

Pain control

This article focuses on certain aspects of analgesia, including distinguishing different types of pain, particularly chronic pain. A holistic approach to pain control is outlined, as well as pain's impact on the patient, including its causes and treatment options.

Chronic vs acute pain

In general terms, most people associate pain with some direct cause. It could be from a sports injury, or toothache, perhaps an accident that has resulted in a broken limb. In cases like these, you have an attributable acute pain, which you can then do something about. If it is toothache, you go to the dentist, the problem gets fixed, and the pain is gone. If it is a broken arm, you go to hospital, have the usual procedures — x-rays, plaster, etc, are carried out and with the right convalescence, the patient returns to normal.

For many though, pain is something which is not acute or for which there is a simple 'cause and effect' route to fix the problem. Pain is a constant factor in their lives, something which they manage every day. The reason they have pain may be attributable to one or more different causes; however, it is evident that their pain can have a wholly debilitating effect, not just on their quality of life, but also for those around them. This is chronic pain.

The 2006 National Disability Survey Ireland (CSO, 2008) stated that pain was one of the most common disability types reported. Almost 50 per cent of individuals reporting pain as the main cause of their disability and of those, with 34 per cent indicating arthritis as being the most common cause of injury or illness. Almost 20 per cent stated the pain disability was caused by an accident or injury.

The *Pain in Europe* survey, published in 2006 by Harald Breivik, indicated for Ireland:

- 13 per cent of the Irish population and 27 per cent of Irish households are affected by chronic pain.
- 21 per cent of people with chronic pain report pain so severe they sometimes wish to die.
- The average age of individuals with chronic pain is 48, with only a slightly higher gender bias towards women (W 52% — M 48%)
- The average duration of chronic pain is 4.9 years, although almost 20 per cent of individuals with chronic pain have experienced it for >20 years.
- Almost 70 per cent of individuals with chronic pain report pain daily.
- 34 per cent felt pain impacted on employment.
- 15 per cent of sufferers' report losing a job due to their chronic pain.
- 19 per cent were diagnosed with depression due to chronic pain.

What is chronic pain?

Chronic pain can be defined as pain which has lasted longer than what would be considered as 'normal' healing time, perhaps as part of recovery from illness or injury — generally more than three months.

Chronic pain may be attributable to an event, such as an accident, developing from acute pain. Opinion differs as to whether previous acute pain is always the root cause of chronic pain or simply appears, sometimes without an initial cause.

In some cases, especially in relation to sports injury in contact sports, the underlying chronic pain may appear sometime after an event.

Pain may also be related to another condition. Surveys show that in Ireland, 35 per cent of reported chronic pain was arthritis related. It may site-specific, i.e., back, knee, and wrist, however 80 per cent of sufferers in Ireland report that their pain relates to more than one site.

Types of chronic pain

Pain can be classified either by type of pain, or by body region. Classes of pain types include:

- **Nociceptive pain:** Aching, boring, worse on movement, anatomically defined, fluctuates in severity.
- **Neuropathic pain:** Burning sensation, sharp stabbing type, tingling, transient limb pain (shooting), associated with allodynia (experience of pain from a non-painful stimulation of the skin, such as light touch), hypersensitivity, or other sensory changes.
- **Mixed nociceptive and neuropathic pain:** Combination of symptoms.
- **Visceral pain:** Dull, non-specific, difficult to pinpoint.
- **Autonomic symptoms:** Physiological changes (colour, temperature), sweating.

Causes of chronic pain

The cause of chronic pain is often difficult to determine and there are often many aspects to consider. It is this indeterminate nature that can present the biggest obstacle to health professionals to establishing proper diagnosis of the condition.

