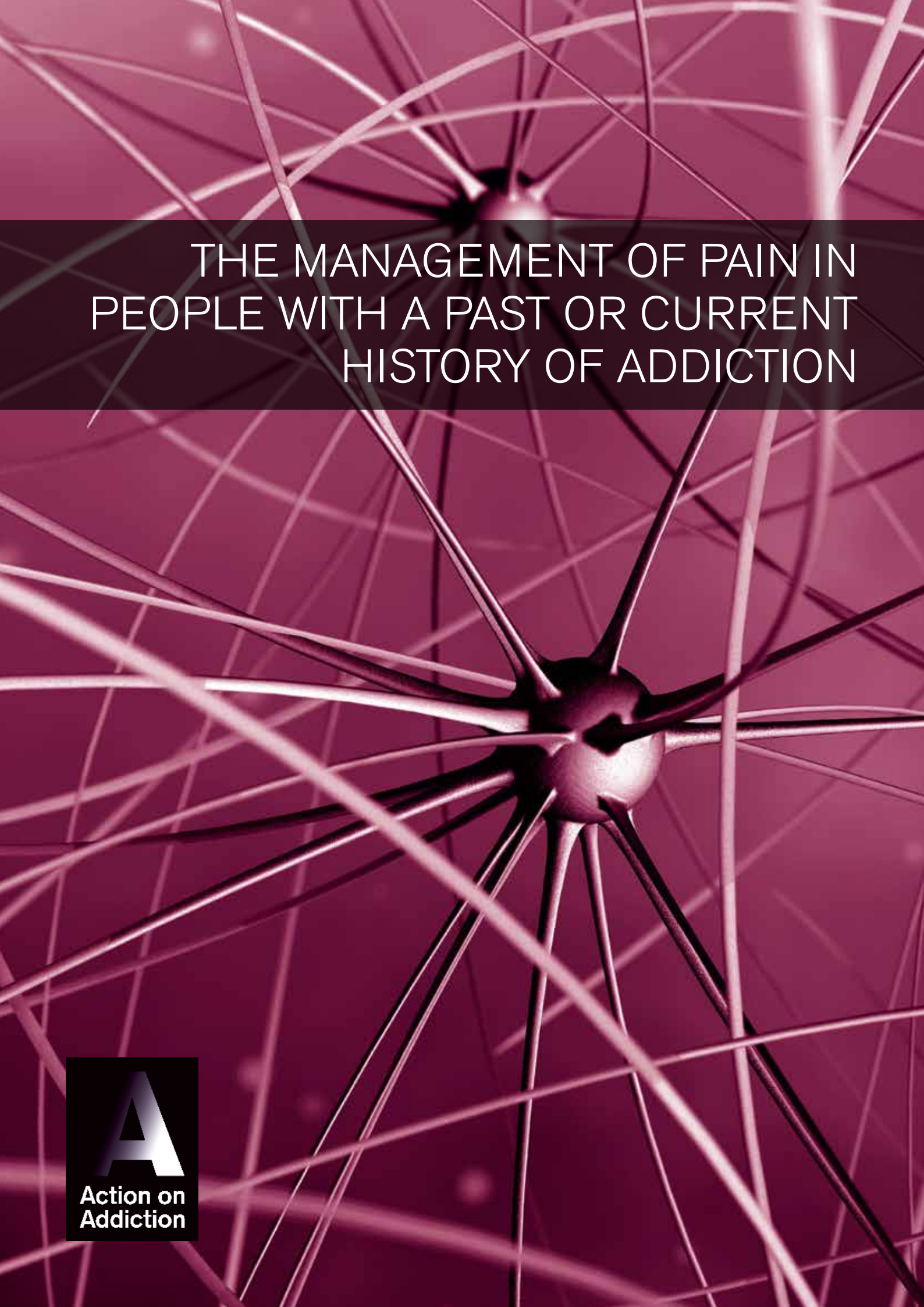
THE MANAGEMENT OF PAIN IN PEOPLE WITH A PAST OR CURRENT HISTORY OF ADDICTION



Action on Addiction

Research team

National Addiction Centre, King's College London
Dr James Bell, Consultant Physician
Dr Kylie Reed, Consultant Psychiatrist
Dr Samantha Gross, Senior Research Fellow
Mr John Witton, Coordinator

Steering committee

Dr Cathy Stannard, British Pain Society
Professor Ilana Crome, Royal College of Physicians
Dr Alex Baldacchino, Royal College of Physicians
Dr Gordon Morse, Royal College of General Practitioners
Dr Matthew Young, Royal College of General Practitioners
Dr David Feuer, Palliative Care Physician

Declarations of interest

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Foreword

People suffering from addiction or people who are in recovery from the condition, face a variety of challenges, including, in many cases, in their interactions with health-care services. Many of these challenges may be attributed to the stigma that still clings unhelpfully to addiction. It may also be due to a surprising lack of awareness even among health-care professionals about the nature of addiction and the susceptibilities and anxieties of those initiating or attempting to sustain recovery.

One of the challenges facing the addicted person is how to cope with pain and for health professionals how to treat or manage pain in the context of a current addiction or an early, or even established recovery. Given that pain relief and management is likely in many instances to involve the prescription of opiate-based painkillers, there are significant risks to take into account including compounding an existing dependency, initiating substitute dependency or, most critically, leading to fatality through overdose.

At Action on Addiction we work to find effective ways of disarming addiction in individuals, families and communities. In this context we support lines of research that offer a good prospect of making a real practical difference to the lives of people with active addictions or in recovery from them. Since everyone with experience of addiction will, like everyone else, at some point have an encounter with pain that requires treatment, this study fits that purpose.

It is important to recognise that the experience of pain as well as its treatment and management will not only affect the individual suffering from it but all those personally close to him or her. You don't have to be addicted to suffer from addiction and matters related to it.

This review and report is a starting point, an attempt to get a handle on the state of play and the issues that need addressing when it comes to pain management in people with current or past addictions. It helps to identify gaps in knowledge, understanding, skill, practice and culture, pointing the way to how these deficiencies might be remedied.

I am grateful to the experienced research team enthusiastically and expertly led by Dr James Bell for their diligent approach to the project which has resulted in this excellent report and to the distinguished members of the steering committee for their wholehearted commitment to the project. The careful coordination work of Amanda Thomson, Action on Addiction's Communications and Research Manager, should not go without appreciation.

It remains for me to thank most warmly the Alexander Mosley Charitable Trust for providing the funding to enable Action on Addiction to commission the study.

Nick Barton
Chief Executive
Action on Addiction
June 2013

Executive summary

1 Opioid drugs are the mainstay of management of severe pain, and the issue of prescribing opioids to people with a history of opioid dependence is the critical challenge in managing pain and drug addiction. Good management of pain in this population is critical, as poor management of pain can have very serious consequences, including relapse to addiction, compromised medical care, diversion of opioids to the black market, and potentially fatal toxicity due to misjudged tolerance or drug interactions.

2 There is no high-grade evidence (evidence from randomised-control clinical trials), nor good observational studies, on which to recommend pain management in recovering or current opioid addicts.

3 The stigma associated with addiction is often a barrier to delivery of good medical care, and contributes to the risk of an unhappy interaction between addict and health-care system. Improving pain management of current or former addicts requires systemic attempts to reduce stigma. Improving practitioners' knowledge and skills has a role in reducing stigma, but mentoring, support, and demonstrating good practice are also important.

4 The dilemma for abstinent, former heroin addicts is that there is a risk of relapse to addiction if they are exposed to opioid drugs, but also a risk of relapse if they receive inadequate management of acute pain.

5 People currently taking opioids (people on methadone or buprenorphine treatment, and people actively addicted to heroin) often experience difficulties receiving pain relief when hospitalised. The principle of management is to prevent withdrawal (by continuing prescribed opioids, or by initiating methadone for hospitalised heroin users), to provide additional analgesia as required, monitoring patients to confirm pain relief is satisfactory, and to guard against respiratory depression.

6 There are published guidelines and evidence reviews on use of opioids in acute and chronic pain. The evidence demonstrates that among people with a history of substance misuse, there is a risk of diversion and misuse of prescribed opioids, and clinicians should remain vigilant regarding diversion.

7 When prescribing opioids for people with a past or current addiction, it can be difficult, and is not always helpful, to distinguish between managing chronic pain and managing opioid dependence. The critical issue is structured and individualised care, with monitoring of response.

8 There is often no "right answer" for how to manage pain in people with past or current addiction. In this group, managing pain, and managing risks requires competence in communication with patients and other team members, assessment, development of a treatment plan, close monitoring, and reviewing of treatment as needed.

