

Docs Talk

Health

HYPERTENSION: THE SILENT KILLER

Presented by

Dr. Anna Garg and Dr. Ravneet Jaura



Surrey-North Delta
Primary Care Networks

IMPORTANT NOTE

The information presented in this session is for educational purposes only - **it is not personal medical advice.**

If you are concerned about hypertension, schedule a visit with your Family Doctor.

If you don't have a Family Doctor, sign up on the **Health Connect Registry** to be connected when one becomes available.

In the meantime, **walk-in clinics and UPCCs** welcome patients without



[Health Connect Registry](#) Family Doctors.



[Where 4 Care](#)

WE'LL TALK ABOUT...

- 1 What is hypertension and why is it significant?
- 2 What are the risk factors for developing hypertension?
- 3 What are the signs and symptoms of hypertension?
- 4 How can hypertension be measured in the body?
- 5 How can we control and manage high blood pressure through lifestyle changes in combination with medication therapy as needed?



Hypertension **FACTS**



Roughly **1.28 billion** adults aged 30–79 years worldwide have hypertension

Almost 8 million adults in Canada are affected by high blood pressure – **about 1 in 4**

An estimated **46%** of adults with hypertension are **unaware that they have the condition**

Less than half of adults (42%) with hypertension are diagnosed and treated.

Hypertension is a major cause of premature death worldwide.

Approximately **1 in 5** adults (21%) with hypertension have it under control.

MEET DOUG

Doug is a 65 year old man who is visiting his Family Doctor/GP for his annual checkup. He says he feels well and isn't experiencing any symptoms.

Doug has an office job and he sits for 6-7 hours per day. He has been smoking 1 pack of cigarettes per day for the last 30 years. He has 2 alcoholic drinks per day.

During his physical exam, Doug's GP notes that he is slightly overweight and his blood pressure is 156/92. The remaining examination is normal.



What is **BLOOD PRESSURE?**

Force of blood on artery wall

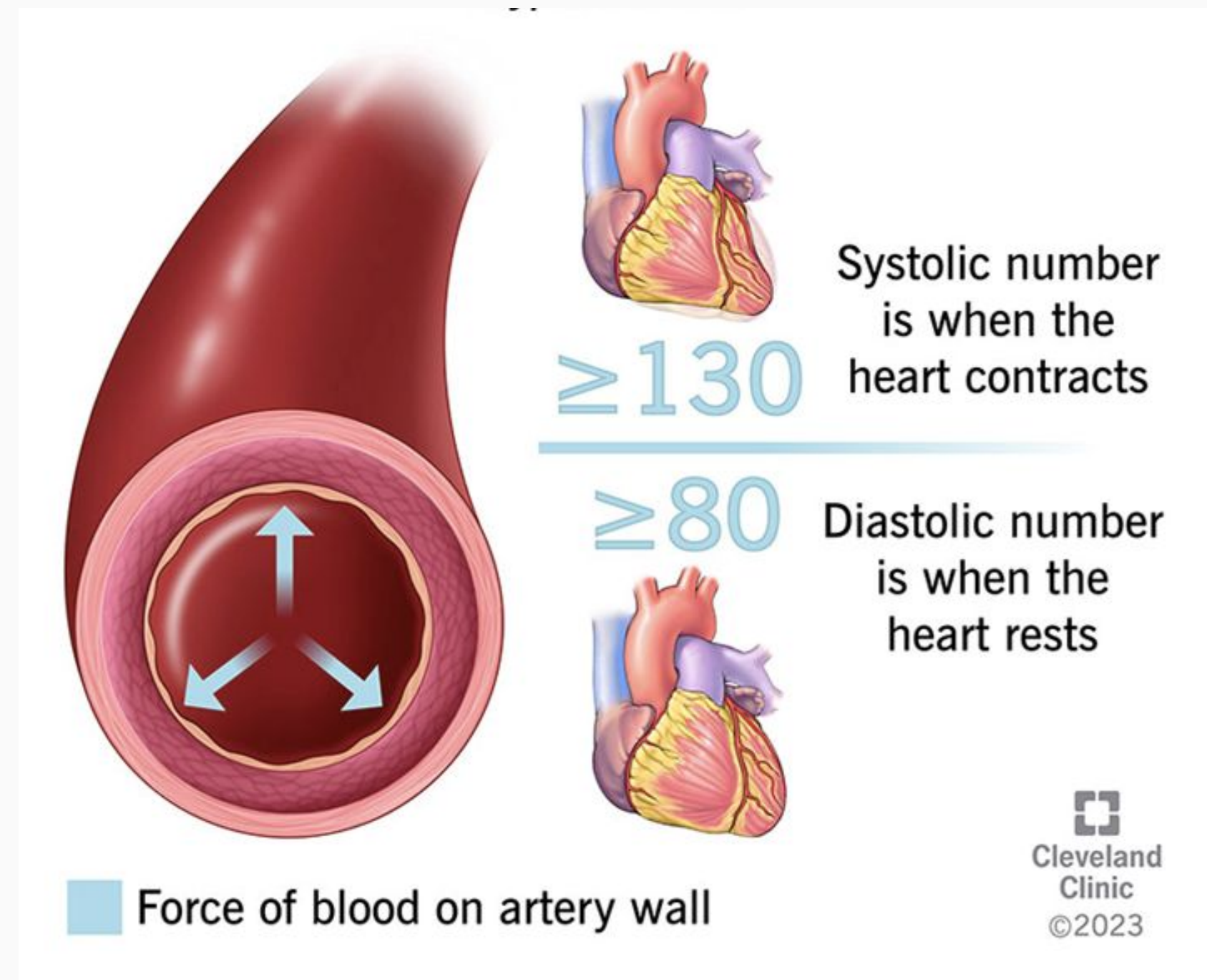
Measured in millimeters of mercury (mmHg) and recorded as two numbers:

