ANTI-INFLAMATORY DRUGS

An anti-inflammatory drug is a medication designed to combat inflammation.

This group of medications is intended to treat inflammatory reactions and the resulting diseases, such as rheumatic conditions, fractures, stomatitis, and genital and urinary tract infections.
Many anti-inflammatory drugs are available without a prescription. Like all medications, they can cause side effects, sometimes including allergies or poisoning (in case of overdose or interaction with other medications).
Among anti-inflammatory drugs, a distinction is made between corticosteroids (glucocorticoids or steroidal anti-inflammatory drugs) and non-steroidal anti-inflammatory drugs (NSAIDs).

Anti-inflammatory Drugs

These drugs have very diverse chemical structures. However, they share common characteristics:

1. Pharmacologically: All anti-inflammatory drugs, including NSAIDs, inhibit the synthesis of prostaglandins;

2. In terms of activity: In addition to their anti-inflammatory properties, they possess analgesic and antipyretic effects;

3. In terms of chemical composition: They exhibit acidic functional groups or acidic characteristics;

4. In terms of side effects: Anti-inflammatory drugs can cause damage to the gastroduodenal mucosa.
Nonsteroidal anti-inflammatory drugs (NSAIDs) work by inhibiting the action of cyclooxygenase (COX), an enzyme that mediates the formation of prostaglandins from arachidonic acid. In addition to being inflammatory mediators, prostaglandins also play a role in platelet aggregation, stomach protection, and fever reduction. This explains the side effects of NSAIDs:
• They interfere with platelet aggregation and therefore blood clotting (they are often mistakenly said to "thin the blood"), which can prevent the formation of clots (thrombosis) but worsens bleeding;
• They can cause gastric (ulcers) and kidney problems;

• They have the effect of reducing fever (antipyretics). The listed medications (brand names) contain a substance with anti-inflammatory action, but the medication itself is not necessarily classified as an NSAID. Generic drugs are generally named after the molecule.

Glucocorticoids (corticosteroids) AIS

Glucocorticoids are corticosteroids that act on protein and carbohydrate metabolism. They differ from mineralocorticoids. In common practice, the term corticosteroid, without further specification, refers to glucocorticoids.
Natural glucocorticoids include cortisone and cortisol. Synthetic glucocorticoids are either short-acting (prednisone), intermediate-acting (paramethasone), or long-acting

(betamethasone). These drugs are called steroidal anti-inflammatory drugs (SAIDs) when used for this purpose.
Steroidal anti-inflammatory drugs (SAIDs), or corticosteroids, are powerful medications derived from cortisol, used to treat severe inflammation, allergies, and autoimmune diseases. They work by reducing swelling and the influx of immune cells. Examples: Prednisone (Cortancyl®), Prednisolone (Solupred®), Methylprednisolone (Medrol®).

Key points on NSAIDs (Corticosteroids):
Uses: Treatment of chronic inflammatory diseases, severe allergies, asthma, or autoimmune diseases.

• Action: They are anti-inflammatory, immunosuppressive, and anti-allergic.

• Side effects: Risk of hyperglycemia (diabetes), hypertension, osteoporosis, muscle atrophy, neuropsychiatric disorders (insomnia, agitation), and weakening of the immune system (infections).

• Precautions: Use under strict medical supervision, especially long-term.

• Contraindications: Uncontrolled infections, ulcers, or severe hypertension.

Non-steroidal anti-inflammatory drugs (NSAIDs)

Main article: Non-steroidal anti-inflammatory drug.

These are the most widely used anti-inflammatory drugs in the world.
Non-steroidal anti-inflammatory drugs (NSAIDs) are medications that block the formation of prostaglandins, the substances responsible for inflammation. These are effective medications, but they sometimes have a falsely reassuring image. Like all medications, they are not harmless and can cause numerous gastric problems, such as iatrogenic ulcers. Nonsteroidal anti-inflammatory drugs (NSAIDs) are a broad class of medications, including many molecules such as ibuprofen. They work by blocking the formation of prostaglandins, the substances responsible for inflammation. They have analgesic (pain-relieving), antipyretic (fever-reducing), and, at higher doses, anti-inflammatory properties.
Nonsteroidal Anti-inflammatory Drugs (NSAIDs) Subclasses
• Indole NSAIDs
• Arycarboxylic NSAIDs
• Oxicam-derived NSAIDs
• Niflumic acid
• Morniflumate
• Phenylbutazone
• Nimesulide

Key points on NSAID use:

• Common NSAIDs: Ibuprofen (Nurofen, Advil), Ketoprofen (Ketum), Diclofenac (Voltaren), Naproxen, Acetylsalicylic acid (Aspirin).

• Risks and side effects: Possible abdominal pain, ulcers, gastrointestinal bleeding, kidney failure, and serious infectious complications.

• Major contraindications: Pregnancy (from the 6th month), stomach ulcer, severe heart, liver, or kidney failure.

• Precautions: Avoid combining two NSAIDs (including aspirin) and do not use them in cases of chickenpox or infection.

• Duration: Treatment should be as short as possible (generally a maximum of 3 to 5 days for self-medication).