Acute pain in patients with substance use disorder

Steps for successful assessment and management

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Patients with substance use disorder presenting with acute pain may be challenging to assess and manage. Key steps are excluding serious pathology and instituting management that promotes comfort, reduces distress and minimises harm. As in other patients with acute pain, nonpharmacological and nonopioid treatments are first-line options. Opioids have only a limited role for more serious pathologies and in accordance with published guidelines and regulatory frameworks.

In 2019, one in 25 Australians aged 14 years and older reported taking drugs available to buy from pharmacies for nonmedical reasons in the previous year.[1] Within this group, the use of prescription analgesics (including opioids) fell compared with 2016, largely due to codeine rescheduling in 2018. Regulation of alprazolam also reduced its availability and nonprescribed use.[2] Although overall use of alcohol and tobacco is declining, particularly in higher socioeconomic areas, alcohol remains the most common substance associated with substance use disorder (SUD).[1] Illicit drug use is stable in lower socioeconomic areas but is increasing in wealthier areas.[1] More than one in ten Australians report recent use of cannabis, with one-third of these using cannabis at least weekly.[1] Past-year use of cocaine (2.5%) and ecstasy (3.0%) is increasing, while use of methamphetamine and other amphetamines, predominantly crystal meth or 'ice', is decreasing.[1] The proportion of users taking multiple drugs has increased, raising risks of SUD and other harms. Those using prescription opioids frequently report they are unable to stop their use, even if they would like to do so.

There is significant concordance between SUD and chronic pain, with overlapping mechanisms in both conditions.[3] Many individuals with SUD report long-term pain, and one-fifth of those with chronic pain meet SUD diagnostic criteria.[4,5] The range of patients seen in primary care includes those on opioid agonist therapy (OAT) and those in SUD recovery. This article addresses acute pain in the presence of SUD: screening for SUD, detecting serious pathology,

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Key points

- **Treating doctors should consider the possibility of substance use disorder (SUD) in all patients presenting with pain ('universal precautions').**
- **Strategies promoting a positive therapeutic relationship are crucial for successful assessment and treatment of all patients with SUD.**
- **Potentially serious pathology should be sought in patients presenting with SUD and acute pain, while considering that some drugs are associated with specific painful conditions and other effects that influence acute pain presentations.**
- **For all patients, nonpharmacological and nonopioid treatments should be maximised and opioids used sparingly, with use of atypical opioids preferred.**
- **Patients taking opioid agonist therapy for SUD should be assessed and managed similarly to other patients with SUD.**
- **The relationship between SUD and chronic pain is bidirectional; self-management approaches help patients with SUD and chronic pain deal with their chronic symptoms as well as cope with acute pain flare-ups.**
- **A patient's level of risk, according to the presence of active drug use, mental illness and other comorbidities should guide referral to a primary care specialist or drug and alcohol facility.**

and management, including for those with acute flare-ups of chronic pain conditions or treated with OAT.

Assessment of patients with SUD and acute pain

Consider the possibility of SUD in all patients presenting with acute pain

Treating doctors should consider the possibility of SUD in all patients presenting with pain ('universal precautions').[6] Risk factors for SUD include family or personal history of SUD, history of childhood sexual abuse, concurrent psychiatric illness and younger age.[3]

Screening questionnaires (e.g. CAGE [cut down, annoyed, guilty, eye-opener] Substance Abuse Screening Tool; AUDIT [Alcohol Use Disorders Identification Test]; ASSIST [Alcohol, Smoking and Substance Involvement Screening Test]) may be used, although all tools rely on self-reporting and there are complex reasons why this may not occur.[6,7]

Clear signs of drug and alcohol misuse such as needle tracks, intoxication and withdrawal may also be present. In some Australian states, real-time prescription monitoring supports screening and decision-making (e.g. SafeScript in Victoria, which includes a clinical advisory service).[8]

The Prescription Shopping Program and MyHealth Record are other potential sources of information about individuals, although each has limitations.[9] An overriding consideration is that SUD may occur in any patient, in any context.[10]

