

# Kidney Masses and Localized Kidney Tumors: A Patient Guide



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## Kidney & Adrenal Health Committee

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## Mike Sweigart's Story



Mike Sweigart, is the Chief Deputy Tax Commissioner for Gwinnet County in Atlanta, Georgia. In December 2016, he was diagnosed with a stage 2 renal tumor. Mike had an aortic aneurysm and was being treated when his renal tumor was found. At the time, Mike said he didn't have any symptoms. Unless his tumor had gotten bigger or more advanced, Mike's doctor said he may never have had symptoms.

Mike had an open partial nephrectomy to treat his cancer. His doctor said it would be the best way to save his kidney function. Mike says he has been fortunate because he has not had any side effects from his treatment. "I was able to get back to work three weeks later," he says.

Mike says he has been seeing his doctor regularly and is looking forward to a good prognosis at this six-month check-up. "I recommend anyone dealing with this cancer have frank talks with their provider about what treatment option will work best," he urges.

## Introduction: I have a Kidney Mass — What do I do now?

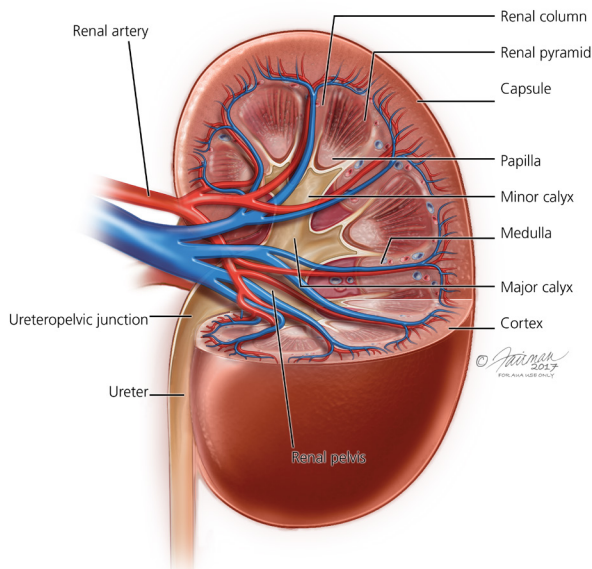
Your doctor has just given you the news that there is a growth in your kidney. What is it and what does this mean for you? Our kidneys' main job is to filter our blood. Sometimes we develop masses (growths or tumors) inside our kidneys. Some of these growths are cancerous, many are not. You must have your mass checked out to learn if it is cancerous or not. Don't delay getting treatment. There

are many different options for treatment, and usually more choices for an early diagnosis. Your medical team is there to help you. They can help you learn more about the pros and cons of treatments. This guide will tell you about localized kidney masses and the steps that you can take if one forms in your body.

### What do the Kidneys do?

Our kidneys serve many purposes, but they mainly do the following:

- Detoxify (clean) our blood
- Balance fluids
- Maintain electrolyte levels (e.g., sodium, potassium, calcium, magnesium, acid)
- Remove waste (as urine)
- Make hormones that help keep our blood pressure stable, make red blood cells and keep our bones strong



### What is a Kidney Mass?

A **tumor**, or **mass**, is an abnormal growth in the body. A kidney mass, or tumor, is an abnormal growth in the kidney. Some kidney masses are **benign** (not cancerous) and some are **malignant** (cancerous).

One in four kidney masses are benign. Smaller masses are more likely to be benign. Larger masses are more likely to be cancerous. Some tumors can be slow to grow while some can be aggressive. Aggressive tumors usually form, grow and spread very quickly.

Most kidney growths (about 40%) are small, **localized masses**. Localized means that the tumor has not spread out from where it first started. The main classes of tumors are:

- **Renal Cell Carcinomas (RCC)**. These are the most common malignant kidney tumors. They are found in the lining of the small tubes in the kidney. RCC may form as a single tumor within a kidney or as two or more tumors in one kidney.
- **Benign kidney tumors**. About 20% of tumors removed from kidneys are benign. There are about nine named tumors in this class. Some can grow quite large but they are almost always non-cancerous and do not spread to other organs.
- **Wilms tumor**. Wilms tumors almost always occur in children and are rarely found in adults.

