

Clinical Audit Report

Audit of prescriptions for Non-steroidal Anti-Inflammatory Drugs (NSAIDs) In Community Pharmacies

Name of Author: Ruth Kent

Date: August 2009

1.0 Introduction

- All non-steroidal anti-inflammatory drugs (NSAIDs) carry the risk of side effects, which can be serious and life threatening. Chronic pain is associated with age but NSAIDs should be used with caution in people over 65 years old as they can cause serious adverse effects such as GI bleeding and ulceration. Data shows CV events are higher in patients taking NSAIDs, in particular concerns have been raised about the CV risks associated with diclofenac.

Background

The NPC MeReC extra no. 30 Nov 09 made the following recommendations;

Cardiovascular and gastrointestinal safety of NSAIDs

- Medication reviews of NSAIDs should consider:
 - Is an NSAID still necessary?
 - Is the NSAID prescribed appropriate based on the patients CV risk?
 - Is the NSAID prescribed the one with the lowest GI risk suitable for that patient?
 - Should a PPI be co-prescribed to reduce the risk of adverse GI effects?
 - When should treatment/dose next be reviewed?
- When reviewing the treatment of patients already receiving diclofenac, some patients, after discussion, may decide to continue treatment with diclofenac. However, in some cases (especially patients with significant risk factors for CV disease) it may be appropriate to consider alternatives.

2.0 Aim of the audit

- To record the number of patients aged 65 years or over who have been prescribed an NSAID
- To record which NSAID have been prescribed and the dose.
- To identify the patients on a regular NSAID who are also prescribed medicines for the management of cardiovascular disease
- To identify the patients on a regular NSAID who are also receiving medication for gastro-protection

3.0 Project Team

Ruth Kent, Pharmacy Project Facilitator (Lead)

Harriet Murch, Clinical Pharmacy Lead (Clinical adviser)

Ron Smith (Chief Pharmacist)

With special thanks to Vicki Bray from Northampton PCT for providing the basis of this audit

4.0 Standards

Std No.	Audit Standards	Target	Results
1.	NSAIDs prescribing should be kept to a minimum for patients also receiving medicines to treat cardiovascular disease	80%	Audit did not focus solely on people prescribed medicine for CV disease
2.	Patients over 65 receiving regular NSAID therapy and are receiving drugs to treat CV disease are prescribed an appropriate NSAID eg Ibuprofen or Naproxen	90%	59%
3.	Patients over 65 receiving regular NSAID therapy should also be prescribed a medicines for gastro protection	90%	26%
4.	Community Pharmacists should make interventions* dispensing prescriptions for NSAIDs that do not meet the above standards	80%	15%* Interventions may have been made prior to audit

5.0 Methodology

- The audit took place over a period of **5 days** using the NSAIDs audit form (appendix 1)
- Patient identifiable information was not recorded on the form, although a record may have been kept in the pharmacy for future reference.
- Information recorded on the form included:
 - **NSAID:** the specific NSAID prescribed (e.g. diclofenac, ibuprofen etc)
 - **Dose:** the dose of NSAID prescribed
 - **Regular prescription item:** marked yes, no or don't know
 - **Drugs for management of cardiovascular disease:** name of drug prescribed or none
 - **Drugs for gastro-protection:** name of drug prescribed or none
 - **Does the patient have a history of CVD, GI ulcer or bleed;** marked yes, no or don't know
 - **Actions taken:** a brief note of actions taken regarding any particular concerns e.g. contacted GP, discuss with patient, contacted PCT prescribing advisor
- Name of Pharmacy, date of audit and name of person completing the audit recorded.

6.0 Results

Pharmacies who took part in the audit

Of the 39 pharmacies approached, 34 (87%) completed questionnaires resulting in a total of 230 returns.

