

## What to consider while choosing a pain reliever Over-the-counter?



Analgesics, commonly known as painkillers or pain relievers, are medications that relieve pain from headaches to arthritis. Some analgesics can be bought from a pharmacy without prescription or over-the-counter (OTC) while others require a prescription from a registered medical practitioner.



## **Factors to be considered while choosing an OTC medication to relieve pain**

1. **Type of Pain:** Identify the type of pain you're experiencing (e.g., headache, muscle ache, joint pain) as different OTC medications may target specific types of pain more effectively.
2. **Active Ingredients:** Common pain relievers include acetaminophen, ibuprofen, and aspirin. Each has its own mechanism of action and potential side effects. Therefore, it is important to look at the active ingredients in the medication before selecting one.
3. **Pre-existing Medical Conditions:** Consider any existing medical conditions you may have, such as stomach ulcers, kidney problems, or allergies, have ever had fits or seizures, problems with the heart, or liver, have had a stroke, blood pressure, or circulation or have a condition affecting connective tissue (an autoimmune disease), have lung problems such as asthma. Some pain relievers may not be suitable for these conditions therefore, consult a doctor to select an appropriate analgesic.
4. **Dosage Forms:** Choose a dosage form that suits your preference and ease of use, whether it's tablets, capsules, liquids, or topical creams.
5. **Duration of Action:** Consider how long you need pain relief and choose a medication with a duration of action that aligns with your needs.
6. **Side Effects:** Be vigilant of potential side effects associated with the medication, such as gastrointestinal upset, dizziness, or drowsiness, and persistent headaches, and weigh them against the benefits of pain relief. Report any side effects experienced to the Pharmacovigilance Center at R D Gardi Medical College, Surasa, Ujjain. **Contact (mobile): 6261881146**
7. **Age, Pregnancy, and Breastfeeding:** Take into account age restrictions and pregnancy considerations, as certain pain relievers may not be suitable for children, elderly individuals, or pregnant women.
  - a. **Age under 16:** Such persons should not use aspirin unless it's prescribed by a doctor, as it can cause an illness called Reye's syndrome, which can damage the brain and liver, and could be fatal.
  - b. **Age over 65 years:** Some NSAIDs can increase the risk of developing stomach ulcers. NSAIDs can cause side effects and their long-term use should be monitored by a healthcare professional.
  - c. **pregnancy or breastfeeding:** Paracetamol is usually the recommended pain relief option for pregnant or breastfeeding females for a short time, but it is important to get in touch with your doctor while using it. NSAIDs are not usually recommended in pregnancy, especially after 30 weeks, consult your doctor before starting it.

Taking opioids during pregnancy can increase the risk of your baby having breathing problems, experiencing painful effects from withdrawal, and may affect their brain function in the future. They should only be strictly taken under the guidance of a doctor.
8. **Cost-effectiveness:** Compare prices of different OTC pain relievers and consider cost-effectiveness, but prioritize effectiveness and safety over price.
9. **Durg-Drug Interactions:** Be aware of any interactions with other medications or supplements you're currently taking to avoid potential adverse effects. Some painkillers may interact with other medicines that you might take. This may cause reactions, or reduce the effectiveness of one or other of the treatments. So, declare all other medicines to the doctor when you are prescribed a painkiller.

**Situation:** A person regularly takes medication for high blood pressure (antihypertensive) to manage their hypertension. They also occasionally take ibuprofen for relief from headaches or muscle pain.

**Potential Interaction:** Ibuprofen, an NSAID, can interfere with the blood pressure-lowering effects of certain antihypertensive medications. NSAIDs like ibuprofen can cause sodium and fluid retention, leading to increased blood pressure. When taken together with antihypertensive medications, this effect can counteract the intended lowering of blood pressure, potentially leading to inadequate control of hypertension.

**Precaution:** Individuals taking antihypertensive medications should use caution when taking NSAIDs like ibuprofen for pain relief. They should consult with their healthcare provider or pharmacist to determine the safest options for managing pain without adversely affecting blood pressure control. Alternative pain relievers that may be safer for individuals with hypertension include acetaminophen, which does not typically affect blood pressure.