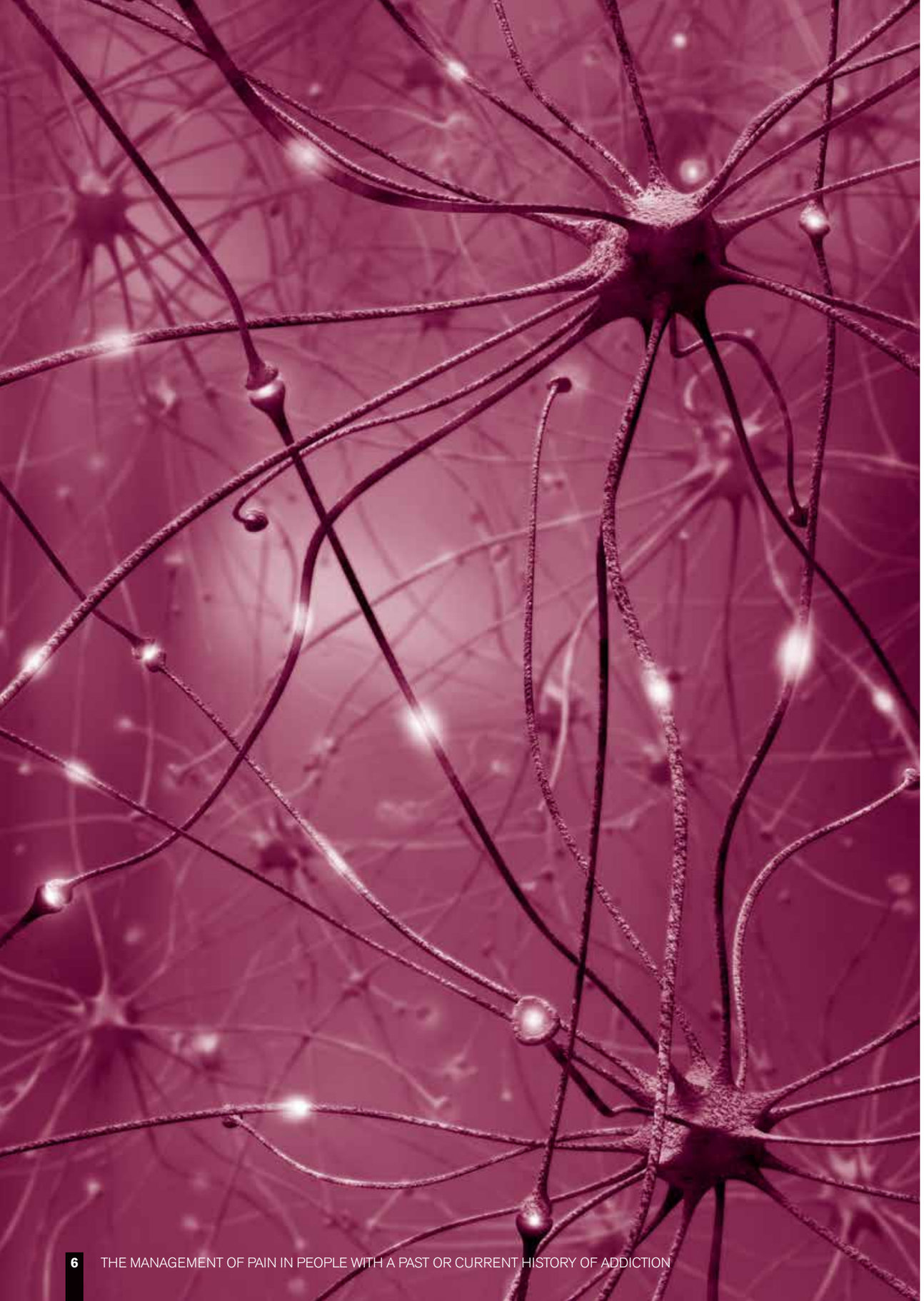
9 The elements of competence are:
- Knowledge (includes opioid pharmacology, diagnosis of opioid dependence and withdrawal, pain management options, treatment of opioid dependence, and risk management - supervised administration and urine testing)
- Skills (communicate effectively with patients, contain distress, discuss risks; collaborative treatment planning; communicate effectively with other professionals)
- Attitudes (non-judgemental, empathic)

10 For management of acute pain in hospitalised patients, hospitals need written policies and procedures to cover management of patients with past, current or suspected addictive disorders. However, a hospital with comprehensive policies and procedures cannot guarantee good care of patients if individual practitioners are not supported in dealing with complex, stigmatised patients. To support staff and ensure safe and effective care of challenging patients, hospitals also require:
- An acute pain team to ensure good management of pain
- Access to addictions consultation-liaison service to assess complex patients and support staff in management

11 All chronic medical care provides a balance between "support" (affirmation of the patient and acceptance of their experience) and "structure" (behavioural rules, limit setting, monitoring, and seeking external corroboration of patients' self-report). Pain medicine has traditionally been more oriented to support, and addiction medicine to structure. Management of community patients with complex pain and/or addiction problems benefits from a team approach, incorporating the differing perspectives of pain medicine and addiction medicine. The general practitioners coordinates care, but general practitioners and patients can benefit from:
- Access to pain clinic consultation
- Access to addictions specialist consultation

12 Many current or former addicts experience chronic pain. Pain clinics and addiction services manage these patients long term, and need to work as a team, able to identify and refer appropriately, and liaise over management. Pain clinic staff need a basic competence in identification and diagnosis of drug dependence, and access to addictions consultation. Addictions services need a basic knowledge of chronic pain management, and access to pain clinic consultation.

13 People with current or past alcohol dependence, or dependence on psychostimulants or cannabis, may be administered opioids for acute pain management, as the risk of them becoming dependent on opioids used in this way is thought to be small. However, these patients may be at increased risk of dependence if prescribed opioids for chronic pain.



Section 1 Background

THE DEVELOPMENT OF THIS RESOURCE

The trigger for this project is the perception that in individuals with a history of addiction, inappropriate pain management can have very serious consequences. The sponsors of this project have funded Action on Addiction to commission a project to improve pain management for people with past or current dependence on opioids. Action on Addiction commissioned the National Addiction Centre to develop this resource on pain management in recovering and current addicts.

The research team undertook an initial search of scientific literature. It rapidly became apparent that this is a topic on which there are many published opinions and several published consensus guidelines, but very little high-grade evidence (that is, evidence from randomised, controlled studies, or consistent observational studies). The topic is also broad in scope, involving lines of evidence from neurosciences and epidemiology, and experience of recovering individuals and practitioners. The research team also collated existing guidelines, identified and contacted key stakeholders, and located guidelines in preparation. An overview of the literature was prepared and circulated to the steering group set up for this project.

The steering group recognised that there are several available scholarly reviews, and more UK guidelines currently in preparation. A group of professionals is currently preparing guidelines on pain and addiction, and preparing a systematic review of evidence on this topic. Rather than duplicate this process, the steering group agreed that the critical issue which needed to be addressed was the barriers to delivery of safe and effective pain management in current and recovering addicts.

THE OBJECTIVES OF THIS DOCUMENT

Barriers to safe and effective pain relief include lack of evidence as to optimal management, lack of knowledge, negative attitudes to addicts, and poor communication between health professionals. These barriers cannot be overcome simply by providing information and recommendations. The project group agreed to develop a resource that is brief and grounded in case studies and discussion of actual situations, to help illustrate the complex interplay of factors. The document:

- Summarises recommendations for good management laid out in national and international guidelines, in an accessible form for practitioners, patients and their families.
- Illustrates the application of evidence and guidelines to cases, to illustrate the challenges involved in providing pain relief to current or former addicts while minimising risks of addiction or relapse to addiction.
- Analyses the barriers to safe and effective analgesia for people with a history of addiction, and ways these may be addressed.

DRUG DEPENDENCE

Biology

Drugs of abuse (such as opioids, alcohol, nicotine, and cocaine), despite seemingly quite different actions, have in common activation of specific brain circuits, referred to as the “reward pathway”. Activation of this pathway produces relaxation and a sense of well-being, and this is why these drugs are “reinforcing” - the pleasurable effects lead individuals to continue using them. Drugs administered in ways which deliver a rapid increase in brain concentration (such as by bolus intravenous injection, or by smoking) produce maximal stimulation and are more reinforcing than slowly absorbed drugs (Samaha and Robinson, 2005).

Drug use starts out as pursuit of euphoric and reinforcing effects, but with repeated administration adaptive changes occur in the brain, leading to the development of tolerance, and if the drug is ceased, the emergence of withdrawal symptoms. This represents an important step in the transition to dependent drug use, which is in large part driven by avoidance of withdrawal (Kenny et al, 2006).

Chronic exposure to drugs of abuse induces many changes within the “reward pathways” and associated neural circuits, changes which persist long after drug effects and acute withdrawal have resolved (Nestler, 2005). Protracted abstinence from chronic drug use is characterised by lowered mood and a negative emotional state, high stress responsiveness and craving. These changes in the brain render former addicts vulnerable to relapse. Simply completing withdrawal from drugs of dependence still leaves former addicts vulnerable to relapse, particularly on re-exposure to the drug, or in situations of stress.

On the basis of the observed chronic, relapsing course of addiction to heroin and other drugs, and the evidence of lasting brain changes associated with exposure to addictive drugs, scientists from America’s National Institute of Drug Abuse have promoted the proposition that addiction is a “chronic relapsing brain disease” (Volkow and Li, 2004), a disturbance of reward mechanisms in which different drugs of abuse may be substituted, and in which risk of relapse is high and persisting.

The concept of addiction as a chronic relapsing brain disease has had limited acceptance among practitioners in the UK (Littlejohn et al, 2004). Griffith Edwards, the influential UK researcher who pioneered the description of alcohol dependence, resisted the idea of addiction as a disease in the sense of a pathology residing within the individual. His more nuanced approach conceptualised dependence in systemic terms, as the interaction between the individual and their social context.

KEY TERMS

Addict is the term used to denote people who identify as addicted to a drug or drugs. Often, identification as an addict is part of the individual's recovery. This term will be used to refer to people who identify as having been addicted to drugs.

Opioids is the term that covers both naturally occurring derivatives of the opium poppy, such as morphine, and synthetic drugs of similar activity such as methadone.

Opioid dependence is a diagnosis based on DSM-IV or ICD-10 criteria. Both sets of diagnostic criteria refer to a pattern of thinking and behaviour involving compulsive use of opioids. Some people who meet the diagnostic criteria of opioid dependence do not identify as addicts.

Relapse - the rapid return to compulsive drug use even after long periods of abstinence - is a cardinal feature of dependence.

Tolerance is the phenomenon whereby with repeated exposure, a progressive increase in the amount of drug administered is required to achieve the same effect.

Withdrawal syndrome is the constellation of symptoms and signs occurring when a person dependent on drugs discontinues administration. Opioid withdrawal is characterised by intense dysphoria, craving for opioids, signs and symptoms of autonomic overactivity (anxiety, restlessness, sweating), gastrointestinal disturbances (abdominal cramps, nausea, vomiting, diarrhoea), diffuse muscle and joint pains, yawning, stuffy nose, goose flesh, and pupil dilation.

Opioid Substitution Treatment (OST) is the long-term, structured prescribing of an opioid as a treatment of dependence. Most commonly, this involves prescribing of methadone, sometimes buprenorphine, diamorphine or codeine.

Diversion refers to selling, trading or sharing prescribed medication. Medications taken by people other than for whom they are prescribed are said to be "diverted".

Hyperalgesia refers to an increased sensitivity to and experience of pain.

HEROIN ADDICTION

Epidemiology - how common is it?

