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How to minimise drug- and alcohol-related harms — part 2

Introduction

THIS is part 2 of a two-part series. Part 1 discussed evidence-based medical care involving universal screening and brief interventions (BIs) for substance use disorders (SUDs). One system is known by the acronym the 5As, representing Ask, Assess, Advise, Assist and Arrange.

Part 1 advised against relying on an intuitive binary view of addiction vs non-addiction, or of substances as angel drugs vs demon drugs. It then considered a practical context to facilitate the prevention of harms associated with tobacco and e-cigarettes, alcohol, cannabis and the synthetic cannabinoids. Part 2 will discuss BIs in a range of SUDs, focusing on identification, assessment and education.

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Glossary of acronyms and abbreviations	
AOD	Alcohol and other drugs
BI	Brief intervention
OST	Opioid substitution therapy
SUD	Substance use disorder
PNCP	Persistent non-cancer pain
SBIRT	Screening, brief interventions and referral for treatment

INSIDE

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Amphetamine-type stimulants

AMPHETAMINES are structurally similar to adrenaline. They were first synthesised in 1887 in Germany and marketed in 1932 as the decongestant 'Benzedrine'. By 1946, amphetamines had 39 indications, including shock, obesity and caffeine dependency.[2] In the face of escalating non-medical amphetamine use, the manufacturer attempted to tamper-proof the product by adulterating it with picric acid.

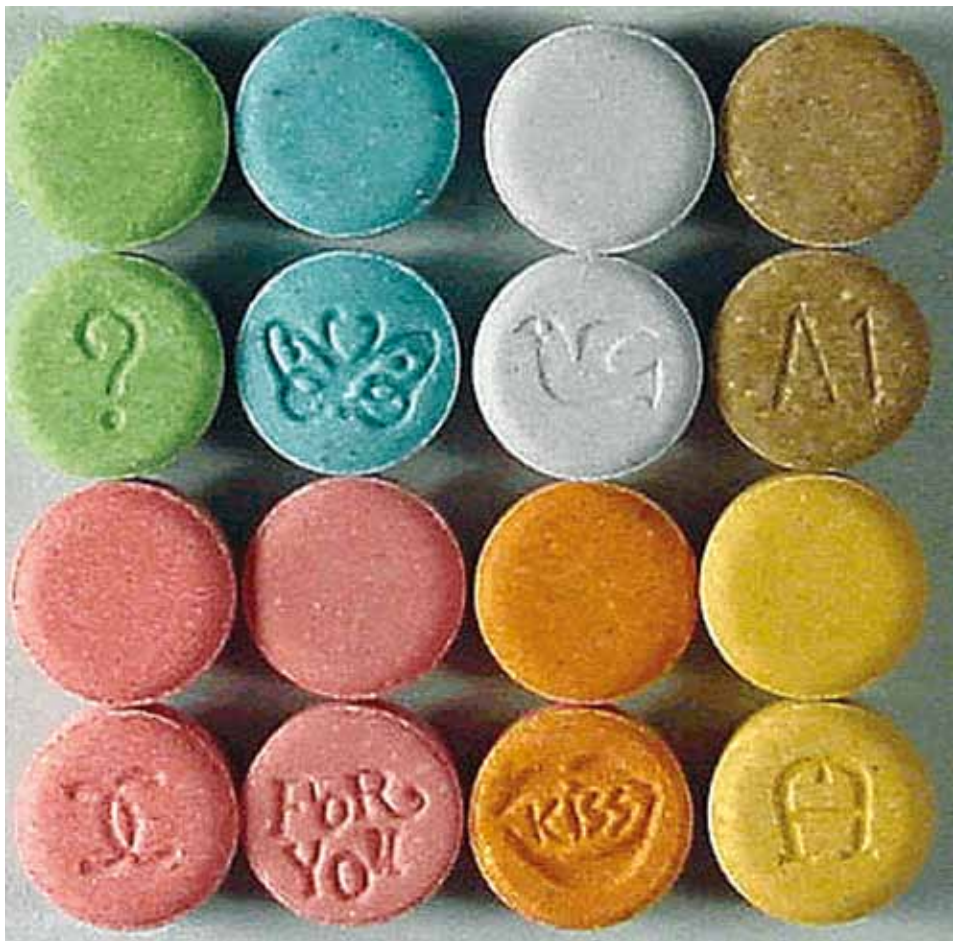
Amphetamines were popular pharmaceuticals until they were banned in 1959 in the US.[59] In 2010, 7% of adult Australians reported ever using amphetamines, with most (70%) having used them less than once a month.[60]

Amphetamine is known as 'speed', 'whiz', 'uppers' or 'goey'. Sold as a powder or paste, it may be used via oral, intranasal, IV, anal or vaginal routes (the latter two respectively referred to as 'shelving', as in the bottom shelf, or 'shafting').[48]