Data was recorded on between 1 and 20 patients per pharmacy

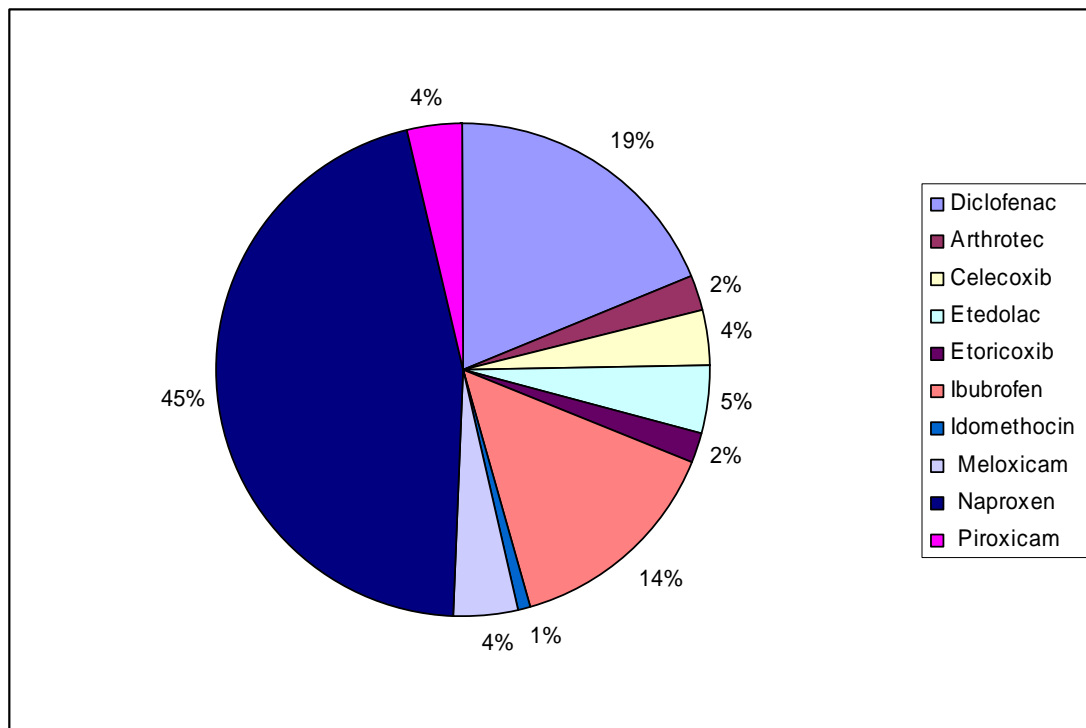
Table 1: Returns from Pharmacies

Pharmacy Name	Took part in audit		Pharmacy Name	Took part in audit
Alliance Pharmacy Eye	yes		Graham Young	yes
Alpha Chem Werrington	yes		Granville Pharmacy	yes
Pharmacy First	yes		Halls the Chemist Orton Wistow	yes
Werrington Pharmacy	yes		Halls the Chemist Castor	yes
Alpha chem Park Rd Pharmacy	yes		Halls the Chemist Thorney	yes
Asda	yes		Jhoots	no
Boots Bretton HC	yes		City Pharmacy Lincoln Rd	yes
Boots Bretton Boots Rightwell East	yes		Lloyds Nene Valley	yes
Boots Queensgate	no		Lloyds Bushfield	yes
Boots Serpentine Green	yes		Millfield Pharmacy	yes
Walton Pharmacy	yes		National Co-op Chadburn Paston	yes
Dogsthorpe Pharmacy	yes		National Co-op Millfield	yes
Eastchem (Alpha)	yes		National Co-op Stanground	yes
Glinton	yes		National Co-op Westwood	yes
Chemistree	yes		Shrives	no
National Co-op Westgate house	no		Tesco Instore	yes
Odedra	yes		Thomas Walker Pharmacy	yes
Rowlands Pharmacy Westgate	yes		West Town Chemist	yes
Sainsbury Bretton	yes		Sainsbury Oxney Rd	yes
Total no. Pharmacies	38		Total no. Pharmacies taking part	34

