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Acute pain management: information for consumers

PRESCRIBED

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Introduction

This booklet talks about acute pain. It explains the goals of pain control and the various types of treatment available. It aims to help you, your family and carers understand:

- why pain control is important for your recovery as well as your comfort; and
- how to play an active role in choosing options for treating your pain.

This booklet was derived from a NHMRC report for health professionals, *Acute Pain Management: Scientific Evidence*.

What is acute pain?

Every one of us will experience pain at some time. Pain is your body's way of sending a warning to your brain.

Nerve endings in and beneath your skin sense heat, cold, touch, pressure and pain. When there is an injury to your body, these nerve endings send messages along nerves into your spinal cord and then up to your brain. Wherever possible, treatment of the cause of the pain is the first priority. When the cause of pain has been treated and pain persists, or when there is no treatment available for the cause of the pain, treatment of the residual pain is important. Pain management methods block pain messages or reduce their effect on the brain.

For most people, pain is short-lived and directly related to the injury. This is called *acute* pain. Pain becomes *chronic* when it persists after the injury has healed and its cause is difficult to determine.

What are the main causes of acute pain?

Acute pain that is likely to need treatment includes:

- pain after surgery;
- pain from burns or injuries;
- pain associated with medical conditions such as back problems, arthritis, shingles, heart disease, abdominal pain, severe headaches and cancer and other illnesses; and
- particular situations such as pain during childbirth.

In this booklet, we will concentrate on pain relief after surgery and injury. However, the main goals of pain relief and many of the treatments can be applied to other kinds of pain as well.

How is pain treated?

People used to think that severe pain after surgery and injury was something they had to put up with. However, medical research has led to a much better understanding of pain and how it is experienced. New methods of pain relief have been developed. Today, you can work with your health carers to prevent or control just about any kind of pain.

Pain control can help you:

- be more comfortable while you heal;
- get well faster, and maybe leave hospital sooner; and
- improve your outcome — people whose pain is well controlled seem to do better.

There are a number of ways for you to be involved in controlling your pain:

- discuss with the doctor and nurses how much pain to expect from an operation or procedure, and decide on a pain control plan;
- be as accurate as you can when you describe your pain;
- ask for pain relief when you begin to get uncomfortable;
- tell the doctor or nurse about any pain that will not get better. Pain that doesn't get better, even after taking pain medicine, may be a sign that there is a problem; and
- tell the doctor or nurse if any unpleasant side effects occur, such as nausea, vomiting, itching, constipation, hallucinations or any strange feelings at all. Usually, these side effects can be treated quite successfully (some may not be due to pain-relieving drugs).

Making a pain control plan

Before surgery or any procedure, it is important to take the time to understand what is going to happen, and decide with your health carers on the pain control methods that are right for you. Many people combine two or more methods to get greater relief.

At this time, you should discuss:

- how much pain to expect, where it will occur and how long it is likely to last;
- any allergies to medicines that you have, and side effects that may occur with treatment;
- any medicines you take for other health problems;
- any fears you have about the operation or procedure and likely pain afterwards; and
- the plans for your recovery in hospital.

Reporting your pain

Many people think that telling others they are in pain means that they are complaining or being a nuisance. However, it is important for your recovery as well as for your comfort that health carers know about your pain.

Everyone experiences pain differently. The amount or type of pain you feel may not be the same as others feel — even those who have had the same operation. Your own report of your pain is the most reliable measure of how severe your pain is.

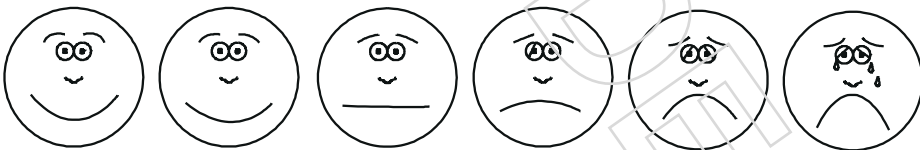
There are a number of methods used to help both adults and children communicate to others how much pain they have.

