ACUTE MEDICINE - I

# Acute management of alcohol and other drug problems

Emma K Brandish Christopher T Owen Julia MA Sinclair

#### **Abstract**

Intoxication and withdrawal syndromes are common presentations in acute medicine. A comprehensive history, including a collateral one, and thorough examination looking for patterns of signs and symptoms, backed by appropriate investigations, forms the basis of good management. A collaborative, empathic and non-judgemental approach that recognizes the patient's distress, explains the goals of management and sets clear boundaries significantly reduces potential complications and improves outcomes. An understanding of the pharmacology and clinical effects of alcohol, benzodiazepines, opioids and stimulants is essential to accurately diagnose and manage patients who may not be able to give an accurate history.

**Keywords** Alcohol; benzodiazepine; γ-hydroxybutyric acid intoxication; stimulant; substance use; withdrawal

## Introduction

Many individuals choose to use substances, usually in a recreational capacity with limited associated harms. Substances can be legal or illicit, or fall in the grey area of novel psychoactive substances (NPSs) and pharmaceuticals taken outside medical supervision.

Patients present to general hospitals with direct consequences of their substance use or for unrelated reasons but require management of their co-morbid substance use. Patients may not disclose their use for fear of judgement, so clinicians should

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# **Key points**

- Intoxication and withdrawal syndromes are common
- Knowledge about the clinical features of specific intoxication and withdrawal syndromes helps to predict the likely clinical course
- Central nervous system depressants are associated with medically dangerous withdrawal syndromes
- Identification of dependence is essential to identify patients at potential risk of a withdrawal syndrome
- Clinical risks can be prioritized by identifying broad clinical syndromes
- A collaborative and empathic approach can greatly reduce distress and improve outcomes

routinely assess for substance use. Failure to do so can lead to avoidable harm to the patient and others.

Intoxication and withdrawal syndromes are common presentations in acute medicine. Each substance or group of substances has characteristic syndromes including anticipated time frames for onset and resolution following last use. Knowledge of these features can guide management. NPSs present a greater diagnostic challenge as knowledge is more limited. However, many share common group features, which can guide initial assessment. Some patients use more than one substance (polysubstance use), which complicates identification and management of clinical syndromes.

This article presents an initial approach to clinical problems in the acute medical setting. It is not exhaustive and does not replace a full medical assessment. The pharmacology of individual substances (including NPSs) and specific management of acute intoxication and toxicity is covered elsewhere. Other reviews cover specific drugs in some detail. The National Poisons Information Service provides the most up-to-date information on their TOXBASE website (https://www.toxbase.org).

# **Terminology**

Detailed assessment and characterization of substance use is not required acutely. However, identifying a dependent pattern of use (Table 1) is key as it indicates individuals at risk of withdrawal.

## Substance use history

A comprehensive history is required but may not be immediately forthcoming because of the patient's physical or mental state.

A collateral history should be obtained from family, friends, bystanders, paramedics and old notes. Consult other health professionals involved in the patient's care, for example the general practitioner and community mental health team where

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# International classification of diseases, 10th edition, definitions

#### **Definition**

# Substance use dependence

A cluster of behavioural, cognitive and physiological phenomena that develop after repeated substance use and include three or more of the following in 12 months:

- Strong desire or sense of compulsion to take the substance
- Impaired capacity to control substance use
- · Physiological withdrawal state
- Evidence of tolerance to the effects of a substance
- Preoccupation with substance use to the detriment of other activities
- Persistent substance use despite clear evidence of harmful consequences

# Acute intoxication

A condition that follows the administration of a psychoactive substance, resulting in disturbances in level of consciousness, cognition, perception, affect or behaviour, or other psychophysiological functions and responses. Disturbances are directly related to the acute pharmacological effects of the substance and resolve with time with complete recovery except where tissue damage or other complications have arisen A group of symptoms occurring on absolute or *relative* withdrawal of a psychoactive substance after persistent use. The onset and course of withdrawal state are time limited

and are related to the type of psychoactive

immediately before the cessation or reduction of use. Withdrawal states may be complicated

by the presence of additional features, e.g.

substance and the dose being used

# Withdrawal state

Table 1

possible. Obtain a further history and review the initial information at the subsequent assessment. The history should be matched to the clinical examination findings, with consideration of objective tests such as a breathalyser or urine/serum drug testing. To avoid omission, questions should be asked specifically about each substance group (e.g. alcohol, stimulants,

cannabis) and the following recorded for each:

delirium, seizures

- route of use
- time and amount of last use (to anticipate onset/resolution of intoxication and withdrawal syndromes)
- quantity, frequency and pattern of use (over last week or month)
- dependent features
- history of withdrawal and complications, such as seizures, delirium and psychosis

- context of use to identify associated risks, for example clubbing and high-risk sexual behaviour
- co-morbidity including psychiatric.

## Quantifying substance use

This is challenging as terminology may be unfamiliar to clinicians and frequently changes. Illicitly obtained drugs also vary in strength and purity, frequently containing fillers or adulterants. Patients can be reluctant to disclose their level of use or overreport it through fear of withdrawal being undertreated. There is no practical and reliable way to reconcile these issues. Record what is reported and regularly reassess the patient.

A simple way to express quantities is in terms of the cost, frequency of use or number of pills, for example £50 per day, or four injections per day. Some substances can be quantified more accurately:

- · alcohol in units
- benzodiazepines in diazepam equivalents (mg)
- nicotine as pack-years or number of cigarettes smoked
- cannabis as the number of joints or bongs, or in grams
- injectables in grams or points (one-tenth of a gram).

### Substance use assessment

Full 'ABCDE' assessment is essential. Clinical assessment should be dynamic, and significant changes in the patient's condition should prompt repeat assessment. Observation and frequent monitoring by nursing staff is required. The use of drug screening is imperfect; for example, it cannot detect NPSs, and the properties of available tests vary by location. However, it may be able to provide important objective evidence. The presence of 'track marks' at injection sites can be an important clue to substance use.

Many substance use presentations fall into one of two broad clinical scenarios: the sedated patient and the agitated patient. Both range in severity from mild to severe. This division is overly simplistic but prioritizes the management of key clinical risks.

# The sedated patient

Sedation can indicate central nervous system (CNS) depressant intoxication or potentially the crash phase of stimulant withdrawal. Other toxicological or medical causes should also be considered.

The management priorities checklist is:

- · airway compromise
- respiratory depression
- cardiac arrhythmia
- seizures
- fluid and electrolyte abnormalities
- Wernicke-Korsakoff syndrome.

# The agitated patient

This can indicate a CNS depressant withdrawal syndrome, stimulant intoxication, serotonin syndrome (especially if stimulants have been used in conjunction with a serotonergic drug, e.g. selective serotonin reuptake inhibitor, tramadol), cannabis intoxication or withdrawal, or nicotine withdrawal. Alcohol, benzodiazepine and  $\gamma$ -hydroxybutyric acid (GHB) withdrawal syndromes are medically dangerous and require specific

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