Non-steroidal anti-inflammatory drugs (NSAIDs)

This leaflet provides information on NSAIDs and will answer any questions you have about the treatment.
What are NSAIDs?

Non-steroidal anti-inflammatory drugs (NSAIDs) reduce inflammation, which helps to ease joint pain and stiffness. Some commonly used NSAIDs are available to buy over the counter. Stronger types are only available on prescription.

Coxibs, a newer type of NSAIDs, were designed to reduce inflammation but with fewer side-effects, particularly on the digestive system. Coxibs are only available on prescription.
### At a glance

**What type of drugs are NSAIDs?**
NSAIDs are a family of drugs which includes aspirin and ibuprofen. NSAID stands for non-steroidal anti-inflammatory drug.

**What do they do?**
They ease pain and stiffness by reducing inflammation.

**What are they used for?**
They can be used for many different types of arthritis, including osteoarthritis and rheumatoid arthritis.

**How are they taken?**
They’re available as tablets, liquids, suppositories or creams and gels. The dosage will depend on the type of drug.

**Are there any side-effects?**
Side effects can include heartburn, indigestion, stomach ulcers and skin rashes. They can damage the lining of the stomach, especially if taken in higher doses or for a long time. There’s some concern about small increases in the risk of heart attacks and strokes when NSAIDs are used for a long time, and they may also affect your blood pressure and kidneys.
How do NSAIDs work?
NSAIDs work by blocking enzymes called COX 1 and COX 2 (COX stands for cyclooxygenase). Both of these enzymes are important in causing inflammation but also have other important effects in the lungs, stomach and kidneys. Some NSAIDs block both COX 1 and COX 2 while others were developed to specifically block COX 2. The latter are sometimes called coxibs. They were designed to have the beneficial effects of reducing inflammation but with fewer side-effects, particularly on the digestive system. Coxibs are only available on prescription.

Why are NSAIDs prescribed?
NSAIDs are helpful in the treatment of many different types of arthritis because they relieve pain and stiffness, but they’re not a cure.

The NSAIDs that you can buy over the counter from chemists and supermarkets (e.g. aspirin, ibuprofen) can be used to ease pain, but they should only be used for a few days at a time. If you need them for longer you should see your doctor.

If you’ve been prescribed an NSAID, you shouldn’t take over-the-counter NSAIDs as well.

Your doctor may recommend either a coxib (e.g. celecoxib, etoricoxib) or a standard NSAID (e.g. ibuprofen, naproxen, diclofenac). Your doctor may also suggest a drug called a proton-pump inhibitor (PPI) (e.g. omeprazole, lansoprazole) to reduce the risk of gastrointestinal irritation.

Is there any reason I won’t be prescribed NSAIDs?
Your doctor may decide not to prescribe NSAIDs if:

- you have or have had problems with your digestive system such as hiatus hernia or stomach ulcers
- you’re allergic to aspirin
- you’re taking warfarin
- you’re pregnant or breastfeeding
- you have problems with your circulation, heart or strokes
- you have asthma
- you have problems with high blood pressure or your kidneys
- you’re under 16 or over 60.

If you’re buying over-the-counter NSAIDs and any of the above apply to you, make sure you read the leaflet that comes with the medication to check whether it’s safe for you to take them. Speak to your GP or pharmacist if you’re unsure.

⚠️ You shouldn’t take etoricoxib if you have uncontrolled high blood pressure.

When and how do I take NSAIDs?
NSAIDs are usually taken as tablets or capsules but many are available as a liquid, a suppository to be inserted into the back passage, or a cream or gel that you can apply to the affected area.

You should take NSAID tablets or capsules with a glass of water, with or shortly after food and as directed by your doctor. Some NSAIDs are taken once a
day (especially the slow-release types), while others are taken 2–4 times a day. If you’re taking prescribed NSAIDs, your doctor will advise you on the correct dose to take. You’ll probably be prescribed a low dose to start off with which can then be increased if necessary.

Your doctor will prescribe the lowest effective dose of NSAIDs (including coxibs) for the shortest period of time to reduce the risk of side-effects.

Your doctor or pharmacist will be able to advise you on taking over-the-counter NSAIDs. Aspirin is not usually recommended as an anti-inflammatory now, although low-dose aspirin can be helpful for those with circulatory problems. Ibuprofen is available in doses of 200–400 mg and can be taken up to 3 or 4 times a day. Diclofenac is currently available over the counter, but this is under review and would not usually be the best choice without advice from your doctor. If your symptoms continue for more than three days without relief, you should stop taking the NSAIDs and see your doctor.

Topical NSADs
If your pain is localised you can try a topical NSAID. These are gels or creams that you apply directly to the affected area. Some (e.g. ibuprofen and diclofenac) are available over the counter while others (e.g. ketoprofen) are only available on prescription. These can be helpful if you find it difficult to take tablets, but some of the drug is still absorbed into the bloodstream. You should therefore be careful not to use too much gel, especially if you are also taking NSAID tablets, as this may increase the risk of side-effects.

