



Pain conditions

Clinical pharmacy

4th stage

PAIN

- *It is an unpleasant sensory and emotional experience associated with actual or potential tissue damage.*
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- ***Acute pain** is a symptom of disease process and has a biological function by allowing the patient to avoid or minimize injury.*
 - ***Chronic pain** is pain which has lasted for 6 months or more.*

HEADACHE

- *It is pain anywhere in the region of the head or neck.*

- *Type of headache:*

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1. *Tension headaches.*
 2. *Subarachnoid hemorrhage (SAH).*
 3. *Exertion headaches.*
 4. *Cluster headaches.*

HEADACHE

5. *Migraine:*

I. *Classic migraine (with aura).*

II. *Common migraine.*

6. *Sinusitis.*

7. *Temporal arteritis.*

CAUSES OF HEADACHE

1. *Stress.*
2. *Certain food like e.g. chocolate and cheese.*
3. *Hormonal change during menstrual cycle.*

4. *Recent head injury or trauma.*
5. *Recent eye test and long periods of reading, writing or other close work may be due to deteriorating eyesight.*
6. *Medication like combined oral contraceptive and sympathomimetic.*

MANAGEMENT

- *OTC analgesics are available in a variety of dosage forms.*
- *The peak blood levels of analgesics are achieved 30 min after taking a dispersible dosage form.*
- *while after a traditional tablet, it may take up to 2 h.*
- *The timing of doses is important in migraine where the analgesic should be taken at the first sign of an attack, preferably in soluble form, since GI motility is slowed during an attack and absorption of analgesics delayed.*

MANAGEMENT

- *Combination therapy may sometimes be useful, e.g. an analgesic and decongestant (systemic or topical) in sinusitis.*
- *Common analgesic used as OTC:*

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1. ***Paracetamol** has analgesic and antipyretic effects but little or no anti-inflammatory action; therefore it effective for reducing pain and fever.*

MANAGEMENT

- 2. Aspirin is analgesic, antipyretic and also anti-inflammatory if given in doses greater than 4 g daily. About half of migraine sufferers show significant improvement in their headache 2 h after taking aspirin. It should not be given to children under 16 years because of its suspected link with Reye's syndrome.*

MANAGEMENT

3. NSAIDs (ibuprofen and diclofenac) have analgesic, anti-inflammatory and antipyretic activity.

S/E: irritation and damage to the stomach causing indigestion, nausea and diarrhea, but less so than aspirin. Gastric bleeding can also occur. For these reasons, it is best to advise patients to take NSAIDs with or after food.

Caution: history of peptic ulcer, asthma, congestive heart failure, liver and renal failure, and pregnancy (due to they cause water and sodium retention).

MANAGEMENT

4. **Codeine** and **dihydrocodeine** is a narcotic analgesic and commonly available in combination with paracetamol or aspirin. They cause drowsiness, constipation, respiratory depression, and dependence.

5. **Caffeine** is included in some combination analgesic products to produce wakefulness and increased mental activity. Analgesic containing caffeine should be avoided near bedtime because of their stimulant effect.

MANAGEMENT

6. **Doxylamine** is an antihistamine with sedative and relaxing effects are probably responsible for its usefulness in treating tension headaches.
7. **Buclizine** is an antihistamine with antiemetic effect therefore used in migraine.
8. Topical treatment containing cooling action can be applied to the forehead, back of the neck and temples.

MANAGEMENT

9. Sumatriptan 50-mg tablets can be used OTC for acute relief of migraine with or without aura. It can be used by people aged between 18 and 65 years. It is taken as soon as possible after the migraine headache starts. A second dose can be taken at least 2 h after the first if symptoms come back and only if the headache responded to the first dose.

S/E: nausea and vomiting, disturbances of sensation, dizziness, drowsiness, flushing, feeling of weakness and fatigue and feelings of heaviness, pain or pressure in any part of the body.

MANAGEMENT

Caution: *men aged over 40 years, post-menopausal women, hypercholesterolemia, regular smoker (10 or more daily), obesity, diabetes, and family history of early heart disease.*

C/I: *known hypertension, a previous myocardial infarction, ischemic heart disease, peripheral vascular disease, coronary vasospasm/Prinzmetal's angina, cardiac arrhythmias (including Wolff–Parkinson–White syndrome), hepatic or renal impairment, epilepsy, and a history of seizures, a history of cerebrovascular accident or transient ischemic attack.*



MUSCULOSKELETAL PROBLEMS

1. *A sprain injury .*
2. *Strains.*
3. *Muscle pain.*

4. *Bruising.*
5. *Head injury.*
6. *Bursitis.*
7. *Fibromyalgia.*
8. *Frozen shoulder.*

MUSCULOSKELETAL PROBLEMS

9. *Arthralgia.*

10. *Back pain.*

11. *Repetitive strain disorder.*

12. *Whiplash injuries.*

MANAGEMENT

- 1. First-aid applies compression, cooling and elevation immediately, and this combination should be maintained for at least 48 h. Ice packs by themselves will reduce metabolic needs of the tissues, reduce blood flow and result in less tissue damage and swelling, but will not prevent hemorrhage.*
- 2. Prevention of recurrent back pain by good posture, lifting correctly, a good mattress and losing excess weight.*

MANAGEMENT

5. *Topical analgesic is highly preferable due to the act of massaging the formulation into the affected area will increase blood flow and stimulate the nerves, leading to a reduction in the sensation of pain.*

Counterirritants and rubefacients cause vasodilatation, inducing a feeling of warmth over the area of application.

*I. **Methyl salicylate** is one of the most widely used and effective counterirritants. It is available as natural wintergreen or synthetic.*

MANAGEMENT

II. Nicotines (e.g. ethyl nicotinate and hexyl nicotinate) are absorbed through the skin and produce reddening of the skin, increased blood flow and an increase in temperature.

III. Menthol has a cooling effect when applied to the skin and acts as a mild counterirritant at high concentration but at 1% concentration produce antipruritic effect.

IV. Topical anti-inflammatory agents containing NSAIDs are widely used to be as effective as oral NSAIDs in relieving musculoskeletal pain.

MANAGEMENT

V. Capsicum preparations, e.g. capsaicin capsicum and capsicum oleoresin, produce a feeling of warmth when applied to the skin. The sensation of hotness from eating peppers is caused by the excitation of nerve endings in the skin, body organs and airways.

VI. Heparinoid and hyaluronidase are enzymes that may help to disperse edematous fluid in swollen areas. A reduction in swelling and bruising may therefore be achieved.

MANAGEMENT

VII. Glucosamine sulphate and chondroitin improve the symptoms of OA in the knee and that glucosamine may have a beneficial structural effect on joints.

6. *Oral NSAIDs also effective.*