The infographic below on 'Reported Cause of Pain' from the PRIME study, NUIG 2011, illustrates the problem further:

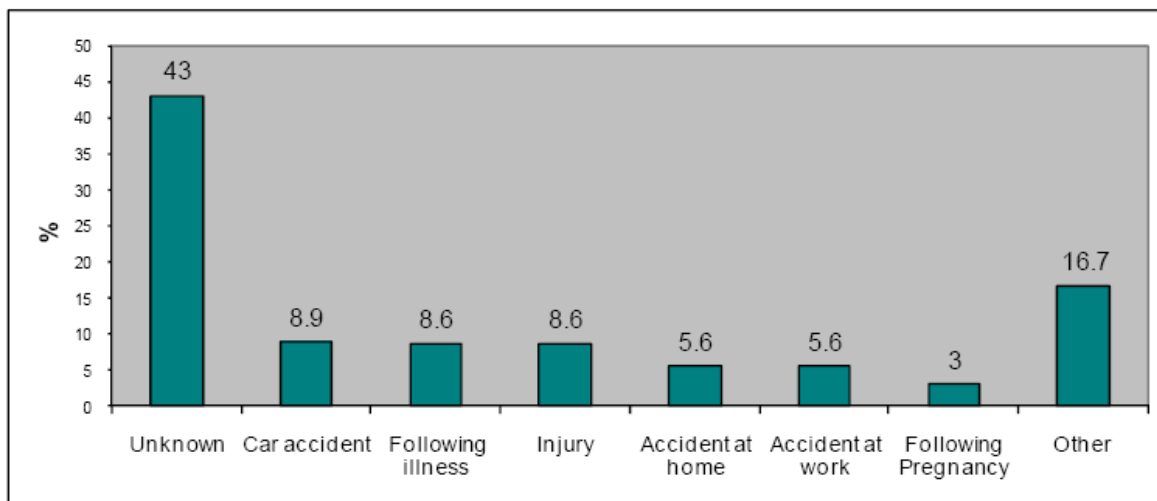


Figure 1: 'Reported Cause of Pain' from the PRIME study

Chronic pain can be attributed to a wide range of identifiable causes — acute injury, arthritis, migraine, or fibromyalgia, for example.

A general classification is detailed below.

Musculoskeletal	Headache and/or migraine	Neurological	Psychological causes
Osteoarthritis	Cluster headaches	Diabetic sensorimotor polyneuropathy (up to 25% of diabetics)	Depression,
Rheumatoid arthritis	Migraine	Spinal stenosis	Anxiety,
Osteomyelitis	Trigeminal neuralgia	Brachial plexus traction injury	Personality disorders
Osteoporosis	Giant cell (temporal) arteritis	Thoracic outlet syndrome	Sleep disturbances
Ankylosing spondylitis	Glaucoma	Post-herpetic neuralgia	
Myofascial diseases	Smoking	Multiple sclerosis	
Polymyalgia rheumatica	Alcohol	Alcoholism	
Polymyositis	Temporo-mandibular joint dysfunction	Thyroid disease	
Fractures	Drug or substance overuse or misuse	Pernicious anaemia	
Chronic or repetitive overuse		Infections (i.e., HIV), polyneuropathies	
Carpel tunnel syndrome		Polyradiculopathies	
Muscular strains			
Faulty posture			
Mechanical low-back pain			

Table 1: General pain classification

Other causes

Chronic pain may arise from anatomical site-related general medical conditions. Site-specific pain includes:

- Abdominal (i.e., peptic ulcer, irritable bowel syndrome, pancreatitis, hernias, diverticular disease).
- Gynaecological (i.e., endometriosis).
- Obstetric (i.e., symphysis pubis dysfunction).
- Urological (i.e., interstitial cystitis).
- Cardiovascular (i.e., ischaemic heart disease, coronary heart disease, angina, peripheral vascular disease, etc).