Ensure your approach reduces stigma and promotes clear expectations

Australians with SUD, especially injecting drug users, report negative experiences in both hospitals and primary care. This includes being 'looked down on', 'treated like less than nothing' and subjected to derogatory remarks.[11,12] Many have found it difficult to access pain relief even when they present with clearly painful conditions.[11] These recollections lower their expectations that they will receive the care that others take for granted, and may hinder them seeking treatment.[12] The consequences are patient suspicion, distrust, late presentations and increasing drug use to cope.[12] Of course, there are some with SUD who are drug-seeking and who are sometimes perpetrators of violence

Table 1. Key terms related to substance use disorder

Term	Definition/description
Chemical coping	Using drugs to cope with emotional distress (primarily described in people with chronic pain)[3]
Misuse or nonadherence[3,18]	Using prescribed medication other than as prescribed (estimated to occur in one in four patients with chronic pain)[3]
Opioid-induced hyperalgesia (OIH)	Heightened pain sensitivity due to chronic opioid use Pain relief improves if the dose is reduced or the opioid is stopped (although OIH can last for months after cessation)[3]
Physical dependence	Sudden discontinuation of a drug causes withdrawal symptoms[3]
Recovery	Variable definitions, 'can refer to a process of change through which people improve their health and wellness, live self-directed lives, and strive to reach their full potential'[18]
Substance use and complications	Variable definitions and terms, including 'abuse', 'harmful use', 'dependence', 'intoxication', 'withdrawal'.[18,19] The central DSM 5 term 'substance use disorder' is used in this article Features may include cravings, impaired control over use, an increasingly central role of the substance in the person's life and continued use despite harm[3,14,19]
Tolerance (pharmacological)	Predictable, declining effect of some drugs over time, requiring increased dose to maintain the same effect[3]
Tolerance (psychological)	More complex phenomenon with declining central effects (e.g. euphoria) over time, due to learning and environmental cues, requiring an increased dose to maintain the same effect[20]

Abbreviations: DSM 5 = Diagnostic and Statistical Manual of Mental Disorders, 5th edition.

in general practices and hospitals, particularly when intoxicated or if they suffer comorbid mental illness.[13,14] A further complicating factor is that pain-relief seeking may look like drug seeking, with resolution of behaviours once pain is adequately addressed (so-called pseudoaddiction).[15]

Some strategies to consider within the therapeutic relationship are:

- being open and nonjudgemental, with reassurance about the treatment approach
- empathy with therapeutic boundaries, including setting realistic expectations and clear limits[16]
- using a disease model of SUD, noting that it is due to pathological processes such as disruption of reward circuits in the brain so that drug use is intensely reinforcing, both physically and psychologically
- applying terms appropriately, avoiding stigmatising terms (like 'addiction') and using person-first language (e.g. 'a patient with SUD')[17] (Table 1)
- following practice policies on opioid prescribing and adherence

Table 2. Potential impacts of specific drugs associated with substance use disorder on patients presenting with acute pain*†

Drug	Chronic use and intoxication	Withdrawal
Alcohol	Increased trauma risk, pancreatitis, increased cancer risk, liver dysfunction Used for chronic pain and insomnia	Seizure-related injury
Amphetamines and metamphetamine	Anxiety, insomnia, psychosis, violence	Depression, anxiety, paranoia
Benzodiazepines	Used for insomnia in chronic pain	Headaches, anxiety, seizure-related injury
Cannabinoids	Used for chronic pain (despite limited evidence), associated with increased opioid misuse, impaired co-ordination and judgement with injury risk	Headache, abdominal pain (in high-dose users)
Cocaine	Lowered pain thresholds, myocardial ischaemia, subarachnoid haemorrhage	Depressed mood, insomnia, restlessness
Ketamine	Hallucinations, confusion, depression, cholangiopathy, ulcerative cystitis,[21] headaches	Anxiety, emotional lability, headaches (controversial)
Nicotine	Mild analgesic effect; risk factor for cancers and coronary artery disease	Increased pain
Opioids	Hyperalgesia, increased infection risk due to immunosuppression (e.g. community-acquired pneumonia, post-joint arthroplasty infection);[22,23] risk of adrenal suppression with (rarely) Addisonian crisis if acutely unwell[24]	Increased pain, anxiety, restlessness, hyperalgesia

* Lists are not comprehensive but are examples of physical and psychological factors that cause or influence acute pain presentations.
† Unless specifically referenced, the information in this table is from The Alcohol and Drug Foundation website and Beaulieu.[25,26]

