

The role of opioids in the management of chronic non-malignant pain is a controversial subject due to concerns over the long-term efficacy and safety of treatment, including the risk of misuse and addiction. In the past, opioids featured prominently in many treatment guidelines for chronic non-malignant pain. However, this advice has been reconsidered in more recent times and the current opinion is that opioids have a very limited role in the management of patients with chronic non-malignant pain. Non-pharmacological methods for helping patients cope, and come to terms, with their pain should be the mainstay of treatment. Non-opioid analgesics may be considered for periods when pharmacological treatment for pain is necessary. Opioids should only be considered as a treatment of "last resort", and should be used for the shortest possible time, at the lowest effective dose, using the least potent opioid possible.

Why opioids should not be used for chronic non-malignant pain

Opioid analgesics are often used in the treatment of patients with chronic non-malignant pain, despite a lack of evidence supporting their effectiveness in this setting. There is now a growing, consistent body of evidence that suggests that opioids should play a much smaller role than previously thought in managing these patients. This evidence suggests that the long-term efficacy of opioids is not proven and that opioid treatment is associated with a well established risk of adverse events and addiction.

Management of patients with chronic non-malignant pain involves a complex interplay of biological, psychological and social factors, therefore treatment needs to incorporate all of these aspects. Psychological factors in particular play a major role in determining the success or failure of treatment in patients with chronic non-malignant pain. It is important that clinicians understand and empathise with the emotions the patient is experiencing in order to best manage their pain (see: Recognising the importance of the patient's emotional wellbeing", Page 31).

The long-term effectiveness of opioids is not proven

Most clinical research on opioids has studied their effect on pain for relatively short-term treatment only. For example, a meta-analysis and a systematic review evaluated the effectiveness of opioids used to treat patients with chronic non-malignant pain.^{3, 4} The studies included in the analyses showed that patients were treated with opioids for a mean of five weeks (range 1 – 16 weeks). Opioids, which included oxycodone, morphine, fentanyl, tramadol and codeine, were associated with a modest short-term analgesic benefit,

however, the authors cautioned that this finding should not be extrapolated to long-term treatment with opioids.^{3, 4} Opioid-induced hyperalgesia and tolerance have been found to be major limiting factors for long-term opioid treatment.⁵ Another systematic review (that included 21 randomised studies) found that there was no evidence that opioids (including oxycodone, morphine and tramadol) were effective in managing chronic non-malignant pain in any of the conditions studied (including back pain and osteoarthritis). The only exception was "intermediate/fair" evidence for tramadol in patients with osteoarthritis.⁶

Opioids are associated with significant adverse events

The use of opioid treatment for the management of chronic non-malignant pain is associated with significant adverse events that affect multiple organ systems. These adverse events can occur with any use of opioids, but there is an increased risk in patients who use opioids long term.

Adverse effects of opioids include:2

- Respiratory system respiratory depression, obstructive and central sleep apnoea, ataxic breathing, respiratory arrest and death
- Central nervous system increased risk of falls, cognitive impairment, myoclonus, delirium, depression, somnolence and sleep disorders
- Cardiovascular system orthostatic hypotension, bradycardia, vasodilation and an increased risk of cardiovascular events, e.g. myocardial infarction
- Gastrointestinal system constipation, nausea and vomiting, gastric reflux, delayed gastric emptying, abdominal cramping and distension

Principles for managing patients with chronic non-malignant pain

- Communicate and listen to the patient and empower them to take a leading role in the management of their condition
- Focus on improving function and disability rather than just concentrating on pain outcomes
- Ensure that the patient has realistic expectations regarding treatment. Controlling or reducing pain rather than total elimination of pain is usually the goal.
- Treat any co-morbidities that are frequently associated with chronic pain, e.g. anxiety and depression. Non-pharmacological treatments, such as cognitive behavioural therapy and exercise, can play a major role in managing the psychological co-morbidities of pain. Short-term use of pharmacological treatments, e.g. selective serotonin reuptake inhibitors (SSRIs), can also be considered.
- Educate the patient that remaining active will be beneficial in managing their pain and encourage them to continue to do activities that bring enjoyment. A positive attitude or outlook can reduce the patient's perception of their pain. Focus on what the patient can do, as opposed to what they cannot do.
- If pharmacological treatment is used to manage pain, always have a plan to taper the dose (even if this is long term) and avoid increasing doses to "chase pain"

- Immune system decreased wound healing, pruritus, altered cytokine production, increased histamine release, inhibition of macrophage, neutrophil and natural killer cell activity and recruitment, increased HIV replication and cancer progression
- **Endocrine system** opioid-induced endocrinopathy (usually only with high opioid doses, long term), resulting in decreased libido, testicular atrophy, early menopause and sexual dysfunction

The sedative effects of opioid treatment can also add to psychological factors that patients with chronic nonmalignant pain may be experiencing, and exacerbate feelings of helplessness and depression.