Chronic pain may also result from disease conditions including:

- Rheumatological — conditions such as rheumatoid arthritis, osteoarthritis, or fibromyalgia.
- Endocrine — conditions such as hypothyroidism (joint pain), diabetes.
- Infectious — diseases such as hepatitis C, post-herpetic neuralgia.
- Malignancy — cancer pain and pain from treatment (i.e., radiation, chemotherapy, or surgery) [Source: Warrell et al (2004); *BMJ Best Practice* (2009)]

Treatment

Before moving on to treatment, it is worth noting that, according to figures from the Pain in Europe study (Breivik et al, 2006), 40 per cent of respondents, when asked to describe their care, said it was “inadequate”. Leading on from that, there is substantial evidence based on WHO figures that chronic pain is massively under-treated across the globe. This is due to a variety of factors, such as access to medicines and specialist help.

Another contributing factor comes from sufferers themselves. Individuals with chronic pain often do not seek help with pain. This occurs for a variety of reasons, including religion, fear, finance, culture, and a feeling that healthcare professionals may feel the individual’s pain is ‘imaginary’. Indeed, the fear of stigma and disbelief, especially with females, is the most common reason in Ireland for not seeking help with chronic pain.

The most common groups at risk of under-treatment for pain are:

- Elderly.
- Female.
- Individuals with emotional or cognitive dysfunction.
- Individuals who do not speak English as a first language.

Medication:

Table 2: Overview of pain medications

A successful outcome from GP visits should be a pain management plan. It is highly likely that as part of this, some form of pain-relieving medication will be prescribed. Ideally, advise on promotion of self-help, self-management, and other treatments to help improve their condition and add value to the benefit offered by medication.

Given the wide and varied nature of chronic pain, there can be a myriad of medication options. The effectiveness of medication depends on the nature and severity of the pain.

Types of medications, their benefits and potential side-effects are shown in the table below:

Medication	Can be used for?	What are the benefits?	What are the side effects?
Paracetamol	To treat pain anywhere in the body. Can be used alone or with other drugs such as NSAIDs or a codeine-like opioid, such as co-codamol and co-dydramol.	Relieves pain quickly. Has few side effects and is considered generally safe if used within the recommended dose.	Side effects from paracetamol are rare, if taken within safe limits. However, taking more than the amount recommended (more than 8 tablets in a day) is extremely dangerous. Rare side effects can include: <ul style="list-style-type: none"> • Skin rash • Kidney and liver problems, if higher than the recommended dose is taken.
Oral non-steroid anti-inflammatories (NSAIDs), for example ibuprofen, diclofenac, etoricoxib, ketorolac, piroxicam, naproxen and celecoxib, in the form of a tablet	Low back pain. Hip or knee osteoarthritis pain (pain that affects your joints). Musculoskeletal pain (pain that affects your muscles, ligaments and tendons and joints).	Relieves pain quickly. Reduces pain caused by inflammation, for example in joints.	Side effects can include: <ul style="list-style-type: none"> • Stomach pain • Diarrhoea • Heartburn • high blood pressure • rash • dizziness and headaches. <p>In a small number of people, NSAIDs can cause heart problems. Over-use can be associated with serious bleeding. For this reason, you must not use NSAIDs with aspirin. If you have asthma, there is a risk of it becoming worse when taking NSAIDs.</p>
Topical non-steroid anti-inflammatory drugs (NSAIDs), for example ibuprofen, diclofenac, etoricoxib, ketorolac, piroxicam, naproxen and celecoxib, in the form of gel, cream or patches.	Should be considered when treating localised musculoskeletal pain, particularly if unable take NSAID tablets. Should be used for a short time.	Works directly on the affected area of the body. Less risk of side effects as the medication does not go through the whole body.	Side effects are rare but some people can get mild skin reactions, for example a rash.
Other topical medicines (medication applied to the skin in the form of creams, gels, or patches), for example: capsaicin. lidocaine patch. and rubefaciants (substance that produces redness of the skin).	Should be considered for nerve pain or musculoskeletal pain which has not improved with other medication, or if unable to take other medication.	Works directly on the affected area of the body. Less risk of side effects as medication does not go through your whole body.	Sometimes topical painkillers can cause: <ul style="list-style-type: none"> • Redness • Itching • Stinging • Burning • Or other skin reactions.