NSAID prescriptions recorded in audit by drug name

Number of Diclofenac = 42 or 19%
Number of Arthrotec = 5 or 2%
Number of Celecoxib = 8 or 4%
Number of Etedolac = 10 or 5%
Number of Etoricoxib = 4 or 2%
Number of Ibuprofen = 32 or 14%
Number of Idomethocin = 2 or 1%
Number of Meloxicam = 9 or 4%
Number of Naproxen = 102 or 45%
Number of Piroxicam = 8 or 4%

The graph below shows the NSAID prescriptions as percentages of total items



Pharmacists were asked if the NSAID prescription was a regular item for that patient

Results;

No = 96 or 42%
Yes = 120 or 52%
Don't know = 14 or 6%

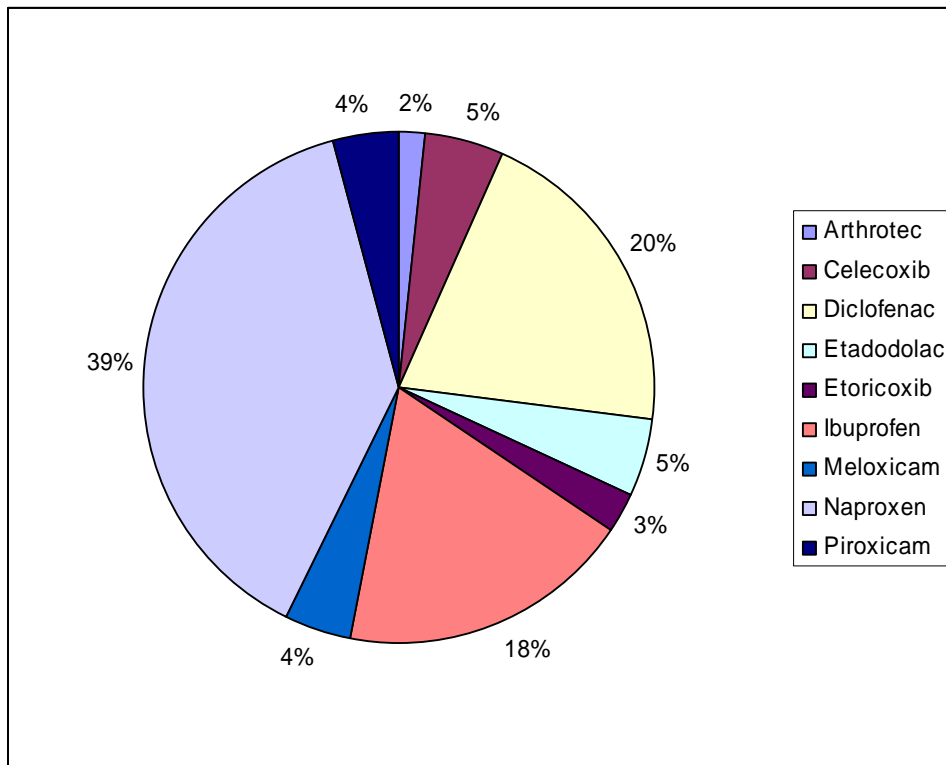
Cardiovascular medicines

Out of the 230 patients taking NSAIDs in this audit 119 (52%) were also taking medication to treat cardiovascular disease.

Of those patients on NSAIDs being treated with medicines for cardiovascular disease;

- Naproxen was prescribed for 46 patients (39%) (*drug of choice if an NSAID is needed*)
- Ibuprofen was prescribed for 22 patients (18%) (*drug of choice if an NSAID is needed*)
- Diclofenac was prescribed for 24 patients (20%)
- Etadolac was prescribed for 6 patients (5%)
- Celocoxib was prescribed for 6 patients (5%)
- Meloxicam was prescribed for 5 patients (4%)
- Piroxicam was prescribed for 5 patients (4%)
- Etorocoxib was prescribed for 3 patients (3%)
- Arthrotec was prescribed for 2 patients (2%)

The graph below shows which NSAIDs were prescribed for patients also receiving medication to treat cardiovascular disease



