What are NSAIDs used for?
NSAIDs are licensed for use in the treatment of inflammatory conditions (arthritis and other musculoskeletal disorders) and generalised pain relief (migraine, dental pain, post-operative pain, menorrhagia and gout). The aim of this guide is to target patients on long term NSAID therapy for chronic pain.

Lifestyle issues
- Advise patient on eating a healthy diet & 20 - 30 minutes of exercise a day, if weight loss is required. Signpost to local exercise schemes e.g. exercise on referral (information can be found on local authority website)

How do NSAIDs work?
NSAIDs work by inhibiting the enzyme cyclo-oxygenase, which is involved in the production of inflammatory prostaglandins. This results in reduction of inflammation, reduced temperature and an analgesic effect.

Reminder about NSAIDs and cardiovascular risk:
Advice for diclofenac:
- Diclofenac is now contraindicated in patients with established ischaemic heart disease, peripheral arterial disease, cerebrovascular disease or congestive heart failure (New York Heart Association [NYHA] classification II–IV)
- Patients with these conditions should be switched to an alternative treatment at their next routine appointment
- Diclofenac treatment should only be initiated after careful consideration for patients with significant risk factors for cardiovascular events (e.g. hypertension, hyperlipidaemia, diabetes mellitus, smoking)

Advice for Etoricoxib:
- Ensure prescribing of etoricoxib is in line with MHRA advice and NICE clinical guideline on osteoarthritis
Advice for all NSAIDs:

- The decision to prescribe an NSAID should be based on an assessment of a patient’s individual risk factors, including any history of cardiovascular and gastrointestinal illness. All NSAIDs should be avoided in patients with a history of vascular disease, a high risk of cardiovascular disease (CVD), or gastrointestinal (GI) risk factors.
- Naproxen (1 gram daily) and low-dose ibuprofen (1.2 grams daily) are considered to have the most favourable thrombotic cardiovascular safety profiles of all non-selective NSAIDs.
- Enteric coated formulations of naproxen may not provide sufficient protection against systemic effects. If a patient has GI risk factors, they should be co-prescribed a proton pump inhibitor (PPI).
- The lowest effective dose should be used for the shortest duration necessary to control symptoms. A patient’s need for symptomatic relief and response to treatment should be re-evaluated periodically.

Red flags that need referral:

- Black stools or dark, coffee ground vomiting suggesting chronic gastrointestinal bleeding.
- Symptoms of iron deficiency anaemia (suggesting chronic gastrointestinal bleeding) e.g. fatigue, weakness, dizziness, pale skin, chest pain, palpitations, shortness of breath.
- Progressive unintentional weight loss or difficulty swallowing.
- Persistent vomiting.
- Patients who are at increased risk of GI side effects from NSAIDs e.g. patients aged 65 years and over, patients with significant past medical history or who are co-prescribed medications such as aspirin, anticoagulants, SSRIs, corticosteroids for assessment on whether co-prescribing of gastro-protection is required.
- Patients over 55 years old with unexplained, persistent recent onset dyspepsia.
- Pregnancy & breastfeeding.
- Swollen ankles or feet.

What are the common side effects to look out for?

| Gastro-intestinal disturbances including discomfort, nausea, diarrhoea, occasionally bleeding & ulceration | Take medication with milk, water or food as may reduce symptoms. Refer to GP for change of formulation, medication or addition of gastro-protection if persistent. Refer immediately to prescriber if evidence of gastrointestinal bleeding. |
| Rashes, angioedema, bronchospasm | Refer to prescriber – NSAID needs to be stopped. |
| Hepatic reactions – jaundice, abdominal pain & renal failure | Refer to prescriber – NSAID needs to be stopped. |
| Increased blood pressure, CV events, hyperkalaemia & fluid retention | Refer to prescriber for review of NSAID therapy. |
| Headache, dizziness, vertigo and insomnia | Refer to prescriber if a problem. |
| Reduced female fertility (long term use) | Advise patient that fertility problems are reversible on stopping treatment. |

Potential drug interactions? – See BNF Appendix 1: Interactions for more details:

- Methotrexate - there is increased risk of methotrexate toxicity due to reduction in the excretion of methotrexate. Methotrexate levels should be monitored closely when initiating, changing dose or discontinuing NSAID treatment.
- Lithium - there is increased risk of lithium toxicity with NSAID use. Lithium levels should be monitored closely when initiating, changing dose or discontinuing NSAID treatment. Avoid concomitant use.
- Diuretics and ciclosporin - there is increased risk of nephrotoxicity with NSAID use (a prescription for diuretics may indicate a diagnosis of heart failure; NSAIDs can antagonise the diuretic effect and worsen symptoms of heart failure).
- Aspirin, antidepressants and anticoagulants - there is an increased risk of bleeding and concomitant use should be avoided, if this is not possible gastro-protection should be considered.

Where can you find more information?

- NSAIDs – BNF sub-section 10.1.1 Non-steroidal anti-inflammatory drugs.
- Musculoskeletal disorders (level 1 & 2) distance learning packs that can be found on WCPPE website (http://www.wcppe.org.uk).
- NICE guidance on management of rheumatoid arthritis & Osteoarthritis can be found on NICE website (http://www.nice.org.uk).
- Clinical Knowledge Summaries- NSAID prescribing issues (http://www.cks.nice.org.uk).