Medication	Can be used for?	What are the benefits?	What are the side-effects?
<p>Opioids, for example codeine, dihydrocodeine, tramadol, oxycodone, hydrocodone, tapentadol, morphine, diamorphine, transdermal fentanyl, buprenorphine and methadone</p>	<p>Should be considered for chronic low-back pain or osteoarthritis. Should only be continued if there is ongoing pain relief. Some opioids are weak (for example codeine) and some are strong (for example, morphine).</p> <p>Because opioids can have serious side-effects, their long-term use should only be considered after a detailed discussion with a GP</p>	<p>These are strong painkillers which reduce the intensity of pain and improve physical symptoms and day-to-day living.</p>	<p>Common side effects include:</p> <ul style="list-style-type: none"> • Feeling sick. • Being sick. • Feeling dizzy. • Constipation. • Feeling sleepy. • Feeling confused. • Breathing problems. <p>Side-effects associated with longer-term use of opioids include:</p> <ul style="list-style-type: none"> • Feeling lethargic. • Headaches. • Stomach problems (including constipation). • Urinary problems. • Reduced immunity to infections. • Hormone problems. • Dry mouth. • Over-sensitivity to pain, or pain getting worse. • Addiction. • Mood changes. • Sleep disturbances.
<p>Anticonvulsants, for example gabapentin, pregabalin and carbamazepine</p>	<p>This medication is commonly used to treat epilepsy but can also help nerve pain</p>	<p>Can stop nerve impulses causing some types of pain. Recent studies indicate they may not be as effective as first thought for pain and increasing evidence of abuse</p>	<p>Side-effects may be worse in the first few days, when your body is getting used to new medication. The most common side-effects include:</p> <ul style="list-style-type: none"> • Dizziness. • Drowsiness. • Weight gain. • Rash. • Dry mouth. • Feeling sick. • Being sick. <p>Less common side-effects include:</p> <ul style="list-style-type: none"> • Swollen legs. • Blurred vision. • Headaches. • Diarrhoea and tremors (movement disorders).
<p>Antidepressants, for example amitriptyline, duloxetine and fluoxetine</p>	<p>As well as helping people who have depression, this medication can help others with chronic pain.</p> <p>Amitriptyline (or nortriptyline) should be considered for treatment of fibromyalgia (chronic widespread pain) and nerve pain</p> <p>Duloxetine should be considered for treatment of nerve pain. Fluoxetine should be considered for treatment of fibromyalgia.</p>	<p>Work by interfering with the way nerve impulses are transmitted and ease some types of pain</p>	<p>Different antidepressants have different side-effects, and side-effects are rare with some of them. When you first start to take amitriptyline or duloxetine, you may experience:</p> <ul style="list-style-type: none"> • Dry mouth. • Feeling sick. • Dizziness. • Urinary retention. • Constipation. • Drowsiness. • Problems sleeping. • Anxiety. • Agitation. • Problems with the central nervous system.

Table 3: Medication characteristics Source:- Scottish Intercollegiate Guidelines Network 2013

Regarding treatment of chronic pain caused by headache (i.e., migraine), in addition to standard paracetamol and NSAIDs, triptans are considered the most effective to combat acute attacks if ordinary analgesics do not work. These include:

- Almotriptan.
- Frovatriptan.
- Sumatriptan: *Sumatriptan is now available over the counter from pharmacies in Ireland.*
- Zolmitriptan.
- Eletriptan.
- Naratriptan.

Self-help

Pain management programme

Pain Management Program (PMP) is a psychologically based rehabilitative treatment for people with persistent pain. It is delivered in a group setting by a multidisciplinary team of experienced healthcare professionals working closely with patients. The main aim is to teach a group of patients with similar problems about pain, how best to cope with it, and how to live a more active life. Referral to a Pain Management Programme is usually through the general practitioner to your local pain clinic.

