

# Anti-Inflammatory Medications for Pain Control

Your health professional may prescribe different medications in the course of your treatment to minimize your pain. Among these are nonsteroidal anti-inflammatory drugs (**NSAIDs**).

## WHAT ARE NSAIDs?

Anti-inflammatory agents, as their name suggests, help reduce inflammation (swelling, redness, heat) after an injury such as a fracture or sprain. They also decrease inflammation in areas of arthritis, bursitis, or other similar conditions. By reducing inflammation, they can also reduce pain, since some of the body's natural chemicals that cause inflammation also cause pain. In addition to decreasing swelling, the NSAIDs also reduce fevers. Drugs in this category include aspirin (Ecotrin, and others), ibuprofen (Motrin, Advil), ketoprofen (Orudis®), naproxen (Naprosyn®, Anaprox®), sulindac (Clinoril®), indomethacin (Indocin®), piroxicam (Feldene), diflusal (Dolobid®) and nabumetone (Relafen®) among others. Acetaminophen (Tylenol®) works in a manner similar to these drugs to reduce fevers and pain, but it does not reduce swelling and inflammation. COX-2 agents such as celecoxib (Celebrex®) are a type of NSAID that has less of an effect on bleeding, and may be helpful around the time of surgery.

## HOW DO THEY WORK?

NSAIDs are effective pain relievers because they prevent the formation of prostaglandins at the site of an injury. Prostaglandins are hormonal substances that play an important role in the pain, heat, redness, and swelling that occur following tissue damage. Prostaglandins also sensitize nociceptors (nerve endings) to painful stimulation.

Thus, scientists now know why "take two aspirin and call me in the morning" is such an effective prescription for countless aches and pains. NSAIDs block the formation of prostaglandins, thus reducing inflammation and pain. Inhibition of prostaglandins also decreases pain caused by other chemicals released following tissue injury.

## HOW DO I TAKE THESE MEDICINES?

NSAIDs are available as tablets or capsules. They may have a protective coating to reduce their potential to irritate the stomach. Most

NSAIDs are usually taken one to three times a day, depending on the formulation and your pain.

It is advisable to take your NSAID with food, since it can sometimes cause heartburn or stomach upset. The easiest way to take your dose is with your meals or immediately following breakfast, lunch, and dinner. You may also take it with milk or antacids.

Usual doses for the most commonly prescribed NSAIDs are:

- aspirin: 325 mg or 500 mg four times a day
- ibuprofen: 400 mg or 600 mg four times a day
- ketoprofen: 50 mg or 75 mg three times a day
- naproxen: 250 mg or 375 mg three to four times a day
- sulindac: 150 mg or 200 mg two times a day
- indomethacin: 25 mg or 50 mg three times a day
- piroxicam: 10 mg or 20 mg one time a day
- nabumetone 500mg or 750mg two times a day
- diflunisal 500mg twice a day
- celecoxib 100mg twice a day

## WHAT ARE THE SIDE EFFECTS OF THESE MEDICINES?

Stomach upset and diarrhea are the most common reactions people report with anti-inflammatory drugs. These medicines may irritate the lining of the stomach and, less commonly, lead to ulcers in the stomach. They can also cause the blood to clot more slowly than usual, leading to easy bruising. Other side effects, which are not very common, include drowsiness, dizziness or lightheadedness, or decreased alertness, which may interfere with your ability to drive a car or operate machinery. Therefore, **BEFORE** you undertake any task that requires alertness, make sure you know how your body reacts with these medicines. Rare side effects are ringing in the ears, tingling in the fingers or toes, skin rash (especially with exposure to the sun), dark stools, swollen ankles, or nervousness. If you develop any side effects from these medicines, contact your physician or pharmacist. Very rare, but serious side effects that need to be reported to your physician immediately are changes in heartbeat, shortness of breath, or headache.

Special consideration must be given to using NSAIDs if you have or have had kidney disease, high blood pressure, ulcers, asthma, sulfa allergy, or congestive heart failure, so let your health professional know if any of these conditions exist.

Drug interactions can occur with NSAIDs and warfarin (Coumadin), because both types of medicines can "thin" your blood. Make sure to let

your physician or pharmacist know that you are taking warfarin if you are prescribed any of the NSAIDs, to avoid the possibility of uncontrolled bleeding. COX-2 inhibitors do not thin the blood, so they may be taken with low dose aspirin. Kidney problems can occur in just a few days of taking any of these medications. Fortunately, if detected early, the effects are reversible. No NSAID should be taken with alcohol, because painful stomach ulcers can result. NSAIDs can make you retain water. Especially if you have hypertension or if you are taking diuretics or "water pills," such as hydrochlorothiazide, or the blood pressure medicines captopril, enalapril, or lisinopril, your blood pressure will need to be followed closely. The older you are, the higher the risk of side effects.

#### WHAT DO I NEED TO REMEMBER WHILE TAKING THIS MEDICINE?

- Visit your physician regularly. Blood tests will be required at specific intervals to check for changes in your blood cell counts and kidney tests. Your blood pressure should also be checked regularly.
- DO NOT give this medicine to other people; it was given to you for your pain problem only.
- DO NOT take other medicines from your friends or family. Although they may be trying to help you with your pain, other medicines can interfere with NSAIDs or cause harmful effects when mixed with them.
- DO NOT drink alcohol with these medicines, as a stomach ulcer can occur.
- Use the medication ONLY as directed by your physician. It may not work properly unless you follow your doctor's instructions.
- Before you start any new medicine(s), tell your physician or pharmacist if you are taking any of the NSAIDs. If you develop a new medical problem while on this medicine, you must also inform your doctors and your pharmacist.
- Store your medicine away from direct heat or light. Do not keep it in the kitchen or in the bathroom cabinet, as heat and moisture can destroy many medicines.
- Keep this and all medicines out of the reach of children.
- If you have any questions or concerns about using this medicine, call your health professional. Do not stop taking your medicine without consulting your health care professional. Throw away all outdated medicines or medicines that you are no longer using.