

Analgesic Nephropathy (Painkillers and the Kidneys)

National Kidney and Urologic Diseases Information Clearinghouse



National
Institute of
Diabetes and
Digestive
and Kidney
Diseases

NATIONAL
INSTITUTES
OF HEALTH

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.



U.S. Department
of Health and
Human Services

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

6110 Executive Boulevard, Suite 1010
Rockville, MD 20852
Phone: 1-866-300-2900
Email: helpline@kidneyfund.org
Internet: www.kidneyfund.org

National Kidney Foundation, Inc.

30 East 33rd Street
New York, NY 10016
Phone: 1-800-622-9010 or 212-889-2210
Fax: 212-689-9261
Internet: www.kidney.org

You may also find additional information about this topic by visiting MedlinePlus at www.medlineplus.gov.

This publication may contain information about medications used to treat a health condition. When this publication was prepared, the NIDDK included the most current information available. Occasionally, new information about medication is released. For updates or for questions about any medications, please contact the U.S. Food and Drug Administration at 1-888-INFO-FDA (463-6332), a toll-free call, or visit their website at www.fda.gov. Consult your doctor for more information.

National Kidney and Urologic Diseases Information Clearinghouse

3 Information Way
Bethesda, MD 20892-3580
Phone: 1-800-891-5390
Fax: 703-738-4929
Email: nkudic@info.niddk.nih.gov
Internet: www.kidney.niddk.nih.gov

The National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The NIDDK is part of the National Institutes of Health of the U.S. Department of Health and Human Services. Established in 1987, the Clearinghouse provides information about diseases of the kidneys and urologic system to people with kidney and urologic disorders and to their families, health care professionals, and the public. The NKUDIC answers inquiries, develops and distributes publications, and works closely with professional and patient organizations and Government agencies to coordinate resources about kidney and urologic diseases.

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.

This publication is not copyrighted. The Clearinghouse encourages users of this publication to duplicate and distribute as many copies as desired.

This fact sheet is also available at www.kidney.niddk.nih.gov.

The U.S. Government does not endorse or favor any specific commercial product or company. Trade, proprietary, or company names appearing in this document are used only because they are considered necessary in the context of the information provided. If a product is not mentioned, the omission does not mean or imply that the product is unsatisfactory.



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

NIH Publication No. 07-4573
September 2007