A recent estimate is that there were between 15.2 and 21.1 million people abusing or dependent on opioids worldwide (UNODC, 2007). Once a black market in heroin (or other opioid) becomes established in a population, there is a slow but steady recruitment of new users, drawn predominantly from socially excluded, disaffected young people, who have often been involved in crime and delinquency prior to using heroin (Passini, 2012). Dependence on heroin - and other drugs - exacerbates any pre-existing adjustment difficulties, and entrenches the addict's social exclusion and involvement in crime. The association with crime and deviance contributes to the marked stigma associated with heroin addiction. Superimposed on this pattern of recruitment have been cyclical "epidemics" of heroin use, periods of rapid recruitment of new users, often "middle-class" users, with no previous involvement in crime or antisocial behaviour (Hall, 2004).

Course or natural history of heroin use

For most heroin users, once dependence is established, it tends to have a devastating effect on their health, mood and self-image, on family relationships, and on their functioning in society. Dependence on heroin also tends to persist for many years, and be characterised by a relapsing, remitting course, with periods of heavy use interspersed with periods of abstinence, sometimes involving treatment. A similar course occurs with all drugs of addiction, including alcohol and nicotine, but there is evidence from treatment samples that the course of heroin addiction is particularly prolonged, with greater likelihood of persistent use over many years than is observed in people being treated for dependence on other drugs (Hser et al, 2008).

The hallmark of dependence on heroin is relapse, often after even prolonged episodes of abstinence. In one long-term follow-up study, former heroin addicts abstinent for as long as 15 years were observed to relapse (Hser, 2008). Follow-up studies also suggest that in the short and medium term, a majority of former heroin users who cease heroin use transfer dependency onto alcohol, cannabis or other drugs (Teeson et al, 2007; Hser et al, 2001).

Heroin use in the UK

This document focuses primarily on the issue of pain management in current and former heroin users, for two reasons. Firstly, opioid drugs are the mainstay of management of severe pain, and the issue of prescribing opioids to people with a history of opioid dependence is the critical challenge in managing pain and drug addiction. Secondly, heroin addiction is not rare, and its course is prolonged. It was estimated that in 2006-07, for every 1000 people aged 15-64 years in England, an estimated 8·1 were heroin users (NTA, 2012). In the six years from April 2005 until 2011, 229,788 unique individuals were treated for heroin addiction at some point in the UK; their median length of stay in treatment was about four years. People using heroin represent about two-thirds of all people being treated for drug problems. They dominate the treatment system because heroin is one of the most difficult drugs from which to sustain abstinence. However, it has been estimated that in those years around 85,000 people ceased heroin use and did not return to treatment (NTA, 2012), indicating in addition to a large pool of active heroin users and people in OST, there is a substantial number of abstinent former addicts in the UK.

Currently in the UK, there appears to be little uptake of heroin use, and fewer young people are presenting for treatment (NTA, 2012). However, there remains a cohort of ageing current or former heroin users, many of them in OST, many abstinent from opioids. As a result of current or past addiction, many have poor physical and mental health, and there is considerable interaction between the health-care system and people who have been addicted to opioids.

GUIDELINES FOR USE OF OPIOIDS IN PEOPLE WITH A HISTORY OF ADDICTION

There are many published guidelines to assist practitioners in using opioids, and the key English-language guidelines are summarised in Table 1. These include specific guidelines from the USA on prescribing for people with past or current drug problems (SAMSHA, 2012). New guidelines on pain and addiction are in development in the UK. These guidelines include extensive and detailed reviews of the evidence regarding pain, opioids and addiction.

It is not the intention of this resource to replicate these documents, and the recommendations in these guidelines are the pillars on which this resource is based. Guidelines need to move beyond systematic reviews of effectiveness, to include evidence about implementing evidence in a real world setting. Guidelines are general, and do not cover every circumstance. Deviations from what is recommended in guidelines may be common and often represent a better option than following a protocol. Individualised care, with monitoring and adjustment depending on the response, is the basis for management. For this reason, the current document focuses not simply on what represents best practice, but on the individual competencies and systemic policies that optimise the chance of current or former addicts receiving safe and effective management of pain.

TABLE 1 RECENT GUIDELINES AND REVIEWS OF EVIDENCE

Source	Title	Year	Topics covered
The British Pain Society	Opioids for persistent pain	2010	Consensus statement and recommendations on opioids and problem drug use (Ch 7)
Australian and New Zealand College of Anaesthetics (ANZCA)	Acute pain management: scientific evidence	2010	Systematic review and recommendations: - Acute pain management in heroin users (11.7) - Acute pain management in opioid-tolerant patients (and OST patients) (11.8)
Substance Abuse and Mental Health Services Administration (SAMHSA)	Managing chronic pain in adults with, or in recovery from, substance use disorders	2012	Consensus document and supporting evidence: - Treating patients in recovery (p35) - Treating patients in medication-assisted recovery (p43) - Acute pain episodes (p46)
American Pain Society and the American Academy of Pain Medicine	Clinical guidelines for the use of chronic opioid therapy in chronic non-cancer pain	2009	Systematic review and recommendations: - High-risk patients including patients with a history of drug abuse (Section 6).
The British Pain Society, Royal College of Psychiatrists, Royal College of General Practitioners, Advisory Council on the Misuse of Drugs	Pain and substance misuse; improving the patient experience	2007	Consensus statement and recommendations on good practice for the management of pain and in the prescription of opioid drugs: - Pain control in the addicted patient (Section 4) - Acute pain management (Section 5)
Guidelines in preparation			
The British Pain Society, Royal College of General Practitioners, The Faculty of Pain Medicine of The Royal College of Anaesthetists	Management of persistent pain in secure environments	Due 2013	Consensus statement and recommendations on good practice for the management of pain and in the prescription of opioid drugs
British Pain Society, Faculty of Pain Medicine, Royal College of General Practitioners, Royal College of Psychiatrists	Pain and addiction	Due 2013	Consensus statement and recommendations on management

In providing a brief overview of issues relevant to pain management for current and former addicts, the topic is broken down into two distinct problems - management of acute pain, and management of chronic pain - in two distinct populations - people with a past history of addiction who are currently abstinent, and people who are currently addicted. People become addicted to many types of drugs, such as alcohol and cocaine, but the primary focus of this resource is people with current or past dependence on opioids. Risks associated with past or current dependence on other drugs are also considered. People currently dependent on drugs are divided into those using street drugs, and those who are receiving OST.

Section 2 Acute pain management

Acute pain management in people addicted to other drugs (such as alcohol, cannabis or cocaine), transferability of dependence, or "cross-addiction", has implications in prescribing opioid analgesics. For example, several papers have suggested that people who chronically use cannabis or who are dependent drinkers may be at an increased risk for opioid addiction and misuse of prescription medication in chronic pain management (SAMHSA, 2012). However, this is probably not a major issue in acute pain management. There does not appear to be substantial cross-tolerance to the analgesic effects of opioids, and people with other drug problems should receive usual doses of opioids (ANZCA, 2010).

This section will review the management of acute pain of severity such that in usual practice opioids would be administered - such as pain resulting in tissue injury, such as trauma or surgery. Usually, the diagnosis of acute pain is clear, and the expectation is that pain will resolve as tissue injury heals.

Pain without a clear diagnosis, or severe pain which recurs (such as migraine) should usually be managed according to an individualised treatment plan, and is better considered under the heading of chronic pain.

The specific issues to be considered are:

- **Acute pain in the abstinent, recovering heroin addict**
- **Acute pain in current heroin users**
- **Acute pain in patients on methadone treatment**
- **Acute pain in people on buprenorphine treatment**
- **Acute pain in individuals misusing drugs such as alcohol, cannabis or psychostimulants**

ACUTE PAIN MANAGEMENT IN ABSTINENT, RECOVERING HEROIN ADDICTS

CASE STUDY

A former heroin user completed residential rehabilitation, and is affiliated with Narcotics Anonymous. He remained abstinent from all drugs for 18 months. He was struck by a car and sustained a fracture of his right leg. On transfer to the Emergency Department, the doctor prescribed a dose of IV morphine. Although in severe pain, the patient commented that he was an ex-addict, and was concerned at receiving opioids. The doctor reassured him, and administered morphine. In the patient's own words, "I felt I was coming home". After surgery, he was discharged, and went straight to buy heroin. After many months of relapse to heroin addiction, he sought detoxification and returned to residential rehabilitation.

This vignette illustrates three key issues - the critical importance of pain relief in this population, the risk of relapse on re-exposure to opioids, and the role of self-help fellowships in recovery from addiction and how that may impinge on pain management practice.

Pain relief in recovering addicts

Pain management is more than ensuring humane care. Failure to manage pain, in these individuals can result in catastrophic consequences - in this case relapse to addiction as a result of re-exposure. Inadequate pain relief can also contribute to relapse as stressed by pain individuals may seek relief in heroin (Stromer, 2013). This is a distinctively vulnerable population in whom attention to safe and effective analgesia has significant long-term health implications.

Risk of relapse

There have been many reports that the risk of creating addiction by providing opioids for acute pain is small, but there are no reliable data to estimate the risk of relapse in former addicts. Available evidence suggesting the risk is very low is largely based on anecdotal and case series data, without systematic assessment of either past addiction history or emergence of manifestations suggesting dependence. They provide no estimate regarding the risk of iatrogenic addiction and/or relapse to addiction in formerly-dependent individuals administered opioids for acute pain (ANZCA, 2010; Wasan et al, 2006; Drayer et al, 1999).

There is a risk involved in under-treatment of pain. Addicts are highly vulnerable to physical stress, such as surgery and trauma, and psychological stress such as anxiety or work pressure. When exposed, the activity of the limbic and the autonomic systems is increased. Even after many years of drug abstinence, the neuroplastic changes are not fully reversible, which explains the ongoing risk of relapse in former addicts. The aim of management is to curb physical and emotional distress, because these are potential triggers for the craving for drugs or the relapse into addiction.

The stress of acute pain is a potential trigger for relapse in formerly addicted individuals. It has been suggested that inadequate relief of severe pain can cause non-addicted individuals to manifest behaviours typical of addiction - the phenomenon labelled "pseudoaddiction". The validity of this concept remains in dispute, but it seems plausible to propose that people in pain will go to considerable lengths to seek relief. It has been claimed that the risk of relapse into active addiction due to restrictive treatment of severe pain is great (Stromer et al, 2013), but there are no data on this risk.