Methamphetamine is easily manufactured using common pharmaceutical, industrial and agricultural products.[59] Methamphetamine (the 'cut' or diluted form) is usually marketed as a powder or tablets ('speed'), a paste ('base') or a red liquid ('ox blood').[48] Methamphetamine hydrochloride (the purest or 'uncut' form) is crystalline. It appears like crushed ice, giving its name 'ice', and it may be smoked, snorted or injected.[48]

Dexamphetamine is the dextro isomer of amphetamine and is prescribed for ADHD or narcolepsy. On the street, it is sold as 'dexies' or 'dex'.[48] Across Australia, during 2012-13, the purity of seized amphetamines varied enormously, from 0.3% to 73.5%.[48]

At low doses, methamphetamine's effects are mainly neurological, including enhanced mood, attentiveness and endurance, and decreased appetite and fatigability. At higher doses, methamphetamine is a sympathetic stimulant, causing vasoconstriction, tachycardia, hypertension, arrhythmias and potentially myocardial ischaemia.[61] Methamphetamine increases libido and decreases the pain threshold, potentially facilitating receptive penile–anal intercourse and HIV risks.[61]



Ecstasy tablets.
Source: http://bit.ly/1J850Rg

Ice.
Source: Radspunk http://bit.ly/1K4tCCP

MDMA (3,4-methylenedioxymethamphetamine) was first synthesised in 1912 by Merck pharmaceuticals. In the 1970s and early '80s, it was used legally to assist couples psychotherapy.[62] Its efficacy stems from the release of the hormone oxytocin. Known as 'the love drug', oxytocin is released during lactation, and promotes bonding and empathy. MDMA was sold as a health food product in the 1980s, but it was increasingly used as an intoxicant from the early 1970s until it was criminalised in the mid-1980s.[63]

The 1990s saw its widespread use as a 'club drug', known as 'ecstasy', 'eccy' or 'E'. Sold as a tablet ($20-$50 a tablet), powder or capsule, MDMA may be swallowed, smoked, snorted or injected.[48]

There is currently research interest in the MDMA-assisted treatment of combat-related PTSD and of anxiety associated with autism. So far, none of the trials has demonstrated any significant adverse neurophysiological effects or evidence of dependency from MDMA's clinical use, reflecting the low rate of compulsive use when used recreationally.[62]

Other toxicities from amphetamine-type stimulants include hyperthermia (particularly from MDMA), mydriasis, hyperreflexia, tremor, hyperarousal, agitation, paranoia, hallucinations and seizures.[59] Long-term use may cause depression, irritability, aggressive and stereotyped behaviour or a paranoid-like psychosis. Full-blown amphetamine psychosis seems to occur infrequently (in about 13% in one study).[64] It seems to increase with cumulative use and may subsequently recur with relatively low levels of consumption.[64]

As with most SUDs, users tend not to present or, if they do so, present late. The mainstay of treatment is psychosocial, although stimulant substitution maintenance therapy is being trialled.[63] Harm reduction for stimulant users should involve sexual health education and checks, advice regarding HIV pre-exposure prophylaxis and safe injecting, vaccination and advice about other drugs, including tobacco and benzodiazepines. No medication is effective for treatment of amphetamine withdrawal, but one trial did show some benefit with mirtazapine.[65]

Cocaine

COCAINE hydrochloride was first extracted from coca leaves in 1855. It acts as a local anaesthetic and CNS stimulant, causing euphoria, talkativeness, and elevations in blood pressure and pulse. Sigmund Freud, a user of 'small doses', advocated its use as an antidepressant, and a treatment for indigestion and morphine addiction. Coca was removed from Coca-Cola in 1903 by its manufacturers because of regulatory concerns that it was causing black crime sprees.[2]

As with picric acid and amphetamines, relaunching psychoactive substances as abuse-proof has long been a strategy to avoid tighter regulatory controls.[2] Cocaine tends to be used at more frequent intervals than amphetamines because its half-life is shorter (about an hour).

In the US, the majority of cocaine is used intranasally, with less than one-tenth injected. In Australian capital cities, it may be easily purchased via SMS and delivered just like ordering a pizza.[66]

Cutting cocaine with a blade.

Cocaine hydrochloride cannot be smoked, but if it is mixed with an alkali and heated, it forms a waxy rock known as 'crack' — because of the crackling sound produced by the rock as it is heated.[48] Crack is rare in Australia.[48]

Even healthy individuals who consider themselves 'social' or recreational cocaine users show altered cardiac structures, putting them at risk of premature cardiovascular events.[67] Fetal exposure to cocaine is associated with low birth weight and urogenital abnormalities.

There are no specific therapies for treating cocaine, only symptomatic treatments.

Rocks of crack cocaine.
Source: http://bit.ly/1J86SEU

Hallucinogens

HALLUCINOGENS or 'trips' include lysergic acid diethylamide (LSD), 'magic mushrooms', and datura (angel's trumpet), a common garden plant. They have historical and contemporary cultural roles for healing, divination and communication with spirits.