Opioids have high addiction rates

The rates of opioid misuse and addiction reported in the literature vary greatly for patients with chronic non-malignant pain. This is possibly due to different definitions and methods of measuring addiction and misuse. One systematic review reported that the rate of opioid addiction/misuse was relatively low (approximately 3%) but the rate of aberrant behaviour was much higher (approximately 12%) in patients with chronic non-malignant pain who received long-term opioid treatment.7 However, other studies have reported much higher addiction/misuse rates. The retrospective TROUP study which investigated a number of factors associated with long-term opioid use, reported possible opioid misuse in 20% – 24% of patients with chronic non-malignant pain and probable misuse in 3% – 6%.8 Another study reported even higher rates, with approximately 35% of patients with chronic non-malignant pain fitting the Diagnostic and Statistical Manual for Mental Disorders – fifth edition (DSM-V) criteria for a prescription opioid use disorder during a lifetime.9

Other treatment options are available

Clinicians may have a misconception that opioids are the only treatment option available for patients with chronic nonmalignant pain. This can result in inappropriate prescribing of opioids, including switching patients from other treatments, e.g. NSAIDs, to opioids, which is generally not appropriate. Clinical judgement and individualised prescribing, which takes into consideration the risk and benefits of all treatments, are essential in managing patients with chronic non-malignant pain. Focusing solely on pharmacological treatments for these patients should be avoided.



For further information see www.aci.health.nsw.gov.au

Recognising the importance of the patient's emotional wellbeing

Psychological factors have been shown to play a major role in how patients experience and tolerate pain, but are often not considered when management plans for chronic non-malignant pain are implemented. Recent research in patients with chronic pain has identified dysfunction and dysregulation in a several key brain structures. Hhis dysfunction is associated with changes in the patient's emotional and cognitive functioning, including increased activity, anxiety, depression, fear, addiction, altered attention and cognition (Figure 1). These changes are also related to the phenomenon of pain catastrophising, which can be defined as repetitive negative thoughts during actual or anticipated pain. Pain catastrophising has been recognised as one of the major psychological determinants of the negative outcomes associated with chronic non-malignant pain.

Clinical experience has shown that a "collaborative partnership" approach between patient and clinician is best when managing chronic non-malignant pain. For most patients, it is essential to them that the clinician believes that they are experiencing pain and recognises that their life has been significantly changed by this pain.¹²

Patients frequently report an "adversarial struggle" within themselves or with others when dealing with chronic nonmalignant pain, which can result in:¹²

- A struggle with self-perception and self-worth the patient may describe feeling alienated from their body and that they cannot meet other people's expectations and hide their pain in an attempt to appear normal
- Altered perceptions of the future the day-to-day unpredictability of pain can mean that the patient changes their plans, expectations and dreams for the

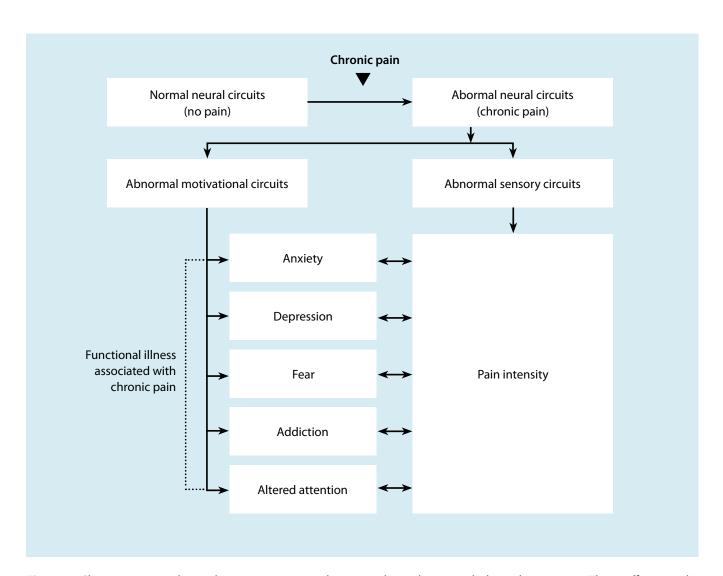


Figure 1: Chronic pain results in changes to emotional state, with resultant psychological symptoms. These effects are bidirectional, i.e. negative emotional states can augment the perceived intensity of pain. Adapted from Elman *et al*, 2011.¹¹