1. Management of nonspecific low back pain[29]

- Triage based on risk (of serious pathology or progression to chronic pain)
- Workup only when concerned about serious issues (avoid unnecessary imaging)
- First line: simple measures, reassurance, education, activation, review within a fortnight
- Second line: nonpharmacological (physical and psychological)
- Third line: drugs at lowest dose for shortest time
- Complex presentations: multidisciplinary referral, cognitive behavioural therapy, exercise program with movement education
- Avoid treatments known not to work e.g. bed rest, paracetamol, invasive therapies

to relevant professional guidelines (see below)[10]
- careful individualised risk assessment.

Look for symptoms and signs of potentially serious pathology

A foundation of successful pain management is commencing disease-specific treatment, when relevant. The implications of SUD in terms of diagnosis in acute pain presentations include:

- some drugs are associated with specific painful conditions and other effects that influence acute pain presentations, for example anxiety and sleep disruption (Table 2)
- injecting drug use increases the risk of infections such as epidural abscess and discitis, limb ischaemia from inadvertent arterial injection and nonfatal drug overdose resulting in pressure injuries and venous thrombosis[27]
- long-term opioid use leads to poorer surgical outcomes, such as deep vein thrombosis and infection, so maintain a high index of suspicion for complications in a patient with opioid use disorder (OUD) who has undergone recent surgery (Table 2).[28]

Management of patients with SUD and acute pain

For all patients, maximise nonpharmacological and nonopioid treatments

The first-line treatment options for acute pain in the presence of SUD, as for other patients, are nonpharmacological and nonopioid. The precise approach will be determined by circumstances, but options that can be considered include:

- following best practice professional guidelines on acute pain, e.g. for management of nonspecific low back pain in primary care (Box 1)[29]
- education and reassurance about the role of investigations, the reason for not prescribing opioids (as relevant) and the role of nonopioids
- addressing psychological contributors such as anxiety[14]
- use of simple analgesics, especially anti-inflammatories, with paracetamol only indicated in selected conditions[14]
- use of adjuvant agents for neuropathic pain, e.g. duloxetine (off-label use), amitriptyline (off-label use), gabapentin, pregabalin, carbamazepine (first-line for trigeminal neuralgia), recognising that pregabalin in particular is a drug of misuse as well as the risk of overdose with tricyclic antidepressants[30]
- use of disease-modifying agents in the presence of relevant diagnoses, e.g. for antimigraine treatment or prophylaxis
- nonpharmacological treatments – the NPS MedicineWise website has excellent supporting information on these[31]
- lifestyle-based management, as for other chronic conditions[16]
- providing symptomatic treatment for withdrawal symptoms, e.g clonidine (off-label use) provides symptomatic treatment for opioid withdrawal, mild analgesic effect and anxiolysis. However, side effects, particularly hypotension, can limit its use. OAT is often the best opioid withdrawal treatment.

The consultation also may present an opportunity to divert the patient towards harm minimisation and drug and alcohol treatment services, and for management of comorbid psychiatric disorders, as relevant.[32]

2. RACGP guidance on minimising inappropriate opioid prescribing[40]

Do not routinely prescribe opioids for specified conditions, for example:*

- uncomplicated musculoskeletal pain or headaches
- renal colic
- nontraumatic dental pain
- primary dysmenorrhoea
- irritable bowel syndrome
- acute exacerbations of chronic nonmalignant pain
- pain as a leading manifestation of a psychiatric disorder

If prescribing opioids for acute pain:

- prescribe the lowest effective dose of immediate release opioid for the shortest duration (usually three days, rarely longer than a week)

For patients with chronic pain who present with acute pain, issues to be familiar with include:

- how to manage acute exacerbations of chronic pain
- opioid withdrawal presenting as pain
- possible new acute diagnosis

Abbreviation: RACGP = Royal Australian College of General Practitioners.

* For full list see RACGP 2017.[40]

Use opioids sparingly and consider atypical opioids which are effective with lower risk

Opioid-related harms in Australia include three deaths and 150 hospital admissions per day.[33] NPS MedicineWise promotes five reasons not to prescribe opioids:[34]

- adverse events
- limited evidence for efficacy
- opioid-induced hyperalgesia (Table 1)
- misuse risk
- comorbidities and drug interactions.

