Muscle pain in adults

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INTRODUCTION
The management of minor musculoskeletal conditions primarily involves the relief of pain and inflammation. Simple, practical, advice combined with topical or systemic over-the-counter (OTC) treatment can be invaluable. This article focuses on the questions you, as the pharmacist’s assistant, need to ask before recommending a particular treatment or referring the patient for further medical attention and then discusses the products commonly used in the OTC management of muscle pain in adults.

What you need to know
• Adult, elderly?
• Symptoms e.g. pain, swelling, site and duration?
• Patient medical history i.e. an injury or a medical condition such as arthritis?
• Medications currently being taken?
  – Prescription, over-the-counter and complementary medicines.

Evaluating the information
• Age
  Elderly patients are more likely to be taking other medicines and many may already be taking analgesics or non-steroidal anti-inflammatory medicines for a chronic condition such as osteoarthritis. Furthermore, a fall or an injury in an elderly person is more likely to result in a fracture. If in doubt, refer the patient to a doctor.

• Symptoms
  Ask the patient to describe the pain, its location and severity. How long has the patient had the pain? Musculoskeletal conditions should respond to treatment within a few days. A maximum of five days’ treatment may be recommended, after which patients should be referred to a doctor.

• History
  Muscle injuries or pain may often occur as a result of a fall or other trauma, during physical activity such as lifting heavy loads, by performing unaccustomed activities.

Pain is one of the most common complaints and impacts greatly upon a patient’s quality of life. The pharmacist’s assistant may be frequently asked for advice about muscle pain, muscular injuries, sprains and strains.

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3. Fibrositis

Fibrositis or fibromyalgia refers to muscular pain, which may involve the lower back, base of the neck, shoulders, elbows and knees. The condition is thought to have a psychological component and may be aggravated by stress.

4. Frozen shoulder

Frozen shoulder is a common condition where the shoulder is stiff and painful. It is more likely in an elderly patient. The shoulder pain may radiate to the arm and is often worse at night. The condition can be related to an injury but may also occur without apparent cause. The pain and limitation of movement associated with frozen shoulder may be severe and referral to a doctor is advisable.

5. Painful joints

Joint pain (arthralgia) may be due to arthritis and may be associated with swelling, stiffness, limited movement and deformity of the joint. A common cause of painful joints is osteoarthritis, which may be due to wear and tear of the joint. It may be necessary to refer the patient to the doctor, except for mild cases of osteoarthritis where the patient has previously used a particular treatment successfully.

6. Back pain

Lower back pain affects many people at some point in their lives. Minor back pain may occur after gardening, awkward lifting or bending and may be due to muscular strain (lumbago). If the back pain does not resolve within a week or so following appropriate management, the patient should be referred to the doctor. More severe back pain or back pain that radiates from the back down one of the legs is an indication for referral. Kidney pain can be felt in the back to either side of the middle part of the back. If back pain is associated with other symptoms such as pain on passing urine or more frequent urination, the pain may be due to a kidney or bladder infection and referral to the doctor is necessary.

7. Whiplash injury

Neck pain following a car accident can last for a long period – up to 2 years in some cases. While the patient may require physiotherapy, good posture while sitting and standing is important. Many patients will benefit from treatment with topical or systemic medications.

Other medicines

Patients with osteoarthritis or chronic back pain are likely to be already taking pain relievers such as paracetamol or a non-steroidal anti-inflammatory (NSAID) such as ibuprofen or diclofenac. While the use of a topical NSAID is not likely to pose any interactions, it is important to ensure that patients do not double up using the same or similar medicines, a scenario which increases the risk of side effects from the medicines.

There are also certain prescription medicines which may cause muscle pain as a side effect. Examples that spring to mind are the medicines called the ‘statins’ which are used to lower blood cholesterol levels. Therefore, it is important to check what other medicines the patient is taking and if you suspect that the muscle pain could be induced by another medicine, refer the patient back to the doctor.

Also, remember to ask the patient if they are allergic to any medicines. Patients allergic to aspirin, for example, should not be prescribed ibuprofen or diclofenac. While the medicines which may cause muscle pain as a side effect. Examples that spring to mind are the medicines called the ‘statins’ which are used to lower blood cholesterol levels. Therefore, it is important to check what other medicines the patient is taking and if you suspect that the muscle pain could be induced by another medicine, refer the patient back to the doctor.