A common pain scoring method used with adults, especially after surgery, asks you to choose a description that best fits your pain, such as:

- 0 — no pain
- 1 — mild pain
- 2 — moderate pain
- 3 — severe pain.

Other scales are used in adults, such as the Visual Analogue Scale (VAS). The VAS is a 10 cm line and patients are asked to mark a point on the line to indicate their present level of pain with reference to 0 cm 'no pain' and 10 cm 'worst pain imaginable'.

Modified face scales like the one below are often used for young children to describe how their pain is making them feel.



Whatever scale is used, it should be carefully explained and you should ask any question that you require to clarify the method.

After surgery, you will be asked to rate your pain quite often, when you are resting and when you are moving. This is because pain is likely to vary and as it changes, the treatment needed to relieve it changes too. Reporting your pain as a specific term or number helps the doctors and nurses to know how well your treatment is working and whether to make any changes.

Sometimes it will be important for your doctor to know about the character of the pain as well as its intensity. For example, it may be important to know whether the pain is aching, sharp or dull. Sometimes a pain that comes in unexpected waves and has a stabbing, hot character, may be associated with nerve damage. Thus, if you are aware of particular aspects of your pain, you should communicate these to your nurse or doctor.

A key step in effective pain control is to take action as soon as the pain starts. Take (or ask for) pain relief when you first start to feel uncomfortable. It is harder to ease pain once it has taken hold.

Options for pain control

Not all pain relief is provided in the form of a tablet or injection. Depending on your injury or level of pain, there are a number of ways you can be given pain relief. Both drug and non-drug treatments can be successful in controlling pain.

While most pain relief drugs have some side effects, they are generally not serious. They are not seen in everyone and can be reduced by treatment or by switching to a different medication. Your doctor should advise you about what to look out for when taking any of these drugs, and what to do if you experience side effects.

Some people fear that they will become addicted to strong pain relief drugs such as morphine or pethidine. However, studies show that this is very rare, especially in people who have no history of drug abuse. If a continuing need for strong pain relief drugs develops, a careful re-evaluation of the underlying problem should occur.

Pain relief medicines

When should patients take pain relief medication?

The main types of drugs used to treat pain are described below. There are also many commercial combination preparations of aspirin-like drugs and morphine-like drugs available.

In the large majority of situations where pain is present for the very first time, it makes good sense to have an evaluation by a general practitioner, who will advise what medication is appropriate and when it should be taken. It is never sensible to continue to take pain relief medication for a condition that has never been reviewed by a general practitioner or other doctor.

However, there are some simple conditions such as uncomplicated headaches which are clearly due to tension and always resolve fairly quickly, episodes of muscle soreness etc, where the *short term* use of a pain relief medication, on the patient's initiative, is reasonable. However, if the pain continues for a period in excess of 24–48 hours, there should always be a review by a medical practitioner.

What should patients use?

There is no simple answer to this question and very often it can only be answered with accuracy following a careful evaluation of the patient's medical history. Thus, any patient contemplating taking pain relief medication over a substantial period of time must be evaluated by a medical practitioner. Some general principles can be stated.

Paracetamol

Paracetamol is generally better tolerated with respect to its lack of effect on the stomach (no risk of bleeding in patients with ulcers), lack of direct effect on blood clotting and overall safety when taken within recommended dosage guidelines. Thus paracetamol should probably be the first choice unless patients have a particular problem which cautions against its use.

In healthy adults, the maximum daily dose is 2×500 mg tablets of paracetamol no more than 4 times per day. However, patients with chronic alcoholism and/or liver disease, can develop severe liver damage, even at usual therapeutic doses of paracetamol. Thus it is not recommended that paracetamol be combined with the ingestion of alcohol and should only be used on medical advice in patients with liver disease.