Recovery and self-help

The experience of many addicted individuals is that it is very difficult to control their use of drugs. That is why the concept of total abstinence has become such a totemic article of faith to so many whose lives have been ravaged by years of chaos and damage from opiate addiction. Total abstinence, although appearing superficially austere, is often easier than attempting to regain some sort of control: it removes all troubling inner debate about when to use, what to use and how much to use. Thus, adopting the identity of being an "Addict in Recovery" is to adopt the belief that he or she should never take a mind-affecting drug ever again.

This is the creed of the 12 Step Fellowships, and thousands of people worldwide attribute their health, their happiness and their continued existence to this fellowship. It is the paradigm which many addiction treatment centres follow, very often staffed by those who have themselves taken the same path.

The commitment to abstinence creates a dilemma for people who affiliate with the 12-step movement, but who have medical issues requiring treatment. There have been debates in the past about whether people committed to abstinence from mind-altering drugs should refuse treatment with antidepressants. Self-help groups now accept the importance of appropriate medication, but there remain serious and unresolved questions about whether it is appropriate to use opioids to manage severe pain in recovering former addicts.

These are very difficult issues which have more to do with personal faith and philosophy, than science. The emotional attachment to opiates which the "recovered" addict denies himself or herself is truly profound - and correspondingly, any legitimate excuse to re-immerse in the "sensory deprivation tank of the soul" is very seductive. So issues of pain management in former or current opiate addicts are highly complex. Narcotics Anonymous provides a belief system to help people reduce their risk of relapse, and the doctor must respect that belief system, a situation that requires discussions between doctor and patient that reach into the realms of personal meaning.

Communicating across discourses

An objective scientific discourse of measurement and observation provides the evidence basis for health care, and it can be difficult to integrate this discourse with the language of recovery, based on optimism and values. However, it is helpful to retain a broad perspective. Addictive behaviour may result from changes in brain neurotransmitters, but personal meaning and hope can still contribute to recovery. Rewards meaning, and purpose derived from engagement with jobs, relationships, family, or 12-step fellowships- can be enough to overcome the dysphoria of prolonged abstinence. But many heroin addicts are unable to take sustained advantage of the support available to them, particularly during periods of stress, and relapse is common.

The critical issue is to acknowledge risk, and if circumstances permit, to discuss it with the patient. The previous vignette illustrates that there is a risk, but may also illustrate one of the factors predisposing to relapse - a phenomenon dubbed the "abstinence-violation effect". Treatment based on a "disease model" emphasises the need for lifelong abstinence, and that exposure to the drug to which a person was addicted to will inevitably lead to relapse. Such teaching risks becoming a self-fulfilling prophecy - if people believe that exposure will lead to relapse, they are more likely to relapse if exposed (Curry, 1987). In this case history, given the patient had expressed his fear of re-addiction, it may have been more prudent to use an alternative form of analgesia. With the benefit of hindsight, in managing this case, if opioids were used to control pain, it should be done with due acknowledgment of the patient's fear of re-addiction; and this risk should have been followed, with transfer to non-opioid analgesics or less reinforcing opioids as quickly as possible while maintaining adequate pain control, and ideally, arranging a follow-up review post-discharge in acknowledgment of the risk of relapse.

LATE RELAPSE

CASE STUDY

M was a 43-year-old married housewife with two teenage children. She suffered occasional headaches but was not taking medication. During one headache, her GP prescribed oxycodone 5 mg tablets. Within three weeks, she was using up to 70 tablets daily, travelling from doctor to doctor seeking prescriptions. She was referred for specialist assessment, stabilised on 30 mg of methadone daily. Blood tests revealed she was HCV positive. On questioning, she reported a brief period of daily heroin injecting when she was 19. She stopped without treatment, went through a period of withdrawal, and had no other drug problems - until, more than 20 years later, she was re-exposed to opioids when prescribed oxycodone.

The issue is that relapse, with very rapid reinstatement of dependence, can occur following oral opioids as well as injected opioids, can occur even after prolonged periods of stable abstinence, and is not only a function of the belief that re-exposure will lead to relapse. This prolonged risk of relapse reflects persisting brain changes after dependence.

TABLE 2 ACUTE PAIN MANAGEMENT IN ABSTINENT ADDICTS

Source	Key points/Recommendations
SAMHSA 2012	Some patients in recovery from SUDs may prefer to avoid the use of any medication. Evidence shows that stress management, CBT, manual therapies, and acupuncture offer effective relief for certain types of acute pain. **If administered opioids, patients in recovery** may benefit from being switched from short- to long-acting medications as quickly as appropriate (to minimise reinforcing effects). They may also benefit from recovery support during post-operative periods.
ANZCA 2010	When opioids are used in the short term to treat acute pain, they are usually effective and the risk of abuse is considered to be very small, but there are no accurate data on this risk. If possible, **naltrexone** should be stopped for at least 24 hours before surgery; multimodal analgesic regimens (e.g. NSAIDs, paracetamol, ketamine, tramadol and regional analgesia) should also be employed.

Rapidly acting opioids produce maximal stimulation of the reward pathway (Samaha and Robinson, 2005), and injected or smoked opioids are more reinforcing, and more likely to trigger relapse, than slow-acting drugs. However, slow-acting analgesics are not recommended for acute pain management as the underlying pain state is dynamic and treatment needs to be flexible. The US guidelines recommend that injected analgesics be switched to oral preparations as quickly as is compatible with providing adequate pain relief. However, oral opioids are not without risk.

The ANZCA guidelines note the risk associated with naltrexone used for relapse prevention in opioid dependence and alcohol dependence. Naltrexone is a long-acting mu-opioid receptor antagonist, and opioid-based analgesia is ineffective in people taking this medication. This is particularly a problem in people taking depot preparations of naltrexone, since treatment cannot be "ceased" until the depot has been exhausted.

ACUTE PAIN MANAGEMENT IN CURRENTLY OR RECENTLY ADDICTED INDIVIDUALS

CASE STUDY

A 22-year-old heroin user was admitted to hospital for hand surgery following a fight. Post-operatively he became agitated, complaining of pain and requesting analgesia. When told his next scheduled dose of analgesia was not for several hours, he swore at the nurse and threatened her. The situation was only defused when the addictions nurse spoke with the patient, and arranged for methadone to be given. Once the patient was feeling better, the addictions nurse suggested to the patient that it would be diplomatic to apologise to the nurse he had abused. He agreed, and on a regular dose of methadone plus analgesia as needed, his remaining days in hospital were uneventful.

This is an example of a situation that is all too common - a heroin user in hospital, withdrawing, and in pain, coming into conflict with nursing staff. Such situations are best prevented, and the key to prevention is anticipation, recognition and management of opioid withdrawal (and, indeed withdrawal from any drugs).

This vignette highlights two important issues. Firstly, established opioid tolerance in current drug users means that doses of opioids required to control pain are higher than in non-tolerant individuals. Secondly, withdrawal states - and pain - are associated with diminished control of behaviour.

After surgery, or during acute illnesses, patients experience a stress response, characterised by a range of hormonal changes. Withdrawal states are also characterised by changes in neurotransmitters, including sympathetic nervous system over-activity and activation of the NMDA system. These changes contribute to stress and anxiety, which causes patients to be more fearful and distressed by pain. Sympathetic nervous system activation increases the post-operative stress response, and activation of the NMDA system intensifies pain. Good management of withdrawal reduces physical and emotional distress, and makes pain management easier.

Published guidelines on pain management in currently addicted people are consistent in their fairly simple recommendations. They are based on the pragmatic consideration that in acutely ill patients requiring hospitalisation for a medical or surgical condition, the priority is minimising the risk of factors complicating medical management - the risks of withdrawal, of conflict with staff and of non-prescribed drug use while in hospital.

TABLE 3 ACUTE PAIN MANAGEMENT IN CURRENTLY OR RECENTLY ADDICTED PATIENTS (AND PATIENTS ON OST)

Source	Key points/Recommendations
SAMHSA 2012	Hospitalised patients who are dependent on opioids or sedatives (including benzodiazepines) should not be withdrawn from these medications while undergoing acute medical interventions.
ANZCA 2010	In patients on prescribed opioids (including OST), avoid withdrawal by maintenance of normal pre-admission opioid regimens where possible. In patients on buprenorphine the drug can be continued and acute pain managed with the combination of a short-acting opioid agonist plus multimodal analgesic strategies. In all cases, close liaison with other treating clinicians and drug and alcohol services is required. Confirmation of prescribed doses should be sought.
RCP Psych 2007	The primary objectives are to manage pain and avoid withdrawal. These aims need to be discussed with the patient. Discussion with local addictions services is important to plan a smooth transition from acute pain management to ongoing management of the patient's substance misuse.

ACUTE PAIN MANAGEMENT FOR INDIVIDUALS USING HEROIN

Management of an individual addicted to heroin and reporting pain depends on the context and objectives of treatment.

A common scenario is for an addicted individual to be admitted to hospital following trauma or infection. The risks in this situation are under-treatment of pain (with potential adverse consequences, the risk that patients will prematurely self-discharge, or self-medicate with drugs of uncertain strength while unwell in hospital), and over-sedation as a result of administering opioids to an unwell person with uncertain tolerance. In individuals who are severely unwell, the priority in treatment is to ensure compliance with medical treatment. A secondary objective is to engage patients in treatment of their addiction post-hospital. The principles of treatment are:

1 Minimise opioid withdrawal through administration of a long-acting opioid. A simple approach is methadone, 20 mg, and so long as the patient is not sedated/intoxicated, repeated in 12 hours or when signs of withdrawal re-emerge. This cautious titration against response minimises the risk of over-sedation while achieving smooth suppression of withdrawal. The dose in the second 24 hours should usually be 50% of the dose administered in the first 24 hours, but needs to be titrated against signs of withdrawal and signs of opioid toxicity.

2 In addition, administer other analgesia (oral, intramuscular or subcutaneous morphine depending on the severity of pain) titrated against analgesic response and against over-sedation. Patient-controlled analgesia can be used. Heroin users' degree of tolerance to opioids is difficult to assess, as street drugs are of uncertain purity. Few addicts use only heroin, and drugs such as benzodiazepines interact with opioids to produce increased respiratory depression. Patients may self-medicate while in hospital. For all these reasons, patients require monitoring due to risks of sedation. Australian guidelines suggest monitoring with continuous pulse oximetry may not be adequate, particularly in patients receiving supplemental oxygen (ANZCA, 2010). The guidelines also note that given safety is the priority, it is appropriate to wake patients to check for risk of over-sedation.

