

## NSAIDS AND ATHLETES

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#### FAST FACTS

- Athletes should consider how to use NSAIDs based on the cause and severity of the pain they are experiencing
- NSAIDs have been linked to gastrointestinal, cardiovascular, kidney, skin, and muscle/connective tissue problems
- NSAIDs may inhibit an athlete's ability to train effectively
- For acute injuries, NSAIDs can be an important component of recovery when used in conjunction with proper rehab

### The Painful Question

Athletes young and old are well aware of the aches, pains, sprains, and strains that often accompany training and competition, so it's no surprise that use of NSAIDs (non-steroidal anti-inflammatory drugs) is common among athletes. But do NSAIDs actually deliver the pain-relief that athletes seek and, if so, are those benefits worth the risk of using drugs with well-established side effects?

### What Are NSAIDs And How Do They Work?

Common NSAIDs are aspirin (e.g., Bayer®, Bufferin®), ibuprofen (e.g., Motrin®, Advil®), and naproxen (e.g., Aleve®). Important note: Tylenol (acetaminophen) is not an NSAID.

NSAIDs are effective for pain relief and inflammation



because they interfere with an enzyme in the body that converts certain types of fat into prostaglandins and other substances. Prostaglandins are a group of chemicals that have wide-ranging effects throughout the body, including inflammation and pain. Blocking prostaglandins reduces pain and inflammation at the site of injury. That's usually a good thing, allowing us to get on with life – and exercise – without the nagging nuisance of pain and swelling.

### Too Much Of A Good Thing

The potential downside of NSAID use is that prostaglandins have **effects well beyond the site of injury** and regularly suppressing their presence can lead to real problems with:

- **Gastrointestinal health** (increased risk of bleeding in the stomach and small intestine);
- **Cardiovascular health** (increased risk of heart attack and stroke);
- **Kidney function** (increased risk of kidney failure);
- **Skin health** (increased risk of reddening, rashes, and blisters);
- **Muscle and connective tissue** (may delay healing of ligament, muscle, and tendon injuries and mask pain signals of serious injury).

### What Athletes Need To Know

Dr. Stuart Warden from the Department of Physical Therapy at Indiana University urges athletes to exercise caution when using NSAIDs because prolonged NSAID use has been linked to all of the aforementioned adverse effects.



Dr. Warden points out that the greatest risk comes with regular use of NSAIDs, use exceeding one week at a time. For example, some athletes regularly use NSAIDs before training and competition to try to avoid aches and pains. Such use increases the risk of negative consequences and should be discouraged.

## An Aching Athlete's Guidelines

Depending on the given situation and type of pain that an athlete feels, NSAIDs may or may not have a place in recovery. The following guidelines can help athletes determine whether NSAIDs should be used.

### Anticipating The Tough Workout

1. Do not use NSAIDs prior to exercise in an attempt to prevent aches and pains. First, they don't work well in that regard and, second, regular use substantially increases the risk of more-serious problems. Don't confuse the aches and pains that often follow a hard training session with injury.
2. Minor aches and pains may be a nagging nuisance, but they are also important parts of the adaptation process by which the body becomes stronger and faster. Some scientists and physicians are concerned that regular NSAID use might interfere with that adaptation and limit the training response, which means you will get less out of your workouts.

### Recovering From The Tough Workout

1. Though research is mixed, the general consensus is that NSAIDs are not particularly effective in reducing the aches and pains following exercise (i.e., delayed onset muscle soreness; DOMS).
2. Exercise-related aches and pains are best minimized and managed by gradual increases in training intensity and duration. It's the big jumps in training that over-tax muscles and joints. Post-workout icing is effective at relieving joint and muscle pain and swelling. Also recognize that adequate rest is essential for optimal adaptation to training. Training provides the stimulus for the body to adapt, but rest allows time for the adaptations to occur. Getting adequate rest – in hours between workouts and as sleep – maximizes the benefits of training.

### Persistent Aches Instead Of Progress

1. Consider the possibility that NSAID use may actually be counterproductive. Pain and inflammation are signals that should not be ignored or masked; doing so risks aggravating the injury and delaying recovery.
2. Workouts that are causing pain instead of progress may result in serious injury. If you are in need of substantial pain relief during or after a training session, you should adjust your training before anything else.
3. If you have persistent aches, pains, and swelling, consult a sports medicine professional for advice.

### The Injury

1. For athletes, NSAIDs are best used during rehabilitation from injury to control pain and inflammation that might interfere with rehabbing.
2. For injuries such as muscle strains and joint sprains, NSAIDs are an important part of rehabilitation (along with physical therapy, icing, and rest).
3. To be on the safe side, use the lowest recommended dose for no more than one week.

*Content is provided for informational purposes only and is not a substitute for professional advice. You should consult a physician in all matters relating to your health, and particularly in respect to any symptoms that may require diagnosis or medical attention.*

## References

Warden SJ. "Prophylactic misuse and recommended use of non-steroidal anti-inflammatory drugs by athletes." *British Journal of Sports Medicine* 43:548-549, 2009.

### To view this article as a webpage:

<http://www.gomoji.com/education/nsaids-athletes>

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