## What do we Know about Kidney Cancer?

There will be close to 65,000 new cases of kidney cancer in the U.S. in 2018. Of those cases, nearly 15,000 people will likely die from the disease. More of those who die will be men. Kidney cancer is more common in African Americans, American Indians and Alaskan Native people. You can get kidney cancer at any age but it is more common in older people (those greater than 75 years old). The earlier kidney cancer is diagnosed—the better your chances of survival.

## What Causes a Kidney Mass?

There is no known cause for developing a kidney mass. But, there are a number of things that can increase your risk for kidney tumors such as:

- Smoking (men smokers have a higher risk than women smokers)
- Obesity, poor diet

- Family history of high blood pressure
- Being on kidney dialysis
- Workplace exposure to chlorinated chemicals
- Heredity

## What are the Symptoms of a Kidney Mass?

Most kidney masses have no symptoms in the early stages. However, if there are symptoms, they will most likely be:

- Hematuria (blood in urine)
- Flank pain between the ribs and hips
- Low back pain on one side (not caused by injury) and that does not go away
- Loss of appetite
- Weight loss not caused by dieting
- Fever that is not caused by an infection and does not go away
- Anemia (low red blood cell count)

## GET DIAGNOSED

Over half of kidney masses are found by chance. Often they are found during generic screening or when you see a doctor about some other problem. If your regular doctor thinks you may have kidney disease they might send you to a urologist. A urologist is a doctor who specializes in the urinary system.

## How is my Kidney Mass Diagnosed?

There are no routine laboratory tests to find kidney masses. Your healthcare provider may use many tests and procedures to make a diagnosis. Here are some tests and procedures that you might expect:

- **Physical exam and history**
- **Basic or complete metabolic panel (CMP)**, also called a blood chemistry
- **Complete Blood Count (CBC)** to check for certain substances

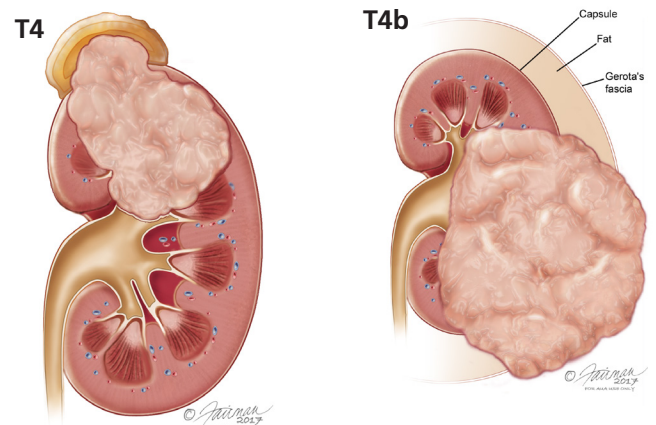
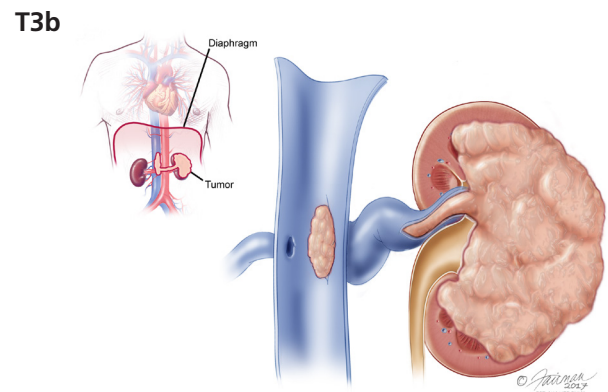
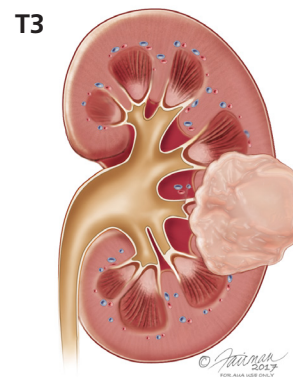
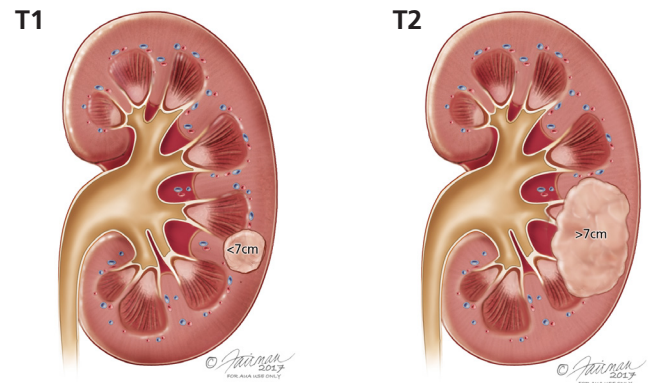
- **Urinalysis** to check for infection, blood and protein in urine
- **Kidney function tests** to check how well the kidneys are working. They show if the kidneys are getting rid of waste the right way.
- **Ultrasound** exams take pictures of your kidneys and organs.
- **CT scan** and **MRI** for diagnosing and staging localized kidney masses
- **Bone Scan** and **Chest X-Ray** to find out if the cancer has spread
- **Kidney mass biopsy**: A biopsy may be done to find out what type of tumor you have. A biopsy is when cells or tiny parts of an organ are removed and studied. A pathologist views the sample under a microscope. Findings can tell if the tumor started in another part of your body or if it started in the kidney. A biopsy may also tell if there is an infection such as an abscess.