future, resulting in an inwardly focused perspective on life

- A feeling that people do not understand or believe their pain – resulting in emotions of worthlessness, fear, guilt and doubt, which may influence the patient's work and relationships, as well as impacting on their likelihood of seeking help
- Problems with negotiating the healthcare system the patient may feel as if they are being referred back and forth between clinicians and they are "trapped in the system"

Clinicians should aim to counsel the patient through these adversarial struggles and help them to move forward "alongside their pain".

Ways to achieve this include:12

- Encourage the patient to recognise the type, intensity and duration of pain they are feeling and how this can vary throughout the day and between days. The aim is for the patient to feel increasingly more in control of their body and their pain.
- Encourage the patient to redefine a "new normal" that
 does not focus on the losses which the pain has caused
 but reinforces positive self-images and plans for the
 present and the future
- Encourage the patient to become part of a group and to share their pain experiences with others. This can help them realise that they are not the only person dealing with pain issues.
- 4. Reassure the patient that they do not have to hide their pain or seek the approval of others (i.e. convincing others that their pain is real). Patients should be encouraged to work with their pain to accomplish achievable and realistic goals and not to set goals based on other people's expectations.
- Ensure that the patient understands that there may be no cure for their pain and that managing their pain and improving function are the goals of their management plan.
- 6. Help the patient to understand their pain condition and take a more active role in their health care. Patients should be given the confidence to experiment with different methods of managing their pain and the opportunity to make their own decisions about their treatment.

Pain is often complicated by a number of other factors, including anxiety, depression, substance use disorders and

sleep difficulties.¹³ Managing these co-morbidities is essential in gaining overall control of the patient's pain condition.

Further reading: Toye F, Seers K, Allcock N, et al. A metaethnography of patients' experience of chronic non-malignant musculoskeletal pain. Health Serv Deliv Res 2013;1(12). Available from: www.journalslibrary.nihr.ac.uk/__data/ assets/pdf file/0010/94285/FullReport-hsdr01120.pdf

Finding treatments for pain

When managing patients with chronic non-malignant pain, the aim is to maximise use of non-pharmacological treatments and non-opioid analgesics, and to avoid using opioid analgesics where possible. Most patients can be managed in primary care, but discussion with, or referral to, a specialist pain clinic may be required in some cases. This may include patients with pain that is difficult to treat or when multiple treatment failures have occurred.

A treatment approach that incorporates both pharmacological (non-opioid) and non-pharmacological interventions is recommended. This method has been found to be more effective in managing chronic pain than single treatment modalities. This is supported by a 2008 systematic review, that included 35 randomised studies (2407 patients), which investigated the use of multidisciplinary treatments* in patients with chronic musculoskeletal pain (mostly chronic back pain or fibromyalgia). The review reported that there was "moderate" evidence of better effectiveness of multidisciplinary treatments compared to single treatments in the treatment of this patient group. 14

There are a wide range of social, psychological, non-pharmacological and non-opioid pharmacological treatment options available for patients with chronic non-malignant pain. The best combination of treatments will vary between patients depending on a number of factors. These include the underlying pain complaint, e.g. nociceptive versus neuropathic pain, the mind-set and demographics of the patient, e.g. older and younger patients may have different expectations and preferences for different treatments, the severity and duration of the pain, and the availability and affordability of different treatment options. It may be necessary to trial different combinations of treatments in order to find the best combination that suits the individual patient.

^{*} Multidisciplinary treatments in the studies included cognitive behavioural therapy (CBT), psychotherapy, exercise programmes (including stretching and hydrotherapy), patient education, muscle relaxation, nutritional counselling, and vocational and occupational therapy.

