



HALTON UROLOGY

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What is a nephrectomy?

Nephrectomy is a surgical procedure to remove all or part of a kidney:

- **Complete nephrectomy.** During a complete (radical) nephrectomy, the surgeon removes the entire kidney.
- **Partial nephrectomy.** In a partial nephrectomy, the surgeon removes diseased tissue from a kidney and leaves healthy tissue in place.

A nephrectomy may be performed to treat kidney cancer or to remove a seriously damaged or diseased kidney. The surgery may be performed through a single large incision in the abdomen or side (open nephrectomy) or through a series of small incisions in the abdomen (laparoscopic nephrectomy).

Kidney function

Most people have two kidneys — fist-sized organs located near the back of the upper abdomen. Your kidneys:

- Filter wastes and excess fluid and electrolytes from your blood
- Produce urine
- Maintain proper levels of minerals in your bloodstream
- Produce hormones that help regulate your blood pressure and that influence the number of circulating red blood cells

Cancer treatment

Often, a nephrectomy is performed to remove a cancerous tumor or abnormal tissue growth in a kidney. The most common kidney cancer in adults, renal cell carcinoma, begins in the cells that line the small tubes within your kidneys. Children are more likely to develop a type of kidney cancer called Wilms' tumor, probably caused by the poor development of kidney cells.

The decision about how much kidney tissue to remove depends on:

- Whether a tumor is confined to the kidney
- Whether there is more than one tumor
- How much of the kidney is affected
- Whether the cancer affects nearby tissue
- How well the other kidney functions

The decision is based on the results of imaging tests, which may include:

- Kidney biopsy
- Ultrasound, an image of soft tissues produced with the use of sound waves
- Computerized tomography (CT), a specialized X-ray technology that produces images of thin cross-sectional views of soft tissues

- Magnetic resonance imaging (MRI), which uses a magnetic field and radio waves to produce cross-sectional views or 3-D images

Treatment for other conditions

A partial or radical nephrectomy may be needed to remove severely damaged, scarred or nonfunctioning kidney tissue due to traumatic injury or other diseases.

Long-term complications from a nephrectomy relate to potential problems of living with less than two complete, fully functioning kidneys. Although overall kidney function decreases following a nephrectomy, the remaining kidney tissue usually works well enough for a healthy life.

Problems that may occur with long-term decreased kidney function include:

- High blood pressure (hypertension)
- Chronic kidney disease