LSD was first synthesised by Albert Hoffman of Sandoz Laboratories in 1943, and was initially marketed as a cure for alcoholism and schizophrenia. It was banned after being popularised in the 1960s by the Harvard psychologist Dr Timothy Leary and the Beatles.[2,68]

Most trials of LSD as a treatment for alcoholism from the 1950s and '60s were of poor quality, but a more recent meta-analysis of these indicated favourable results.[69] Recent pilot studies show that psychedelics, such as LSD or psilocybin (as found in magic mushrooms), may have efficacy in anxiety associated with advanced cancer, obsessive–compulsive disorder, tobacco addiction, alcohol use disorders, opioid use disorders and cluster headaches.[69,70]

Street LSD ('acid') is often purchased as single-dose squares of blotting paper called 'tabs', costing between $15 and $32.50. LSD may also be sold in sugar cubes, small tablets (microdots), gelatine sheets and in liquid form.[48] LSD is usually swallowed, but may be snorted, injected, smoked or shelved.[48]

Datura.
Source: http://bit.ly/1Weooeu

Magic mushrooms.
Source: Janine from Mililani, Hawaii, United States http://bit.ly/1EkNPjj

Hallucinogens may impair judgement, placing users at risk of accidents or injury.

Hallucinogens may cause a wide variety of autonomic and neuropsychological features, including anxiety, panic, depression or schizophrenic episodes. They may also impair judgement, placing users at risk of accidents or injury.[48] Chronic use can cause dissociative experiences or 'flashbacks' that may persist months or many years after hallucinogen abstinence.[48,68]

Ketamine is used for human and veterinarian anaesthesia, and has putative indications for the treatment of PTSD, treatment-resistant depression, refractory pain or as an adjunct to psychotherapy for alcohol and opioid use disorders.[70-72] Used illicitly for its sedative and hallucinogenic effects, ketamine has street names like 'K', 'Special K' and 'vitamin K'.[48] Chronic use has been associated with cognitive and memory impairment.[72]

Miscellaneous drugs

Date rape drugs

DRUG-facilitated sexual assault is a sexual act committed on a person who is so intoxicated, whether voluntarily or not, they are incapable of consent or refusal.[73] The drug most commonly associated with this is alcohol.

The unsuspecting victim may unknowingly be given multiple double or triple shots of alcohol or may just imbibe enough alcohol to render them unable to consent. They may be drowsy or unconscious or just too drunk to understand what they are doing. Other drugs used include benzodiazepines, GHB, ketamine, MDMA or any psychoactive drug.[48]

Volatile solvents

The sniffing of glue or petrol is prevalent among children in remote Aboriginal communities. Nitrous oxide is routinely used in anaesthesia. 'Laughing gas' or 'nangs' is available from any supermarket that sells refill canisters for whipped-cream dispensers. Partygoers buy these cooking items by the dozen to provide brief highs or to combine with other intoxicants.

GHB

Gamma-hydroxybutyrate (GHB) is a naturally occurring substance. It was produced commercially in 1960 as a general anaesthetic. It is currently used in the treatment of cataplexy, a complication of narcolepsy involving the sudden loss of muscle tone in response to strong emotions.[74] It is also known as 'GHB' (grievous bodily harm), 'fantasy', 'liquid ecstasy' and 'blue nitro'.[48]

As an illicit drug, it is used for euphoria, fat reduction and muscle building. It is a clear liquid with a slightly salty taste and is short acting, lasting 1-3 hours. Taken recreationally, it can lead to feelings of euphoria, disinhibition, enhanced sensuality and empathogenic states.

Street boys sniffing glue.
Source: Henryk Kotowski http://bit.ly/1MhjBEm

GHB in soy sauce container.

Toxic effects are common, including dizziness, drowsiness, agitation, unconsciousness and death. Dependency may occur, and the risk of overdose is increased if it is used in conjunction with alcohol or other CNS depressants.[75]

Mephedrone

Mephedrone (4-MMC or 4-methylmethcathinone) was synthesised as an antidepressant in 1929 and rediscovered in 2003 for hedonic use. It is known on the street by names including 'meph', 'meow', 'miaow-miaow', 'm-cat', 'drone', 'bubbles' or 'kitty cat' and may give similar experiences as amphetamines, MDMA or cocaine.[48]

It has been marketed as one of the ingredients in 'bath salts' and may cause extreme or fatal neurological or psychiatric toxicities.[48,76,

Mephedrone.
Source: DEA http://bit.ly/102LaDI

Emerging drugs

RELYING on novel or obscure research chemicals, the number of potential synthetic drug derivatives may technically be unlimited.[48] Such new drugs seem to be emerging faster than clinicians learn to manage them, or regulators can identify or ban them. This has allowed them to be marketed as 'legal highs'.[31]

A total of 236 emerging psychoactive substances were notified to the European early warning system between 2005 and 2012.[31] We have little idea precisely how many of these drugs are currently in Australia or how prevalent their use is.[31]