Non-pharmacological treatment options for chronic pain

Exercise therapy

Physical activity is beneficial for people with pain as it can improve, or stop deterioration, in a number of parameters, including range of motion and flexibility, and the pain associated with these. The choice of exercise programme will vary depending on the patient's pain condition and physical capabilities. A patient may choose a structured exercise programme, or may prefer self-directed activities such as walking or swimming; these activities may be particularly beneficial in patients with osteoarthritis of the lower limbs or chronic back pain. Patients who are initially reluctant to begin exercise can be advised to gradually increase their level and duration of activity.

A Cochrane systematic review reported that exercise therapy was slightly effective in decreasing pain and improving function in adults with chronic low-back pain, and at least as effective as other conservative treatments, e.g. behavioural approaches. The positive effects of exercise programmes were most pronounced in patients who presented to healthcare providers and received individually-designed programmes that commonly included strengthening or trunk-stabilising exercises. The positive review of the stabilising exercises.

Pilates: A systematic review concluded that regular sessions of pilates (one to three times per week) resulted in greater improvements in pain and function than usual care and physical activity in the first 4 – 15 weeks in patients with chronic low-back pain.¹⁶

Yoga: A randomised trial that investigated the efficacy of the addition of yoga to usual care in patients with chronic low-back pain found that pain and function were both improved (at three, six and 12 months) in patients who underwent at least three yoga sessions.¹⁷

Tai Chi: A systematic review found that regular sessions of Tai Chi (on average one to two times per week for 6 – 15 weeks) had small positive short-term effects on pain and disability in patients with chronic musculoskeletal pain due to arthritis. ¹⁸ However, the studies included were generally of low quality.

Brisk walking and home-based quadriceps strengthening exercises have both been reported to significantly reduce pain and disability in patients with osteoarthritis of the knee. ¹⁹ Weight reduction in overweight patients with osteoarthritis of the knee has also been shown to improve pain and function scores. ²⁰

Massage

Massage therapy may have some benefits compared with placebo and relaxation in patients with chronic low-back pain in the short term, according to the results of a systematic review.²¹ However, there were conflicting and contradictory findings regarding the effectiveness of massage therapy when compared to other manual therapies (such as mobilisation) and acupuncture.²¹ The use of topical rubefacients during massage can also be recommended, e.g. heat rubs.

Acupuncture and nerve stimulation techniques

A systematic review and meta-analysis reported that acupuncture improved pain outcomes in patients with four chronic pain conditions – back and neck pain, osteoarthritis, chronic headache and shoulder pain.²²

Transcutaneous electrical nerve stimulation (TENS) is a form of nerve stimulation for pain relief and involves delivery of low-voltage electrical current to the skin via surface electrodes. However, systematic reviews have found variable and inconclusive results for TENS in patients with chronic pain.²³

Cognitive behavioural therapy (CBT)

CBT (individual or group) is one of the more commonly used behavioural approaches for treating patients with chronic pain. CBT focuses simultaneously on the environment, behaviour and cognition. The efficacy of CBT has been investigated in a number of chronic pain conditions including fibromyalgia and low back pain. A randomised study conducted in patients with chronic low-back pain in England reported that six sessions of group CBT resulted in significantly better pain and disability scores (p <0.001 for both) compared with the control group (no CBT).²⁴ Another study reported that CBT improved the patient's ability to cope with pain, reduced depressive moods and reduced the number of follow-up appointments in patients with chronic pain due to fibromyalgia, but had no significant effects on the actual pain, fatigue, sleep



Cognitive behavioural therapy for pain

The principle behind CBT is in examining the relationship between a person's thoughts, feelings and behaviours, and understanding that these factors are dependent on each other.

The patient may begin with:

"If I move, I will hurt more" (thoughts)

"This makes me feel anxious about doing anything" (feelings)

"I will avoid doing anything that might hurt" (behaviour)

This then progresses to:

"No one cares about my pain, and no one can fix me" (thoughts)

"I feel angry that no one cares, and fearful that I cannot be fixed" (feelings)

"This makes me tense and irritable" (behaviour)

The purpose of CBT is to help patients avoid feeling overwhelmed by the pain they are experiencing, and instead come to terms with their pain and feel that it is manageable. This means that the patient moves from a passive to an active role in their care, focusing on increasing their function and quality of life.

