

Nonselective NSAIDs: Overview of adverse effects

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INTRODUCTION

More than 17 million Americans use various nonsteroidal antiinflammatory drugs (NSAIDs) on a daily basis, making this class of drugs one of the most commonly used in the world ([table 1](#)). The Centers for Disease Control in the United States predicts that, with the aging of the population, there will be a significant increase in the prevalence of painful degenerative and inflammatory rheumatic conditions. This will probably lead to a parallel increase in the use of NSAIDs.

Increased use of NSAIDs in an aging population will increase the number of adverse events related to NSAID use. It has been estimated that from 5 to 7 percent of hospital admissions are related to adverse effects of drugs, and of these hospitalizations, those that result from gastrointestinal, nervous system, renal, or allergic effects of aspirin or non-aspirin NSAIDs are responsible for approximately 30 percent [[1](#)].

The side effects that can occur following the use of nonselective NSAIDs that block both cyclooxygenase (COX)-1 and COX-2 will be reviewed here. The side effects associated with the selective COX-2 inhibitors are discussed separately. (See "[Overview of selective COX-2 inhibitors](#)" and "[COX-2 selective inhibitors: Adverse cardiovascular effects](#)".)

OVERVIEW

Many of the toxic effects of the NSAIDs are related to their main mode of action, the inhibition of prostaglandin synthesis. Although this issue has become more complex with the identification of at least two forms of cyclooxygenase, all of the currently available nonselective NSAIDs generally inhibit both isoforms of cyclooxygenase. (See "[NSAIDs: Mechanism of action](#)".)

It is therefore difficult to name the "safest" NSAID. Many clinicians believe that ibuprofen is quite safe, which is true when the drug is used at the lowest possible dose. However, increasing the dose of any NSAID is associated with an increased risk of gastrointestinal toxicity.

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