



# Renal Artery Stenosis Treatments

*A Guide for Consumers*



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## ***Fast Facts on*** **RENAL ARTERY STENOSIS** **TREATMENTS**

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- Renal artery stenosis (RAS) is a narrowing of one or both of the blood vessels to the kidneys. RAS can lead to hard-to-control blood pressure.
- At this point, nobody knows whether the best way to treat RAS is with blood pressure pills or angioplasty (a procedure to open the blocked area).
- Medicines and angioplasty can both lower blood pressure for people who have RAS.
- A few people with RAS who have angioplasty can stop taking blood pressure pills. Most people will have to keep taking pills for their blood pressure, even after angioplasty.
- In the long run, there is no difference in how well the kidneys work for people who have angioplasty compared with people who just take blood pressure pills for RAS.

## What does this guide cover?

This guide can help you talk with your doctor or nurse about treatments for renal artery stenosis (pronounced “steh-NO-sis”).

Renal artery stenosis (RAS) is a narrowing of one or both of the blood vessels (renal arteries) that carry blood to the kidneys. The kidneys help to control blood pressure. Narrowed renal arteries make it harder for the kidneys to work. RAS can get worse over time. It often leads to high blood pressure and kidney damage.

The information in this guide comes from a government-funded review of research about the treatment of RAS. It talks about:

- Health problems caused by RAS, like high blood pressure and kidney damage.
- Two kinds of treatment for RAS.

## What is not covered by this guide?

- Who should be checked for RAS.
- The best test to find out if you have RAS.
- Whether lifestyle changes might help improve RAS.
- Surgery for RAS.
- A rare kind of RAS caused by fibromuscular dysplasia (a thickening of the artery walls).



## Learning about renal artery stenosis

### What causes RAS?

- Almost always (9 times out of 10), the narrowing is caused by plaque (pronounced “plak”). Plaque is made up of fats, cholesterol, and other materials.
- Over time, if enough plaque builds up on the walls of the renal arteries, it creates a blockage. The medical term is atherosclerotic (pronounced “ath-a-ro-skla-RAH-tic”) disease, or hardening of the arteries.

### Who gets RAS?

- Older people are more likely to get RAS because plaque builds up in arteries over time.
- RAS usually happens in people who also have problems with blocked arteries in other places, like their legs or heart.

### How do I know if I have RAS?

- Usually there are no symptoms.
- If your high blood pressure is very hard to control, it might be caused by RAS. Your doctor or nurse may run special tests to find out for sure.

## Treatments for renal artery stenosis

### What is the best treatment for RAS?

There are two kinds of treatments for RAS. People can take pills to lower their blood pressure, or they can get angioplasty. Some people may need both. At this point, nobody knows which works best.

### Which treatments lower blood pressure?

#### Medicines

Medicines can lower blood pressure and cholesterol. Usually this means taking two or more kinds of pills.

#### Angioplasty

Angioplasty is used to open up the blocked artery. The doctor threads a small balloon into the renal artery and then blows up the balloon to open the blockage. Sometimes the angioplasty includes putting in a stent. A stent is a small metal tube that helps keep the artery open.



- People are more likely to get their blood pressure under control if they get an angioplasty and keep on taking blood pressure medicines. However, this better control may only be for people who had angioplasty for blockages in both of their renal arteries.
- A few people who have angioplasty for RAS can stop taking blood pressure pills. For every 100 people with RAS who get angioplasty, 4 to 18 of them can stop blood pressure pills. The rest of the people will have to keep on taking medicines for their blood pressure.

### Which treatments help the kidneys?

In the long run, there is no difference in how well the kidneys work for people who have angioplasty compared with people who just take blood pressure pills for RAS.

## What are the risks of treatment?

All of the treatments have a risk of side effects. If you are thinking about treatment for RAS, talk with your doctor or nurse about your risk of any of these side effects or complications.

### Blood pressure pills

- Blood pressure medicines can cause side effects like dizziness, sexual problems, headache, and cough. The side effects differ depending on which blood pressure pills you take.

### Angioplasty

- Angioplasty and angioplasty plus stent can cause bruising, bleeding, and more damage to the kidneys. The arteries can also close up again.
- About 1 out of 100 people who get an angioplasty for RAS die within the first month after treatment. We don't know how that compares with people who just take pills for RAS.

## When will we know more?

A research study that is going on right now is looking at which treatment is best for RAS. We will have results in 2010. The research study is called Cardiovascular Outcomes in Renal Atherosclerotic Lesions (CORAL). It is funded by the National Institutes of Health. It involves two groups of people with RAS. One group of people will have angioplasty with stent and then will keep on taking pills to control their blood pressure. The other group of people will take pills to treat their high blood pressure without getting the angioplasty.

Visit this Web site to learn more about the CORAL research study:  
[www.coralclinicaltrial.org/public/index.html](http://www.coralclinicaltrial.org/public/index.html)

## For more information

### What is the source of this guide?

The information in this guide comes from a detailed review of 56 research reports. The detailed review is called *Comparative Effectiveness of Management Strategies for Renal Artery Stenosis* (2006) and was written by the Tufts-New England Medical Center Evidence-based Practice Center.

### Where can I get more information?

To get an electronic copy of this guide and materials about choosing treatments and medicines for other conditions, visit this Web site:

**[www.effectivehealthcare.ahrq.gov](http://www.effectivehealthcare.ahrq.gov)**

### For a free print copy call:

The AHRQ Publications Clearinghouse, (800) 358-9295

Ask for AHRQ Publication Number: 07-EHC004-2A

For more information about renal artery stenosis, visit this Medline Plus Web site:

**[www.nlm.nih.gov/medlineplus/ency/article/001273.htm](http://www.nlm.nih.gov/medlineplus/ency/article/001273.htm)**

The Agency for Healthcare Research and Quality (AHRQ) created the Eisenberg Center at Oregon Health & Science University to make research helpful for consumers. This guide was prepared by Sandra Robinson, M.S.P.H., Elizabeth Eckstrom, M.D., Martha Schechtel, R.N., and David Hickam, M.D. of the Eisenberg Center. People with high blood pressure helped them write this guide.

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