Recommending treatment

Before recommending treatment, it may be helpful to ask whether the patient has ever used a product for muscle pain before and whether it was effective. Patients who have recently used one or more products with little efficacy should be referred to the doctor.

In selecting a product, you, the pharmacist’s assistant, have a wide range of preparations to choose from – oral...
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- Systemic non-steroidal anti-inflammatory agents

  An oral analgesic of choice for muscle pain in adults would usually be an NSAID such as ibuprofen (e.g. Nurofen® tablets), provided there are no contra-indications. Patients who should use oral NSAIDs with caution include the elderly, those with a history of peptic ulcer disease and those taking blood thinners such as warfarin. Furthermore, patients allergic to aspirin should also not use a NSAID.

- Topical analgesics and NSAIDs

  There is a high placebo response to topical analgesic products. This is probably because the act of massaging the product into the affected area increases blood flow to the area, stimulating nerves and leading to a reduction in the sensation of pain. Nonetheless, clinical trials have shown the topical NSAIDs to be more effective than placebo in relieving musculoskeletal pain. Ibuprofen (e.g. Nurofen® gel, Deep Relief® Gel), flurbiprofen (e.g. TransAct®), diclofenac (e.g. Voltaren® gel) and camphor (containing camphorated oil) are some of the topical NSAIDs that are available. The active ingredient is absorbed into the bloodstream and appears to become concentrated in the affected tissues. Like the oral NSAIDs, patients allergic to aspirin should also avoid using a topical NSAID.

- Counter-irritants and rubefacients

  Counter-irritants and rubefacients cause vasodilation, inducing a feeling or warmth after application. The term ‘rubefacient’ refers to the reddening and warming of the skin. The theory behind the use of these products is that they bombard the nervous systems with sensations other than pain (i.e. warmth, irritation) and this is thought to distract attention from the pain. Simply massaging the affected area produces sensations of warmth and pressure and can reduce pain. Massage is known to relax muscles but it has also been suggested that massage disperses the chemicals or the products of the inflammatory response by increasing the blood flow.

  There are many products available, often containing more than one active ingredient. Common ingredients include:-

  - *Methylsalicylate or wintergreen* - Generally used in concentrations ranging between 10 and 60%.
  - *Nicotinates e.g. methyl nicotinate* - These are absorbed through the skin and cause a reddening of the skin, increased blood flow and warmth.
  - *Menthol* - Has a cooling effect when applied to the skin, followed by a sensation of warmth.
  - *Camphor* - In concentrations of higher than 3% acts as a counter-irritant and rubefacient. However, camphor is highly toxic when swallowed and problems of toxicity have led to the withdrawal of many products containing camphorated oil.
  - *Capsaicin/capsicum* - Produced from peppers and produces a feeling of warmth when applied to the skin. They do not cause reddening because they do not act on capillary or other blood vessels but rather act through causing an excitation of nerve endings in the skin.
  - *Turpentine oil* - Is a traditional ingredient in many topical analgesic formulations.

  Remember: Do not use a hot-water bottle to help relieve symptoms if a rubefacient has been applied.

- Complementary medicines

  - *Arnica* - Several commercial creams, gels and ointments contain arnica, either alone or in combination with other remedies. Arnica is also used internally in homeopathic preparations for trauma, but the doses used are minuscule. Do not confuse homeopathic use with taking the herb internally - The latter is not recommended. Also, do not apply arnica products to open wounds.
  - *Methylsulfonylmethane (MSM) and dimethylsulfoxide (DMSO)*

    MSM is also known as crystalline dimethylsulfoxide (DMSO). In fact, MSM is a metabolite of DMSO.

    Orally and topically, MSM may be used for chronic pain and musculoskeletal pain. Some examples of oral products containing MSM include M-Relief® capsules, Oxytone® tablets and Rich’s MSM® capsules. Bio-Soothe® is a topical MSM-containing product. DMSO is used topically for acute musculoskeletal injuries.

    Other complementary medicines used externally for musculoskeletal pain include comfrey and horse chestnut, while ginger may be taken internally.

- Practical points:

  1. As soon as possible after an injury, treat with RICE (rest, ice, compression and elevation).
  2. Always keep topical analgesic products well away from eyes, mouth and mucous membranes and do not apply them to broken skin. Intense pain and irritation can occur following such contact.
  3. If any skin sensitivity occurs, stop using the product.

References:
2. Randall MD, Neil KE. Disease management.
5. Natural Medicines Comprehensive Database.