Recent TGA and PBS changes emphasise the role that prescribing for acute pain can have in persistent long-term use, requiring

Table 3. Useful resources for doctors and patients on pain management and substance use disorder

Resource	Details
ANZCA and Faculty of Pain Medicine[3] Schug S, et al. Acute pain management: scientific evidence (5th ed), Sections 9.7 (opioid tolerance) and 9.8 (substance use disorders) https://www.anzca.edu.au/news/top-news/apsme[5]	Evidence-based information on assessment and management; free PDF
Chronic Pain Australia https://chronicpainaustralia.org.au	Consumer information and resources
Faculty of Pain Medicine, ANZCA Better Pain Management Program https://www.anzca.edu.au/education-training/cme-courses-and-resources/better-pain-management-course	Twelve online modules on contemporary nonmalignant chronic pain management at a modest charge Free 'better pain prescribing' module
NPS MedicineWise[33] https://www.nps.org.au/professionals/opioids-chronic-pain	Resources include opioid tapering algorithm, patient information sheets, videos on difficult conversations and skills such as motivational interviewing, podcasts and CPD activities
Pain Australia https://www.painaustralia.org.au	Consumer information about pain including a pain services directory Health professional information about training and events
RACGP Prescribing drugs of dependence in general practice https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/drugs-of-dependence	Comprehensive information on pain assessment and management, including for acute conditions; free PDF downloads
The Alcohol and Drug Foundation[25] https://adf.org.au	Consumer fact sheets on individual drugs with links to support services for help

Abbreviations: ANZCA = Australian and New Zealand College of Anaesthetists; RACGP = Royal Australian College of General Practitioners.

smaller pack sizes and promoting best-practice prescribing.[35] For example, recent more restrictive TGA indications for the high-potency opioid fentanyl recognise the risks of significant misuse, diversion and overdose.[35] Atypical opioids (tramadol and tapentadol) have multimodal action and are effective for neuropathic pain and in opioid tolerance (no tolerance to the nonopioid component).[36] When compared with conventional opioids, they have reduced risk of misuse, diversion, doctor-shopping and overdose deaths.[3,37,38] However, drug interactions and side effects, particularly with tramadol, should be considered.

If prescribing opioids, it is recommended to do so at the smallest dose for the shortest duration possible. The patient who is opioid-tolerant (due to heroin or prescription opioid use) may require higher opioid doses due to pharmacological tolerance (Table 1). There is also some cross-tolerance between cannabis and opioids, but not between most other drugs and opioids, so usual doses are appropriate in most other cases. Additionally, each presentation presents an opportunity to assist the patient to access definitive and effective treatment for their SUD (e.g. OAT) and for harm minimisation strategies such as take-home naloxone.[14,39]

The Royal Australian College of General Practitioners (RACGP) provides guidance on how to avoid 'unnecessary opioid prescribing' in acute conditions and recommends that general practices adopt the approaches in Box 2.[40] Acute treatment with opioids may lead to longer term problematic use, particularly in those with pre-existing SUD.[14]

Patients taking opioid agonist therapy for SUD

In 2020, just over 53,000 Australians received OAT with methadone, buprenorphine, buprenorphine-naloxone and buprenorphine long acting injection (LAI).[41] This is governed by state and territory-based legislation that often restricts dose, alterations and the prescription of other opioids, except by the registered prescriber.[10] These patients should be assessed and managed in a similar way to other patients with SUD. OAT is associated with both opioid-induced hyperalgesia (influencing pain experience) and pharmacological tolerance (influencing opioid dosing should this be required, noting that relevant legislation must be considered). Communication between the practitioner treating the acute pain and the OAT prescriber is vital for optimal care.

The relationship between SUD, chronic pain and acute pain

In 2018, 3.24 million Australians reported suffering from chronic pain. Of these, one in 500 sees a specialist pain service each year.[16] The remaining 499 in every 500 are managed in primary care, representing 20 to 40 per cent of all adult consultations.[14] The relationship between chronic pain and SUD is bidirectional. Patients with chronic pain may display problematic medication use such as chemical coping and misuse (Table 1). Six in ten people with prescription opioid use disorder report suffering with chronic pain, often reporting that pain maintains their SUD.[42] Anyone taking opioids on a regular basis has a high likelihood of pharmacological tolerance and experiencing withdrawal symptoms that may include pain (Table 2).

