

Community Detox: Options and Risks

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I. Introduction

1. When addressing problems relating to substance misuse, a distinction should be made between the following terms:
 - a. Intoxication: a 'transient phenomenon'
 - b. Harmful use: Use causing damage to health (Hepatitis, Depression etc)
 - c. Dependence syndrome

2. Key concept: **Dependence syndrome**: It has at least 3 of the following 6 features (ICD-10):
 - a. Compulsion to take the substance
 - b. Impaired control (onset, termination, level of use)
 - c. Withdrawal state (a physiological withdrawal state) and relief use (to avoid withdrawal symptoms). *See Appendix 1*
 - d. Tolerance (Increased dose for achieving the same effect)
 - e. Salience 1 (Progressive neglect of alternative interests)
 - f. Salience 2 (Use despite harmful consequences)

3. Other terms:

Narrowing of the repertoire: "Inflexible drug using pattern". It is a feature of a dependent syndrome albeit without the diagnostic significance of the above 6 features (ICD-10). This inflexibility of drug using pattern is usually elicited in a "typical drink/drug taking day" that should be part of every history taking of a substance misuser.

II. What substances are humans likely to be dependent on?

1. Alcohol
2. Opioids (Morphine, Heroin, Methadone, Codeine, Buprenorphine)
3. Cannabinoids
4. Sedative or hypnotics (Benzodiazepines, Barbiturates)
5. Cocaine
6. Other stimulants (Amphetamines, Caffeine)
7. Hallucinogens (LSD, Mescaline, Ecstasy)
8. Tobacco
9. Volatile solvents (Adhesives, aerosols, butane gas, petrol)

III. Why do users seek help? (Stimson et al 1995)

- psychological dependence 64%
- general physical health 34%
- financial problems 29%
- relationship with family and friends 29%

IV. What are the areas addressed in assessing and treating substance misusers?

b) PHYSICAL ASPECTS OF TREATMENT

Medical complications associated with substance misuses are:

1. Hepatitis B
 2. Hepatitis C
 3. HIV
 4. Infections (such as Endocarditis), abscesses
 5. Deep vein thrombosis
 6. [Dental problems (especially in opiate users)]
- Key Concept: **Harm Reduction**
It aims at the reduction of harm associated with drug use. (“If using, aim at reduce/stop injecting; if injecting, aim at reduce sharing needles; if sharing aim at cleaning needles first”). It encompasses a series of diverse strategies such as:
 1. Safer injecting practices (needle exchange, changing route of administration for instance from injecting IV heroin to smoking heroin)
 2. Safer sexual practices (provision of condoms)
 3. Hep B immunisation
 4. HIV testing
 5. Offering substitution with oral drugs (eg oral methadone for injectable illicit heroin)
 6. Offering education for avoiding accidental Overdose (such as by avoiding a combination of drugs with alcohol)
 - Key concept: **Urine/ blood drug testing**
Never prescribe medication for Titration/ Stabilisation (such as methadone, Buprenorphine, Diazepam) without a urine or a blood drug assay beforehand. It is not unusual for substance misusers to lie/ exaggerate their drug use because they are scared of the withdrawal symptoms. Urine testing kits are available in places such as A&E for speedy onsite testing for the major types of substances of misuse.
 - Key Concept: **Titration / Stabilisation**
For certain substances (such as opiates, benzodiazepines) any client presenting with a dependence syndrome and accepted into treatment should be titrated against the withdrawal symptoms manifested. Titration aims at identifying the daily amount of medication the client should be given that would make her comfortable without causing intoxication. It takes place within a couple of days, even in an outpatient setting.

Titration takes place with the help of very few substances: methadone and Buprenorphine for opiates, diazepam for benzodiazepines, chlordiazepoxide for alcohol. This is possible because of cross-tolerance: tolerance to one substance within a class of drugs means tolerance to other members of the same class (for example tolerance to Temazepam suggests tolerance to any other Benzodiazepine including diazepam, tolerance to morphine suggests tolerance to any other opiate including methadone and buprenorphine).

Following titration and depending on the substance of misuse and what the client wants there are two treatment options: detoxification and maintenance.

- Key concept: **Detoxification**

Many clients opt for detoxification from their substitute treatment. This involves a gradual reduction of the daily maintenance dosage, which could span from a few days in an inpatient setting to many months on an outpatient. There is a variety of drugs used in opioid detoxification (*see Appendix 3*), and initially the substitute medication is consumed while the client is supervised (*see Appendix 4: Supervised Consumption*).