## What does Tumor Grade and Stage Mean?

A **tumor grade** tells how aggressive the cancer cells are. A **tumor stage** tells how much the cancer has spread. The grades 1 through 4 show increasing severity with “1” being the lowest level and “4” the highest. A higher grade and more advanced stage usually come with larger tumor size and more aggressive tumors. Tumor size helps in assessing risk for cancer developing.

Kidney cancer is staged using the tumor node metastases (TNM) system.

- **T** tells us the size of the main (primary) tumor and whether it has grown into nearby areas.
  - o **T1**: Tumor 7.0 cm (about 2.8 inches) or less, only in the kidney
  - o **T1a**: Tumor 4.0 cm (about 1.6 inches) or less, only in the kidney
  - o **T1b**: Tumor 4.0-7.0 cm, only in the kidney
  - o **T2**: Tumor greater than 7.0 cm, only in kidney
  - o **T2a**: Tumor greater than 7.0 cm and less than 10.0 cm, only in the kidney
  - o **T2b**: Tumor greater than 10 cm (about 3.9 inches), only in the kidney
  - o **T3**: Tumor grows into major veins but not into the adrenal gland and not beyond Gerota’s fascia
  - o **T4**: Tumor reaches beyond Gerota’s fascia (including the adrenal gland). This is not a localized tumor.
- **N** tells us how much it has spread to nearby (regional) lymph nodes. Lymph nodes are small bean-sized collections of immune system cells.
  - o **N0**: No regional lymph node metastasis
  - o **N1**: Metastasis in regional lymph node(s)
- **M** tells us about metastasis  $\frac{3}{4}$  whether the cancer has spread (metastasized) to other parts of the body. Spread is most common to the lungs, bones, liver, brain, and far off lymph nodes.
  - o **M0**: No distant metastasis
  - o **M1**: Distant metastasis
- **Stage I and II tumors** include cancers of any size that are only inside the kidney.
- **Stage III tumors** are either locally invasive (T3) or involve lymph nodes (N1). This is cancer that is only found within the kidney organ.
- **Stage IV tumors** have spread beyond the kidney into organs nearby (T4) or distant metastases (M1).



## GET TREATED

Have an open and frank talk with your healthcare team about your treatment choices.

