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CCM NEWSLETTER

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Blood Pressure: Diagnosis, Treatment and Control



One of the most common things doctors do is help patients with their blood pressure. Given that high blood pressure is a risk factor for stroke and heart attacks, it makes sense that your doctor pays attention to your blood pressure number. You should too! This month, we will talk about how to measure your blood pressure, how can you control it with and without medications and which medications are best.

We know that there are 3 main factors that put patients at risk for having a heart attack or stroke:

- 1.) Tobacco use
- 2.) High blood pressure
- 3.) High cholesterol

We also know that having a lower blood pressure is healthier than having a higher blood pressure. You probably aren't aware of this, but over the past 5 year, there has been ALOT of controversy in the medical community about when to start treating a high blood pressure and how to treat high blood pressure. There has been a tremendous amount of research done about how to diagnose and treat high blood pressure. Sometimes the results from one study contradict the results of another study! It can be very confusing. Physicians and medical organizations spend an incredible amount of time reviewing the research and they use this data to make guidelines on how to treat patients. This newsletter is an inside look into the guidelines that your doctor and the American Academy of Family Practice uses to manage blood pressure.

Before we dive into details here are some abbreviations and basic facts you should know:

BP: blood pressure

HTN: hypertension (high blood pressure)

SBP: systolic blood pressure (the top number of your blood pressure measurement)

DBP: diastolic blood pressure (the bottom number of your blood pressure measurement)

Blood pressure measures the force of blood against the walls of your arteries when your heart beats and when your heart is at rest.

Okay- Let's get started!

How do I know if I have high BP and what's the best way to measure it?

There are 3 main ways that we measure blood pressure:

- 1.) Office Measurement: this is the most common; It is done at a doctor's office or dentist's office. It has been considered the GOLD STANDARD and what is used in most clinical trials.
- 2.) Home Measurement: this is when you take your BP at home with your own cuff. This way has a lot of room for error- so it's not the most recommended.
- 3.) Ambulatory Measurement: this is the best approach, however it is the least common. Your doctor will write an order, and you pick up a blood pressure machine usually at a cardiology department. You wear the monitor for 18 or 24 hours and the machine takes multiple measurements and then gives you an average blood pressure. It's really good at detecting "white coat hypertension" and "masked HTN" (when your blood pressure is normal at the clinic but high everywhere else). This type of measurement isn't needed for most patients.

The medical community has come to an agreement on HOW to properly take your blood pressure. **Here are 8 highly suggested rules:**

Spoiler Alert: You are probably doing it wrong.

- 1.) Be seated for 5 minutes before taking your BP
- 2.) Have your back supported and feet on the ground
- 3.) Do not consume caffeine, exercise or smoke 30 minutes prior to taking your BP
- 4.) No talking by the patient or the person taking your BP
- 5.) NO clothing should be under the cuff
- 6.) The arm is supported at the level of the heart.

- 7.) Use the correct cuff size- which is usually a large. (FYI: While a cuff that is too small for your arm will give you a falsely high BP, a cuff that is too big for your arm WILL NOT give you a falsely low BP.)
- 8.) Repeat the measurements and average them... or you can take the lowest measurement. (check in the morning before medications and then again before dinner)

Not following these rules can lead to dramatically higher BP numbers. *Therefore, if your BP is high... repeat it!*

If you are taking your blood pressure regularly at home, we recommend that you start incorporating these rules into your measurement routine. Additionally, bring your blood pressure cuff into the office during a visit. The staff can check to see if your cuff is the right size and can check your machine readings against the machine at the clinic. Studies have shown that checking your blood pressure at home is only really useful when part of an integrative plan. This is a program that involves pharmacists, nutritionists and your physician. Most patients don't really have that, therefore you don't need to be checking your BP every day. *But when you do it, do it well.*

How can I treat high blood pressure without medications?

