry if suicidal.
- **Psychosis:** Psychosis generally rapidly abated with abstinence, adequate fluids and diet and restorative sleep. Benzodiazepines may be used for agitation. If psychotic symptoms (delusions, hallucinations) persist, it should be managed with antipsychotic medication, e.g. Risperidone. Refer to psychiatry if symptoms persist or if patient is felt to be a danger to him or her self or others. Regularly asses for depression and suicide risk. Low dose antipsychotic medication, beyond the acute episode should be considered to protect against further psychotic episodes. Once the patient has stabilised, do brief intervention and refer to a local registered outpatient substance treatment provider

b) AMPHETAMINES (including Tik)

General information

- **Types and street names**:
  - Amphetamines: Dextroamphetamine, Methamphetamine, Crystal Methamphetamine. Street names include 'Speed', 'Ice', 'Tik', 'Tuk-tuk'
  - Amphetamine-related drugs: Ephedrine and pseudo-ephedrine found in cold medications and diet pills, Methylphenidate (Ritalin® - abuse rare)
- **Toxicology screening:** Urine
- **Symptoms of intoxication:** Similar to cocaine.

Management of intoxication and withdrawal

Management of intoxication and withdrawal is as for Cocaine. The symptoms tend to persist longer than with cocaine (longer half-life) and short-term benzodiazepines (e.g. Diazepam 5-10 mg orally, Lorazepam 1-2mg orally or IM if needed) may be necessary for agitation, anxiety and insomnia. Watch carefully for complications. (See below) Once stabilised, please ensure the patient is referred for further management

Complications

- Hyperthermia, rhabdomyolisis (acute, during intoxication)
- Seizures (acute, during intoxication)
- Diarrhoea, nausea and vomiting, skin rashes, hairloss, jaw clenching
- Heart and blood vessels: tachycardia, dysrhythmias, hypertension, cardiac failure or infarcts, endocarditis, brain hemorrhages, strokes
- Twitching, jitteriness, and repetitive behaviour, movement disorders, such as parkinsonism
- Lung and breathing problems, renal or liver damage, bowel ischaemia
- Impaired sexual performance and reproductive functioning
- Nutritional deficiencies and body wasting
- Birth abnormalities and pregnancy related complications, such as premature delivery, and altered neonatal behavioral patterns, such as abnormal reflexes and extreme irritability
- Psychiatric problems: Intoxication delirium (confused and disorientated); mania; psychosis (usually has a manic quality, paranoia, visual and auditory hallucinations, formication, delusions); depression with suicide risk; anxiety disorders; sleep disorders; in longer-term, permanent brain damage.

Management of complications

- **Medical complications** Specific treatments as indicated depending on the complication. **Hyperthermia** requires immediate cooling e.g. ice baths and prophylactic anticonvulsants may be given to the client who presents with an overdose to reduce risk of seizures. Refer for further treatment once patient is stabilized.
- **Psychiatric complications:** Same as management of cocaine-induced psychiatric complications. Treat any psychiatric symptoms if they persist after 1 week of abstinence. Refer any patient who poses a risk to him/herself or others as a result of the psychiatric complication, for urgent psychiatric assessment.

DESIGNER DRUGS: ECSTASY

General information

- **Active ingredient**: MDMA (3,4-methylenedioxymethamphetamine)
- MDMA has a chemical structure similar to CNS stimulant, amphetamine and the hallucinogen, mescaline, and can produce both stimulant and psychedelic effects (psychedelic effects of MDMA are milder than those produced by hallucinogens such as LSD).
- With chronic use tolerance usually develops.
- **Toxicology screen**: Urine

Symptoms of intoxication

- A 'High' develops 30-90 minutes after ingestion (orally).
- This consists of **CNS stimulant effects** (enhanced sense of pleasure, increase self confidence and energy),
- **Psychedelic effects** (feelings of peacefulness, acceptance, empathy and perceptual and visual distortions) and
- **Physical effects** include increase heart rate and blood pressure, nausea, dry mouth, decrease appetite, jaw clinching, grinding of teeth, muscle aches and gait disturbance.