The main goal in treating kidney masses is to protect kidney function where possible. This is especially important for patients with only one kidney or some other kidney disease. For some, surgery will never be needed. For others, surgery may be the best choice. Your doctor may recommend one of four treatment choices. These are:

- Active surveillance
- Partial nephrectomy
- Radical nephrectomy
- Renal tumor ablation

### Active Surveillance

For **active surveillance**, your provider will see you at intervals for tests and imaging (taking pictures of inside your body). Active surveillance is considered for small masses less than 3 cm (about 1.2 inches) in size. The goal is to prevent progression and avoid potential risks and negative effects of other treatments. Your visits will be every 3-, 6- or 12-month intervals as necessary. Chest x-rays will be done, as well as CT scans and ultrasounds as indicated. How often you see your provider will depend on tumor size and stage.

### Partial Nephrectomy

**Nephrectomy** means removal of the kidney. **Partial nephrectomy** means that the doctor removes the tumor and/or diseased part of the kidney and leaves the healthy part. If your tumor is at T1a stage (4cm or less) your doctor may recommend a partial nephrectomy. A partial nephrectomy can also be done for larger tumors. A doctor will do a biopsy of the tumor to see if it shows signs of getting worse.

### Radical Nephrectomy

During a **radical nephrectomy**, the whole kidney is removed. This is done if your kidney tumor shows signs of becoming cancerous or is very large. Your body can function well with one kidney if the other is removed.

Surgery for both types of nephrectomy can be done by **laparoscopy**. During laparoscopy, your surgeon makes a very small hole in your abdomen and threads a thin, lighted tube to the site to look at the kidney. If your lymph nodes are affected, your surgeon will examine the node for staging.

### Ablation

If your tumor is small (T1a mass less than 3 cm in size), your surgeon may consider **ablation**. Ablation destroys the tumor with extreme heat or cold. Your doctor will do a biopsy before ablation so a pathologist can look closely at the tumor cells to see if there is cancer.

**Cryoablation** (cold ablation) is when very cold gases are passed to the tumor through a probe that destroy the tumor cells.

**Radiofrequency ablation** (hot ablation) is when a thin, needle-like probe is placed through the skin to reach the tumor. An electric current is passed through the tip of the probe. This heats the tumor and destroys the cells.

### Care Management

Your healthcare team is likely to have several different medical professionals such as a radiologist, urologist, neurologist, a pathologist and a medical oncologist. These specialists will work with you to consider all your choices and discuss the risks and benefits of treatment. You should have a urologist to help coordinate evaluation, counseling and care management. Genetic counseling might also be recommended if you have a family history of kidney tumors.

## AFTER TREATMENT

Make sure that you stay in touch with your healthcare provider and keep follow-up appointments as directed. These check-ups are important to watch for re-growth of tumors. After initial treatment, your doctor may perform many of the same tests used to diagnose the kidney mass.

Keep copies of your records with you in a binder so that you have them if you change healthcare providers. Consider placing the following in the binder:

- Copies of pathology reports from all of your biopsies and procedures
- Copies of imaging test results (CT or MRI scans, etc.)
- Copies of your treatment summaries
- Contact information for the healthcare providers who treat you

A healthy lifestyle is important. If you smoke now, quit smoking. Limit your alcohol intake.

Eat a balanced diet, with lots of green leafy vegetables and occasional fatty fish. Exercise and try to keep your weight within recommended limits.

## QUESTIONS TO ASK YOUR DOCTOR

- Do I have kidney cancer?
- What is the stage and grade of my cancer and what does that mean?
- Has the mass spread anywhere else?
- Is the mass likely to grow or spread some more?
- Do I need other tests before we can decide on treatment?
- What are my treatment choices?
- Which treatment should I choose, and why?
- What should I expect after the procedure?
- Will I have a lot of pain? How will my pain be managed?
- Will I be cured after treatment?
- What are the chances that the mass will return after treatment?
- What risks or side effects should I expect from treatment? For how long?
- What can I do to keep my kidneys functioning in a healthy manner?
- What should I do to get myself ready for treatment?
- What will we do if the treatment doesn't work?
- Can you recommend another urologist for a second opinion?
- What more can I do to protect my health?
- How often will I need to have checkups after treatment?
- How long will I need to stay in the hospital?
- Following surgery, will I need additional treatments?



