

Overview:

A *stone* is typically found in the kidney, ureter, or bladder. These stones are caused by precipitation from a solution of substances in the urine. These stones, also referred to as *calculi* of the urinary tract (or *calculus*, if there is only one) differ in their incidence according to their site of origin. Kidney and uretral stones are more common than bladder stones. They are three times more common in men than in women. These kinds of stones tend to be a recurrent problem for those affected. More than half the patients diagnosed with stones will redevelop stones within a few years following removal of stones. Interestingly, the incidence of these stones is higher in summer than in winter, leading some to believe that our sweat during the summer, which causes a more concentrated form of urine, may have something to do with the development of stones.

There are a variety of kidney and uretral stones and their composition sometimes is related to a specific cause. For some stones, there is no identifiable cause, although mild chronic dehydration, perhaps caused by the inadequate consumption of water in hot climates, may be the cause for many of them. Most kidney and uretral stones consist of calcium oxalate and/or phosphate and are related to some form of *abnormal metabolism*. Sometimes they are the first indicator for a condition known as *hyperparathyroidism*, a condition in which the parathyroid glands are overactive, increasing the levels of calcium in the blood. The kidneys of individuals with this condition excrete abnormally large amounts of the calcium into the urine, which in turn can lead the formation of the stones. Calculi that consist of a combination of calcium, magnesium, and ammonium phosphate may be due some kind of *chronic infection* of the urinary tract. These stones are thus often termed *infective stones*. In the kidney, an infective stone may fill the entire network of urine collecting ducts and top part of the ureter, forming a large, oddly shaped calculus. *Kidney or uretral stones* that consist mainly of uric acid are found in about 5% of individuals with calculi. These are common in persons with *gout*, people with some *cancers*, and people with *chronic dehydration*.

Bladder stones often result from obstruction to the flow of urine from the bladder and/or a long-standing urinary tract infection. They are almost exclusively seen in men. The composition of bladder stones varies with the acidity or alkalinity of the urine.

Many urinary tract calculi are sufficiently small to be passed in the urine at home. Sometimes narcotic analgesics (painkiller) are given prior to implementing procedures encouraging the passage of stones through the ureter, bladder, and urethra. Larger stones, or those caused by infection or leading to obstruction of the urine flow, may have to be removed quickly and via surgery in order to prevent damage to the kidneys. Some stones of the bladder and lower ureter can be crushed and removed by *cystoscopy* (passage of a viewing tube and rushing device up the urethra into the bladder) or by *ureterorenoscopy* (similar device passed into the ureter). New ultrasound type methods (*lithotripsy*) are sometimes successful in breaking larger stones into smaller ones, which can then be removed by non-surgical intervention.

Impact on Life Underwriting:

Most urinary tract calculi, unless they are large, recurrent, and require serious intervention, are acceptable to most insurance companies at preferred or standard rates. Formation of multiple stones on a recurrent basis occasionally generates leads to underwriting in the standard to Table 2 range. Ratings for stones that require significant intervention via nephrotomy, pyelostomy, ureterotomy, or lithotripsy vary by the frequency of these interventions and the time elapsed since the most recent episode. The more invasive the procedure (which carries some risk) and the more frequent, the more likely a rating. The following table should serve as an approximate ratings guide for individuals with a recent/current history of recurrent stones.
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Frequency of stone formation/removal:	Possible underwriting action:
One operation only, no stone present	Standard
Recurrent kidney stone, stone present	Standard to Table 2
More than one operation - within 1 year	\$7.50 flat extra per \$1,000 of death benefit for 3 years
More than one operation - within 2nd year	\$7.50 flat extra per \$1,000 of death benefit for 2 years
More than one operation - within 3rd year	\$7.50 flat extra per \$1,000 of death benefit for 1 year
More than one operation - 4 years or more	Standard