10. **Contraindicated medications:** An example of a **medication that is contraindicated** with certain pain relievers:

**Situation:** A person is experiencing severe pain due to a recent injury and is prescribed an antidepressant, monoamine oxidase inhibitor (MAOI) for depression by their psychiatrist. They also decide to take over-the-counter ibuprofen for pain relief.

**Contraindication:** The MAOI can have potentially dangerous interactions with certain pain relievers, such as ibuprofen. Taking ibuprofen while on MAOIs can increase the risk of serotonin syndrome, a serious condition characterized by dangerously high levels of serotonin in the body. Symptoms of serotonin syndrome include confusion, agitation, rapid heartbeat, high blood pressure, fever, sweating, tremors, and in severe cases, seizures or coma.

**Precaution:** It is essential for individuals taking MAOIs to avoid certain medications, including NSAIDs like ibuprofen, due to the risk of serotonin syndrome. Instead, an alternative pain relief option, such as acetaminophen can be selected.

These two examples above show potential interactions between pain relievers and other medications and emphasize the importance of being aware of contraindications and potential interactions between medications. This also highlights the importance of the need to communicate openly with the healthcare providers about all medications the patient is taking to ensure safe and effective treatment.



### **Precautions while taking a pain reliever**

When using pain relievers, it's important to take certain precautions to ensure their safe and effective use. Here are some main precautions to consider:

- i. **Follow Dosage Instructions:** Always adhere to the recommended dosage and frequency specified on the medication label or as directed by your healthcare provider.
- ii. **Avoid Alcohol:** Limit or avoid alcohol consumption while taking pain relievers, especially acetaminophen and NSAIDs, as it can increase the risk of liver damage or gastrointestinal bleeding.

- iii. **Monitor Side Effects and Seek advice:** Pay attention to any side effects that may occur while taking pain relievers. Discontinue use and seek medical advice immediately if you experience any of the following adverse effects: such as stomach upset, nausea, dizziness, drowsiness, or allergic reactions like rash or swelling, blood or dark coffee-like material in vomit, trouble in urinating, yellowish skin or eyes, unusual weight gain, severe stomachache or headache, change in vision or hearing, etc.
- iv. **Use Short-Term Only:** Use pain relievers for short-term relief of acute pain. Prolonged or excessive use can increase the risk of gastrointestinal bleeding, kidney damage, or cardiovascular events.
- v. **Don't Combine Similar Medications:** Avoid taking multiple pain relievers with similar active ingredients simultaneously, this can increase the risk of overdose and adverse effects. For example, do not take acetaminophen-containing products along with standalone acetaminophen tablets. Be watchful while buying a compound reliever (mixed formulation of two pain relievers in one unit).
- vi. **Storage Safety:** Keep pain relievers out of reach of children and pets, and store them in a cool, dry place away from direct sunlight to maintain their potency and safety.
- vii. **Read Labels Carefully:** Read the medication label and packaging carefully for important information regarding dosage, warnings, and precautions. Ask questions or concerns with the healthcare provider or pharmacist.

By following these precautions, you can use pain relievers safely and effectively to manage pain while minimizing the risk of adverse effects.

### **Types of pain relievers**

Pain **relievers** are classified into three types depending on the mechanism of action and suitability for different types of pain. Three types of pain relievers are:

1). **Non-steroidal anti-inflammatory drugs (NSAIDs):** These medicines reduce inflammation. The NSAIDs, help manage pain and fever, mostly by reducing inflammation. For example, ibuprofen, aspirin, and diclofenac gel. However, they are unlikely to improve the underlying causative problem in case of long-term pain or inflammation. NSAIDs are considered the most effective way of relieving pain and inflammation caused by rheumatoid arthritis. Aspirin is mainly prescribed (in low doses) to help keep the blood from clotting - for example, for people who have had a heart attack previously.