Immediate complications

- **Hyperthermia** with rhabdomyolysis, renal failure and DIC
- **Hyponatremia** due to inappropriate ADH secretion
- **Water intoxication** due to overenthusiastic fluid intake at rave-parties
- **Seizures**
- **Liver failure**
- **Cardiac arrhythmias, hypertension and strokes**
- **Neuroleptic malignant-like syndrome:** Slow onset of bradykinesia/ stupor, rigidity, autonomic instability, hyperthermia/hyperpyrexia, diaphoresis, tachypnoea, tachycardia, hypertension, confusion, and raised creatinine phosphokinase
- **Serotonin syndrome:** (risk increased with concomitant serotoneric agents like SSRI's) Rapid onset of agitation, confusion, hyperactivity, clonus, myoclonus, ocular oscillations (nystagmus), shivering, tremor, and hyperreflexia. Hyperthermia/hyperpyrexia, diaphoresis, tachypnoea, tachycardia, hypertension, confusion, and raised creatinine phosphokinase may also be found.

Long-term complications

- Major depression, anxiety disorders, panic disorder, paranoid ideation, increase impulsiveness and sleep disorders.
- Treat complications that persist for longer than one week.
- MDMA may precipitate the onset of psychosis in predisposed individuals.
- Long-term use may also lead to persistent memory deficits, especially of working memory.

HALLUCINOGENS (PSYCHEDELICS)

General information

Ill-defined and diverse group of drugs

- Indolealkylamines (structurally similar to serotonin): e.g. Lysergic acid (LSD or 'acid'; 'sunshine'; 'candy'; 'smarties'. Other street names are based on pictures on paper impregnated blotters, e.g. Superman, Smiley Face, Garfield, Bart Simpson et cetera.); Psilocybin ('Magic mushrooms')
- Phenylethylamines: e.g. mescaline, MDA (some classify MDMA here)
- Dissociative anesthetics (the acrylcycloalkylamines): Phencyclidine (PCP, 'Angel dust); Ketamine ('special K', 'Vitamin K')
- Atropine-like family atropine and scopolamine
- Cannabis is sometimes also included in this group.

Toxicology screen: urine

Symptoms of intoxication

- **Symptoms** include anxiety, depression, feeling of 'losing one's mind', intensification of perception, derealization, hallucinations, pupillary dilatation, tachycardia, sweating, blurred vision, tremor, in coordination, flushing, salivation, lacrimation, restlessness, synaesthesia
- May develop psychosis: above features, plus the development of delusions shortly after drug use

Management of intoxication:

- General life support measures (NB: safety of patient and therapeutic team)
- Patient needs a 'babysitter' or guide, to 'talk down' (reassure) patient in a safe and quiet environment, don't close eyes.
- Ongoing struggling (panic during intoxication) may cause rhabdomyolysis, hyperpyrexia and death.
- Mild anxiety and agitation: use lorazepam sublingual or IM
- Severe anxiety, restlessness and agitation: use lorazepam and if unsuccessful; use haloperidol IM to sedate. Life support equipment must be at hand.
- Treat the hypertension if acute and life threatening.

Symptoms and management of withdrawal

- No abstinence syndrome, thus no detoxification required.
- Brief intervention and referral to social worker or local registered outpatient specialist substance treatment program. .

Long-term side effects

- Chronic personality changes
- Psychotic episodes
- Chronic anxiety and depressive states
- Flashbacks, especially of bad trips may occur as long as 20 years after initial ingestion. Manage by reassurance and talking down.