Dose Range of NSAIDS

Naproxen 250mg BD to 500mg BD
Ibuprofen 400mg BD to 400mg TDS

Diclofenac MR 75mg MDU 50mg TDS
Etadolac 600mg OD
Celocoxib 200mg OD
Meloxicam 15mg BD
Piroxicam 10mg TDS
Etorocoxib 60mg OD
Arthrotec 50mg BD

*NB dose information incomplete on many forms

Blood pressure drugs prescribed = 102

NB. some patients had more than one drug for blood pressure

Drug name;	
Amlodipine = 19	Lisinopril =21
Atenolol = 14	Losartan = 4
Bisoprolol = 3	Metoprolol = 2
Candesartan = 6	Micardis plus = 1
Co-tenidone = 1	Nifedipine = 3
Diltiazem = 1	Propranolol = 3
Dioman = 1	Ramipril =6
Doxazosin = 3	Telmesartan = 1
Enalapril = 6	Terazosin = 1
Felodipine = 3	Valsartan = 1
Indepamide = 1	Viazem xl = 1

Diuretic Drugs prescribed = 30

Drug name;
Bendroflumethiazide 2.5mg = 23
Co-amilofruse = 3
Furosemide = 4

Statin drugs to lower cholesterol level = 56

Drug name;
Simvastatin = 37
Atorvastatin = 15
Ezetimibe = 2
Rosuvastatin = 2

Aspirin prescription = 30

Gastro protection drugs = 59

Drug name;
Esomeproazole = 4

Lansoprazole =20
Misoprostol = 3
Omeprazole = 24
Pantoprazole = 2
Ranitidine = 4
Yes (drug name not stated) = 2

Intervention made by pharmacy

Yes = 36
No = 161

Comments received from Pharmacists

- Yes (intervention made) with patient not now taking NSAIDs
- Patient counselling given, had arthrotec for 2 yrs
- No GI protection, GP decided to prescribe PPI
- Patient knows he must only take if really needed
- MUR carried out

7.0 Conclusions

Recommendations are that NSAID prescription for patients of 65 yrs or older should be kept to a minimum. This audit has demonstrated that these guidelines are not fully being adhered to. For those patients taking NSAIDs other forms of pain relief should first be considered ie Paracetamol or alternative methods of pain relief. For those people who definitely need an NSAID the drugs of choice are Ibuprofen and Naproxen, although only 59% of the prescriptions in this audit were for these medicines.

57% of patient prescribed medicines for cardiovascular disease who were also prescribed an NSAID were receiving either Naproxen or Ibuprofen (the preferred NSAID if one is absolutely necessary). This means that 43% of patients were receiving NSAIDs that would not be recommended for this group of patients.

Where recorded doses were within the therapeutic range.

Out of the 230 prescriptions for NSAIDs only 59 people (26%) were prescribed gastro protection drugs. This shows that more people receiving NSAIDs may need reviewing for gastro protection medication.

Pharmacist made 36 (15%) interventions during this audit. It would be expected that Pharmacist would provide patients with appropriate advise on taking NSAIDs and would make interventions and recommendations when appropriate. This may have been carried out during previous MURs or during brief advice.

It should be noted that not all NSAIDs were regular items 110 (48%) were either not regular items or it was not known. It should also be noted that it was not always known if the patient had CV disease only 20 (9%) patients were known by the pharmacist to have this with the rest being marked as no/don't know, this information is expected to be more available to pharmacists once patient data is shared on the national spine.

8.0 Recommendations

- Pharmacy staff should familiarise themselves with guidelines on NSAIDs by reading MeReC Extra Issue No 30 and by visiting the NPCi website.
- During MURs pharmacist should take the opportunity to explore the risks and benefits of this group of drugs with individual patients.
- Medication for gastro protection should be recommended for those people taking NSAIDs who are age 65yrs or older.
- The need for prescribed NSAIDs should be regularly reviewed.
- When prescribing NSAIDs for patients who also have cardiovascular disease it should be considered if it is absolutely necessary and if so the drugs of choice would be Naproxen or Ibuprofen.
- Pharmacists should make interventions for NSAID prescriptions that do not fit with recommendations.

