



## The Association of Minimally Invasive Gynecologic Surgeons

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**R. Wayne Whitted MD, MPH**

**Paul A. Pietro MD**

8740 N Kendall Dr. Suite 101

Miami, Florida 33176

Phone: 305-596-3744

[www.floridaamigos.com](http://www.floridaamigos.com)

### High blood pressure

#### Definition

Hypertension means high blood pressure. This generally means:

- Systolic blood pressure is consistently over 140 (systolic is the "top" number of your blood pressure measurement, which represents the pressure generated when the heart beats)
- Diastolic blood pressure is consistently over 90 (diastolic is the "bottom" number of your blood pressure measurement, which represents the pressure in the vessels when the heart is at rest)

Either or both of these numbers may be too high.

**Pre-hypertension** is when your systolic blood pressure is between 120 and 139 or your diastolic blood pressure is between 80 and 89 on multiple readings. If you have pre-hypertension, you are likely to develop high blood pressure at some point. Therefore, your doctor will recommend lifestyle changes to bring your blood pressure down to normal range.

#### Causes, incidence, and risk factors

Blood pressure is determined by the amount of blood pumped by the heart, and the size and condition of the arteries. Many other factors can affect blood pressure, including volume of water in the body; salt content of the body; condition of the kidneys, nervous system, or blood vessels; and levels of various hormones in the body.

Essential hypertension has no identifiable cause. It may be caused by genetics, environmental factors, or even diet, such as how much salt you use.

"Secondary" hypertension is high blood pressure caused by another disorder. This may include:

- adrenal gland tumors
- Cushing's syndrome
- kidney disorders
  - glomerulonephritis (inflammation of kidneys)
  - renal vascular obstruction or narrowing
  - renal failure
- use of medications, drugs, or other chemicals
- **oral contraceptives (approximately 5% of women who use OCPs will develop this)**
- hemolytic-uremic syndrome
- Henoch-Schonlein purpura
- periarteritis nodosa
- radiation enteritis
- retroperitoneal fibrosis
- Wilms' tumor

## Symptoms

Usually, no symptoms are present. Occasionally, you may experience a mild headache. If your headache is severe, or if you experience any of the symptoms below, you must be seen by a doctor right away. These may be a sign of dangerously high blood pressure (called malignant hypertension) or a complication from high blood pressure.

- tiredness
- confusion
- vision changes
- angina-like chest pain (crushing chest pain)
- heart failure
- blood in urine
- nosebleed
- irregular heartbeat
- ear noise or buzzing

## Signs and tests

Hypertension may be suspected when the blood pressure is high at any single measurement. It is confirmed through blood pressure measurements that are repeated over time. Blood pressure consistently elevated over 140 systolic or 90 diastolic is called hypertension. Your doctor will look for signs of complications to your heart, kidneys, eyes, and other organs in your body.

Systolic blood pressure consistently between 130 and 139 or diastolic blood pressure consistently between 80 and 89 is called pre-hypertension. Your doctor will recommend and encourage lifestyle changes including weight loss, exercise, and nutritional changes.

Tests for suspected causes and complications may be performed. These are guided by the symptoms presented, history, and results of examination.

## Treatment

The goal of treatment is to reduce blood pressure to a level where there is decreased risk of complications. Treatment may occur at home with close supervision by the health care provider, or may occur in the hospital.

Medications may include diuretics, beta-blockers, calcium channel blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), or alpha blockers. Medications such as hydralazine, minoxidil, diazoxide, or nitroprusside may be required if the blood pressure is very high.

Have your blood pressure checked at regular intervals (as often as recommended by your doctor.)

Lifestyle changes may reduce high blood pressure, including weight loss, exercise, and dietary adjustments (see "Prevention").

## Expectations (prognosis)

Hypertension is controllable with treatment. It requires lifelong monitoring, and the treatment may require adjustments periodically.

## Complications

- hypertensive heart disease
- heart attacks
- congestive heart failure

- blood vessel damage (arteriosclerosis)
- aortic dissection
- kidney damage
- kidney failure
- stroke
- brain damage
- loss of vision

### Calling your health care provider

Even if you have not been diagnosed with high blood pressure, it is important to have your blood pressure checked at annual exams, especially if you have a history of high blood pressure in your family.

If you have high blood pressure, you will have regularly scheduled appointments with your doctor.

In between appointments, if you have any of the symptoms listed below or your blood pressure remains high even with treatment (this assumes the use of a home blood pressure monitor), then call your doctor right away.

- Severe headache
- Excessive tiredness
- Confusion
- Visual changes
- Nausea and vomiting
- Chest pain
- Shortness of breath
- Significant sweating

### Prevention

Lifestyle changes may help control high blood pressure:

- Lose weight if you are overweight. Excess weight adds to strain on the heart. In some cases, weight loss may be the only treatment needed.
- Exercise to help your heart.
- Adjust your diet as needed. Decrease fat and sodium -- salt, MSG, and baking soda all contain sodium. Increase fruits, vegetables, and fiber.
- Take 1200 mgs calcium each day
- Avoid caffeine products and other stimulants
- Do not take illicit drugs
- Accomplish 30 minutes of aerobic exercise each day
- Manage stress and anxiety

Alternative Therapies that show promise

- Acupuncture
- Massage Therapy
- Music Therapy
- Imagery therapy
- Yoga
- Garlic

Follow your health care provider's recommendations to modify, treat, or control possible causes of secondary hypertension.

## References

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