There are public pain management programmes in*:

- St Vincent's University Hospital, Dublin.
- The Adelaide and Meath Hospital (Tallaght), Dublin.
- The Mater Misericordiae University Hospital, Dublin.
- Mercy University Hospital, Cork. *This list not exhaustive

Physical therapy

Physical therapy covers several different treatment types, which can be beneficial for chronic pain, especially pain due to musculoskeletal disorders.

- Hot or cold (ice) pack treatment.
- Ultrasound.
- Peripheral nerve stimulation/transdermal electronic nerve stimulation (TENS).

A chartered physiotherapist can help with manual therapy, which helps to increase tissue extensibility and range of movement, thereby decreasing pain. Manual therapy can also help with alignment and joint mechanics issues, which can also help alleviate pain.

Therapeutic exercise — Such as hydrotherapy, can restore joint movement and flexibility and strengthen and condition muscles to help movement, thereby reducing pain.

Patient education — Can support physical therapy in a self-help or home-based manner. Reading and learning about their condition can assist in management of their own pain.

Exercise — Staying active can be the key to improving chronic pain symptoms. Any activity that increases mobility can have not only a positive physical benefit, but also an affirming mental health benefit also.

Cognitive behavioural therapy (CBT)

CBT is a proven 'talk therapy', the primary aim of which is to how to recognise and manage negative thinking or unhelpful beliefs that lead to increased distress.

Generally delivered on a one-to-one basis, the participant is taught techniques and strategies to enable them to challenge their thoughts and change their attitude, leading to a change in future behaviour. Through regular attendance, confidence builds, leading to positive goal setting. These goals should relate to achieving resumption of activities previously restricted

by pain. Learning problem-solving strategies and stress reduction techniques will help achieve a successful outcome.

Over-the-counter painkillers: Chronic daily headaches and codeine risks

Taking painkillers for longer than 15 days (three days for codeine) runs the risk of medication-overuse headaches. The headaches caused by painkiller overuse last an average of four or more hours. After taking a painkiller for headaches for a prolonged period, the body becomes used to the painkillers. A 'rebound' or 'withdrawal' headache then develops if the patient does not take a painkiller within a day or so of the last dose. The patient thinks this is just another headache, and so takes a further dose of painkiller.

When the effect of each dose has worn off, a further withdrawal headache develops, and so on. A vicious cycle develops as the sufferer gets headaches every day or most days and then ends up taking more painkillers, which only makes the headaches worse. Unless the overused painkillers are stopped completely, the headaches are likely to continue. This phenomenon only seems to occur when taking painkillers for headaches; it does not seem to occur when taking painkillers regularly for other conditions, such as arthritis.

Medication-overuse headache is the third-most common cause of headache after migraine and tension-type headache. About one-in-50 people develop this problem at some time in their life. It can occur at any age but is most common in people in their 30s and 40s. It is more common in women than men. The headache of medication-overuse headache is often described as 'overwhelming' and tends to be worse first thing in the morning, or after exercise. It may be a constant 'dull' headache, with spells when it gets worse.

Codeine is the most common cause of chronic daily headaches

Codeine is the worst culprit for chronic daily headache. Codeine-based medicines can bring on chronic daily headaches after only three days of use.

How to know if a patient is addicted to codeine

Addiction to codeine can occur by taking over-the-counter remedies containing codeine for longer than the recommended three days. If a patient answers 'yes' to any of the following questions, they may be addicted to codeine.

- Do you feel you need to take the codeine products for longer time periods than instructed on the box?
- Do you find yourself buying more and more pills?
- Do you feel you need to take more than the recommended dose?
- Do you start to feel unwell when you stop taking the medicine but feel better when you start taking the medicine again?

These symptoms will not occur if following recommended dosage instructions

Common over-the-counter remedies which contain codeine:

Many painkillers containing codeine are household names. Examples include the painkillers Solpadeine, Maxilief, Panadeine, Nurofen Plus and Veganin Plus.

References on request

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