Intervention	Change
Weight Loss- if overweight (THIS ALWAYS WORKS!!)	~ 20 lbs will decrease your BP by 5-20 points
Limit Alcohol (if you are consuming 4-5 drinks per night)	< 1 ounce per day will decrease your BP by 2-4 points
Decrease Salt to 2.4 grams/day <i>(This is most helpful for those older than 65 yrs, have a high salt diet, or Black population)</i>	Will lower BP by 2-8 points

DASH diet (<i>lots of plants, whole grains; limit meat and fats</i>)	Will lower BP by 6 points ** if you also decrease your salt intake you can further lower your BP by 14 points**
Exercise 30 minutes daily	Lower BP by 4-9 points
** Regular caffeine consumption is NOT associated with an increased risk of high blood pressure. It can give you other unpleasant side effects, but will not give you a diagnosis of high blood pressure. **	

A word about salt intake: Processed food and foods from restaurants account for approximately 80% of our salt intake. So if it's in a bag, box or can and does NOT say LOW SODIUM... consider it to be high in salt.

How do I control my blood pressure with medications?

There are many different medications that can be used to treat high blood pressure. There are 3 main categories of medications that are what physicians consider our first line choices. We reach for these first because they have been around for a long time and we are comfortable with how to use them...and they work!

- ★ Thiazide- HCTZ, Chlorthalidone
- ★ Calcium Channel Blockers (CCB)- Amlodipine, Diltiazem
- ★ ACEI or ARB (ACE Inhibitors or Angiotensin Receptor Blockers)- Captopril, Enalapril, Lisinopril, Losartan, Irbesartan

Beta-Blockers (like metoprolol, atenolol) are also used, but they aren't as effective just by themselves for controlling high blood pressure. We often reach for this class of medications as a 3rd or 4th add on drug. They are also excellent at treating other conditions like a fast heart rate.

There have also been many studies that have looked at which patients benefit more from certain medications.

Non Black patients have shown benefit from all 3 first line choices.

Black Patients have shown most benefit when the first choice is either a thiazide or a calcium channel blocker.

Patients with chronic kidney disease (CKD) have shown most benefit if they are started with an ACEI or ARB.

Hopefully, this helps you understand a bit more why, if you have high blood pressure, you are on certain medications and not others.

Now comes the controversial question that has the medical community debating:

When do I need medications and when is my blood pressure considered controlled?

For simplicity sake I will discuss 2 major guidelines that influence how your doctor manages your high blood pressure.

- 1.) JNC8 (Joint National Commission):The National Heart, Lung and Blood Institute appoints a Joint National Commission (JNC) to oversee publication of research that studies high blood pressure. The JNC comes out with their guidelines based on that research. The '8' means that this is the 8 edition of those guidelines.
- 2.) ACC (American College of Cardiology) Guidelines

JNC8 (used by American College of Physicians and the American Academy of Family Physicians)	ACC Guidelines
Older than 60 years <ul style="list-style-type: none">- Start treatment when BP is more than 150/90- On treatment the goal BP should	Normal BP: less than 120/80 Elevated: SBP 120-129 <i>and</i> DBP < 80 Stage 1: SBP 130-139 <i>or</i> DBP 80-89 Stage 2: SBP >140 <i>or</i> DBP 90

<p>be less than 150/90</p> <p>Younger than 60 years</p> <ul style="list-style-type: none"> - Start treatment when BP is more than 140/90 - On treatment the goal BP should be less than 140/90 <p>Patients with diabetes or kidney disease (at any age) fall under the “younger than 60 years” recommendations.</p> <p>Patients older than 60 years who have had a stroke, mini-stroke or heart attack will also fall under that “younger than 60 years” recommendations.</p>	<p>Start treatment if BP in Stage 1 and have a high risk for stroke or heart attack.</p> <p>On treatment the goal BP should be less than 130/80.</p>
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As you can see, the ACC guidelines are pretty strict and if nationally accepted, would label almost half of the country’s adults with high blood pressure. There are studies that support both guidelines, thus making the management of high blood pressure a hotly contested topic in the medical community.

Just like all health decisions, they should be shared between physician and patient. Rest assured that your doctor is up to date on both guidelines and uses both to customize a blood pressure plan that fits your unique health circumstances. While research guides medical practice, the *art of medicine* comes from experience and the relationship with your doctor.

If you have any questions about your blood pressure, blood pressure medications or non medication treatments for high blood pressure, we encourage you to write them down and bring them with you to your next appointment.

You were last seen at the clinic for your blood pressure on ___/___/____. Your blood pressure at that visit was: _____

Your blood pressure goal is: _____

Your next appointment is on ___/___/____. If you can't make this appointment, please call the clinic to reschedule.