PREScribing Support Team Audit: NSAIDs

Date of Authorisation: ______________________

Authorising GP: ______________________________

Prescribing Support Technician: ________________________

Summary
This audit has been designed to ensure that patients prescribed an NSAID have had their risk of adverse GI events assessed. Patients who fit the criteria for prescribing a non-steroidal anti-inflammatory drug (NSAID) and who are a high risk of gastro-intestinal event will be co-prescribed a PPI.

Objectives
To review all patients over 65 years who are currently prescribed a non-steroidal anti-inflammatory drug and determine if they require an alternative analgesic or gastro-protection in order to minimise the gastro-intestinal risks associated with NSAIDs by ensuring appropriate evidence-based prescribing.

Rationale
It has been estimated that the number of NSAID-related bleeds or perforations in the UK range from 6000 to 20,000 each year. They can occur at any time during treatment but are most common in the first month. Several studies have shown that a person exposed to NSAIDs has three to four times the risk of upper gastrointestinal bleeding, perforation or both of a non-user. Gastro-intestinal toxicity is largely a systemic effect of NSAIDs due to diminution of prostaglandin synthesis within the gastric mucosa and is not reduced by using modified release or rectal preparations.

There are two main objectives to gastro-protection namely:
• Prevent ulceration
• Treat indigestion (although dyspepsia is a factor limiting the use of NSAIDs its presence does not predict the existence of mucosal damage).

These are distinct entities as shown by the fact that the most serious GI events are not preceded by indigestion.
NSAIDs are associated with adverse events other than those affecting the GI tract. Fluid retention, that may cause or exacerbate heart failure, and impaired renal function are at least as common as GI bleeds, particularly in the elderly, and are not avoided by using COX-II inhibitors. Monitoring of renal function is essential for all elderly patients on NSAIDs, as well as those on diuretics or ACE inhibitors /angiotensin II inhibitors and those with renal, cardiac or renal impairment.

BACKGROUND
NSAIDs are effective in controlling inflammatory conditions, but have been identified as the most recognised cause of iatrogenic disease in the UK, mainly gastro-intestinal adverse events. Evidence-based strategies to minimise GI risk and improve overall prescribing habits exist and should be implemented in practice.

Risk reduction is particularly important in high-risk individuals.

The risk factors for GI complications are:
- Age > 65 years
- History of peptic ulcer, GI bleed or perforation
- Concomitant use of medicines that increase the risk of GI complications e.g. oral steroids, anticoagulants, SSRIs and warfarin
- Serious co-morbidity (cardiovascular, renal or hepatic impairment)
- Debilitated
- Long term treatment with maximum dose of NSAID

Many opportunities exist to improve patient care and minimise the GI risk in patients taking NSAIDs.

1. DOSE MINIMISATION
A common approach to reducing NSAID-associated GI risk is to reduce the NSAID dose which can be achieved by:
- Reviewing anti-platelet doses of aspirin in excess of 75mg daily
- Encouraging lowest possible dose of NSAID to control pain
- Encouraging ‘when required’ or pulse dosing (2-3 weeks therapy to manage episodes of inflammation) rather than regular dosing (this approach is unsuitable for modified release preparations, which should be reviewed in the absence of morning stiffness or compliance problems)
- Providing a concurrent supply of paracetamol or compound analgesic to support anti-inflammatory dose reduction.

2. CHOOSING THE SAFEST DRUG

There are currently 21 NSAIDs listed in the BNF (3 in the formulary) and 3 coxibs. All appear to be equally effective. There appears to be a ceiling to the analgesic effect of NSAIDs at or near their maximum recommended dose with higher doses achieving little, if any, additional benefit but increased adverse events. Ibuprofen has consistently shown to be associated with the lowest risk of GI events at recommended doses. At equivalent doses, naproxen and diclofenac and indomethacin are probably safe and are useful as second line agents. Azapropazone, piroxicam & ketoprofen are associated with significantly higher risk of GI toxicity and should be avoided. Drugs with long-half lives e.g. naproxen, piroxicam and tenoxicam may be more likely to cause acute renal failure or heart failure.
The Committee on Safety of Medicines (CSM) has recently issued the following advice about the safe use of NSAIDs:

- Drugs such as ibuprofen, which are associated with a lower risk of GI ulceration or serious complications should generally be preferred.
- NSAIDs should be started at the lowest recommended dose.
- No more than one oral NSAID should be used at a time.
- Combinations of an NSAID and low-dose aspirin may be associated with increased risk and should only be used if absolutely necessary.