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Benzodiazepines and Z drugs

BENZODIAZEPINES were first released in 1959 for the "control of personal and emotional problems" and made safe substitutes for alcohol or barbiturates.[77] There is little evidence for long-term effectiveness and increasing evidence of long-term harm. Most research into benzodiazepines or Z drugs involves short-term studies with industry sponsorship and is therefore at potential risk of publication and selection bias.[78,79]

Reviews indicate withdrawal attempts may be problematic, with 49-57% relapse rates.[77] Acute withdrawal phenomenon ranges from trivial to major in nature (for example, seizures, psychosis). Protracted withdrawal symptoms are described by 15-44% of those who use benzodiazepines or Z drugs for as little as 3-6 weeks.[77] Withdrawal symptoms lasting over a year have been reported.[80]

When patients present to GPs with insomnia, most (81%) are prescribed a sedative drug.[81] Only 16% of GPs report ever recommending sleep restriction — a strategy that has been shown to improve fatigue and long-term sleep efficiency in general practice.[82,83] PBS subsidies conservatively equate to 2.4% of all Australians being dispensed the defined daily dose of this drug class, with the elderly receiving them at five times this rate.[84]

The elderly are particularly sensitive to toxicities. In a survey of older Canadians living in the community, one-quarter reported using benzodiazepines or Z drugs. The majority of these tended to downplay their adverse effects, and reported intending to both continue using them and to hoard them.[85] Surprisingly, in the elderly, neuropsychological toxicities predominantly affect those with fewer chronic medical conditions. This is presumably because this group has the most function to lose.[86]

Lifetime misuse of benzodiazepines or Z drugs is not uncommon: it is reported by 7-8% of adults in the UK and the US.[87] Few report doing so more frequently than monthly. If they do misuse, it is for the drugs' anxiolytic or hypnotic effects, rather than for euphoria or disinhibition.[87] An Australian survey of GP registrars found that most benzodiazepines or Z drugs were mainly provided as maintenance therapy to regular practice patients who they were seeing for the first time, suggesting deprescribing was the exception to the rule.[88]

Increasingly, this class of drugs is being used off-label for indications such as drug-induced movement disorders, restless legs syndrome, acute psychotic agitation, terminal agitation, neuropathic pain, nausea and vomiting, intractable pruritus and intractable hiccups.[89]

Refusing a patient's request for a benzodiazepine can be a disturbing option for a doctor.[99] However, implementation of CBT by GPs, with one 20-minute consultation and a handout, increased non-use at one year from 15% to 45%.[52] Another systematic review compared routine care with BIs, gradual dose reduction and psychological interventions. All interventions increased benzodiazepine discontinuation over routine care, with gradual dose reduction plus psychological interventions proving the most effective.[100]

Before structuring a reduction, the consensus of experts advises substitution of an equi-equivalent dose of diazepam if the patient is on short-acting hypnotics or using them more than nocte. Dose conversion is complex and, if attempted, should be done cautiously by using well below an equivalent dose to commence.[89] Exercise caution when transferring to diazepam in the elderly and those with end-stage liver disease because of active metabolites. Seek specialist advice in these cases.

Adverse effects associated with benzodiazepines or Z drugs

- Persistent cognitive effects, especially on memory and motor control/performance, after withdrawal from long-term use[90,91]
- Rapid-onset dependence after only days or weeks and, in some cases, severe withdrawal or rebound symptoms on cessation, encouraging recommencement[92]
- Subsequent use for deliberate overdose[93]
- Impaired psychomotor skills (eg, impaired driving ability)[89]
- Hypotonia (manifesting as unsteadiness/ataxia), with an increased (almost double) risk of femoral fracture in the elderly[89]
- Paradoxical arousal, agitation and aggression occurring in almost 10%[89]
- Complex actions while apparently asleep, with both benzodiazepines and Z-drugs[89]
- Dementia (increased incidence by 50%)[89]
- Daytime fatigue[81]
- Addiction[81]
- Increased overall incidence of cancer (35%) among those on higher doses[94]
- Increased urinary incontinence by almost half (44%)[95]
- Increased risk of mortality over a seven-year study and a 23-year study, even if prescribed fewer than 18 hypnotic doses a year[94,96,97]
- Increased death among schizophrenics, especially violent and accidental, but not with antidepressant use or concomitant use of several antipsychotics[98]

Table 1: Approximate equivalent per os (PO) anxiolytic–sedative doses[89]

Drug	Dose (PO)
Alprazolam	0.5mg
Chlordiazepoxide	15mg
Clonazepam	250µg
Diazepam	5mg
Lorazepam	500µg
Midazolam	5mg
Nitrazepam	5mg
Oxazepam	15mg
Temazepam	10mg
Zolpidem	10mg
Zopiclone	7.5mg

"When converting from PO diazepam to subcutaneous midazolam, the dose should be halved (eg, diazepam 5mg PO -> midazolam 2.5mg subcutaneous). However, PO, they are similar in potency because the bioavailability of midazolam is about half that of diazepam"[89]

Opioids

OPIOIDS refer to derivatives of the opium poppy (*Papaver somniferum*) and may be either synthesised or natural. The milky juice (latex) is extracted from the unripe dried seedpods. During the 19th century, opium was synthesised into morphine and later into heroin (diacetylmorphine).