## GLOSSARY

### **ABLATION**

Destroys the tumor with extreme heat or cold

### **ACTIVE SURVEILLANCE**

Patients see their doctor at regular intervals to assess a mass for progression; recommended treatment for small kidney masses less than 3cm (about 1.2 inches)

### **BASIC OR COMPLETE METABOLIC PANEL (CMP)**

Used to evaluate organ function and check for certain conditions

### **BENIGN**

A mass that is not cancerous

### **BIOPSY**

A small piece of body tissue is removed and examined to find out if disease is present, what may cause it, or how advanced a disease may be

### **BONE SCAN**

A test where a very small amount of a radioactive substance, called a tracer, is injected into a vein; areas where too much or too little tracer is absorbed by the body may indicate cancer

### **COMPLETE BLOOD COUNT (CBC)**

Checks for certain substances. If amounts are higher or lower than normal, that may be a sign of disease.

### **CRYOABLATION**

A treatment to kill cancer cells with extreme cold passed through a probe to destroy the tumor

### **CT SCAN**

A procedure that uses both x-rays and computer technology to produce detailed images of the body

### **HEMATURIA**

Blood in the urine

### **LAPAROSCOPY**

A form of surgery where the surgeon passes a thin, lighted tube through a small cut in the belly to look at the organs inside the abdomen and pelvis

### **LOCALIZED MASS**

A mass that is confined to one area of the organ

### **MALIGNANT**

A mass that is cancerous.

### **MASS**

An abnormal growth

### **METASTASIS**

Cancer cells have broken away from where they first formed, traveled through the blood or lymph system, and formed new tumors in other parts of the body

### **MRI SCAN**

Magnetic resonance imaging uses a magnetic field and radio waves to create detailed images of the organs and tissues within the body

### **NEPHRECTOMY**

The removal of the kidney

### **PARTIAL NEPHRECTOMY**

The removal of part of the kidney

### **PHYSICAL EXAM AND HISTORY**

Checks body and asks questions about health and family; health habits, past illnesses and treatments will also be discussed

### **RADICAL NEPHRECTOMY**

The complete removal of the kidney.

### **RADIOFREQUENCY ABLATION**

The use of radio waves to heat and destroy abnormal cells

### **TUMOR**

An abnormal growth

### **TUMOR GRADE**

How quickly a tumor is likely to grow and spread

### **TUMOR STAGE**

The size of cancer and how much it has spread into nearby lymph nodes or to other parts of the body

### **ULTRASOUND**

The use of high-frequency sound waves to produce images of structures within the body

### **URINALYSIS**

Checks for infection, blood and protein in your urine





## ABOUT THE UROLOGY CARE FOUNDATION

The Urology Care Foundation is the world's leading urologic foundation – and the official foundation of the American Urological Association. We provide information for those actively managing their urologic health and those ready to make health changes. Our information is based on the American Urological Association resources and is reviewed by medical experts.

To learn more, visit the Urology Care Foundation's website, [UrologyHealth.org/UrologicConditions](http://UrologyHealth.org/UrologicConditions) or go to [UrologyHealth.org/FindAUrologist](http://UrologyHealth.org/FindAUrologist) to find a doctor near you.

### DISCLAIMER

This information is not a tool for self-diagnosis or a substitute for professional medical advice. It is not to be used or relied on for that purpose. Please talk to your urologists or health care provider about your health concerns. Always consult a health care provider before you start or stop any treatments, including medications.

For copies of printed materials about Bladder Cancer and other urologic conditions, visit [UrologyHealth.org/Order](http://UrologyHealth.org/Order) or call 800-828-7866.

**For more information, contact:**

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