VOLATILE AGENTS OR INHALANTS

General information

- **Agents:** Includes petrol, glue, lighter fuel, varnish remover, thinners, rubber cement, aerosols (spray paint)
- **Ingredients:** Toluene, acetone, benzene, trichloroethane, per- and trichloroethylene, propanes and hydrocarbons
- **Toxicology screen:** Volatile solvents cannot be detected in the urine

Intoxication

- Commonly seen in children and destitute (e.g. street-children). After initial disinhibition, it causes CNS inhibition and suppression.
- May present with red face, in coordination, slurred speech, intoxicated gait, aggression, impaired judgement, apathy, stupor, psychotic symptoms
- Chronic use may lead to persistent cough, lethargy, runny nose, dementia, rash around mouth, cerebellar damage, deafness, neuropathy, leukaemia
- Risk of respiratory suppression, cardiac arrhythmias, aggression, asphyxiation and accidents during intoxication
- Also risk of liver cell damage, kidney failure and neuromuscular damage.
- Focus on **damage-limitation** with intoxication
- Contact local toxicology information centre immediately for more information

Withdrawal

- No abstinence syndrome
- Once the patient is stabilised, do brief intervention and refer to a social worker, or a local registered specialist substance treatment provider

BENZODIAZEPINES

General information

- **Prevention:** Be cautious when prescribing benzodiazepines. They are very addictive. Withdrawal symptoms can occur after 4-6 weeks of continuous use.
- Short acting drugs are associated with higher abuse potential than long acting drugs. The shorter the half-life of the drug, the shorter the time from abstinence to withdrawal and the shorter and more severe the withdrawal syndrome.
- Only prescribe benzodiazepines for short periods (no longer than 2 weeks) and give patients clear information concerning its addictive potential. Intermittent use (rather than daily use) may help limit development of tolerance.
- **Toxicology screen:** Urine

Overdose:

- Benzodiazepines have a favourably low toxicity and may be managed with general life support measures
- If respiratory depression (especially with associated alcohol or opioid intoxication) occur: flumazenil IV over 15 seconds, wait one minute; if desired level of consciousness is not regained, repeat.
- Ongoing observation is indicated. Repeat of this regime may be necessary. Monitor patient every 30 min because the half-life of Flumazenil is 50 minutes.
- Flumazenil may precipitate benzodiazepine withdrawal in benzodiazepine dependent patients.
- Take special care when a combination of a tricyclic antidepressant (TAD) and benzodiazepines were taken. If Flumazenil is used, the drop in benzodiazepine level and the anticholinergic effect of TAD may precipitate a seizure.
- If patient does not regain consciousness after adequate dose of flumazenil, then it is most probably not a benzodiazepine overdose.

Management of benzodiazepine withdrawal

- The therapeutic relationship between patient and doctor is most important in initiating dose reduction. Patients often do not view benzodiazepine dependence as an addiction because their doctor prescribed the medication. Denial may be a big problem. Patients may benefit from non-medication interventions, like relaxation techniques, sleep hygiene and problem solving skills. Encourage patients not to seek medication from other doctors. Negotiate each reduction with the patient.
- Withdrawal from benzodiazepines takes time (months to years). Patience is required.
- Remember, there is a cumulative effect with alcohol and patients may need higher doses of benzodiazepines if alcohol dependent as well.
- Decrease diazepam dose every 2 weeks, but stick to a dose for a while if symptoms appear, or go up a notch and reduce more slowly.
- When 20% of initial dose is reached, taper more slowly.
- Usually, no more than one week's worth of prescription should be issued.
- Patient will require regular monitoring and motivation.
- Never stop benzodiazepines suddenly; this can be hazardous.
- Treat underlying disorders that may have been masked by benzodiazepines.
- Carbamazepine (Tegretol) in therapeutic doses may be of value for benzodiazepine withdrawal symptoms.

Adapted from L. Weich: Guidelines for the Management of Psychoactive Substance Intoxication and Withdrawal for the Department of Health of the Western Cape government. Revised and updated 2012