There is limited evidence that opioids are

effective for chronic pain. Long-term opioid treatment leads not only to increased pain (probably from opioid-induced hyperalgesia), but also other adverse events,[43] with four out of five patients who take opioids for at least three months experiencing related harms.[33] Ceasing opioids often improves their pain experience, so opioid tapering should be considered, even when SUD is not suspected.[44] The NPS MedicineWise website includes useful decision-support tools and videos to assist both opioid tapering and patient-driven goal setting and alternative chronic pain management plans.[33]

Self-management approaches, commonly used for other chronic conditions, help patients deal with their chronic symptoms as well as cope with pain flare-ups and even reduce their frequency.[16] In some patients, an acute pain flare-up represents an opportunity (or 'teachable moment') to steer them toward more effective long-term approaches. However, for many the management of future flare-ups is probably best addressed when symptoms are relatively stable. Optimally, management is undertaken by the patient's usual GP.[14]

[If opioids] are prescribed, they should be at the lowest dose and for the shortest reasonable duration

If a patient with chronic pain has developed problematic drug use that meets the criteria for SUD, definitive and harm reduction treatments are indicated.[16] These include staged supply, supervised dosing, engagement with the dispensing pharmacist and OAT.

When to seek advice

The RACGP recommends risk stratifying patients according to the presence of active drug use, mental illness and other comorbidities, and considering referral to a GP with advanced addiction medicine training or drug and alcohol facilities in the following cases:[45]

- comorbid serious psychiatric illness
- use of combinations of drugs – opioids and illicit drugs, opioids and benzodiazepines
- discharge from another general practice for 'problematic behaviour'
- recently in a correctional facility
- high-risk behaviours.

This is a significant challenge in rural and remote areas.[45] All Australian states and territories have drug and alcohol clinical advisory services;[10] and many organisations produce informative resources both for doctors and patients (Table 3).

3. Practice points on assessing and managing acute pain in patients with substance use disorder (SUD)

- Consider the possibility of SUD in all patients presenting with acute pain.
- Approach the patient with SUD or suspected SUD empathically, in a way that does not stigmatise their disease and provides clear limits on behaviours and prescribing.
- When assessing the patient, consider the painful conditions associated with specific drugs used in SUD, and the increased risks associated with injecting drug use and with chronic opioid use.
- Develop a management approach that uses nonpharmacological and nonopioid treatments.
- Opioids are not indicated routinely for acute pain, except when there is a clear acute diagnosis known to cause severe pain. When opioids are prescribed, attendant risks should be considered and the lowest dose of an immediate release preparation for the shortest reasonable duration used. Atypical opioids (tramadol and tapentadol) may have a better risk-benefit profile when compared with other opioids.
- Patients receiving opioid agonist therapies with methadone or buprenorphine should be assessed and managed using similar principles to other patients with SUD, recognising underlying legislative requirements and the likelihood of heightened pain sensitivity and opioid tolerance.
- Provided that serious pathology has been excluded, flare-ups of chronic noncancer pain are best managed with nonopioids, optimally along with self-management strategies within a chronic disease management approach.
- Consider the need for advice about patients assessed as at high risk.

Conclusion

Patients with SUD who present with acute pain are challenging to assess and manage. Central to this is a nonjudgemental approach that engages the person in care. A list of Practice Points summarises the approach recommended in this article (Box 3).

Although most presentations are not for serious pathology, careful assessment should exclude sinister and treatable conditions. Management can then focus on a multimodal approach, avoiding potential harm, and using first-line nonpharmacological and nonopioid treatments tailored to the individual's situation. Opioids are required for severely painful conditions when referral for acute emergency care is planned. Otherwise, if they are prescribed this should be at the lowest dose and for the shortest reasonable duration, considering regulatory requirements. These acute presentations may present opportunities to improve chronic disease management, for example initiation of definitive treatment of SUD with OAT. **PMT**

References

A list of references is included in the online version of this article (www.painmanagementtoday.com.au).

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