3 Over the duration of hospitalisation, switch injected analgesia to methadone until at discharge the patient is on a daily dose of methadone - with, if possible, arrangements made for treatment to be continued post-discharge.

While these principles seem straightforward, in practice management of addicted individuals can be difficult. Patients are not always open about their addiction. They may be using multiple drugs. Even if they report using heroin, their actual level of tolerance cannot be accurately determined by history, as street drugs are of variable purity. While hospitalised, some addicted individuals may self-medicate, placing themselves at risk of toxicity, drug interactions, and complications of injecting.

ACUTE PAIN MANAGEMENT IN INDIVIDUALS ON METHADONE

CASE STUDY

A patient on methadone 100 mg/day developed a severe chest problem, requiring surgery. Post-operatively he was seen by the acute pain team who provided a morphine infusion using patient-controlled analgesia, plus oral morphine - standard pain relief for the very painful surgery. However, the surgical team felt it would be unsafe to continue the patient's methadone while he was hospitalised. The day after surgery the patient was ill, in pain, and withdrawing, and begged with nurses and doctors, who thought he was drug-seeking. He telephoned his GP, who contacted the team who then agreed to continue methadone. On methadone 100 mg/day, he had good pain relief from his patient-controlled analgesia plus oral morphine.

This vignette illustrates three important points. The first is that methadone treatment involves prescribing dosages far higher than used in analgesia. Such doses provoke anxiety in practitioners unfamiliar with addiction treatment. The second, more important point, is that despite high doses, patients do not derive sustained analgesia from their regular methadone. Patients on methadone are cross-tolerant to the analgesic as well as the euphoriant effects of injected morphine; and when pain relief is obtained, it does not last as long as expected (Doverty et al, 2001). The final, most important point is the critical importance of seeking advice from experienced practitioners.

Clinical recommendations for hospitalised patients on methadone are that the daily dose of methadone should be continued, to prevent worsening pain symptoms (and behavioural problems) due to withdrawal (Jasinski, 1997). If patients are in pain, doses of morphine higher than would be required by non-dependent subjects may be needed (Alford et al, 2006).

CASE STUDY

A 40-year-old, morbidly obese woman prescribed methadone 100 mg/day was admitted to a local hospital for management of pressure sores. Because of her limited mobility she had only been required to attend her pharmacy once per week to collect methadone. On admission, she was prescribed her usual dose of methadone, but on the day after admission was noted to be drowsy, snoring and cyanosed, with pinpoint pupils and a respiratory rate of four breaths per minute. She was resuscitated, and methadone was withheld. After two days she was transferred to a tertiary referral hospital for further investigations. At that hospital, she again said that she was on 100 mg/day of methadone, this was again charted, and once again after receiving this dose lapsed into unconsciousness and respiratory failure.

This vignette illustrates three issues - the importance of monitoring patients with uncertain tolerance; risks of overdose; and the critical importance of communication.

Uncertain tolerance

Although prescribed 100 mg/day of methadone in the community, it seems likely that this patient was diverting a substantial portion of her prescribed medication. When administered what was thought to be her regular dose, she nearly died.

To avoid such risks, when patients with uncertain tolerance - users of street opioids, or patients on OST whose administration of methadone is not directly observed - should usually be initiated with 20 mg dose, with additional doses titrated against withdrawal symptoms and signs of intoxication. In addition, it is a sensible precaution that patients receiving high-dose methadone in hospital should be monitored with pulse oximetry (or at a minimum, with respiratory rate) during their first 48 hours in hospital.

Toxicity of opioids

Opioids are potentially toxic drugs due to respiratory depression, and although opioids represent a small proportion of abused drugs, they account for most fatal overdoses. The potential lethality of opioids in overdose is a critical issue, especially given the risk of non-compliance, use of multiple drugs and uncertainty over history. It is not rare for active addicts to self-medicate, including taking more medication other than as prescribed. For these reasons, monitoring of respiration and level of consciousness is an important safeguard in patients receiving opioids in hospital (ANZCA, 2010).

Poor communication

For a variety of reasons, patients are not always straightforward about what drugs they are using. In the case of this patient, it is perhaps not surprising that she did not initially reveal her non-compliance with prescribed methadone, but it seems remarkable that after initially overdosing she did not comment when again prescribed a potentially lethal dose of methadone. However, failure to be open about use of drugs and medication is common in addiction. As observed in a recent review article, "addiction compromises the most useful tool we have in pain management, the patient's account of their pain history and the efficacy of our treatment plan" (Bailey et al, 2010).

Even more remarkable is the poor communication between practitioners. Transfer between hospitals was marked by a potentially fatal failure of communication.

ACUTE PAIN MANAGEMENT FOR PATIENTS ON BUPRENORPHINE

Buprenorphine at low doses is a potent agonist; 1 mg buprenorphine injected subcutaneously produces similar subjective effects (euphoria and sedation) as 30 mg morphine injected subcutaneously. However, its high receptor affinity means buprenorphine is a self-limiting agonist, exhibiting a flattened dose-response curve and blocking the effect of other agonists at the mu receptor (Walsh and Eissenberg, 2003). However, the blockade produced by buprenorphine is not complete, and clinical experience in patients undergoing elective surgery has found that adequate analgesia can usually be maintained by continuing sublingual buprenorphine and administering drugs such as morphine, sometimes in higher-than-usual doses. As with methadone, patients on buprenorphine undergoing elective surgery should continue their usual dose, and have additional opioid analgesia titrated against response (Kornfeld and Manfredi, 2010). However, occasionally some patients on buprenorphine may experience little analgesia from opioids, and alternate approaches such as regional anaesthesia and non-opioid analgesics may be required.

One thing which is unlikely to be effective is increasing the dose of buprenorphine, as due to the "ceiling effect" on buprenorphine action, higher doses will not provide greater analgesia.

Acute pain management in people addicted to other drugs (such as alcohol, cannabis or cocaine)

Transferability of dependence, or "cross-addiction", has implications in prescribing opioid analgesics. For example, several papers have suggested that people who chronically use cannabis or who are dependent drinkers may be at an increased risk for opioid addiction and misuse of prescription medication in chronic pain management (SAMHSA, 2012). However, this is probably not a major issue in acute pain management. There does not appear to be substantial cross-tolerance to the analgesic effects of opioids, and people with other drug problems should receive usual doses of opioids (ANZCA, 2010).

CASE STUDY

A GP who manages a large number of former heroin users - some on OST, and some abstinent - spoke of his patients' experiences. His practice was located between two hospitals. His addict or ex-addict patients attending one hospital reported being well cared for, while the other hospital was feared as not being "addict friendly", with patients experiencing difficulty in receiving medication. The key difference appeared to be that the preferred hospital had a specialist pain team that attended to any difficult analgesia problems.

This general practitioner's conclusion is that in the pressured, highly specialised environment of hospitals, the best way to ensure that patients with drug dependence receive appropriate care is to ensure that someone with specialist competence to deal with pain and addiction is available. In an ideal world, all doctors and nurses would have active listening skills, and an empathic stance, to elicit and hear the patient's history and concerns. In practice, this is difficult, particularly as patients are often reticent about divulging information, and specialist practitioners with competence in pain and addiction are useful to support staff in assessing and managing complex patients.

The common factor in the case vignettes presented in this section is the critical importance of communication. In managing complex patients whose treatment is markedly outside the usual experience of staff, communication with addictions services is essential. Communication between doctor and patient, and communication between different professionals involved in the care of current or former addicts, is needed for safe management. Patients themselves may not be communicative. The stigma associated with addiction can deter addicted individuals from seeking treatment, and can mean former addicts are reluctant to divulge their drug use history. Patients may be defensive and apprehensive about receiving inadequate analgesia, and this can contribute to conflict and behavioural difficulties.

SUMMARY ACUTE PAIN MANAGEMENT

- Opioids are not contraindicated in abstinent, former addicts with acute pain. There is a poorly defined, probably small risk that exposure to opioids will trigger relapse to addiction. If possible, this risk should be discussed with the patient who may prefer non-opioid analgesia.
- If opioids are used for pain management in recovering addicts, medication should be transferred to long-acting opioids at the earliest opportunity. Support should be offered during hospitalisation, and follow-up arrangements put in place. Such structure helps protect patients against the risk of relapse.
- In opioid-tolerant patients with acute pain, withdrawal needs to be controlled and analgesia given in addition. For OST patients, this means continuing OST in hospitalised patients and giving additional opioid analgesia as needed. People on buprenorphine should generally have it continued, but occasionally opioids may be of little effectiveness and patients may require other modalities of pain relief.
- Initiating methadone in hospitalised patients, or continuing methadone in people whose medication has not been supervised, should be done by titrating the dose with regular small doses and observing the response. Induction onto methadone is complex due to variable pharmacokinetics. In people who metabolise the drug slowly, methadone accumulates over several days, and a dose which might have been safe on Day 1 can be toxic on Day 2 or 3. Patients need to be monitored for signs of toxicity during the first week of methadone.
- People on naltrexone do not benefit from opioid analgesics. Naltrexone should be ceased 72 hours prior to elective surgery and opioid analgesia will be needed.
- In many patients tolerance is uncertain, and addiction status is uncertain. Clinicians need to balance risks of opioid withdrawal and opioid toxicity, with adequate analgesia, by titrating opioid dose against response, and monitoring for withdrawal, sedation and analgesia.
- The problems are best managed by the establishment of an interdisciplinary team that includes pain specialists and a psychiatrist or psychologist experienced in addiction management.
- In all cases, open, communication and a non-judgemental stance, will help effective assessment and management.
- Communicate with specialist addictions community team to ensure continuity of care after discharge.

Section 3 Chronic pain in current and former addicts

- **Prescription opioid dependence**
- **Risks of addiction and relapse in using opioids to treat chronic pain**
- **Cancer pain**
- **Chronic pain management in recovering, abstinent addicts**
- **Chronic pain management in patients on OST**
- **Addiction to prescribed opioids**
- **Aberrant behaviours**
- **Addiction medicine and pain medicine - bridging a divide**

INTRODUCTION

Chronic pain is a contemporary epidemic, dwarfing the other contemporary epidemic of substance misuse. US surveys suggest a prevalence of chronic pain in the adult population ranging from 2% to 40%, with a median point prevalence of 15% (SAMHSA 2012); this compares to a lifetime prevalence of dependence on illicit or prescribed drugs of 7.5% (Dawson, 1996).