The goals of the clinician are to:

- Actively listen to the patient's experience of their pain
- Provide education about the cause of pain (if possible) and possible treatments
- Help patients find additional resources and support groups
- Set goals for the patient to achieve
- Solve problems that happen along the way
- Encourage engagement
- Positively reinforce any successes

Government For For further information, see: Promoting mind-body approaches to pain self-management, by Debra Hughes. Available from: www.empr.com

The access to, and cost of, CBT in New Zealand varies throughout the country and can be a significant barrier to treatment. Some primary care clinicians may be trained in this technique, but referral to a Clinical Psychologist or Pain Specialist may be required.* When access to specialist CBT is not possible, there are some internet-based programmes available which have been shown to be effective in helping patients manage their pain (see below for details). A US-based study that examined the effectiveness of an internet-based CBT chronic pain management programme (mostly in patients with joint, back and osteoarthritic pain) reported positive results.²⁶ The study found that pain intensity was significantly reduced from baseline after both one and six months, and quality of life was also improved after six months.

An example of on online CBT programme that can be recommended for patients is available at: www.getselfhelp.co.uk/chronicfp.htm

Other treatment options and useful advice that can be given to patients

Other non-pharmacological treatment options for chronic non-malignant pain that can be considered include:

- Hot or cold compresses, depending on the pain condition and specific benefit, e.g. hot packs can be beneficial in patients with chronic back pain and cold packs can be beneficial in patients with pain due to osteoarthritis of the knee
- Biofeedback (the process of gaining greater awareness of many psychological functions, e.g. pain perception) and mind-body activities such as meditation, mindfulness and relaxation can also be considered, mostly in combination with other treatments
- Encourage the patient to engage in activities they enjoy or that make them laugh
- Referral to an Occupation Therapist who can assist with postural problems, e.g. in a patient with a repetitive strain injury due to work
- Referral to a Physiotherapist, Chiropractor or Osteopath who can perform massage, strapping, mobilisation and manipulation (where appropriate)

^{*} The Aotearoa New Zealand Association for Cognitive Behavioural Therapy (AnzaCBT) offer courses and workshops on CBT, and more information is available at: www.cbt.org.nz

Pharmacological treatment options for chronic pain

Pharmacological treatment should not be the sole focus in managing patients with chronic non-malignant pain and should be used in combination with non-pharmacological interventions. As with non-pharmacological treatments, the most appropriate treatment (or combination of treatments) will vary between patients, and individual treatment trials should be undertaken. When undertaking a trial, use the pre-intervention level of pain and function to assess whether the medicine(s) is working.

Analgesic treatment options for chronic non-malignant pain may include*:²⁷

- Paracetamol
- NSAIDs: naproxen (up to 1000 mg per day) or ibuprofen (up to 1200 mg per day) are the recommended first-line choices if NSAIDs are required for longer periods of time, due to the lower risk of cardiovascular events occurring when these medicines are taken at these doses, compared to other NSAIDs.²⁸ N.B. ibuprofen may be taken up to 2400 mg per day, but this is associated with increased cardiovascular risk.
- Tricyclic antidepressants, e.g. amitriptyline, nortriptyline (less sedating)
- Other neuromodulators, e.g. gabapentin, carbamazepine
- Topical analgesics, e.g. NSAIDS, capsaicin

Referral to secondary care to investigate surgical options, permanent nerve blocks, epidural steroid injections and spinal cord stimulation may be appropriate for some patients.

The use of opioids in chronic non-malignant pain

Opioids have a limited role in the treatment of chronic non-malignant pain and should only be used after other treatment options have failed. When considering using any opioid treatment it is recommended that there are strict protocols in place to minimise the associated risks. One method that has been proposed for the safe use of opioids for chronic non-malignant pain is the "10 universal precautions" approach (see:

* A number of these medicines are not subsidised or approved for use in pain management in New Zealand. For example, tricyclic antidepressants are not approved for neuropathic pain (but are frequently used for this indication) and capsaicin is subject to subsidy restrictions. Pregabalin and duloxetine are sometimes used for chronic non-malignant pain, but are not subsidised in New Zealand. Refer to the New Zealand Formulary for further information on approved indications and subsidies.

"The 10 Universal Precautions approach to pain management", over page).