Aspirin and aspirin-like drugs (non-steroidal anti-inflammatory drugs)

Gastric disturbances and bleeding are the most common adverse effects occurring with therapeutic doses of aspirin. Individuals with stomach ulcers should consult their doctor before taking any drug of the aspirin class. Also patients in the older age group are more susceptible to bleeding with the aspirin-like drugs. Children under the age of 12 who have a viral illness, particularly chicken pox, should not be given aspirin because of the risk of a serious brain disorder. Some individuals are sensitive to aspirin-like drugs and once this has been diagnosed should avoid aspirin. Patients who are sensitive to aspirin may also develop cross sensitivity to the other non-steroidal anti-inflammatory drugs (NSAIDs). For these reasons, aspirin-like drugs should only be used for straightforward pain management problems if there is some significant contraindication to the use of paracetamol.

Opioids: morphine-like drugs

These include codeine, morphine, hydromorphone, pethidine and fentanyl. Opioids are most often used for short-term pain after surgery or injury. A new morphine-like drug, tramadol, acts partly like morphine but also by additional mechanisms; it may be less constipating than morphine, however it can have the same advantages and disadvantages as morphine.

Advantages: Opioids are effective for severe pain, and do not cause bleeding in the stomach or elsewhere.

Disadvantages: Opioids may cause nausea and vomiting, drowsiness, itching, constipation, and may interfere with breathing or urinating.

When taken for acute pain relief, there is little chance of becoming addicted to opioids. However, people do become tolerant to their effects if they are taken for some time. This means that patients who need to take opioids on a long-term basis (such as people with cancer) will require greater amounts of the drugs. People who have been using strong pain relieving medications such as opioids for the treatment of a painful condition, or who have been using methadone to control opioid dependency problems must inform their doctor if acute pain relief is needed, eg for surgery.

Local anaesthetics

These include bupivacaine, ropivacaine and lignocaine. They are given either near the operation site or through a small tube in your back, to block the nerves that transmit pain signals (epidural). They may also be injected around the nerves that transmit pain from an injured body part. An ointment form of local anaesthetic, EMLA cream, is available from pharmacies and is useful for treating pain in small areas of unbroken skin and in reducing pain from some injections.

Advantages: Local anaesthetics are effective for severe pain. There is little or no risk of drowsiness, constipation or breathing problems. Local anaesthetics reduce the need for other pain relief drugs such as opioids.

Disadvantages: At recommended doses, there are few side effects, although some patients may experience dizziness or temporary weakness in their legs that disappears as the dose of local anaesthetic is decreased. An overdose of local anaesthetic can have serious consequences.

Methods used to give pain relief

Tablets or liquids

Medicines given by mouth include paracetamol, most of the aspirin-like drugs, and opioid medications such as codeine.

Advantages: Tablets or liquids cause less discomfort than injections into muscle or skin, but they can work just as well. They are inexpensive, simple to give, and easy to use at home.

Disadvantages: Medicines cannot be given by mouth if you are feeling sick or vomiting. Sometimes they can be given by the back passage (using a suppository).

Injections into skin or muscle

Advantages: Medicine given by injection into skin or muscle is effective even if you are feeling sick or vomiting. These injections are simple to give.

Disadvantages: The injection site is usually painful for a short time. Medicines given by injection are more expensive than tablets or liquids and take time to wear off. As with oral medicines, there may be a delay in pain relief, as you must ask for the medicine and wait for the injection to be drawn up and given.

Injections into a vein

Pain relief medicines can be injected into a vein through a small tube, called an intravenous (IV) catheter. The tip of the tube stays in the vein. Medicine can be given through the tube at set times, or as a continuous infusion, depending on your type of pain.

Advantages: Medicines given by injection into a vein are fully absorbed and act quickly. This method is very effective for relief of brief episodes of pain.

Disadvantages: A small tube must be inserted in a vein.

Injections around the spinal cord

Medicine is given through a small tube in your back (called an epidural or intrathecal catheter). Usually, a combination of local anaesthetic and opioid is used.

Advantages: This method works well when you have chest surgery, major upper abdominal surgery or an operation on the lower parts of your body. After major surgery it helps people to breathe deeply, cough and generally move around with minimal pain.

Disadvantages: A specialist doctor, an anaesthetist, must be available to place the tube in your back. Staff must be specially trained to monitor your blood pressure and breathing rate a little more closely than after tablets or injections. Extra cost is involved for staff time and training and to buy pumps and supplies.

