

# New treatments for drug resistant high blood pressure

22 January 2018, by Laura Wright



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High blood pressure – also called hypertension – is a dangerous condition which, if left untreated, can lead to stroke, kidney problems and/or heart attack.

A doctor may diagnose you with hypertension if your systolic [blood pressure](#) (the top number in the measurement) exceeds 130 mmHg, or [diastolic blood pressure](#) (the bottom number) exceeds 80 mmHg. Although it's normal to experience minor fluctuations throughout the day, 46 percent of all Americans experience high levels of blood pressure (exceeding 130/80) even without activity or stress. This increases the risk of [heart attack](#), stroke, heart failure, kidney disease and even death. This increased risk is compounded in people with diabetes, high cholesterol, or smokers.

Generally, patients with hypertension can help control their high blood pressure by adopting healthy lifestyle habits such as:

- Losing weight
- Exercising more
- Stopping smoking

- Reducing stress
- Eating a plant-based, low-salt diet

When lifestyle changes aren't adequate, prescription drugs can be used separately or in combination to reduce hypertension. However, according to the American Heart Association, nearly half of all Americans find that lifestyle changes and medications don't work well enough.

If you are one of these people, there are two new therapies being tested that might help.

The SPYRAL trial is testing a new therapy that targets the nerves in the kidney responsible for signaling to the brain and playing a role in raising blood pressure. During the procedure, a small opening is made in the groin to access blood vessels in the kidney using a flexible tube called a catheter. A special device is then used to alter these nerves surrounding the kidney artery and reduce the signals they send to the brain. Recent research indicates that this therapy, called renal denervation, reduced blood pressure an average of 10 points – a significant change.

The CALM trial targets another area responsible for regulating blood pressure present in the main artery in the neck, the carotid artery. Microscopic "sensors" in the wall of the carotid artery sense [blood pressure levels](#) and signal to the brain to respond if that level gets too high. In this case, a catheter is positioned in the [carotid artery](#) and a tiny device is inserted where these sensors are to manipulate the signals to the brain, resulting in lower blood pressure.

Because it has no obvious symptoms, hypertension is known as the "silent killer." The best first step is to know your [blood pressure readings](#) and work with your doctor to control [high blood pressure](#) if necessary. If you've exhausted all other options, talk with your doctor about clinical trials such as these that may contribute to better control of your

hypertension.

Provided by University of Kentucky

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