

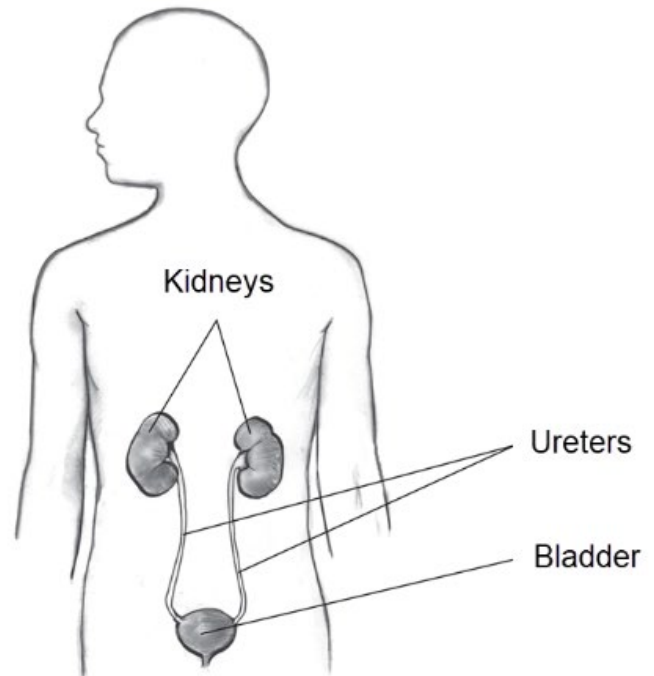
Solitary Kidney

What are the kidneys?

The kidneys are 2 bean-shaped organs, each about the size of a fist. They are located just below the rib cage, one on each side of the spine. Every day, the kidneys filter about 120 to 150 quarts (141 liters) of blood to produce about 1 to 2 quarts (1.8 liters) of urine, composed of wastes and extra fluid.

The urine flows from the kidneys to the bladder through tubes called ureters.

The bladder stores urine until releasing it through urination. A **solitary kidney** is a condition in which a person has a single kidney instead of 2 kidneys.

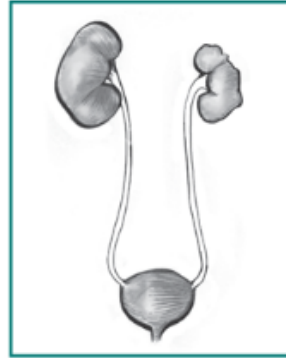


Why do I have only one kidney?

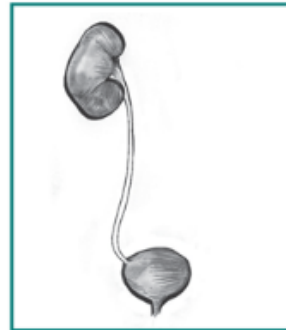
Most people are born with a pair of kidneys, although one kidney is usually sufficient for normal body function and most people can live a normal life with a single kidney. The "extra" kidney provides added function and acts as a "back up." About one in every 600 people are born with a single kidney and most go through life without ever knowing this."

People may have only one functioning kidney for a variety of reasons:

1. They are born with only one kidney – this is a congenital anomaly.
2. They are born with two kidneys but one is non-functional or barely functions – this is also a congenital anomaly.
3. They are born with two kidneys but one kidney is damaged by infection, obstruction or injury.
4. They are born with two kidneys but one kidney is removed to tumor or injury.
5. They are born with two kidneys but one kidney is donated to someone who needs a transplant.



Kidney dysplasia:
one kidney that
does not function



A kidney was
removed surgically
due to disease or for
donation. Both the
kidney and ureter are
removed

What can damage a single kidney?

1. Infection
2. Obstruction
3. Injury
4. High blood pressure (hypertension)
5. Too much protein in the urine

What steps can I take to protect my child's health?

There are certain precautions that people with a solitary kidney need to take in order to prevent kidney damage. These precautions vary by age.

The Infant – An infant with a solitary kidney should be protected from excess solute or protein, but protein should not be completely restricted. Babies do require protein and other nutrients to grow properly. Breast feeding is

preferable. If you have any questions about feeding your infant ask us how to schedule a consultation with a renal nutritionist.

The Young Child - (under age 5) May need a small change to their daily diet. Ask your doctor or nurse if this is needed.

Children - (age 5 to adolescence) As children begin to participate in sports and hobbies they should avoid injury to the working kidney. Studies have shown that in general, organized sports do not pose a great risk to injuring a solitary kidney to a point where it may be lost. Even contact and collision sports such as tackle American football and ice hockey rarely have major kidney injuries. The general recommendation is to use all the safety and protective equipment. The individual leagues and teams may also have their own rules and limitations.

While the risk of injury is small it does exist, so you need to make your child aware of it. Hobbies and sports which involve higher speed and the risk of crashes or collision are risky for people with a solitary kidney. Snowboarding and skiing accidents can sometimes be as bad as a moderate speed car accident. Avoid the so-called “extreme sports” such as trick skate-boarding and stunt bike riding (e.g. jumping bikes and skate-boards off ramps or on guard rails). Though there is little published data, crashes and falls are inevitable. Nearly all experienced skate-boarders or stunt bicyclists have broken many bones and have sustained major internal injuries.

Young Adults - Young adults need to be aware of the same concerns of children. In addition, they need to have a deeper understanding of their condition. It is particularly important for them to be able to explain in simple terms on which side their functional kidney is located and what happened to the other kidney. If they are driving, they should carry some form of notification in their wallets. In accident situations, there may not always be

someone around who can explain which side the functional kidney is located. At this time they should also start taking regular blood pressure measurements on an annual basis.

Adults – Adults should have yearly blood pressure measurements and may need to consider modest protein restrictions.

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Author: Julian Wan, MD

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