The epidemics of chronic pain and drug dependence overlap substantially. Where chronic pain and opioid dependence co-occur, opioid dependence usually precedes onset of chronic pain (Heimer, 2012). Opioids prescribed for pain are commonly prescribed for patients with histories of drug dependence - much more commonly than in people with no history of substance misuse (Weissner et al, 2009).

PRESCRIPTION OPIOID DEPENDENCE

There has been a recent burst of research and analysis of the relationship between pain and addiction as a result of the re-emergence of prescription opioid misuse. Prior to the last two decades, opioids were sparingly used for pain, due to fears of addiction. In the 1980s, there was emerging recognition that relief of pain had been a low priority for the medical profession. Interest in chronic opioid prescribing was sparked with the cautious observation that opioids could be used safely in chronic non-cancer pain (Portenoy and Foley, 1986). In the decades following, there was a rapid rise in opioid prescribing for chronic, non-cancer pain, driven by aggressive pharmaceutical marketing rather than by clear evidence of efficacy and safety (van Zee, 2009).

The results have been well-documented in the USA. As prescription of opioids increased for pain, the rate of non-medical use of prescribed opioids rose in proportion (Dasgupta et al, 2006). Overdose is a marker of the prevalence of opioid misuse, and in the years 1999-2006, fatal poisoning involving prescription opioids more than tripled. By 2002, opioid analgesics had overtaken heroin and cocaine as the most frequently mentioned drugs in the Drug Abuse Warning Network system of notification of drug problems (Paulozzi et al, 2006), and by 2004 had surpassed heroin and cocaine as a cause of fatal overdose.

The literature on prescription drug misuse is mainly from the USA. The UK health-care system is very different, but there is a current trend towards increased prescribing of opioids. Between 2007 and 2010, prescribing of opioid analgesics increased 32%, compared to an increase in prescribing of non-opioid analgesics of 11% (NHS Information Centre accessed November 2012). Prescription drug misuse has been reported in many jurisdictions, including the UK (e.g. Lavelle et al, 1992; Fountain et al, 2000). There is also an emerging risk in the UK that with new emphasis on abstinence in the national drug policy, and deterrents to people returning to substitution treatment after leaving, opioid users in the UK may increasingly seek prescription opioids, ostensibly for pain, but primarily as an alternate form of maintenance.

RISKS OF ADDICTION AND RELAPSE IN USING OPIOIDS TO TREAT CHRONIC PAIN

Awareness of the increasing problem of diversion and misuse of opioids has led to a proliferating literature on measures to minimise risks associated with prescribing opioids long term. To minimise the risk of prescription opioid misuse, and protect patients from injudicious prescribing, health professionals involved in management of chronic pain require competence to identify and manage risks of misuse.

National US guidelines published in 2009 stated that the factor that appears to be most strongly predictive of drug abuse, misuse, or other aberrant drug-related behaviours after initiation of chronic opioid therapy is a current or past history of addiction, or a family history of alcohol dependence (Chou et al, 2009a). The guidelines recommend taking a history of substance abuse, misuse, or addiction, and assessing risk of these problems, as essential steps before prescribing opioids for chronic pain. This was categorised as a strong recommendation, based on low-quality evidence (Chou et al, 2009a).

This provides little guidance for clinicians - nor for individuals in pain - confronted with the problem of managing pain in a setting of current or past addiction to opioids. This is not an area which has received attention in recent literature. In the literature review developed as the basis for national US guidelines for use of opioids in chronic non-cancer pain, 37 research issues were identified - but none related to management of pain in current or former addicts (Chou et al, 2009b).

The risk associated with the current recommendations to be wary of using opioids in anyone with a history of addiction is that they will increase the stigma associated with addiction, and become a barrier to management of pain in this population.

Evidence on risks of addiction and relapse

High-grade evidence from structured clinical trials is little help in determining the risk of addiction in former addicts. Furlan et al (2006) reviewed 41 RCTs of opioids in chronic non- cancer pain, and found that the mean duration of monitoring outcomes was five weeks (range 1-16 weeks) - a duration mostly too short to observe problems of tolerance and relapse. More importantly, potential subjects with history of addiction (alcohol or drugs) were excluded from 25/41 trials, and in the remaining 16, this information was unreported. With regard to the incidence of opioid addiction developed during the trials, only three trials asked participants about symptoms and signs of addiction. Of these, two used indirect questioning; the other inquired if the patients experienced "drug craving". In summary, no adequate diagnosis of addiction was attempted in any of the studies.

Data from observational studies have also been somewhat unsatisfactory. Trescot et al (2008) reviewed trials and observational studies, and commented that "drug abuse" was identified in 18% to 41% in patients receiving opioids for chronic pain. Systematic assessment to identify substance use disorders, or to identify when development of dependence on opioids complicates management, seems to have been lacking for most published reports.

Despite the limited evidence, there is a consistent clinical consensus regarding prescribing opioids for chronic pain management in former heroin addicts. The limited efficacy of opioids for chronic pain, and risk of relapse on exposure to opioids, mean that in people who identify as abstinent former opioid addicts, and who are concerned at the risk of re-addiction, it is preferable to avoid opioid analgesics for management of chronic pain.

In former addicts who request opioid analgesics for chronic pain, the situation is more complex. Patients need a careful assessment of their pain, their addiction history and status, and their psychological functioning. If the pain appears something that is likely to respond to opioids, it is prudent that an addiction consultant assesses the patient prior to initiation of long-term opioid therapy.

Cancer pain

There is an ageing cohort of opioid-dependent people maintained on methadone, and increasingly the problem of palliative care will arise in these patients. There is little data to guide management, although there is one report which found no evidence of relapse in six patients receiving methadone maintenance therapy who were treated with oral opioid analgesics for cancer-related pain (Manfredi et al, 2001).

TABLE 4 CHRONIC PAIN MANAGEMENT IN RECOVERING, ABSTINENT ADDICTS

Source	Key points/Recommendations
SAMHSA 2012	Goals for treating CNCP in patients who are in long-term recovery are: • Treat CNCP with non-opioid analgesics as determined by pathophysiology • Recommend non-pharmacological therapies (e.g., CBT, exercise) • Treat comorbidities • Assess treatment outcomes. • Initiate opioid therapy only if the potential benefits outweigh risk and only for as long as it is unequivocally beneficial to the patient. The consensus panel concludes that benzodiazepines have no role in the treatment of CNCP in patients who have comorbid SUD, beyond very short-term, closely supervised treatment. For relapse in patients for whom opioid addiction is a serious problem, referral to an opioid treatment programme (OTP) may be the best choice.

CASE STUDY

A patient on high-dose OST was observed to fall asleep, snoring, in the waiting room after receiving his regular dose of methadone. He had a history of self-neglect, conflict with services, and long-standing, non-healing ulcers on his legs. There was a suspicion of factitious illness (or at least, non-compliance with attempts to heal the ulcers; the patient was thought to use ulcers to facilitate begging). The treatment plan in place involved daily attendance, supervised dosing, and monitoring of thrice-weekly dressing of leg ulcers. When roused after passing out, the patient reported that he had been seen in a pain clinic about pain in his ulcers; several medications had been recommended, and prescribed by his GP. There had been no communication between OST clinic and either pain clinic or GP.

This vignette illustrates again the importance of communication. Patients receive care in addiction services, primary care, pain clinics, and general hospitals. To minimise the risks of multiple prescribing, drug interactions, and conflicting treatment plans, good communication between services is an essential component of safe and effective care of this challenging patient group. Good communication between practitioners is particularly critical in managing complex and challenging patients. Doctors lose access to the most fundamental tool in medicine, the patient's self-report, during periods of active addiction, and this makes the importance of communication between practitioners all the more critical.

There are many reasons why opioid addicts experience pain. Addicted lifestyle can contribute to chronic, painful conditions, as occurred in this patient who developed chronic leg ulcers secondary to injecting in his legs.

Many people who become addicted have coexisting mental health problems, and these are often made worse by addiction. Addiction is associated with emotional dysregulation, with low mood and focus on physical symptoms. The lifestyle of many addicts often contributes to demoralisation, a sense of distress and hopelessness with loss of motivation.

All these factors contribute to experience of bodily pain, while the experience of years of addiction provides a powerful memory that drugs will relieve the pain, at least in the short term.

Methadone and buprenorphine, administered once daily in a stable dose, do not provide analgesia. They are more effective as analgesics if the dose is divided and given at intervals throughout the day.

TABLE 5 CHRONIC PAIN MANAGEMENT IN PATIENTS ON OST

Source	Key points/Recommendations
SAMHSA 2012	Pain clinicians should work closely with the patient's SUD treatment provider. Patients with chronic pain likely will not obtain adequate pain control through a single daily dose of methadone. Prescription of additional opioids for pain management through a medical provider may be required. Such arrangements require close communication between the OTP and the prescribing clinician. The buprenorphine dose-response curve plateaus or declines as the dose is increased. To optimise analgesic efficacy, the drug should be given three times a day when pain reduction is a goal.

ADDICTION TO PRESCRIBED OPIOIDS

(Addiction consultant letter) I saw this woman ten years ago, at which time she was taking 160 hydromorphone tablets weekly for headaches. I referred her to a pain clinic, where she was admitted to hospital, treated with a ketamine infusion (which temporarily relieved pain), and discharged with advice to reduce the amount of hydromorphone. She was recently referred again to our addictions service, now taking 270 tablets/week of hydromorphone. She is fixated on pain, and angry at being referred to Addictions.

This letter illustrates one aspect of prescription opioid dependence. Rapid-onset, short-acting opioids such as hydromorphone are very reinforcing, and in addition to being physically dependent on opioids, it is highly likely that this patient is psychologically dependent on opioids. However, like many dependent individuals, this patient is fearful of losing access to medication, and very resistant to the idea that medication is contributing to her pain and disability. Once this point is reached, management is usually much more difficult.