It is worth noting that the client experiences the most intense withdrawal symptoms at the very end of the detoxification (irrespectively of its length!!)

- Key concept: **Maintenance**

For some substances there are benefits on maintaining the client in a medically provided substitute medication for an indefinite amount of time (for example a client who cannot give up illicit heroin, could benefit for methadone maintenance –consider the harm reduction approach above).

However for some other substances of misuse (benzodiazepines) there are no clear benefits of maintenance and currently the only option is detoxification (quicker or slower depending on the circumstances).

- Key concept: **Pain Management**

Pain management for substance misusers should account for their substance misuse. If an opiate dependent client, even when stable on methadone prescribed by a physician, experiences pain (RTA, post operatively etc) she will need the same opiate based analgesia regime that you would use if the client were non-opiate dependent, over and above the opiates she receives daily for maintenance.

b) PSYCHOLOGICAL ASPECTS OF TREATMENT

The psychological aspects of treatment initially focus on:

- a) Establishing ‘readiness to change’ with the use of motivational interviewing
- b) Addressing any co-morbidity/ dual diagnosis issues. Assessing the need for further psychological treatment such as CBT, bereavement counselling, counselling for past sexual abuse etc.

c) Sleep hygiene: most if not all drugs acting on the brain interfere with the sleep structure, suppressing length of Sleep Stages 3 & 4 ('deep, refreshing' sleep), and REM ('when dreams take place'). Insomnia during the start of the detox is better treated without sleeping tablets that actually perpetuate the problem.

d) Psychoeducation around Relapse Prevention

1. Key concept: **Readiness to Change**

'Readiness to change' refers to the likelihood of someone changing a habit, by placing them in one of the 4 phases of the 'Cycle of the Behavioural Change' (Prochaska and DiClemente 1986). These phases are: Pre-contemplation, Contemplation, Action, and Maintenance.

'Motivational interviewing' (Miller 1983) is a counselling strategy that encourages the client's self-appraisal. It consists of Expressing empathy, Avoiding arguing, Rolling with the resistance, Highlighting discrepancies in client's history, and, Drawing out client's discomfort about the behaviour.

• Key concept: **Co-morbidity / Dual Diagnosis**

It is not uncommon for substance misuse disorders and other psychiatric illnesses to occur together. Roughly 1/3 of psychiatric patients will have a diagnosis of substance misuse disorder, and 1/3 of substance misusers will have a diagnosis of another mental illness, usually an affective or an anxiety disorder.

It is not uncommon either for substance misusers to report previous suicidal attempts: 10% of opiate users do so during the previous year (Powis et al 1999)

• Key Concept: **Relapse Prevention**

Relapse is a common part of human behaviour (45% of New Year's resolutions are given up within a month). In the field of substance misuse, relapse prevention (Marlatt and Gordon 1985) refers to a cognitive behaviour intervention that aims at enhancing the clients' resolution by increasing their coping skills in high risk situations (such as: being in places where they used to obtain or consume drugs, dealing with negative emotional states and peer pressure)

b) SOCIAL ASPECTS OF TREATMENT

Because of the salience of the drug taking behaviour it is not unusual for the clients presenting of treatment to have a series of social problems and legal problems such as:

1. Social problems relating to: Accommodation, Benefits, Domestic violence, Child Care issues
2. Legal problems relating to criminal activity: outstanding offences, probation.

There are 60 crimes/opiate user/3 months (Gossop 1995)

All the above problems are addressed during treatment by advising the client on how to contact the appropriate agency for claiming benefits, applying for housing, registering with a GP, etc.

Key Concept: Self Help Groups

Self help groups contribute to relapse prevention by providing support to substance misusers at various stages in their recovery. Examples of Self help groups include: AA (Alcoholic Anonymous), NA (Narcotic Anonymous)

1. Key Concept: **Confidentiality**

The importance of adhering to confidentiality cannot be overemphasized. However it is the duty of the treating teams to breach confidentiality in a minority of the cases that includes: concerns about dependent minors and threats of violence against specific individuals

2. Key concept: **Drug Treatment and Testing Order (DTTO)**

It is worth noting that for some offenders, for who there seems to be a link between repeated offending (usually acquisitive crime) and substance misuse, the court can offer the client a choice between prison and attendance to a drug treatment centre for their drug problem. The relevant court order is called DTTO that stands for Drug Treatment and Testing Order