Finally patients should be reviewed regularly, to ensure NSAIDs are still required and, for certain patients, gastro protection should be considered.

**Benefits for the patient**
A reduction in the risk of GI events.

**Benefits for healthcare professionals**
More appropriate prescribing resulting in a better safety profile for patient.

**METHOD**
A search will identify all patients over 65 years currently being treated with a non-steroidal anti-inflammatory drug or a coxib (celecoxib, etoricoxib or lumiracoxib)

- Aceclofenac
- Dexibuprofen
- Dextroketoprofen
- Diclofenac Sodium
- Difusinal
- Etodolac
- Fenbufen
- Fenprofen
- Fluriboprofen
- Ibuprofen
- Indomethacin
- Ketoprofen
- Mefenamic acid
- Meloxicam
- Nabumetone
- Naproxen
- Piroxicam
- Sulindac
- Tenoxicam
- Tiaprofenic acid
Audit Criteria and Interventions

Table 1

<table>
<thead>
<tr>
<th>Patient Criteria</th>
<th>Action to be taken</th>
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<tbody>
<tr>
<td>Patient over 65 years with a diagnosis of osteoarthritis on NSAIDs</td>
<td>Paracetamol dose to be maximised and NSAID use to be advocated for inflammatory flare ups only</td>
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<td>Patient at high risk of a GI event who is appropriately treated with an NSAID</td>
<td>Patient to be co-prescribed a PPI - omeprazole 20mg capsules</td>
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<td>Patient not ordering NSAID</td>
<td>Drug to be inactivated and action noted in computer records</td>
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<tr>
<td>Patient prescribed NSAID and clopidogrel due to dyspepsia with aspirin</td>
<td>Anti-platelet to be changed to aspirin (unless allergic reaction to aspirin previously documented) and PPI to be co-prescribed.</td>
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</table>

EXCLUSION CRITERIA

Any additional criteria for exclusion to be specified by the authorising GP.

SUGGESTED CRITERIA FOR REFERRAL TO PRACTICE

Criteria specified in table 1.

Any criteria specified by the practice.

REFERENCES

1. CKS (Prodigy)
2. Lanza FL Gastrointestinal toxicity of newer NSAIDs Am J Gastroenterol 1993;88; 1318-23
3. Drugs 1988;36: 643-651
CHANGES TO REPEAT PRESCRIBING

1. The audit must be checked and agreed with a GP in the practice prior to work being undertaken by the Prescribing Support Pharmacist or Pharmacy Technician.

2. The Prescribing Support Pharmacist/Technician conducts a search of the Practice Clinical System to identify patients over 65 currently prescribed a non-steroidal anti-inflammatory drug

3. The patient list is checked to ensure that all patients are still undergoing treatment (recently deceased or recent discontinuation of NSAID medication are removed)

4. Patients are assessed, (see risk factors) with respect to potential referral to GP or who require documentation of clinical information held on paper notes only.

5. No patient may be changed beyond the scope of the SPC unless authorised by the prescriber.

6. All changes to prescribing must be recorded within the prescribing field and, wherever possible, an indication recorded for the medication added.

7. Each patient should be informed of any changes made in accordance with the Practice’s preferred mode of communication. The Prescribing Support Team recommends personalised written communication sent from the Practice. Additional information e.g. patient leaflets may be included wherever possible.

8. If the patient is in residential care or has their medication otherwise supervised, information regarding any changes should also be communicated to the relevant service providers and their community pharmacist.

9. The Prescribing Support Pharmacist/Technician will communicate information about the review to relevant personnel within the practice e.g. receptionists, nurses and will, if appropriate, create on-screen reminders on the Clinical System.

10. A project file is retained by the Practice containing a list of patients involved, patient letter templates and any individual information sent, a copy of the protocol and prescribing review form and contact details for the Prescribing Support Team.

11. The Prescribing Support Pharmacist/Technician may record statistics of the review for report purposes and analysis of the review. No information regarding individual patients leaves the practice.
<table>
<thead>
<tr>
<th>Patient name</th>
<th>D.O.B.</th>
<th>NSAID and dose</th>
<th>Indication</th>
<th>Indicators of GI risk</th>
<th>Gastro-protection</th>
<th>Co-morbidity</th>
<th>Comorbidities</th>
<th>PPI</th>
<th>Misoprostol</th>
<th>Notes, issues or action points</th>
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Cardiovascular disease is defined as ischemic heart disease, cerebrovascular disease, peripheral arterial disease, heart failure.