More detailed information about the use of pain relief drugs in various situations can be found in the main document, *Acute Pain Management: Scientific Evidence* on the worldwide web at www.nhmrc.gov.au/publicat/pdfcover/cp57covr.htm.

How often should pain relief be given?

In the past, people in hospital were given pain medicines every four to six hours, and then only if they asked for them. Other ways to give pain medicines to patients are now providing better control of pain:

- Allowing doses to be given when they are needed (for example, after two hours), getting staff to offer the medicines, and asking patients to request another dose whenever the pain starts to become uncomfortable.
- Using a patient-controlled analgesia (PCA) pump which may be available in your hospital. With PCA, you can adjust your pain medication to achieve your own level of comfort and tolerance of side effects. When you begin to feel uncomfortable, you press a button and a specially programmed pump injects the medicine, usually through the IV tube in your vein. It is important to press the PCA button at the first sign of return of pain since this helps to maintain good pain control and also leads to the use of a total dosage each day which is lower than if you wait for the pain to return and become very severe.
- PCA is a very effective way of controlling pain. However, PCA is not available everywhere and cannot be used for all patients. There are extra costs for pumps, supplies and staff training. As well, you must want to use the pump, and learn how and when to give yourself doses of medicine.

Non-drug pain relief methods

People vary widely in the way that they respond to non-drug pain relief options. While these methods are not always enough on their own to treat pain, they can be useful in:

- further reducing pain when combined with medicine;
- reducing the amount of medicine required to control pain; and
- allowing people to gain control over their pain.

There are no side effects. These techniques are best learned before surgery.

Relaxation

There are a number of techniques which result in relaxation and reduction in anxiety which can be effective in individual patients in reducing pain. Simple techniques include abdominal breathing, jaw relaxation, methods of self hypnosis and yoga.

Physical agents

Some of the physical agents used for non-drug pain relief include:

- cold packs — these are useful following acute sporting injuries, where they may reduce swelling and inflammation;
- hot packs — these can be useful for the temporary relief of back pain, abdominal pain and period pain;
- massage — massage techniques are suitable for a range of situations, including sporting injuries, the first stages of labour and following surgery. It is important not to massage joints or other acutely inflamed or swollen parts of the body;
- spinal manual therapy — this involves pressure, movement and mobilisation of the spine, for the relief of back and neck pain;
- transcutaneous electrical nerve stimulation (TENS) therapy — this technique involves the application of small electrodes that pass electric current through the skin, producing analgesic effects; and
- acupuncture — this involves placing small needles in appropriate areas. The pain relieving effects are similar to TENS.

There is limited evidence supporting the effectiveness of physical agents but some people find them helpful in relieving acute pain.

What if the pain doesn't get better?

Tell the doctor or nurse about any pain that won't go away.

Don't worry about being a nuisance. Continuing pain can be a sign that your condition has changed, and the medical staff need to know about it.

They also need to know whether your pain control plan is working. They can change the plan if your pain is not under control.

What to do if you don't seem to get adequate information/responses and the pain relief is inadequate

Advise your nurse that you don't seem to be getting enough information from the doctor, or don't understand the information, and ask if the nurse can help. In many hospitals there will be an acute pain management service and you may ask the nurse to arrange for you to be referred to such a service. Mostly you will find that if you make a very clear statement of your problem, in a non-blaming way, to the relevant health care professionals, you will obtain a satisfactory response. If all the foregoing fails, you should ask to see the ward social worker or patient advocate and explain your problem to them. There is no reason today for patients to suffer unnecessarily with severe pain.

What happens when you leave the hospital?

Your health carers will discuss with you the pain medicines you may need to take home with you, and give you advice about the doses, how often you need to take pain medicines, how long you should take them for, and how to deal with any side effects.

If you experience severe or unusual pain after you leave hospital, contact your doctor straight away.

Appendix: statements of evidence

This booklet is derived from a larger report for health professionals called *Acute Pain Management: the Scientific Evidence*. This report summarises the scientific evidence for many aspects of acute pain management. The main statements of evidence from this report are given below. Readers who would like more detail about this evidence should refer to the main report.

