

Don't Overdo the Ibuprofen

by Robert Gallo, MD

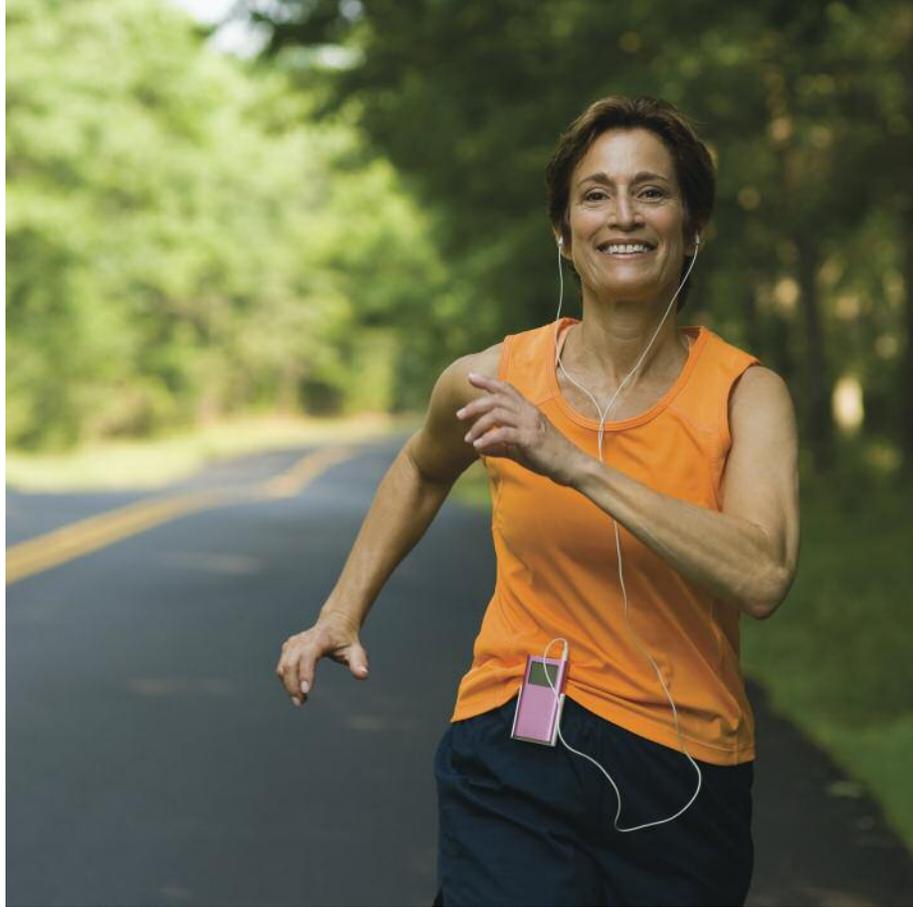
Non-steroidal anti-inflammatory drugs (NSAIDs), a class that includes naproxen (Aleve), ibuprofen (Motrin, Advil), celecoxib (Celebrex), and diclofenac (Voltaren) among others, are the most commonly used medications among active adults. While many NSAIDs are available over-the-counter, these medications are not completely benign, especially when taken beyond recommended dosages.

NSAIDs work by limiting the body's ability to produce prostaglandins, chemicals important in the body's ability to mount an inflammatory response. While this characteristic makes NSAIDs popular in treatment of pain due to both acute injuries and chronic conditions, such as osteoarthritis, prostaglandins have important roles in maintaining proper gastrointestinal, renal, and cardiovascular function. NSAID use has been linked to increased risk of ulcers, kidney failure, and heart attacks and is responsible for nearly 30 percent of all hospital admissions due to drug-related adverse events.³

Stomach upset is the most common side effect from NSAIDs and ranges in severity from mild to severe. One study reported an eight percent incidence of peptic ulcers,¹ while another revealed that those taking NSAIDs have a 1.3 percent chance of hospitalization due to severe gastrointestinal complications.⁴

Kidney issues associated with an increased use of NSAIDs often result from a decrease of blood flow to the kidney caused by loss of prostaglandins. This effect appears to be dose-dependent and more detrimental in those with underlying heart, liver, and kidney disease and in chronic NSAID users. In order to prevent irreversible kidney damage, routine blood work to monitor kidney function should be considered in those taking NSAIDs chronically.

NSAID use has recently also been linked to an increased risk of heart attacks. While the relative



risk is much lower than stomach issues, cardiovascular toxicity remains a major safety concern and caused the withdrawal of several NSAIDs from the market. However, naproxen and low-dose ibuprofen have been demonstrated to have the least side-effects among NSAIDs.²

Despite these shortcomings, NSAIDs remain effective pain relief for the treatment of arthritis and many other common athletic ailments. To limit potential complications, avoid exceeding maximum recommended dosages and consider discussion with a physician if using an NSAID consistently for longer than six weeks.



References

1. Allison MC, Howatson AG, Torrance CJ. Gastrointestinal damage associated with the use of nonsteroidal anti-inflammatory drugs. *N Engl J Med.* 1992;327:751-754.
2. McGettigan P, Henry D. Cardiovascular risk with non-steroidal anti-inflammatory drugs: systematic review of population-based controlled observational studies. *PLoS Med.* 2011;8:e1001098.
3. Pirmohamed M, James S, Meakin S, et al. Adverse drug reactions as a cause of admission to hospital: prospective analysis of 18,820 patients. *Br Med J.* 2004;329:15-19.
4. Singh G, Rosen Ramey D. NSAID-induced gastrointestinal complications: the ARAMIS perspective. *J Rheumatol Suppl.* 1998;51:8-16.