From the late 19th century, heroin was marketed as an over-the-counter antitussive and a treatment for morphine addiction. Dr Alexander Wood of Edinburgh invented the hypodermic syringe used for injecting morphine in 1855.[2] Dr Wood's wife was the first known IV morphine addict and died of an overdose delivered by her husband's invention.

GPs may effectively contribute to community health and wellbeing by advising about safer injecting strategies, and by becoming OST prescribers. While only about 3% of all drug users require treatment per annum in the US, an estimated 22% of opioid-dependent people enter treatment.[101] Over 50% of heroin users reach the DSM-IV criteria for dependence.[102] Heroin users have 12 times the mortality rate of the general population and seven times that of those in OST.[70,80] The government's National Drug Strategy has released its National Guidelines for Medication-Assisted Treatment of Opioid Dependence.

Papaver somniferum.
Source: tanja niggendijker http://bit.ly/1KrpyhJ

Heroin is often purchased in $50 amounts (a cap). Other descriptors include ounces, grams or points. They seem to relate so that 1g = 10 points = 20 caps. In 2012-13, the median purity of heroin ranged from 13-41%.[48] Current street prices for pharmaceutical opioids are $50-$80 for oxycontin 80mg, $100 for hydromorphone/Jurnista 64mg and $200 for fentanyl 100µg patch.

Street market prices for opioids generally parallel equi-analgesic tables. However, in the proud tradition of the heroin market, patches may be divided into 10, with each piece sold for $50 each. In one US study, the majority of pharmaceutical opioid misusers (72-97%) prefer the oral route, a practice that will be unaffected by any prescribing trend towards tamper-resistant formulations.[103]

Persistent non-cancer pain (PNCP) is reported by almost one in five Australian adults and is potentially of indefinite duration. Non-pharmacological therapy or active self-management is central to its management, and NSW Health has recently published multidisciplinary guidelines that are freely available online.[104,105]

Many guidelines suggest opioids should be trialled briefly in PNCP in conjunction with safety strategies, which derive from OST traditions. However, surveys indicate most guideline strategies are infrequently adhered to, with prescriptions mainly provided as repeats. Prescribing is rarely terminated, even in the face of suspected misuse.[106,107]

In a phenomenon described as 'adverse selection', those patients at higher risk of misuse outcomes are more likely to be initiated onto long-term opioids, be prescribed higher doses and avoid risk mitigation strategies.[108] In the US, 7.4% of adults used an opioid prescribed by their doctor in 2000. By 2010, this rate had increased to 11.8% and to one-third of the population in Tennessee.[109,110] In an Australian study of almost 20,000 medication reviews, opioids were taken by 31.8% of patients, with 22.1% taking them regularly. Almost half (45%) of those on opioids were using concurrent anxiolytics/hypnotics, placing them at higher risk of inadvertent overdose.[154]

The majority (60%) of patients prescribed opioids cease them within a couple of months as a result of ineffectiveness or intolerable side effects.[111] Tolerance generally occurs within days or weeks of continued use, and the reduction of analgesia potency eventually may be as great as 35-fold.[112] Tolerance and withdrawal are so commonplace they have been deemed physiological, and in DSM-5, when consumed as prescribed, they do not contribute to the diagnosis of an SUD.[112] Despite their decreasing effectiveness, patients will report short-term benefits from opioids, with pain scores two hours post-opioid dose in one study improving from 6.3/10 to 3.5/10.[113]

The rate of overdose is increased with high doses of opioid analgesic, although the majority of overdoses occur on lower prescribed doses.[114,115] Patients receiving

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100mg of morphine equivalents a day had about a ninefold increase in overdose risk and a 1.8% annual overdose rate.[115] Interventions to reduce the frequency of high opioid dose provision in Washington State reversed the previously escalating overdose death rates. Post-intervention, in Washington State decedents, high opioid doses were prescribed only for about half (52%). This shows that simply relying on lower prescribed doses, or the provision of acute or intermittent supply, does not prevent the risk of overdose.[114]

A novel method of reducing the risk of opioid analgesic deaths, which is safe and cost-effective, is the widespread distribution of naloxone for either injection or nasal insufflation.[145] Suitable recipients who might witness an opioid overdose include the following:

- Friends or family of those on opioid analgesics or on OST.
- Those who have had a previous non-fatal overdose.
- Those being discharged from prison.[145]

On 1 October 2015, the TGA proposed to make naloxone a Schedule 3 drug from 1 February 2016. This would make it more accessible for the public in pharmacies.