Acute pain services

- Management of acute pain by a team with a range of skills, particularly in an acute pain service, leads to improved pain relief and better recovery.
- Effective pain management is essential in the care of any condition.

Assessment of pain

- Careful assessment of pain should occur initially and then regularly throughout treatment, using self-reporting techniques. As pain varies so greatly between individuals, your involvement in the initial and continuing assessment of the pain is essential.
- Unexpected levels of pain or pain that suddenly increases, especially when there are also other changes, may be a signal that your condition has changed.

Acute pain management after surgery

- Combining different types of pain relief drugs improves the effectiveness of pain relief after surgery.
- Studies suggest that giving more pain relief drugs, possibly before surgery, may reduce the likelihood that early acute pain after surgery will become chronic.
- Supplemental oxygen is of benefit for at least the first 48–72 hours following major surgery and in elderly or high-risk patients, regardless of the pain relief method used.

Opioids (morphine-like drugs)

- There is no evidence that the appropriate use of opioids for severe pain will lead to opioid dependence or addiction.
- There are a number of methods traditionally used to administer opioids. These each have advantages and disadvantages in different groups of people, but are more likely to be effective when doses are tailored to the individual, and your need for pain relief is seen as more important than strictly following a dose interval.
- Patient-controlled analgesia (PCA) allows you to adjust the degree of pain relief to your own desired level of comfort and tolerance of side effects. It has been shown to provide greater satisfaction with pain relief and improved ventilation compared to conventional methods. Adequate knowledge of PCA is essential to avoid serious outcomes.

Regional techniques

- Regional methods of pain relief using local anaesthetic, either alone or in combination with pain relief by tablets or injections, can be effective after a number of localised procedures.

Epidural analgesia

- Epidural pain relief after surgery can significantly reduce the chances of pulmonary complications.
- Epidural pain relief is as safe as traditional methods when coordinated by an acute pain service, with appropriate patient monitoring being performed.
- Epidural opioids may be more effective when used in combination with local anaesthetic and reduce the required dose and side effects associated with either the local anaesthetic or opioid alone.

NSAIDS (aspirin-like drugs)

- While the currently available NSAIDs do not relieve severe pain when used alone, they have been found to be effective as part of combination therapy with other pain medication.
- The adverse effects of NSAIDs are potentially serious and it is imperative that they are not given to people who are likely to suffer these effects.

Non-pharmacological methods

- Although there is no strong evidence for the effectiveness of non-drug pain relief in acute pain management, some patients may benefit from these techniques.
- Transcutaneous electrical nerve stimulation (TENS) in postoperative pain has not been found to be of benefit when used as the only method of pain relief.

Day surgery patients

- Pain following discharge from hospital after day surgery influences the time taken to return to normal activity and may lead to further, unplanned hospitalisation.
- Drug options for pain relief after day surgery include oral opioids, NSAIDs and local anaesthetics, or combinations of these treatments. Simple oral medication such as paracetamol is effective for mild to moderate pain. The addition of codeine to paracetamol gives additional worthwhile pain relief even in single doses.

Obstetric analgesia

- Lumbar epidural analgesia is the most effective form of pain relief during childbirth. Using low doses of a mixture of local anaesthetic and opioids can significantly reduce the severity of side effects.
- Recent studies suggest that there is no increase in the rate of caesarean deliveries associated with epidural analgesia.
- All options for pain relief, and their efficacy, should be discussed with pregnant women so that they can make informed decisions. Pain relief planned during the antenatal period should be monitored and appropriately modified during the course of the labour. The wishes of the mother and the well-being of the baby are paramount.

Pain in children

- Assessing pain and monitoring treatment in children are particularly challenging to health carers. Close observation of behaviour is important. The use of pain rating scales suitable for the age and developmental stage of the child is essential for the accurate treatment of pain. Children should be respected as an authority on their own pain.
- Procedural pain in children should be managed systematically, using a combination of drug and non-drug methods and avoiding painful routes of administration where possible. General anaesthesia may be required, especially for frequent painful procedures where other strategies have failed.
- Drug therapy is the main method of pain relief after surgery in children, but non-drug methods may also be useful.
- Drugs should be given by the least painful route where possible.
- There is no evidence that the use of opioids for treating severe pain in children leads to opioid dependence or addiction.