When opioids must be used some considerations include:

- Use the weakest opioid possible, e.g. use codeine or tramadol before considering morphine
- Use opioids for the shortest possible time at the lowest possible dose
- Have a plan in place to decrease the opioid dose, e.g. ensure the patient knows that the dose will gradually be stepped down and then ceased
- Regularly review opioid treatment for efficacy, tolerability and signs of addiction. Re-evaluate opioid treatment at every consultation and only continue treatment if there is a very good reason for doing so.
- Have a system in place to identify and manage opioid misuse and addiction

Weaker/atypical opioid treatment options

Codeine, tramadol and dihydrocodeine can be considered as treatment options in combination with non-pharmacological and non-opioid analgesics in patients with chronic non-malignant pain.

Codeine is a pro-drug which is metabolised to morphine by the liver enzyme CPY2D6 to achieve its analgesic effect. Genetic differences mean that there is variation in how people metabolise codeine (either fast or slow metabolisers). Dihydrocodeine is similar to codeine in both its structure and analgesic effect. Tramadol is classed as an "atypical" opioid as it is both a relatively-weak mu opioid receptor agonist and a noradrenaline and serotonin reuptake inhibitor.²⁹

Codeine, dihydrocodeine and tramadol are not recommended for use in patients with renal impairment. Use of all opioids is associated with constipation, but this can be particularly problematic with codeine. Co-prescription of a laxative is recommended. Tramadol may be more associated with nausea, vomiting, dizziness and sedation than codeine.

Strong opioids are ideally a "last resort"

When all other treatment options have failed, the clinician may decide that a strong opioid is the only treatment option available when the patient has moderate to severe chronic non-malignant pain. When a strong opioid is indicated, morphine is the first-line choice. Fentanyl patches are sometimes considered in patients with severe chronic pain. However, they are best reserved for patients with constant and stable opioid requirements.

Take home messages

- Chronic non-malignant pain takes time to treat and the management plan needs to include not only physical treatments, but also acknowledgement of the patient's pain and emotional wellbeing, and support to help them self-manage their condition
- Use combinations of non-pharmacological interventions and non-opioid analgesics as the mainstay of treatment
- Only use opioid analgesics as a last resort
- If it is absolutely necessary to use opioids, consider weaker opioids such as codeine or tramadol before using strong opioids such as morphine, and use the opioid at the lowest possible dose, for the shortest possible time

Coming up: In the next edition we look at the growing problem with opioid addiction in New Zealand, and discuss strategies for withdrawing patients from opioids.

The 10 Universal Precautions approach to chronic pain management

The "10 universal precautions" are a set of guiding principles which can be applied to the management of long-term pain. Opioids are not recommended for long-term use when treating chronic non-malignant pain. However, if there is no other treatment option and they must be used, these principles can help determine which patients may be at risk of opioid misuse, to guide opioid treatment and ensure appropriate review.³⁰

The 10 Universal Precautions are:30

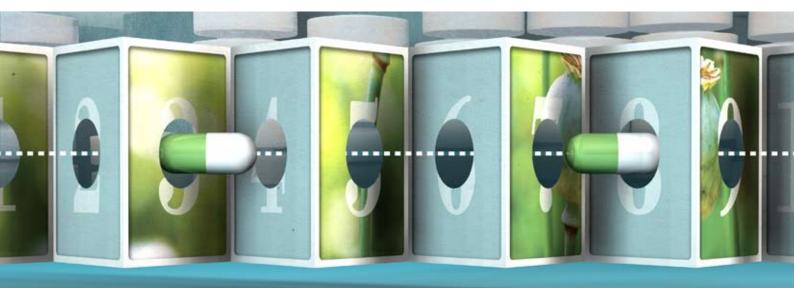
C

ROC

- Aim to diagnose the underlying cause of the pain, considering differential diagnoses. If there is no clear diagnosis, and an absence of objective findings, treatment can be initially aimed at managing the patient's symptoms. If the pain persists the patient should be reassessed for a diagnosis, and their analgesic requirements reviewed, with the aim of stepping down from the use of a strong opioid, if appropriate.
- 2 Conduct a comprehensive psychological assessment including the risk of addiction.

 Question the patient about past or present alcohol or illicit drug use. In addition ask about any family history of substance misuse or addiction (including alcohol) as this increases the risk that the patient may misuse opioids.

 Other psychological factors, such as the patient's expectations and mood, and social aspects, e.g. sleep, work, family and social support should also be considered.
- Gain informed consent from the patient. Discuss the proposed treatment with them, including the anticipated benefits and the possible adverse effects and risks of physical dependence, tolerance and addiction. Ensure the information has been delivered at an appropriate level and that the patient understands the information that has been discussed. Some patients may wish to include family members, a support person or caregivers in the decision making process.