**Related risks:** NSAIDs can cause stomach problems so a doctor is likely to prescribe a drug called a proton-pump inhibitor (PPI), such as omeprazole or lansoprazole, to reduce the amount of acid generated in the stomach. Depending on your condition, other drugs can be prescribed, such as disease-modifying anti-rheumatic drugs (DMARDs) or steroids. These drugs can help reduce your pain by treating the condition that's causing it. NSAIDs can be taken with paracetamol. However, be careful when taking NSAIDs with compound painkillers because some compound painkillers contain NSAIDs and will give an additive effect. If you have concerns about taking NSAIDs seek advice from a healthcare professional.

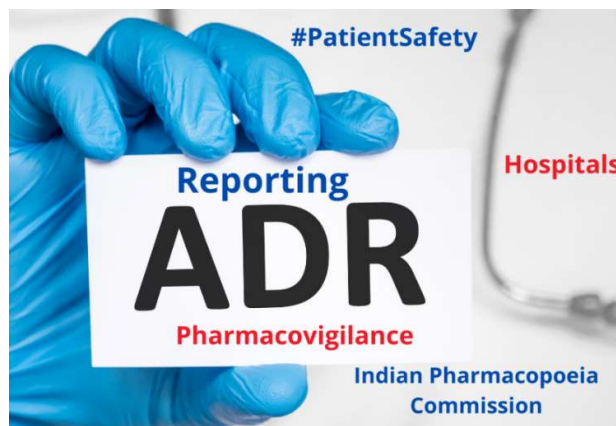
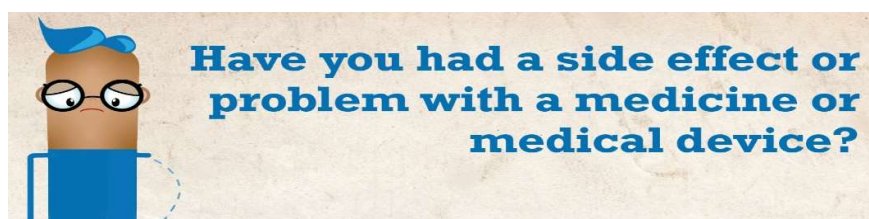
2). **Paracetamol (Acetaminophen):** Effective for reducing fever and relieving mild to moderate pain, such as headaches, muscle aches, and arthritis. It works by blocking pain signals in the brain. It is a safe medicine with rare side effects unless the dose exceeds the recommended dose. Overdose of paracetamol can damage the liver permanently.

3). **Opioids:** This type of analgesic can be divided into weak and strong opioids. Weak opioids include codeine and dihydrocodeine. Although commonly described as 'weak opioids', they are extremely effective analgesics often used to treat severe pain; however, they can lead to significant addiction and adverse effects. Examples of strong opioids include morphine,

buprenorphine, oxycodone, pethidine, and tramadol. The most common side effects related to opioids are nausea and vomiting- particularly at the start of treatment, constipation, dry mouth, drowsiness and confusion, and drug dependency.

Analgesics are generally used as self-medication as a pain reliever. They are often advised to manage mild to moderate pain and to be used for a short time. However, may not be suitable for everyone. Therefore, it is advised to be cautious and use these drugs under medical guidance specifically when using them for a long time.

If you're unsure which pain reliever is best for you, consult with a healthcare professional or pharmacist for personalized recommendations. Depending on what's causing your pain, your doctor may first recommend trying a topical NSAID, such as ibuprofen, or ketoprofen. Topical NSAIDs are safer with fewer side effects than tablets and are recommended for treating isolated areas of pain and inflammation caused by osteoarthritis, particularly in the hands and knees. However, topical NSAIDs may not be helpful for people with inflammatory conditions, such as rheumatoid arthritis, because their pain is more widespread.



### **In case you are experiencing any adverse (side) effects due to any medicine-**

**Contact (mobile): 6261881146;** Dr Megha Sharma, to register the **Adverse Drug Effect (ADR)** at the ADR Monitoring Center at R. D. Gardi Medical College, Surasa, Ujjain. Pharmacovigilance is a program under the Indian Pharmacopoeia Commission (IPC), Ministry of Health and Family Welfare. Therefore, there will not be any consequences for reporting an ADR.

#### **Consultation**

**Dr Megha Sharma**

**Ph-6261881146**