With so many Westerners prescribed opioids, often for decades, side effects are emerging that have not been noted in controlled trials. This is because trials usually use a selected sample and last only three months. These toxicities may be explained by the complexity of opioids as they act at a neurochemical level. Four opioid receptors have now been identified. As well as analgesia, specific stimulation of each may result in altered gastric motility, diuresis, dysphoria, allodynia or a pronociceptive anti-analgesic effect.[146]

Emerging adverse effects associated with long-term use of opioid analgesics

- Classical toxicities, such as tolerance and physical withdrawal[112]
- Opioid-induced hyperalgesia (hypersensitivity to pain)[116]
- Emotional withdrawal (anhedonia and dysphoria) or motivational withdrawal (short-term craving)[117]
- An emotional/motivational hypersensitivity to distress[116]
- Anxiety disorders being relatively refractory to CBT and/or medication[118]
- Refractory acute, intraoperative or palliative pain[119-121]
- A sense of loss of control[113]
- Pan-pituitary dysfunction with gonadal suppression, loss of libido and fatigue[122]
- Opioid–thyroid interactions[123]
- Sleep apnoea and disruption of sleep architecture[124,125]
- Fractures[126,127]
- Cardiac deaths[126]
- Increased all-cause mortality and overdoses[115,126,128,129]
- Acute kidney injury (more than NSAIDs)[126]
- Serotonin syndrome[130,131]
- A fourfold reduction in workers' compensation injury recovery rates in a Danish population study[128]
- Narcotic bowel syndrome[132]
- Paediatric poisonings[133]
- Dependency (withdrawal) in children within as little as five days of regular dosing[134]
- Increased birth defects in a US population-based case-control study[135]
- Immunosuppression[136]
- Increased cancer recurrence or metastasis[137]
- Tooth decay from xerostomia[136]
- Supply vulnerability[138]
- Negative cognitive effects, some of which may be recoverable on cessation[139]
- Motor vehicle accidents[140]
- Worse clinical functional and analgesic outcomes after orthopaedic surgery[141]
- Malnutrition and obesity[142]
- Use of medication for erectile dysfunction or testosterone replacement[143]
- Hospitalisation for hypoglycaemia (tramadol)[144]

Online resources

Online resources
National Guidelines for Medication-Assisted Treatment of Opioid Dependence
bit.ly/1QGNPEf

Preventing and managing problems with opioid prescribing for chronic non-cancer pain
bit.ly/1jizBeh

References
Available on request from howtotreat@cirrusmedia.com.au

Pharmaceuticals and public health

MOST of us usually associate drug use with criminal and street activity. However, drug development, supply and distribution are increasingly medicalised.[63] Entrepreneurs, organised criminal groups, researchers and drug control authorities are systematically trawling through the archives of psychotropic research.

With more than 90% of potential therapeutic agents being abandoned before reaching markets, failed pharmaceuticals are reappearing as illicit drugs at a rate of one every 5-6 days.[63] The original research chemicals may be further modified in clandestine laboratories before they undergo the illicit equivalent of a clinical trial to evaluate desired effects (efficacy) against undesired effects (toxicity). Dietary and sports supplements may not be covered by drug monitoring systems, but some have been re-purposed as 'party pills'.[63]

In addition to failed experimental medicines and supplements, the illicit market also includes diverted legitimately prescribed medications. Prescription medication hoarding, borrowing and sharing are common behaviours, regardless of age and race.[147] Indeed, the exchanging of possessions is a normal part of social relationships.

The majority (59.8%) of a US pain outpatient clinic reported hoarding unused medications.[148]

Diversion is also common, with 45% of pain clinic patients reporting diversion of their opioids — usually by theft.[149] Prescriptions may be exchanged for money or bartered for services rendered, such as sex or transportation. Alternatively, diversion may result from compassion or coercion.

So, how do misusers access their medications? In one US survey, misusers reported that family or friends provided painkillers free (55.9%), by sale (8.9%) or without being asked (5.4%).[150] 'Fossil fossicking' is a mode of diversion where pensioners are groomed to exchange medications for cash.

Why do people buy and sell street pharmaceuticals? In a survey of pharmaceutical opioid misusers, pain relief was the most frequent motivation to commence (70%) or continue (81%). Other motives were to "get high" (74%), to "decrease anxiety" (51%) or to "improve sleep" (36%).[20]

There is great concern from regulators about escalating pharmaceutical drug harms. One historical response has been to ban or restrict access to them.[131] Globally, an estimated five billion people lack any access to opioid analgesia. Any regulatory backlash to liberal prescribing could harm our patients likewise.