Treatment with opioids can lead to long-term worsening of pain and functioning. Opioid use can cause a syndrome of decreased pain tolerance, increased anxiety, depression, and sleep disturbances. Two independent factors contribute to this - opioid withdrawal, and opioid-induced hyperalgesia.

Opioid withdrawal

Generalised pain is a symptom of acute opioid withdrawal, and during opioid withdrawal pain sensitivity is heightened. Opioids may contribute to pain facilitation because once dependent on opioids, the emergence of withdrawal causes rebound pain and contributes to a cycle of pain and drug use. This is particularly the case in patients using short-acting opioids such as hydromorphone, as withdrawal symptoms (primarily pain) can occur between doses.

Opioid-induced hyperalgesia

Opioid-induced hyperalgesia results from activation of specific brain and spinal cord pathways, with increased release of excitatory neurotransmitters and more intensive spinal synaptic transmission. Opioid-induced hyperalgesia has been observed acutely, in patients receiving high-dose opioids following surgery, and in patients chronically treated with high-dose opioids for chronic pain (Angst and Clark, 2006), and can cause severe intra-operative and post-operative pain.

All opioids, including methadone and buprenorphine, lead to a dose-dependent reduction of the pain threshold (Compton et al, 2012). Hyperalgesia is reversible with dose reduction or cessation of opioids. Detoxified and long-term abstinent ex-addicts have increased pain thresholds in comparison to healthy controls (Liebman at al, 1997; Prosser et al, 2008).

In the vignette above, to the extent that opioid withdrawal is contributing to the recurrence and severity of this patient's headaches, transfer to a long-acting opioid may reduce the severity of her symptoms. Hyperalgesia is less commonly a factor contributing to headaches, but to the extent that hyperalgesia is contributing to this patient's headaches, reduction in dose may be associated with improved symptom control.

"ABERRANT BEHAVIOURS"

The recent literature on opioids for chronic pain has emphasised the importance of "aberrant behaviours" - indicators that a patient may be misusing prescribed medication.

Aberrant behaviours include (SAMHSA, 2012):

- Opioid diversion
- Insistence that only opioid treatment will alleviate pain, resisting changes to opioid therapy
- Taking doses larger than those prescribed or increasing dosage without consulting the clinician
- Continued requests for dose escalations
- Seeking opioids from different physicians
- Resisting urine drug screening, referrals to specialists, and other aspects of treatment
- Repeatedly losing medications or prescriptions or seeking early refills
- Making multiple phone calls about prescriptions
- Attempting unscheduled visits, typically after office hours or when the clinician is unavailable
- Appearing sedated
- Misusing alcohol or using illicit or over-the counter, internet or other prescribed drugs
- Deteriorating functioning (e.g. problems at home or at work)
- Injecting (having track marks) or snorting oral formulations
- Obtaining medications illegally (e.g., from multiple clinicians, street dealers, family members, the internet or forged prescriptions)

In a review of published data on aberrant behaviours, Fishbain et al (2008) found that the vast majority of aberrant behaviours have been observed in people with a prior history of drug abuse. Among people with no history of drug misuse prescribed opioids for chronic pain, aberrant behaviours were observed very rarely. Fishbain also reported that the use of urine drug testing identified far more individuals with aberrant behaviours than did clinical observation. One in five patients prescribed opioids for chronic pain had no prescribed opioid, or a non-prescribed opioid, in their urine samples.

Data on aberrant behaviours have led US experts to conclude that prescribing opioids for people with histories of abuse or dependence frequently leads to relapse (SAMHSA, 2012, p40). However, there is a more probable explanation. In the USA over the last decade, the epidemic of prescription drug abuse has been sustained by a black market, with the major source of drugs being prescriptions written by doctors. Clearly, a significant proportion of opioid prescriptions, written ostensibly to treat pain, have been written for people who have no intention of taking all, or any, of the medication - it has been obtained for purposes of supplying a black market.

ADDICTION MEDICINE AND PAIN MEDICINE - BRIDGING A DIVIDE

In both pain and addiction medicine, empathic and patient history taking, and comprehensive assessment of mental and physical health are essential elements of chronic disease management. However, there are differences in perspective. Practitioners in addiction medicine are well aware that some addicted individuals are less than open, sometimes have skills in manipulating doctors, and do not always comply with treatment. Such is addiction, and the judicious application of urine monitoring, supervision of administration, and use of evidence to corroborate self-report, are essential features of addiction medicine. However, in pain medicine a prevailing assumption has been that "the pain is what the patient says it is".

A central pillar in addiction medicine is the management of risk. In patients who have impaired control over their drug use and their lives, and in whom drug use is often accorded greater salience than caring for their own health, it is essential to prescribe drugs with due precautions. At its most structured, in managing patients with recent or ongoing drug misuse, this involves daily supervised administration, regular clinical reviews of health and functioning, and monitoring drug use with urine testing. In this, addiction medicine differs from other areas of practice.

However, following the epidemic of prescription drug misuse in the USA, increasing attention has been paid to risk management. As noted above, pain research to date has involved a fairly unsystematic approach to identifying addictive disorders, suggesting that there has been little cross-fertilisation between pain medicine and addiction medicine. Efforts are being made to address this issue, and in some US states, consultation with an addiction specialist is required before scheduled medications can be prescribed on a long-term basis to patients who have histories of a substance use disorder (SAMHSA, 2012).

Misuse and maintenance

There are many reasons why a current or former heroin user might seek opioid drugs other than to sell them, or to manage pain. In some cases, the person in receipt of the prescription may be intending to use the medication for their own purposes, but not necessarily as prescribed, and not primarily to manage pain. Prescribed drugs are sometimes obtained for intoxication, but may also be sought by individuals seeking to avoid withdrawal. Particularly in jurisdictions where maintenance treatment with methadone is inaccessible, many opioid-dependent individuals access opioids prescribed ostensibly for pain management but use them as an alternative maintenance medication. Even where treatment is accessible, some patients are deterred by the stigma, the loss of privacy, or the rigid rules which may be experienced in treatment programmes, and seek long-term prescriptions on the grounds of pain rather than enrolling in a treatment programme.

CASE STUDY

This 40-year-old man was a distance runner in his teens. He says that he developed pain in both knees, and began using heroin at age 20 to treat his knee pain. At 25 he began on methadone. He has subsequently developed bilateral deep vein thrombosis secondary to groin injecting, and recurrent episodes of cellulitis in his swollen legs. His pain persisted and he had a knee replacement in 2006, without relief of pain. He is currently prescribed methadone 100 mg/day, and morphine ampoules 30 mg, four daily. He reports continuing pain, and is firmly of the view that his problem is one of chronic pain, not addiction.

His doctors perceived that this man was a heroin addict with chronic pain, and opioid dependence was contributing to his pain and disability. However, his own perception was that access to medication was the only thing that gave him any quality of life, and he strongly resisted the suggestion that inappropriate medication (long-term injections of morphine) was contributing to his problems.

The clinical challenge is to engage the patient, as any attempt to change management without the patient's willingness to do so is likely to result in the new treatment "not working". An essential skill of addiction medicine is to retain a stance of empathy and positive regard for patients while not challenging the patient's attribution of his or her problem to a simple physical cause, and challenging his or her belief that medication is the solution.

Multidisciplinary management

I reviewed H today. She has had severe back and leg pain, and just wants the pain to stop. She has come off lorazepam, which is remarkable, but is taking oxycodone 10 mg, clonazepam 1 mg, zopiclone 15 mg, all two to three times per day until she falls asleep. She has increased baclofen to 85 mg. I injected further trigger points today and will review in three weeks.

This letter from a pain clinic illustrates a common issue in managing coexisting chronic pain and drug dependence - like many patients, this woman "just wants pain to stop". However, this may not be a realistic basis on which to deliver effective treatment. Complete symptomatic relief of chronic pain is seldom possible and an acceptable balance between improved function and side-effects should be seen as the goal (Department of Health, 2007).

Managing chronic conditions requires defining and agreeing objectives of treatment. Without agreed and mutually acceptable objectives against which to monitor response, and an explanation of the therapeutic rationale for prescribing, there is a risk of mismatched and unrealistic expectations. Unrealistic expectations of a pain-free life are a poor basis for treatment planning. The letter describes a "heartsink patient" with severe symptom complaints, poor functioning and no clear diagnosis. No practitioner would propose this patient's medication regime, in which through the day she repeatedly takes a cocktail of medications and falls asleep. But over years of incremental prescribing oriented towards an unachievable goal, such regimes can develop.

The patient is dependent on opioids and benzodiazepines. Such dependence is not benign, but may well be contributing to low mood, and poor social functioning and quality of life. Management of her pain requires a clear identification of the diagnoses (in this case, including the diagnosis of dependence on benzodiazepines and opioids) and setting realistic objectives, notably improvement in functioning. Procedures such as injecting trigger points may have the unintended effect of reinforcing in the patient's mind that the problems are primarily physical issues requiring intervention.

Everyone in dealing with complex behavioural problems needs to have the benefit of case discussions, and where needed a second opinion. Often, what is useful is a second perspective; addiction and pain medicine often see the same problem quite differently, and mental health professionals may provide a third, differing perspective. Access to specialist consultation and case discussion between the disciplines is highly desirable in managing complex cases, and multidisciplinary pain clinics should include, or have access to, practitioners with competence in addiction and practitioners with competence in mental health.

TABLE 6 CHRONIC PAIN MANAGEMENT IN PATIENTS CURRENTLY OR RECENTLY ADDICTED

Source	Key points/Recommendations
SAMHSA 2012	Most patients addicted to prescription opioids have a prior SUD. Clinicians should adopt universal precautions in considering opioid therapy for patients who have chronic non-cancer pain. Assessing patients via interviews or structured self-report questionnaires should be corroborated by other sources of information (e.g. medical records, interviews with family, urine toxicology). The presence of active addiction–whether to alcohol, opioids, or other substances–makes successful treatment of chronic pain improbable. Identification of an active SUD indicates that the patient should be referred for formal addiction treatment. Risk assessment is a clinical judgement but may be assisted by using structured tools. In patients who relapse to opioid addiction, referral to an OTP may be the best choice. Patients who have chronic pain likely will not obtain adequate pain control through the single daily dose of methadone that can be provided through an OTP. Such programmes may be willing to collaborate in the management of patients, allowing the prescription of additional opioids for pain management through a medical provider. Such arrangements require close communication between the OTP and the prescribing clinician.
ANZCA 2010	Long-term opioids may not provide continuing effective pain relief and there is an uncertain risk of abuse of the drugs. Inadequate pain relief because of pharmacological tolerance may improve with opioid dose escalation, while improvements in analgesia in the presence of OIH may follow a reduction in opioid dose.

