Patients often visit the pharmacy to obtain treatment for minor aches and pains. A variety of treatment options are available for the management of minor pain. This article discusses the treatment options available without prescription for the management of mild to moderate pain.

**Non-pharmacological measures**

When dealing with muscle strains and sprains, early application of RICE therapy can reduce swelling and pain:

- **Rest** the affected area for three to five days and then restart activity gradually. Avoid any exercise that results in significant pain.
- **Ice** – Initial treatment following an injury should involve application of cold packs for 10 to 20 minutes at a time to reduce swelling. Be sure to wrap cold packs in a towel and move them every few minutes to prevent cold injury. Cold packs can be applied two to three times a day for 48 to 72 hours. Thereafter, heat may be applied. Heat increases blood flow and increases oxygen, protein and nutrient supply to the area, which improves healing.
- **Compression** – Wrapping the affected area with an elastic bandage reduces swelling and pain. The bandage should be wrapped firmly but not too tightly so that it obstructs blood flow.
- **Elevation** of the affected area above the level of the heart, where possible, for the first 24 to 48 hours.

Several ice/heat packs are available, some of which can be used as both heat or cold packs and some that are reusable. Cold/heat packs can also be used to relieve pain following minor bumps and bruises, migraines, tension headaches, toothache, ear pain, menstrual pain, minor burns, cuts, scrapes and insect bites.

### Topical pain relief

Topical formulations for treatment of pain include gels, sprays, patches, lotions, solutions, creams and ointments. The placebo effect of topical applications can be quite high. This is most likely due to an increased blood flow and stimulation of nerves following the act of massaging that leads to a reduced sensation of pain.

### Counterirritants and rubefacients

These include products that contain ingredients such as methyl salicylate, menthol, camphor and capsaicin. They cause vasodilation to increase blood flow to the area resulting in reddening and warming of the skin (rubefacient) and mild skin irritation (counterirritants). The idea is that the feeling of warmth and irritation distracts from the pain felt. Methyl salicylate, also known as wintergreen, is one of the most widely used counterirritants for treatment of pain associated with strains, sprains, arthritis and backache and is available in formulations containing anything between 10% and 60% of methyl salicylate. Menthol is also used in concentrations of up to 1% and gives a feeling of coolness, followed by a sensation of warmth.

Capsaicin produces a feeling of warmth when applied to the skin due to excitation of the nerve endings. It is used for treatment of muscle pain, arthritis and pain associated with shingles. Warn patients to wash their hands properly following application to avoid accidental introduction to the eyes as it can cause burning and stinging.

### Anti-inflammatory agents

Several products containing nonsteroidal anti-inflammatory drugs (NSAIDs) are available for topical use. NSAIDs such as benzydamine, diclofenac, flurbiprofen, ibuprofen, indomethacin and ketoprofen can be used topically for...
treatment of pain and inflammation due to muscle injuries, arthritis, bursitis and joint pain. They should be applied to the affected areas as indicated by the manufacturer’s product information, usually two to three times a day.

These products should not be applied to mucous membranes (eyes, nose and mouth), inflamed (sunburnt, windburnt, dry or chapped) or open skin. Systemic absorption can occur, but rarely results in adverse effects such as dyspepsia, nausea and diarrhoea. The elderly are at increased risk of these adverse events, including the development of gastrointestinal sores and bleeding. If any adverse events occur, patients should stop using the product immediately and consult a doctor.

Patches are also available that can be applied to the affected area, with a fresh patch applied every 12 hours. When applying patches to flexible areas such as the knee or elbow, the joint should be bent before application of the patch. Sprays may be especially useful for treatment of hard to reach areas.

**Oral preparations**

Paracetamol, aspirin and NSAIDs are commonly used for the treatment of painful conditions and a variety of products are available containing one or more of these analgesics. They work in different ways and have different safety profiles that may determine the choice of a product for a specific patient.

**Aspirin**

Aspirin is effective in the treatment of pain, inflammation and fever and can be used for treatment of mild to moderate pain such as muscle pains, headaches and menstrual pain. Aspirin should not be used for treatment of fever in children younger than 16 years of age due to the risk of Reye’s syndrome (a serious disease affecting the brain and liver).

Aspirin can also cause irritation of the gastrointestinal tract (GIT) leading to heartburn, nausea, vomiting and sometimes bleeding. It is therefore important to take aspirin with or after meals. Warn patients that the use of alcohol with aspirin may also increase the risk of GIT irritation and bleeding. Patients on warfarin therapy are at increased risk of bleeding when taking aspirin.

Some patients may experience bronchospasm (breathing difficulties) when taking aspirin and patients with asthma are often more sensitive to these effects.

**Paracetamol**

Paracetamol works on the part of the nervous system that receives “pain messages” and relieves pain and fever but has little or no effect on inflammation. It does not have the same irritant effect on the GIT and may be safer to use in patients with gastric ulcers and those with a risk of bleeding. Paracetamol is relatively safe and can be used in children. However, overdose with paracetamol can be fatal and any reports of overdose should be taken seriously, and such patients should be referred to a doctor or casualty department immediately.

Long-term use of high doses of paracetamol can result in kidney and/or liver damage. Patients with alcoholism and liver and kidney dysfunction should check with the doctor or pharmacist before taking paracetamol, especially if paracetamol is used often or in the higher dose ranges.

**NSAIDs**

Products containing ibuprofen, naproxen, indomethacin, piroxicam, diclofenac and mefenamic acid may be provided to patients without a prescription for short-term treatment (three to five days) of mild to moderate muscle pain, swelling, fever, menstrual pain, headaches, ear pain and dental pain. Products may include tablets, capsules and syrups or suspensions.

The warnings for aspirin (see above) also apply to NSAIDs and, in addition, NSAIDs can cause sodium and water retention, and kidney problems. NSAIDs are therefore best avoided in patients with congestive heart failure and renal impairment. Because they can also cause GIT irritation, these drugs should be taken with or after meals to reduce the risk of heartburn, indigestion, nausea, vomiting and GI bleeding.

**Combination products**

Combination products are also available and may contain additional ingredients such as codeine (opioid-like analgesic), doxylamine (an antihistamine), methocarbamol or orphenadrine citrate (muscle relaxants) and caffeine (to counteract drowsiness and contribute to pain relief). It is important to establish what other medications patients are taking to avoid duplication and possible side-effects or overdose with products containing the same active ingredients.

**Conclusion**

Pain is nature’s way of protecting us from the hazards of the environment and to warn us that something is wrong. Often the condition is not serious, and the pain can be managed successfully by using non-pharmacological measures with or without an analgesic. The choice of an appropriate analgesic should take into account other medications used by the patient, other medical conditions that the patient may have and the possible side-effects of treatment options. Patients should be referred to a doctor if pain does not respond to treatment within five days or if pain returns when the analgesic is stopped.

**Bibliography**