In North America, Australia and New Zealand, pharmaceutical opioids, rather than heroin, have become the preferred opioids of misuse.[101,102] Australian addiction rates still have the potential to skyrocket further. Nightmare scenarios have emerged in the Canadian far north, with one First Nation community formally declaring a state of emergency because of an estimated dependency rate in adults of 75% in some communities.[151]

While Aboriginal and Torres Strait Islanders comprise 2.5% of the total population, they are over-represented (26%) among adult prisoners. It has been argued that numerous programs to reduce these high rates have been undermined because of our failure to counter AOD abuse and its effect on parenting and recidivism.[152]

Economic modelling indicates governments could save $110,000 a year per Indigenous offender if AOD treatment was provided outside the prison system.[9] Aboriginal and Torres Strait Islanders have high prevalence rates of SUDs, as described in a recent review.[153] The limited evidence base describes rates of substance dependence ranging from 5.9-66.2% and of alcohol dependence from 21.4-55.4%.[153]

This year, one author worked with NSW health regulators and police because of concern about escalating rates of fentanyl injecting and overdoses among rural and remote Indigenous communities. The iatrogenic aspect has been demonstrated in a recent survey of GP registrars, which showed Indigenous Australians are more than twice as likely to be prescribed either a sedative or an opioid analgesic.[88,107]

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Case studies

Case study one

JOSH, aged 32, attends your practice following a recent work medical, which found an elevated blood pressure. You ask him about his AOD use as part of your general assessment, and he reports he enjoys smoking methamphetamine with friends on weekends. He says his wife is concerned about his use and wonders if it might be contributing to his blood pressure.

You discuss the risks of stimulant use and ask if he would like to change this. Josh says he does not really think his use is a problem for him because he can stop at any time. He has been planning to cut down because his wife is unhappy with his partying. He says he will try to have a break for the next month, and you arrange to review his blood pressure at this time.

Case study two

The nursing home RN asks you to see Tom, a 75-year-old patient of your absent colleague. The RN informs you: "He is extremely anxious, unable to sleep and refusing to leave his room. He is on oxazepam 15mg 0.5 nocte prn and temazepam 10mg nocte prn but has run out of scripts." Tom states he has been on these for decades. He denies drinking excessively or using illicit drugs, but feels so desperate to find comfort that he wonders if he should. He lies awake worrying and feels his memory is worsening. He worries that insomnia will damage his health or make him psychotic.

You provide some psychoeducation about sleep and side effects of sedatives. You negotiate a dose reduction and a referral to a psychologist.

During your colleague's next annual holiday, you find Tom's dose unchanged.

Case study three

Sarah is a 23-year-old woman who has recently moved to your area. She attends to get a checkup for a cold. You explain that you ask all your patients about their AOD use. On questioning, she says she occasionally has 1-2 standard alcoholic drinks, has used cannabis in the past and has recently started using heroin. She initially smoked this, but she has recently started injecting.

She uses heroin 2-3 times a week and is concerned this use is escalating. You ask if she would like some help with this and let her know that, while you do not have much experience in this area, you are concerned for her wellbeing. You make a referral to the local specialist methadone service and encourage her to see you for continued counselling.

Case study four

Wayne, 32, has a knee injury awaiting an arthroscopy. He has refused any opioid analgesics because he says he became "addicted" to oxycodone when he injured his back a few years ago. He states he was taking eight a day rather than the four prescribed. Apparently, when he attended the large clinic nearby, doctors would ask about the pain, he would say "sore" and they just kept giving him opioids. When he complained of insomnia, they gave him benzodiazepines and quetiapine.

He took himself off the opioids a year ago. Since he went through that withdrawal, his hair has been falling out and he has been unable to sleep, which is even worse if he tries to stop the benzodiazepines or the quetiapine. He wonders if the opioids have caused these problems.

You advise that both opioids and pain can disrupt sleep. While you feel his hair loss is unlikely to be directly caused by his medications, there is little knowledge of the effects of long-term combination therapies. You commence duloxetine for depression and pain, and refer him for physiotherapy and psychotherapy.

Case study five

Your next patient is still teary, having come from the nearby massive funeral for another Indigenous man, aged 34. The deceased was "a good bloke … with a job … not a druggie". After a few drinks at a party, some friends had boiled up a "morphine patch" and had all injected the brew that had killed him.

Case study six

You are seeing an elderly lady with COPD who is still smoking. Fifty years ago, a doctor advised her to smoke. When she was 22, three months after her father died, she was on nerve tablets and not feeling better, and he said, "Have you ever thought about taking up smoking ... well, just try it."

Conclusion

CHANGING psychoactive substance use reflects contemporary cultural perceptions of health, lifestyle enhancement, recreation and consumerism.[63] Just as people use AOD to relieve suffering, as well as to feel better, medical practitioners prescribe virtually all of these substances.

Substance users prioritise short-term benefits over long-term safety risks, and GPs frequently do likewise with their liberal provision of drugs of dependency. GPs have an essential role in implementing systematic screening and BIs using non-judgemental techniques, such as motivational interviewing.

We can avoid causing individual toxicities and public health harms by more cautious management of PNCP, anxiety and insomnia, preferencing non-pharmacological alternatives. We also need to develop skills in providing SUD pharmacotherapies, such as OST. We need to consider deprescribing drugs of dependency routinely, not just in response to aberrant behaviours or other side effects.

By such learning and cultural change, GPs may be able to identify important opportunities to change health behaviour and to prevent AOD problems during their interactions with most patients, regardless of whether the drugs concerned are prescribed, legal or illicit.

