

## Analgesics

- 4 types
  - Non-opioid Analgesics
  - Opioid Analgesics
  - Trigeminal Neuralgia Drugs
  - Antimigraine Drugs
- Non-opioid analgesics are particularly suitable for musculo-skeletal pain. Many are available OTC but some of the stronger analgesics are only available on prescription.
- **Generic Names** – Paracetamol, Co-Codamol, Co-Dydromol, Co-Proxamol,
- **Trade Names** – the trade names for these types of drug are too numerous to mention, for details see a copy of BNF or MIMMS.
- **Side Effects** – Constipation, rash, blood disorders, acute pancreatitis.
- **Caution** – in patients with renal or liver impairment or those who are alcohol dependent
- **Interactions** – anticoagulants (may enhance action of warfarin).



## Anti-migraine Drugs

- Most migraine headaches will respond to paracetamol or aspirin based analgesics. However, in some cases, peristalsis may be reduced which inhibits the absorption of the analgesic in which case, soluble forms should be given.
- **Analgesics with Anti-Emetics (anti-vomiting)**
- **Trade Names** – Migralvee – pink or yellow tablets  
Migravess – effervescent tablets  
Paramax – tablets
- **Ergotamine Tartrate (Migril)** – is used in patients who do not respond to simple analgesic therapy. It acts by constricting the cranial arteries and should therefore not be used in patients suffering from hemiplegic migraines.
- **Contra-indications** – peripheral vascular disease, coronary heart disease, obliterative vascular disease, raynauds phenomenon, hepatic or renal impairment, severe or inadequately controlled hypertension.
- **Sumatriptan (Imigran)** – a white capsule shaped tablet used to treat acute attacks of migraine, particularly cluster migraines.
- **Contra-indications** – ischaemic heart disease, previous heart attack, coronary vasospasm.
- **Side Effects** – chest pain & lightness, paraesthesia, heat, heaviness, pressure, flushing, dizziness, feeling of weakness, fatigue, drowsiness, hypotension, seizures, bradycardia, tachycardia.

## Aspirin-Like Drugs

- **Salicylates** – Less likely to cause GI bleeding and tinnitus, but may cause acute interstitial nephritis. (Diflunisal, Olsalazine)
- **Propionic Acid Derivatives**  
Better tolerated by most patients than aspirin. Some have a more potent action than aspirin. Some produce less GI side effects but may produce more GU sideeffects. (Ibuprofen, Naproxen, Suprofen, Fenoprofen)
- **Indoles**  
Contraindicated in patients with GI bleeding. May Worsen pre-existing depression, epilepsy or Parkinson's disease. Most likely to be nephrotoxic. Indicated to close patent ductus arteriosum in newborns. (Indomethacin)
- **Oxicam**  
In addition to inhibiting prostaglandin synthesis, these drugs can also prevent neutrophil aggregation and the release of lysosomal enzymes. (Peroxicam (Feldene))

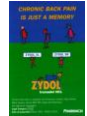
## Opioid Analgesics

- These drugs are used to relieve moderate to severe pain particularly of visceral origin. Prolonged use may lead to dependence and tolerance but this should not contraindicate prolonged therapy in terminal illness.
- **Side Effects** – Nausea, vomiting, constipation, drowsiness. Large doses may cause respiratory depression & hypotension, difficulty with micturition, urteric/biliary spasm, sweating, headache, facial flushing, vertigo, bradycardia, tachycardia, palpitations, hypotension, hallucinations, hypothermia, mood changes, dependence, decreased libido and potency.
- **Generic Name** – Morphine, Diamorphine, Buprenorphine, Codeine Phosphate, Dihydrocodeine, Methadone, Pethidine Hydrochloride, Tramadol Hydrochloride.
- **Trade Name** – Morphine – Oramorph – liquid morphine
  - Sevredol – blue tab, 10mg, pink tab 20m
  - MST continues
  - Oramorph SR (Sustained release)
  - Morphine suppositories
  - Buprenorphine – Temgesic 200mg, 400mg
  - Diamorphine – CD Diamorphine - CD Diamorphine Linctus



## Non-Steroidal Anti-Inflammatories

- NSAID's act by inhibiting PROSTAGLANDIN synthesis.
- Prostaglandins are a family of potent arachidonic acid metabolites, which effect the actions of inflammation, body temperature, pain transmission and many other activities.
- They are chemical mediators which are produced and released by cells on demand. We do not store prostaglandins.
- Prostaglandins are degraded rapidly and have a half life of only seconds to minutes.
- NSAID's work by inhibiting the action of cyclooxygenase which is an essential enzyme for the formation of Prostaglandins.
- **ASPIRIN** – This drug inhibits the action of cyclooxygenase and therefore has the ability to reduce the effects of inflammation, including the reduction of pain and fever. It also prevents platelet aggregation.
- **Indications** – Symptomatic relief of pain.  
Reduction of fever  
Reduction of stroke and MI risk
- **Side Effects** – GI upset!  
Allergic reactions  
Increased risk of Reye's syndrome
- **Contraindications** – Gastric Ulcer Disease  
Bleeding Disorders  
Aspirin is absorbed in the small intestine. It enters the brain where it is highly metabolised.  
Excreted in urine.
- **Interactions** – Increased risk of bleeding with other anticoagulants  
Decreased effects of anti-gout agents



## ANTI-ARTHRITIC DRUGS

- Anti-arthritis drugs have to have two main properties, they have to have an anti-inflammatory effect and also have the ability to reach therapeutic levels in the joint capsules without reaching toxic levels within the serum. The drugs mentioned above are the primary anti-arthritis treatments. Other types of anti-arthritis drugs are outlined below.
- **Rofecoxib (Vioxx)**  
These drugs selectively inhibit cyclooxygenase-2 (COX-2) to prevent Prostaglandin synthesis. They can still cause GI intolerance and GI symptoms but are usually fewer at levels required for arthritic control.
- **Celecoxib (Celebrex)**  
Action is the same as that for Rofecoxib
- **Hydroxychloroquine**  
This drug is used for the treatment of RA and juvenile RA. Side effects can include reduced accommodation, bullseye retina, dizziness & headaches.
- **Sulfasalazine**  
Acts by reducing prostaglandin synthesis and so exhibits an anti-inflammatory property. It can cause GI intolerance.

