

# YOUR KIDNEYS, YOUR GENES AND YOU

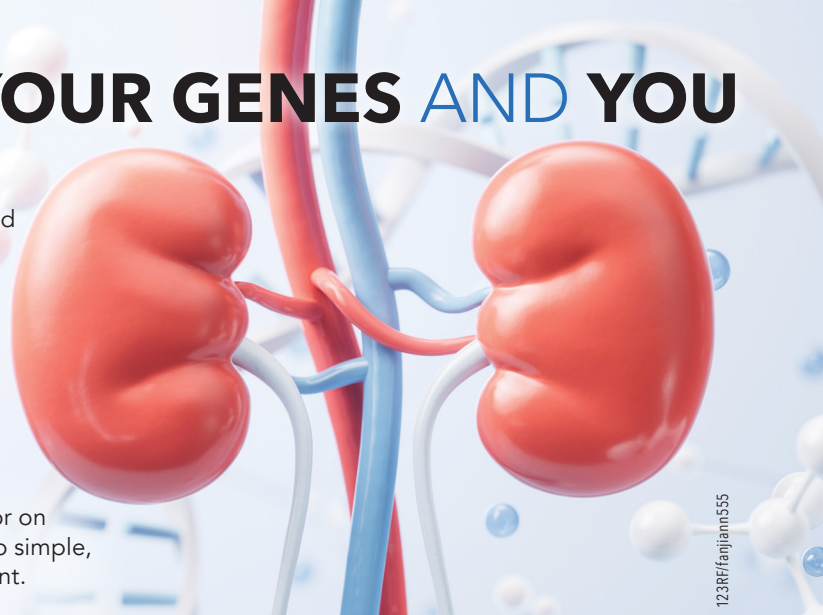
## What do your kidneys do for you?

Kidneys maintain the fluid and salt balance of your blood and filter waste products from your blood, producing urine to flush those waste products out of you. Kidneys also make essential chemical messengers, including one that helps with the formation of red blood cells.

Everyone is born with two kidneys, one on each side of the spine. Normally, a kidney is about the size of a fist, but some conditions can cause them to get bigger.

## What are kidney cysts?

Kidney cysts are pouches of fluid that form inside and/or on the surface of one or both kidneys. Anyone can develop simple, uncomplicated cysts that may or may not need treatment.



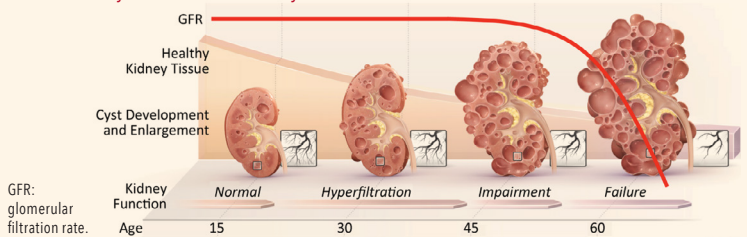
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## What is ADPKD?

People with autosomal dominant polycystic kidney disease (ADPKD) have a more serious type of cyst condition caused by an abnormality (mutation) in one or more genes. Genes are part of your DNA and they give every cell in your body instructions for making the molecules they need to grow, repair themselves and do what they need to do. When someone has an inherited genetic condition such as ADPKD, those molecules may not function properly.

## ADPKD evolution

### Timeline of Cyst Burden and Kidney Function in ADPKD



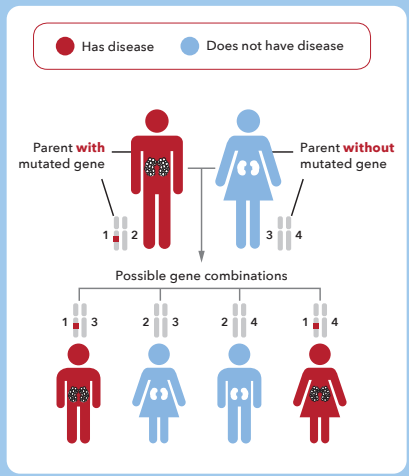
## How do genes pass along in an autosomal dominant disease like ADPKD?

Either parent can pass the gene on to their children

Each child has a 50% chance of inheriting them

They do not skip a generation

As soon as you have the gene, you develop the disease



## What does ADPKD do?

ADPKD is a progressive disease that can affect many parts of the body. In the kidneys, it causes a multiplication of cyst formation and growth from a couple to hundreds in each kidney. As more cysts develop and as the cysts grow larger, they expand the kidneys and destroy the working parts of the kidneys. Some people with ADPKD have relatively normal kidney function until their 40s or 50s and some never progress to kidney failure. However, more than half develop kidney failure by the time they reach their mid-50s. At that point, they need dialysis and/or a kidney transplant.

## How common is ADPKD?

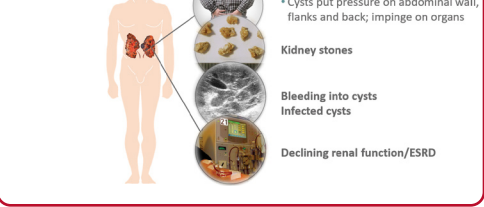
ADPKD is one of the most common inherited genetic conditions. It affects:

Between **1 in 400** and **1 in 1,000** people

All races and sexes/genders

About **41,000** Canadians living with ADPKD

## What symptoms and complications can ADPKD cause?



## Are treatments available?

While there is no cure for ADPKD, treatments are available for reducing the risk of many of the disease's symptoms and complications. Patients should speak with their doctor and/or health-care team about the benefits and risks of treatment options.

Bibliography: Braun WE. *Cleve Clin J Med* 2009; 76(2):97-104. Torres VE, et al. *Lancet* 2007;369(9569):1287-30. Pirson Y. *Adv Chronic Kidney Dis* 2010; 17(2):173-80. Grantham JJ, et al. *N Engl J Med* 2006; 354(20):2122-30. Statistics Canada <https://www150.statcan.gc.ca/nl/daily-quotidien/240925/dq240925a-eng.htm> (accessed Oct 18, 2024). PKD Foundation of Canada [https://www.endpkd.ca/what\\_is\\_pkd](https://www.endpkd.ca/what_is_pkd) (accessed Oct 18, 2024). HCP and patients brochure: Your genes, your kidneys and you, document number OCPIJN00246