How to Treat Quiz

How to minimise drug- and alcohol-related harms — part 2 — 11 December 2015

INSTRUCTIONS

Complete this quiz online and fill in the GP evaluation form to earn 2 CPD or PDP points.
We no longer accept quizzes by post or fax.

The mark required to obtain points is 80%. Please note that some questions have more than one correct answer.

GO ONLINE TO COMPLETE THE QUIZ

www.australiandoctor.com.au/education/how-to-treat

1. Which TWO statements regarding amphetamines are correct?
a) Historically, amphetamines were said to be indicated for the treatment of many conditions, such as shock, obesity and caffeine dependence.
b) In 2010, 27% of adult Australians reported ever using an amphetamine, although most (70%) had used them less than once a month.
c) An amphetamine isomer is currently prescribed for ADHD and narcolepsy.
d) The methamphetamine manufacturing process is long and complex, requiring highly specialised equipment.

2. Which THREE statements regarding methamphetamine are correct?
a) Cut or diluted methamphetamine is usually marketed as powder, tablets, paste or liquid.
b) The purest or uncut form of methamphetamine hydrochloride is crystalline and known as ice.
c) Amphetamines may be used via oral, intranasal, anal or vaginal routes.
d) Amphetamine purchasers expect it to be cut or diluted to 50% purity.

3. Which THREE side effects of amphetamines are experienced by the majority of users during most use?
a) Cardiorespiratory stimulation
b) Psychosis
c) Tremor and agitation
d) Mydriasis

4. Which TWO statements regarding cocaine are correct?
a) Cocaine is a CNS stimulant, causing euphoria, talkativeness, and elevations in blood pressure and pulse.
b) Cocaine hydrochloride cannot be smoked unless mixed with an alkali and heated into a waxy rock.
c) Cocaine and amphetamines have the same half-life.
d) A range of specific, sequenced therapies exists for the treatment of cocaine users.

5. Which THREE statements regarding hallucinogens are correct?
a) LSD was first marketed as a cure for alcoholism and schizophrenia.
b) Some experts recommend hallucinogens in the management of anxiety associated with advanced cancer, obsessive–compulsive disorder, tobacco addiction, alcohol use disorders, opioid use disorders and cluster headaches.
c) Hallucinogens may impair judgements, placing users at risk of accidents or injury.
d) Pooled results of many trials of LSD as a treatment for alcoholism revealed it has no efficacy.

6. How many of the following drugs have been known to be used for date rape? Alcohol, Coca-Cola, benzodiazepines, cocaine, gamma-hydroxybutyrate (GHB)
a) Two
b) Three
c) Four
d) Five

7. Which TWO statements regarding GHB are correct?
a) GHB is long acting, hence its use for weight loss.
b) GHB may be indicated medically.
c) Titrating use of the stimulant GHB with alcohol, a depressant, usually avoids toxicities.
d) GHB results in feelings of euphoria, disinhibition, enhanced sensuality and empathogenic states.

8. Which TWO statements regarding benzodiazepines are correct?
a) There is little evidence for their long-term effectiveness and increasing evidence of long-term harm.
b) The elderly are particularly sensitive to toxicities.
c) When patients present to GPs in Australia with insomnia, the majority are managed with sleep CBT.
d) The association between benzodiazepine use and dementia has been disproven.

9. Which TWO statements regarding opioids are correct?
a) Heroin users and those in opioid substitution therapy have 12 times the mortality rate of non-opioid-dependent peers.
b) GPs are less likely to commence or continue opioid analgesics for those with current psychiatric or substance use disorders.
c) Persistent non-cancer pain is reported by almost one in five Australian adults.
d) The majority of patients prescribed opioids cease them within a couple of months as a result of ineffectiveness or intolerable side effects.

10. Which TWO statements are correct?
a) With more than 90% of potential therapeutic agents being abandoned before reaching markets, failed pharmaceuticals are reappearing as illicit drugs at a rate of one every 5-6 days.
b) Diversion of medication is rare in those with more pain.
c) Prescription medication hoarding, borrowing and sharing are common behaviours.
d) The most common reason people give for buying street pharmaceuticals is to get high.

CPD QUIZ UPDATE

The RACGP requires that a brief GP evaluation form be completed with every quiz to obtain category 2 CPD or PDP points for the 2014-16 triennium. You can complete this online along with the quiz at **www.australiandoctor.com.au.** Because this is a requirement, we are no longer able to accept the quiz by post or fax. However, we have included the quiz questions here for those who like to prepare the answers before completing the quiz online.

Australian Doctor Education

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NEXT WEEK

Next week's How to Treat explores non-IgE mediated food allergy. This article draws the distinction between non-IgE mediated food allergy and IgE mediated allergy, and offers information about presentations and general management principles. The author is **Professor Katrina Allen**, from the Royal Children's Hospital, Melbourne, Murdoch Childrens Research Institute, and the Institute of Inflammation and Repair, University of Manchester, UK.