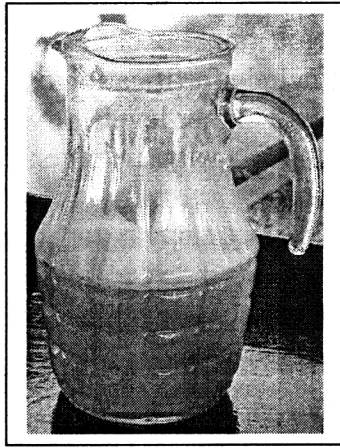
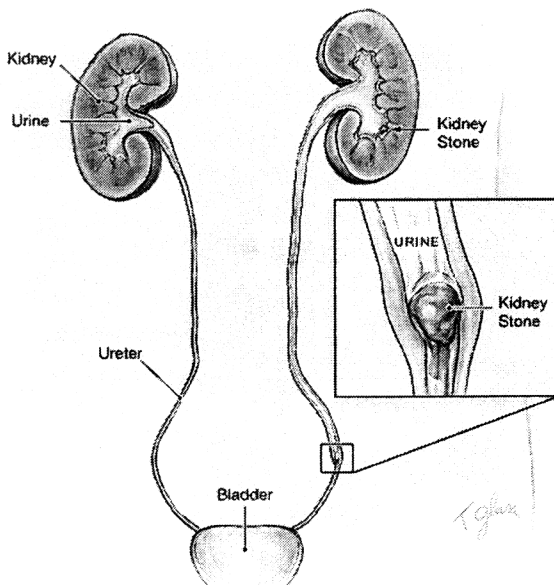


## ORANGE JUICE BEST AT STOPPING KIDNEY STONES



Kidney stones result from the **precipitation** (crystallization of previously dissolved particles) of certain substances within the urine. These stones form in the kidney and subsequently travel through the **ureter** (the tube that conducts urine from the kidney to the bladder) and are eliminated through the urine if they are small. In some cases, the stone may not be able to travel through the ureter, causing pain and possibly causing an obstruction, blocking the flow of urine out of the kidney. Kidney stones can be caused by a large number of factors, such as infection, certain diets, medications, and conditions that result in an increased concentration of calcium or other substances, including oxalate and uric acid, in the urine.



An independent study finds that **orange juice** beats lemonade and other citrus fruit juices in helping to keep kidney stones at bay. Experts have long known that potassium citrate -- found in citrus juice -- can slow stone formation in people with a history of the condition.

But this study, by a team from the University of Texas Southwestern Medical Center at Dallas, found that other components can affect a juice's ability to prevent stones.

Thirteen volunteers (some with a history of kidney stones and some without) took part in the multi-phase trial, which was funded by the U.S. National Institutes of Health. For one week, participants drank distilled water, for another week orange juice, and then lemonade for another week. There was a three-week interval between each of these weeks.

During each phase, the participants drank 13 ounces of orange juice, lemonade or distilled water three times a day with meals. They were also put on a low-calcium, low-oxalate diet, which also helps cut stone formation.

The study found that orange juice increased levels of citrate in the urine and reduced the crystallization of uric acid and calcium oxalate, the most common components of kidney stones. Lemonade did not increase citrate levels.

"One reason might be the different constituents of various beverages," study lead author Dr. Clarita Odvina, assistant professor of internal medicine at the Charles and Jane Pak Center for Mineral Metabolism and Clinical Research, said in a prepared statement.

Odvina noted that the citrate in orange and grapefruit is accompanied by a potassium ion while the citrate in lemonade and cranberry juice is accompanied by a hydrogen ion. While hydrogen ions counteract the beneficial effects of high citrate content, potassium ions do not.