- 4 Obtain a treatment agreement. The concept of universal precautions relies on clear communication between the clinician and the patient and is ideally based on mutual trust and respect. The expectations and obligations of both the patient and clinician need to be clearly understood and either agreed verbally or more formally in a written treatment agreement or opioid contract.*
- Record a measure of the pre- and post-intervention pain level and function. In order to assess the success of a treatment trial, it is necessary to have a baseline measure of the patient's pain (e.g. pain score) and level of function. These aspects can then be monitored and documented periodically during treatment and at the conclusion of the trial treatment period, to determine whether functional goals have been met and pain has been reduced. This then forms the basis of a decision on continuation of treatment.
- Conduct an appropriate trial of opioid treatment, ideally with adjunctive medicines. Prescribing an opioid should not be routinely thought of as the first step when choosing a pain treatment. Before opioids are considered, ensure there has been an adequate trial of both non-pharmacological and other pharmacological treatments that are appropriate for the patient's condition.
- Regularly reassess the patient's pain scores and level of function. A regular reassessment of the patient to check how well their pain is being managed and their level of functioning will help the

clinician to decide whether to continue or modify the current treatment. Ensure that the patient has realistic expectations of the treatment, i.e. that they may have an increase in their level of function and their ability to cope, but not a complete resolution of their pain.

- Regularly assess the "5 A's" of pain management: analgesia (how much relief has the medicine provided?), activity (progress in functional goals), adverse effects (especially constipation, nausea and sedation), aberrant behaviours (signs or suspicion of medicine misuse) and affect (impact of pain on mood and psychological wellbeing)
- Periodically review the pain diagnosis, comorbidities and addictive disorders. The underlying
 illness can evolve during treatment and it is
 important to periodically re-assess the original
 condition for which analgesia is being used. In
 addition, a patient's co-morbidities can influence the
 success of pain management strategies, so where
 possible, other conditions need to be optimally
 managed.
- Carefully document every step of the patient's treatment protocol.
- * There are a number of standard opioid contracts available online, e.g. www.hnehealth.nsw.gov.au/__data/assets/pdf_file/0017/108701/ Opioid_treatment_agreement_Mar_2013.pdf

www.wps.ac.nz/Portals/9/Documents/Opioid%20Contract%20 formv2%200-2012.pdf www.icsi.org/_asset/dyp5wm/Opioids.pdf (Appendix A)

ACKNOWLEDGEMENT: Thank you to **Dr Kieran Davis**, Clinical Director, Auckland Regional Pain Service for expert review of this article

References

- Reconsidering opioid therapy A Hunter New England perspective. Available from: www.aci.health.nsw.gov.au/__data/assets/pdf_ file/0015/212226/Reconsidering_Opioid_Therapy_1.pdf (Accessed
- Provenzano DA, Viscusi ER. Rethinking the role of opioids in the outpatient management of chronic nonmalignant pain. Curr Med Res Opin 2014;1-12.
- Furlan AD, Sandoval JA, Mailis-Gagnon A, et al. Opioids for chronic noncancer pain: a meta-analysis of effectiveness and side effects. CMAJ Can Med Assoc J 2006;174:1589-94.
- Manchikanti L, Ailinani H, Koyyalagunta D, et al. A systematic review of randomized trials of long-term opioid management for chronic non-cancer pain. Pain Physician 2011;14:91-121.
- Ballantyne JC, Shin NS. Efficacy of opioids for chronic pain: a review of the evidence. Clin J Pain 2008;24:469-78.
- Noble M, Treadwell JR, Tregear SJ, et al. Long-term opioid management for chronic noncancer pain. Cochrane Database Syst Rev 2010:CD006605.
- Fishbain DA, Cole B, Lewis J, et al. What percentage of chronic nonmalignant pain patients exposed to chronic opioid analgesic therapy develop abuse/addiction and/or aberrant drug-related behaviors? A structured evidence-based review. Pain Med 2008;9:444-59.
- Sullivan MD, Edlund MJ, Fan M-Y, et al. Risks for possible and probable opioid misuse among recipients of chronic opioid therapy in commercial and medicaid insurance plans: The TROUP Study. Pain 2010:150:332-9.
- Boscarino JA, Rukstalis MR, Hoffman SN, et al. Prevalence of prescription opioid-use disorder among chronic pain patients: Comparison of the DSM-5 vs. DSM-4 Diagnostic Criteria. J Addict Dis 2011;30:185–94.
- 10. Flink IL, Boersma K, Linton SJ. Pain catastrophizing as repetitive negative thinking: a development of the conceptualization. Cogn Behav Ther 2013;42:215-23.
- 11. Elman I, Zubieta J-K, Borsook D. The missing p in psychiatric training: why it is important to teach pain to psychiatrists. Arch Gen Psychiatry 2011:68:12-20.
- 12. Toye F, Seers K, Allcock N, et al. Patients' experiences of chronic nonmalignant musculoskeletal pain: a qualitative systematic review. Br J Gen Pract J 2013;63:e829-41.
- 13. Chronic Pain Syndrome. Available from: emedicine.medscape.com/ article/310834-overview (Accessed Aug, 2014).
- 14. Scascighini L, Toma V, Dober-Spielmann S, et al. Multidisciplinary treatment for chronic pain: a systematic review of interventions and outcomes. Rheumatology 2008;47:670-8.
- 15. Hayden JA, van Tulder MW, Malmivaara A, et al. Exercise therapy for treatment of non-specific low back pain. Cochrane Database Syst Rev 2005:CD000335.