How long do NSAIDs take to work?
NSAIDs work quickly, usually within a few hours, although it can take two or more weeks for you to feel the full effect of prescribed NSAIDs.

What are the possible side-effects?
Possible side-effects of NSAIDs include:

- stomach upsets
- heartburn
- indigestion
- rashes
- headaches
- wheeziness
- fluid retention, which can cause swelling of the ankles.

What should I look out for?
If you develop any new symptoms, you should stop taking the drug and tell your
What are the risks?
NSAIDs can slightly increase your risk of having a heart attack or stroke, so they’re very unlikely to be prescribed if:

- you have heart disease
- you’ve had a heart attack or stroke
- you have peripheral vascular disease (circulation problems in the limbs, usually in the legs).

Doctors are cautious about prescribing NSAIDs to people who have an increased risk of heart disease. Your risk may be increased if:

- you have high blood pressure
- you have high cholesterol levels (hyperlipidaemia)
- you have diabetes
- you smoke.

Research into the links between NSAIDs, heart attacks and strokes is currently being carried out. You should also be aware of these risks with over-the-counter NSAIDs.

If your kidneys are not working as well as they should, your doctor may reduce the dose of NSAID you are given or even decide that they are best avoided. Your doctor may ask for a blood test to check your kidneys.

If you’re concerned about your medication or you need more information, talk to your doctor or rheumatology nurse specialist.

Will they affect vaccinations?
You can have vaccinations while on NSAIDs.

Can I drink alcohol while on NSAIDs?
You can drink alcohol in moderation, although alcohol and NSAIDs can both upset your stomach.

Do NSAIDs affect fertility or pregnancy?
Some studies have suggested an increased risk of miscarriage if NSAIDs are taken around the time of conception. This hasn’t been proven, though you may wish to avoid NSAIDs if you’ve previously had trouble trying to get pregnant. If you’re planning a family or you become pregnant, you should discuss your medications with your doctor as soon as possible. It’s generally recommended that NSAIDs are stopped at the 32nd week of pregnancy, although low-dose aspirin may be continued throughout pregnancy.

Do they affect breastfeeding?
Although NSAIDs may pass into the breast milk there’s no evidence that it is harmful to your baby. Short-acting NSAIDs such as ibuprofen are preferable as there’s a great deal of experience of safe use in breastfeeding mothers.
What else should I know about NSAIDs?

Are there any alternatives?
A number of other drugs are used in the treatment of arthritis and related conditions. Your doctor and rheumatology nurse specialist will discuss these other options with you.

Will I need any special checks while on NSAIDs?
Your doctor may take your blood pressure. You probably won’t need blood tests to monitor your condition, but they may be useful in certain situations.

Can I take other medicines alongside NSAIDs?
Some drugs interact with NSAIDs, so you should discuss any new medications with your doctor before starting them, and you should always tell any other doctor treating you that you’re on NSAIDs. You should also be aware of the following points:

- If you take other medications, you can carry on taking NSAIDs unless your doctor advises otherwise.
- You shouldn’t take more than one NSAID at a time, so if you’ve been prescribed an NSAID you shouldn’t use over-the-counter NSAIDs. However, you may be able to take simple painkillers such as paracetamol with NSAIDs if you need to. Check with your doctor or pharmacist if in doubt.
- Don’t take over-the-counter preparations or herbal remedies without discussing this first with your doctor, rheumatology nurse specialist or pharmacist.

Record your dosage here to help you manage your treatment:

How many? ......................................................................................................................

What dosage/strength? ....................................................................................................

How often? .......................................................................................................................

When? ...............................................................................................................................
A team of people contributed to this booklet. It was written by Prof. Ariane Herrick and updated by Dr Mike Shipley, who have expertise in the subject. It was assessed at draft stage by rheumatology specialist nurses Karina Blunn and Sally Giles, and consultant rheumatologist Dr Fraser Birrell. An Arthritis Research UK editor revised the text to make it easy to read, and a non-medical panel, including interested societies, checked it for understanding. An Arthritis Research UK medical advisor, Prof. Anisur Rahman, is responsible for the content overall.

Please note: We have made every effort to ensure that this content is correct at time of publication, but remember that information about drugs may change. This information sheet is for general education only and does not list all the uses and side-effects associated with this drug. For full details please see the drug information leaflet that comes with your medicine. Your doctor will assess your medical circumstances and draw your attention to any information or side-effects that may be relevant in your particular case.

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Get involved!
You can help to take the pain away from millions of people in the UK. To get more actively involved, please call us on 0300 790 0400 or email us at enquiries@arthritisresearchuk.org or go to www.arthritisresearchuk.org

Where can I get more information?
Arthritis Research UK is the charity leading the fight against arthritis. We do this by funding high-quality research, providing information and campaigning. We publish over 60 information booklets which help people to understand more about their condition, its treatment, therapies and how to help themselves.

If you would like any further information about NSAIDs, or if you have any concerns about your treatment, you should discuss this with your doctor, rheumatology nurse specialist or pharmacist.