V. Some figures for opiate dependence (including Outcome)

- Self detox completion rates: 24% [Gossop 1991]
- Methadone assisted completion rates:
I/P 81%- O/P 17% [Gossop 1986]
- Better outcome in DDU than in a General Ward [Strang 1997]
- Admissions: 1/3 are re-admissions [Ghodse 1987]
- Length of admissions: 6% <24h [Ghodse 1987]

- Lapse rates of abstinent on discharge admissions [Gossop 1989]:
15% use <1/7
42% use <1/52
71% use <6/52
- HOWEVER: 45% abstinent in 6/12 within the community [Gossop 1989]

Appendix 1: Withdrawal signs from some classes of drugs (ICD-10)

3. **Alcohol Withdrawal State**

Tremor of tongue-eyelids-outstretched hands, sweating, nausea-retching-vomiting, tachycardia- hypertension, psychomotor agitation, headache, insomnia, malaise, transient hallucinations or illusions, grand mal convulsions

4. **Sedative or Hypnotic Withdrawal State**

(Alcohol Withdrawal State) + Paranoid ideation

Opiate Withdrawal State

Craving, rhinorrhoea, lacrimation, muscle aches-cramps, abdominal cramps, nausea-vomiting, diarrhoea, papillary dilatation, piloerection, tachycardia-hypertension, yawning, restless sleep.

5. **Cocaine/ Other Stimulant Withdrawal State (includes Caffeine)**

Lethargy-Fatigue, Psychomotor retardation-agitation, Craving, Increased Appetite, Insomnia-Hypersomnia, bizarre or unpleasant dreams

Appendix 2. Pharmacological treatments for dependence on some classes of drugs

Opiates

- a. Titration: Methadone, Buprenorphine
- b. Maintenance: Methadone
- c. Detoxification:
 - i. Based on Opiate agonists (Methadone, Buprenorphine)
 - ii. Based on Symptomatic relief (Lofexidine)
6. Relapse prevention: Opiate antagonists (Naltrexone)
7. Reversing respiratory depression in an overdose: Opiate antagonists (Naloxone)

Alcohol

- a. Titration: Chlordiazepoxide
- b. Detoxification: Chlordiazepoxide
- c. Relapse prevention:
 - i. Disulfiram
 - ii. Acamprosate

8. Benzodiazepines

- a. Titration: Diazepam
- b. Detoxification: Diazepam
- c. Reversing respiratory depression in an overdose: Flumazenil

Appendix 3: Pharmacological treatments for opiate withdrawal

The mechanism of the pharmacological treatments for opiate withdrawal is better understood if a short reference is made first to receptors and then to the Neuropharmacology of opioid withdrawal.

1. RECEPTORS

- Receptor: a protein on the external surface of a cell membrane where a substance binds in a similar way that a key fits a particular keyhole. An opiate could act only by binding to the opioid receptors, so if the receptors are occupied by another substance then there is no opioid effect even if the client consumes an opioid (such as heroin). Drugs that occupy an opioid receptor and not allowing heroin (or other opioids) to have an effect on a user are Naloxone, Naltrexone, and Buprenorphine.
- It is worth remembering that if a substance has a higher strength of binding to the opioid receptors, it could easily displace heroin that has been previously consumed by a person. This principle explains why Naloxone is used in Casualty to reverse an opioid produced OD, Buprenorphine brings about withdrawal symptoms if used soon after the use of heroin.

2. NEUROPHARMACOLOGY OF WITHDRAWAL

- Opiate withdrawal can be attributed to increased firing of the Noradrenergic (NA) neurones projecting from the locus coeruleus [LC]
- LC is the larger NA nucleus in the brain situated on the floor of the 4th ventricle in the anterior pons
- The withdrawal symptoms can be suppressed by centrally acting substances that bind to presynaptic alpha-2-adrenoceptors on the LC cell bodies.
- Substances acting on the alpha-2-adrenoceptors: Clonidine, Lofexidine.

3. GENERAL PRINCIPLES

The detoxification has two distinct phases:

- a) Stabilisation: during this phase methadone is given only when the patient shows opioid withdrawal features. It lasts 2-3 days and it aims at establishing the amount of methadone over a 24h period that the client needs in order to feel comfortable without being intoxicated. This amount will be the starting point of detoxification
- b) Detoxification: During this phase there is a gradual reduction of the daily-administered methadone. The reduction could last from days to over 6 months depending on the setting (I/P or O/P) and the regime employed. Worth pointing out that irrespective of the length of detoxification the clients feel the maximum effect of the withdrawal symptoms around the time of the end of detoxification (Gossop et al 1989)

4. TREATMENTS OF OPIATE WITHDRAWAL

A. Opioid Agonists

Opioid agonists are drugs that bind to the opioid receptors and produce similar effect to any other opioid. Methadone is a classic example of that group

B. Partial Opioid Agonists

Partial agonists are drugs that bind to the opioid receptors and produce similar effect to any other opioid. They are different however from opioid agonists (methadone) in that they also block the opioid receptor so that even if the person consumes heroin this cannot bind to the opioid receptor and therefore produces no effect.