9.0 Literature Review

MeReC Extra Issue No 30
November 2007

Cardiovascular and gastrointestinal safety of NSAIDs

http://www.npc.co.uk/ebt/merec/cardio/cdrisk/merec_extra_no30.htm

Audit of prescriptions for an NSAID in patients over the age of 65 years

Introduction

Non-steroidal anti-inflammatory drugs (NSAIDs) are licensed and prescribed for a range of indications for patients of all ages. Evidence indicates that potentially serious side effects from NSAIDs increase dramatically in patients over 65 years. Risks are also increased in the presence of one or more of the following factors;

- Active peptic ulceration or previous GI bleed
- Severe Heart Failure
- Renal Failure
- Co-prescribing with other drugs which increase the risk of haemorrhage e.g. aspirin, warfarin, SSRIs
- Hypertension
- History of Thrombosis, previous Myocardial Infarction (MI), Ischemic Heart Disease (IHD), Stroke or Peripheral Vascular Disease.

Aim of this audit

- To record the number of patients aged 65 years or over who have been prescribed an NSAID
- To record which NSAID have been prescribed and the dose.
- From the above group to identify the patients on a regular NSAID also prescribed medicines for the management of cardiovascular disease
- To record those patients who are also receiving medication for gastro-protection

Standards

Std No.	Audit Standards	Target
1.	NSAIDs prescribing should be kept to a minimum for patients also receiving medicines to treat cardiovascular disease	80%
2.	Patients over 65 receiving regular NSAID therapy and are receiving drugs to treat CV disease are prescribed an appropriate NSAID eg Ibuprofen or Naproxen	90%
	Patients over 65 receiving regular NSAID therapy should also be prescribed a medicines for gastro protection	90%
3.	Community Pharmacists should make interventions* dispensing prescriptions for NSAIDs that do not meet the above standards	80%

Intervention examples

Case 1

Mrs Jones 66yrs old, has just moved into the area and has registered with your local GP and presents a prescription for;

Aspirin 75mg od, Bendroflumethiazide 2.5mg od, Lisinopril 10mg od, Omeprazole 20mg od and Diclofenac 50mg tds.

On discussion with Mrs Jones you find out that her previous GP prescribed Diclofenac for Osteoarthritis, she has never tried regular Paracetamol, Ibuprofen or Naproxen

Pharmacist Intervention/Action; Discuss with the patient, contact GP to make prescribing recommendations, to consider switching to an alternative to Diclofenac e.g. regular Paracetamol, Ibuprofen or Naproxen

Case 2

Mr Smith 70 yrs old takes Diclofenac 50mg for arthritis, no GI protection medicine has been prescribed.

Pharmacist Intervention/Action; Discuss with the patient, contact GP to make prescribing recommendations, to consider prescribe a drug for gastro protection.

Method

1. The audit should take place over a period of **5 days** using the NSAIDs audit form provided in this pack. Please photocopy extra forms as needed.
2. Patient identifiable information should not be recorded on the form, a record may be kept in the pharmacy for future reference.
3. Information to be recorded on the form is as follows:
 - **NSAID:** the specific NSAID prescribed (e.g. diclofenac, ibuprofen etc)
 - **Dose:** the dose of NSAID prescribed
 - **Regular prescription item:** mark yes, no or don't know
 - **Drugs for management of cardiovascular disease:** enter name of drug prescribed under each drug group column.
 - **Drugs for gastro-protection:** enter name of drug prescribed or none
 - **Patient has a history of CVD, GI ulcer or bleed;** mark yes, no or don't know
 - **Action taken:** a brief note of actions taken regarding any particular concerns e.g. contacted GP, discuss with patient, contacted PCT prescribing advisor
4. Record at bottom of form name of Pharmacy, date of audit and name of person completing the audit.
5. Completed forms should be returned by **12th June 2009** latest to:
Ruth Kent in the prepaid envelope provided