- 16. Wells C, Kolt GS, Marshall P, et al. The effectiveness of pilates exercise in people with chronic low back pain: a systematic review. PloS One 2014;9:e100402.
- 17. Tilbrook HE, Cox H, Hewitt CE, et al. Yoga for chronic low back pain: a randomized trial. Ann Intern Med 2011;155:569-78.
- 18. Hall A, Maher C, Latimer J, et al. The effectiveness of Tai Chi for chronic musculoskeletal pain conditions: A systematic review and metaanalysis. Arthritis Rheum 2009;61:717-24.
- 19. Roddy E. Aerobic walking or strengthening exercise for osteoarthritis of the knee? A systematic review. Ann Rheum Dis 2005;64:544-8.
- 20. Christensen R, Bartels EM, Astrup A, et al. Effect of weight reduction in obese patients diagnosed with knee osteoarthritis: a systematic review and meta-analysis. Ann Rheum Dis 2006;66:433-9.
- 21. Kumar S, Beaton K, Hughes T. The effectiveness of massage therapy for the treatment of nonspecific low back pain: a systematic review of systematic reviews. Int J Gen Med 2013;733.
- 22. Vickers AJ, Cronin AM, Maschino AC, et al. Acupuncture for chronic pain: individual patient data meta-analysis. Arch Intern Med 2012;172:1444-53.
- 23. Nnoaham KE, Kumbang J. Transcutaneous electrical nerve stimulation (TENS) for chronic pain. Cochrane Database Syst Rev 2008;CD003222.
- 24. Lamb SE, Hansen Z, Lall R, et al. Group cognitive behavioural treatment for low-back pain in primary care: a randomised controlled trial and cost-effectiveness analysis. Lancet 2010;375:916-23.
- 25. Bernardy K, Füber N, Köllner V, et al. Efficacy of cognitive-behavioral therapies in fibromyalgia syndrome - a systematic review and metaanalysis of randomized controlled trials. J Rheumatol 2010;37:1991-2005.
- 26. Nevedal DC, Wang C, Oberleitner L, et al. Effects of an individually tailored Web-based chronic pain management program on pain severity, psychological health, and functioning. J Med Internet Res 2013:15:e201.
- 27. Liebschutz J, Beers D, Lange A. Managing Chronic Pain in Patients with Opioid Dependence. Curr Treat Options Psychiatry 2014;1:204–23.
- 28. National Institute for Health and Care Excellence (NICE). Non-steroidal anti-inflammatory drugs. NICE, 2013. Available from: www.nice.org.uk (Accessed Aug, 2014).
- 29. Kizilbash A, Ngô-Minh CT. Review of extended-release formulations of tramadol for the management of chronic non-cancer pain: focus on marketed formulations. J Pain Res 2014;7:149-61.
- 30. Gourlay DL, Heit HA, Almahrezi A. Universal precautions in pain medicine: a rational approach to the treatment of chronic pain. Pain Med 2005:6:107-12.