1. BUPRENORPHINE

- a. Partial Mu agonist
- b. Comparable to methadone for maintenance and detoxification
- c. Better safety profile (but still there is risk of an OD)
- d. _ Higher to Methadone drop out rate at the start of treatment
- e. Undetectable in urine testing
- f. Cannot easily hold clients using more than the equivalent of Methadone 30 mgr
- g. Side effects: sedation, drowsiness, constipation (mu-opioid agonist symptoms)

A. Alpha-2-adrenergic agonists

2. LOFEXIDINE

- a. An a-2-adrenergic agonist
- b. Lofexidine is of equal efficacy to:
 - a) methadone (Bearn et al 1996)
 - b) clonidine (Kahn et al 1997, Lin et al 1997), even for outpatients (Carnwath and Hardman 1998)
- c. SE: Drowsiness, dry mouth, hypotension, bradycardia; less sedation and hypotension than clonidine
- d. Its lower side effect profile (compared with clonidine) makes it a better choice for outpatient settings.
- e. Its non-addictive potential makes it a better choice (to methadone) for prison where there are concerns about diversion, abuse and overdose risk.

A. Opioid Antagonists

Substances binding to opioid receptors but without producing any morphine-like effects. They block both the effects of exogenous (e.g. heroin) and endogenous (e.g. endorphins) opiate agonists

1. NALOXONE and NALTREXONE

2. Naloxone is poorly absorbed if taken by mouth and has a half life of 1-2h
3. Naltrexone is a naloxone analog that is well absorbed when taken by mouth and has a longer half-life (of 12h producing an opioid blockade of 72h).
4. Side Effects (SE): Dysphoria

5. Contraindications: Liver failure; monitor liver function before onset of treatment
6. Naltrexone is used as an adjunct to relapse prevention following the end of successful opioid detoxification. However Naltrexone treatment has a very high early drop out rate: only 10% would take the medication for 6/12 or longer, although higher rates are reported in patients under probation and addicted professionals (up to 74% - Washton et al 1984)

Appendix 4: Supervised Consumption

1. What is supervised consumption?
 - a. Supervised Consumption: Attendance of an agency (such as a substance misuse team or a pharmacy and consumption of methadone/ buprenorphine/diazepam on site; usually with take-home dosage for Sunday / Weekend
2. Who is Supervised Consumption for?
 - a. Users at the start of their treatment
 - b. Chaotic users (illicit drug use)
3. How long is it recommended to have supervised consumption of methadone?
 - a. At least 3 months (DH Guidelines 1999)
 - b. At least 6 months (Advisory Council on the Misuse of Drugs 2000)
4. Are there any other criteria for the length of time under supervision?
 - a. Improvement in other domains (stability of use, lifestyle changes)
5. Is supervised consumption of methadone common amongst pharmacists?
 - a. 65% of all methadone clients (Matheson et al 2002, Scotland)
6. Advantages of supervised consumption
 - a. Reduction of methadone related deaths (intentional and unintentional)
 - b. No black market leakage
 - c. Vulnerable users could not be forced to share their methadone
 - d. Adherence to treatment
 - e. No need for proper storage facilities at home (safer if children there)
7. Disadvantages of supervised consumption
 - a. Restriction of the freedom of the user (travelling time to and from pharmacy, especially if mobility issues; users who are employed)
 - b. Lack of private areas in pharmacies causes embarrassment to users
8. Are users happy with it?
 - a. 86% of users have positive views (Stone & Fletcher 2003)
 - b. Helpful tool if not used punitively (Methadone Alliance 2003)
9. Some data underpinning issues raised above
 - a. 33% of misusers drink above safely limits (NTORS, Gossop 1998)
 - b. Risk for OD higher if concurrent consumption of opioids, alcohol and benzodiazepines (Gossop 1996)
 - c. Risk of fatality higher for users on methadone and Tricyclic antidepressants (Oyefeso 2000)
 - d. Fatal OD more likely in 'experienced', not novice users (Bentley 1996)