Burns and trauma pain

- Patients with burn or trauma pain need a range of strategies which may differ during the emergency, healing and rehabilitation phases.

Shingles

- Antiviral drugs have been shown to reduce pain during the acute phase of shingles, and also to reduce the duration of neuropathic pain after the acute phase.
- Antidepressants and anticonvulsants are effective in the treatment of neuropathic pain such as neuralgia after shingles.

Acute headache

- A stepwise approach to the use of drugs to treat migraine is the most effective. Moderate to severe migraine may require the use of specific antimigraine drugs such as ergotamine or sumatriptan.
- The combination of aspirin (900 mg) and metoclopramide is as effective as sumatriptan in the treatment of migraine, is better tolerated and also considerably cheaper. Those patients who do not tolerate aspirin and metoclopramide will have a number of alternative drugs, including the triptan group (eg sumatriptan), available on advice.
- Pethidine has been found to be no more effective than other drugs in the treatment of migraine.

Acute back and neck pain

- Treatment for acute lower back pain based on bed rest and immobilisation is not effective.
- A return to normal activities as soon as possible leads to more rapid recovery from acute lower back pain than do either bed rest or back-mobilising exercises. Non-specific backache is best treated using an approach aimed at pain relief, active rehabilitation and return to normal activity.
- Spinal manual therapy is used for the treatment of acute lower back pain in the first six weeks following onset of pain. The scientific evidence for its effectiveness is yet to be clearly established.
- The little evidence available about the use of spinal manual therapy for acute neck pain suggests some benefit in mechanical neck pain.
- Although rare, serious complications have been associated with neck manipulation and such procedures should therefore be performed only by appropriately trained health professionals.
- Corticosteroids are effective anti-inflammatory drugs, but are not suitable treatment for acute sporting injuries for up to six weeks after the incident. Experimental studies have shown that corticosteroids may adversely affect normal tissue healing and repair.

Acute pain in patients with cancer

- Oral analgesics are the mainstay of pain relief in patients with cancer. Strong opioids are safe and effective for moderate to severe pain.
- Radiotherapy plays a major role in the management of acute pain due to cancer.
- Bisphosphonates have a general role in the treatment of bone pain related to breast cancer and myeloma (and possibly prostate cancer).

- Opioids and other pain relief drugs given through injections into the spine are often effective in treating acute cancer pain that is not relieved with conventional treatment.
- The barriers to management of pain in cancer patients must be recognised and overcome if possible. While waiting for specific anti-cancer therapy to work, adequate analgesia must be provided.

Acute pain in patients with HIV/AIDS

- Acute pain in HIV/AIDS patients often has more than one cause and location and tends to increase in severity as the disease progresses. Treatment requires a team approach.
- A careful history and physical examination commonly identifies treatable pain syndromes seen in HIV/AIDS. Determining the level of immunosuppression in patients presenting with pain is critical in diagnosis, as immunocompetent patients are more likely to have benign conditions than infections or malignancies.

Pain in the elderly

- NSAIDs should only be used with extreme caution in the elderly. For non-inflammatory complaints, paracetamol and/or low dose opioids are recommended. Low dose corticosteroids may be appropriate for inflammatory conditions.
- Effective pain management in the elderly needs to consider a number of factors which may complicate management, including co-existing conditions, multiple medications, altered response to pain and cognitive impairment.

Emergency department and intensive care

- Early administration of opioids to patients with acute abdominal pain does not delay diagnosis but may actually assist it.
- Non-steroidal drugs have been shown to be more effective than opioids in relieving the pain of renal colic.
- In most situations of acute pain in the emergency department, giving opioids intravenously is by far the most effective.
- All of the techniques and drugs used to treat acute pain after surgery, including non-drug techniques, can potentially be applied in intensive care units.

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