Distinguishing between pain and addiction

There is a tendency shown in some published commentaries to see a problem as either pain (requiring medical treatment) or addiction (pursuit of euphoria). Such a strict dichotomy is not helpful. While at times there is a clear distinction between prescribing for pain and prescribing for dependence, in many cases this distinction becomes blurred. Many opioid-dependent people suffer pain, and it may be difficult for the patient themselves, let alone the prescribing doctor, to determine whether opioids are being taken for pain relief, to satisfy craving, or to relieve withdrawal.

One risk in trying to make a clear distinction between pain and addiction is that addicts can be dismissed as not having valid pain complaints. All too commonly, heroin addicts experience both pain and addiction. On the basis of evidence, opioids are not contraindicated in addicted individuals. Evidence for the long-term effectiveness of opioid therapy in chronic, non-cancer pain is at best weak (Trescott et al, 2008), whereas there is a substantial evidence base supporting long-term prescribing as an effective way to manage opioid dependence (NICE, 2007). However, such prescribing needs to be structured and regularly reviewed.

Risk management

Methadone treatment, with its initial requirement for regular, often daily attendance for supervised administration, is highly structured. Addiction is characterised by loss of control, and people who have lost control of their drug use and their lives often benefit from externally imposed controls. Supervised consumption protects patients from the temptation to sell or misuse prescribed medication, and helps protect the community from diverted drugs. It ensures compliance, making treatment safer and more effective. Monitoring non-prescribed drug use with urine toxicology to supplement self-report is another important safety measure in OST. If monitoring confirms that people are responding well to treatment, the level of structure can be progressively reduced.

These considerations should inform management of chronic pain where opioid dependence has complicated management, or where chronic pain develops in someone with a history of addiction. Recognition of the overlap between chronic pain and addiction, and in particular the risks of diversion and misuse, have led some clinicians to advocate "universal precautions" such as urine testing in prescribing opioids (Gourlay et al, 2005) or the use of a "medication contract" (Chelminski et al, 2005). Such measures are designed to ensure that prescribing for pain is adequately structured (and closer in practice to addiction medicine).

SUMMARY PRESCRIBING OPIOIDS FOR CURRENT AND FORMER ADDICTS

- Former addicts may be at risk of relapse if prescribed opioids for chronic pain
- Current addicts may seek opioid drugs for several reasons:
  - To relieve pain and distress
  - To maintain their habit
  - To manage withdrawal
  - A less stigmatised alternative to OST programmes
  - To sell to the black market
- Patients with chronic pain and possible opioid dependence need agreed treatment plans, defined objectives against which to monitor treatment outcomes and risks, and regular review
- Urine drug screening identifies more aberrant behaviours than self-reporting
- Initiating opioid medication in current or former addicts requires competence in addiction medicine, or input from specialist addictions staff.
- Coordination of care is critical in managing complex, long-term conditions. Good communication is essential. GPs have the principal role in coordinating care, and require some competence in addiction medicine and pain medicine

Section 4 Recommendations to improve pain management in current and former addicts

The steering committee identified two barriers to the implementation of safe and effective management of pain in recovering and current addicts. The first of these is the relative lack of knowledge of many health professionals concerning addiction and recovery. However, the far greater barrier is considered to be the stigma associated with addicts and addiction.

STIGMA

Many health professionals lack training in addiction medicine, and have little experience of working with addicted individuals. Such lack of knowledge is a problem, but a greater obstacle to managing pain in addicted individuals is the stigma attached to addiction (Compton et al, 2003).

Stigma arises from several sources. Health professionals share the broad community fear and disapproval of addiction, and disapproval of the addicted lifestyle. Doctors also share the community assumption that addiction is primarily a matter of character and personal responsibility, and is therefore not a matter for doctors to engage with. Addicted people usually share these community assumptions, feeling shame and guilt over their use of drugs, and preferring not to mention or discuss their drug use with their treating doctor. Many addicts develop an "addict identity", that of an individual who lives by his or her wits, and has difficulty trusting anyone. Fear of pain and withdrawal means current addicts often take drugs while hospitalised, adding to the mutual distrust between health professionals and addicted patients. Internalised stigma, fear of pain and fear of withdrawal mean that addicted individuals, fearing they will be judged and not believed, are at times aggressive and demanding.

Health professionals fear the potential toxicity of opioids and their abuse potential - a fear reinforced by regulations concerning the prescribing, dispensing and administration of controlled drugs. Doctors fear being manipulated, and dislike dealing with patients whom they feel they cannot trust to give an accurate history. These feelings discourage health professionals from addressing drug use.

A recent anaesthesiology paper on pain management in current or former addicts, while acknowledging the importance of avoiding relapse, commented: "Adequate pain management should have a high priority even for these patients" (Stromer et al, 2013). This comment encapsulates the stigmatised status of addicts within health-care systems.

To a limited extent, stigma can be addressed by knowledge and experience. However, in dealing with assumptions and beliefs, health professionals also need support and role models, and the opportunity to reflect on their experience. This can be particularly difficult in the hospital setting.

There is a recurring theme in this document, on the interplay between individuals and the context in which they find themselves. The development of an individual's addiction is the result of the interplay between someone's personal vulnerabilities and resilience, and their social context. This interplay between individuals and systems also applies to professionals treating complex patients. The likelihood of managing pain effectively is the result of the interaction between the clinician's competence, and the setting in which he or she works. A competent practitioner working in a chaotic system in which information is not shared can have difficulties achieving safe and effective pain management. A hospital with comprehensive policies and procedures cannot guarantee good care of patients if individual practitioners are not supported in dealing with complex, stigmatised patients.

Hospitals and community clinics need protocols for the management of patients with alcohol and drug problems, and protocols on pain management. But protocols alone are of limited value, and are more useful if backed up by skilled practitioners who serve as educators, role models, and supports for other clinical staff members. In recovery, the experience of Alcoholics Anonymous, encapsulated in the 12 steps, provides a "protocol" for recovery but is of little value without the personal support offered by the fellowship.

COMPETENCIES

Better management of pain in current or former addicts requires practitioners having not just knowledge, but competence - comprising knowledge, skills and attitudes. The development and maintenance of competence requires ongoing education, experience and the opportunity to reflect on practice.

On admission to hospital, patients should have a history of alcohol and drug use documented. An empathic, non-judgemental stance is most likely to elicit an accurate history.

Patients using drugs or alcohol in a risky or harmful fashion should be provided with brief advice.

It is desirable to err on the side of safety and anticipate the development of withdrawal in patients reporting recent drug use. Hospitals should have protocols for management of withdrawal, and for management of patients on OST.

Any doctor prescribing opioids for pain management needs a basic knowledge of opioid pharmacology, skills in communication with patients (critical in managing pain and anxiety, including acute pain), and an empathic, non-judgemental stance when relating to all patients.

In managing people with a history of opioid dependence, it is important to critically assess patients' self-report. As noted previously, the most useful tool in clinical medicine is the patient history, but unlike most areas of practice, the patient's account needs to be viewed circumspectly by doctors considering prescribing medication for addicted patients. Addiction practice involves a stance of due caution, and relies on structured approaches to treatment to protect patients and the community. A key skill in addiction medicine is achieving a balance between scepticism, application of structure (rules and mutual expectations), and an empathic stance towards distressed patients.

Prescribing for chronic pain requires knowledge of (1) chronic pain management; (2) skill in recognising and diagnosing opioid dependence; (3) knowledge and skill to agree realistic objectives of treatment; (4) skill to monitor and adjust treatment to optimise effectiveness and manage risks; and (5) knowledge of mental health comorbidities which may influence pain and functioning.

Standardised tools (such as screening questionnaires) have serious limitations, and are not a substitute for competent assessment (SAMHSA 2012). The decision of how to manage, and whether to prescribe opioids, needs to be reached in agreement between an appropriately skilled doctor and patient.

TREATMENT SYSTEMS

Hospitals

Opioid dependence is sufficiently common that all hospitals should have protocols for the management of pain in people identified as opioid dependent. These protocols should deal with history taking, identification and management of withdrawal, continuation of OST in hospitalised addicts, and provision of pain relief in people with current or past addiction. Such protocols are more likely to be useful if supported by training, and by access to skilled staff to assist in assessment and management of complex cases.

Large hospitals should have an addictions consultation-liaison service to provide training, assess and advise on management of complex patients, and support staff in management.

Pain management is likely to be more effective if an acute pain team is available.

Addictions services and pain clinics

Chronic pain is common among people on OST. Many addicts have chronic illnesses and injuries accumulated during periods of active addiction, and opioid-induced hyperalgesia may also contribute to the prevalence of pain problems. Addiction services need skilled staff familiar with the principles of chronic pain management and who are able to assess and refer patients appropriately.

Given the overlap between chronic pain and opioid dependence, pain clinics should not only liaise with addiction services regarding individual patients, but should also have access to specialist addiction assessment services.

Pain clinics and addiction services are the settings in which large numbers of people with pain and with opioid dependence are seen. Pain clinic staff should have a basic competence in identification and diagnosis of drug dependence, and access to addictions consultation. Addictions services need a basic knowledge of chronic pain management, and access to pain clinic consultation. Optimally, pain clinic panels should include an addictions practitioner.

General practitioners

General practitioners are the people with prime responsibility for coordination of care, and are critical in ensuring continuity of care and follow-up monitoring. GPs should have basic competence in both addiction medicine and management of pain. In the development and maintenance of these competencies, and in dealing with complex cases, practitioners may find value in:

- Continuing professional development around addictions, focusing on reflective practice
- Access to pain clinic consultation
- Access to addictions specialist consultation

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Action on Addiction
Head Office and Registered Office
East Knoyle
Salisbury
Wilts SP3 6BE

Tel: 0300 330 0659
Email: action@actiononaddiction.org.uk

@ActionAddiction

Action on Addiction

www.actiononaddiction.org.uk

Company Registration No. 05947481
Charity No. 1117988