

Analgesic Nephropathy (Painkillers and the Kidneys)

National Kidney and Urologic Diseases Information Clearinghouse



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An analgesic is any medicine intended to relieve pain. Over-the-counter analgesics—that is, painkillers available without a prescription—include aspirin, acetaminophen, ibuprofen, naproxen sodium, and others. These drugs present no danger for most people when taken in the recommended dosage. But some conditions make taking even these common painkillers dangerous for the kidneys. Also, taking one of these drugs regularly over a long period of time may increase the risk for kidney problems. Most drugs that can cause kidney damage are excreted only through the kidneys. That is, they are not broken down by the liver, as alcohol is, or passed out of the body through the digestive tract.

Analgesic use has been associated with two different forms of kidney damage: acute renal failure and a type of chronic kidney disease called analgesic nephropathy.

Acute Kidney Failure

Some patient case reports have attributed incidents of sudden-onset acute kidney failure to the use of over-the-counter painkillers, including aspirin, ibuprofen, and naproxen sodium. Some of these patients experienced acute illnesses involving fluid loss or decreased fluid intake. Other patients in these reports had risk factors such as systemic lupus erythematosus, advanced age, chronic kidney disease, or recent heavy alcohol consumption. These cases involved a single dose in some instances and generally short-term analgesic use of not more than 10 days.

Acute kidney failure requires emergency dialysis to clean the blood. Kidney damage is frequently reversible, with normal kidney function returning after the emergency is over and the analgesic use is stopped.

Analgesic Nephropathy

A second form of kidney damage, called analgesic nephropathy, can result from taking painkillers every day for several years. Analgesic nephropathy is a chronic kidney disease that over years gradually leads to irreversible kidney failure and the permanent need for dialysis or a kidney transplant to restore kidney function. Researchers estimate that four out of 100,000 people will develop analgesic nephropathy. It is most common in women over 30.

The painkiller phenacetin has been taken off the market because of its association with analgesic nephropathy. Recent studies have suggested that longstanding daily use of analgesics such as acetaminophen or ibuprofen may also increase the risk of chronic kidney damage, but this evidence is not as clear.

In view of these findings, people with conditions that put them at risk for acute kidney failure should check with their health care provider before taking any analgesic medicine. People who take over-the-counter painkillers regularly should check with their primary care physician to make sure the drugs are not hurting their kidneys. The physician may be able to recommend a safer alternative and can order regular tests to monitor their kidney function.



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Treatment

If you have been taking analgesics regularly to control chronic pain, you may be advised to find new ways to treat your pain, such as behavior modification or relaxation techniques. Depending on how much your kidney function has declined, you may be advised to change your diet, limit the fluids you drink, or take medications to avoid anemia and bone problems caused by kidney disease. Your doctor will monitor your kidney function with regular urine and blood tests.

For More Information

American Kidney Fund

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National Kidney Foundation, Inc.

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Fax: 212-689-9261
Internet: www.kidney.org

You may also find additional information on this topic using the following databases:

The NIDDK Reference Collection is a collection of thousands of materials produced for patients and health care professionals, including fact sheets, brochures, and audiovisual materials. Visit www.catalog.niddk.nih.gov/resources.

MedlinePlus brings together a wealth of information from the National Library of Medicine, the National Institutes of Health, and other government agencies and health-related organizations. MedlinePlus offers easy access to medical journal articles, a medical dictionary and medical encyclopedia, health information in Spanish, hospital and physician directories, drug and supplement lists, interactive patient tutorials, links to hundreds of clinical trials, and the latest health news. Visit www.medlineplus.gov.

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Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts. This fact sheet was reviewed by William Henrich, M.D., M.A.C.P., Dean of the School of Medicine, University of Texas Health Science Center at San Antonio.

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U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES
National Institutes of Health

NIH Publication No. 07-4573
September 2007