- Systolic pressure (when the heart beats)
- Diastolic pressure (when the heart relaxes between beats).
- Both numbers are important.

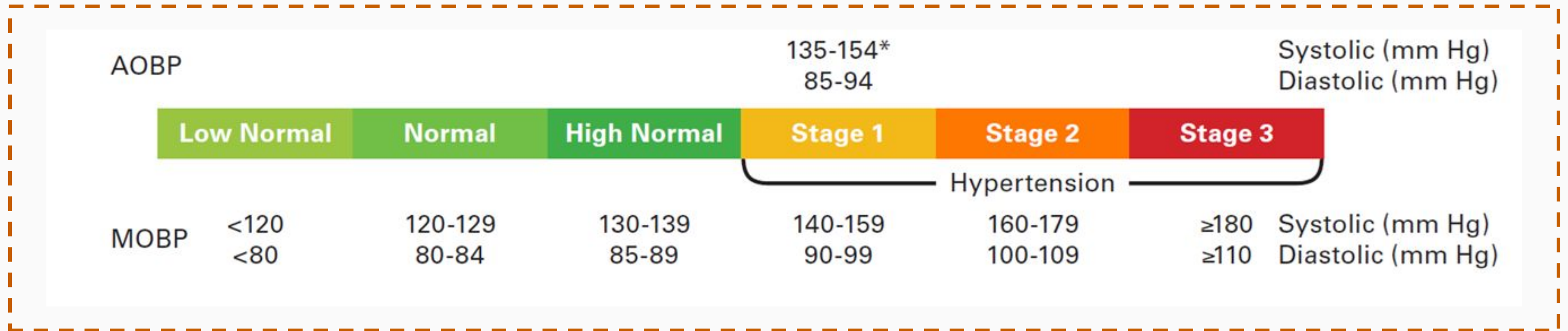
Blood pressure rises and falls during the day, but when it stays elevated over time, then it's called high blood pressure. .

Normal Range:

Typically less than 120/80 mmHg



CATEGORIES



*AOBP: Automated office blood pressure

*MOBP: Manual Office Blood Pressure

Types of **HYPERTENSION**

1 Primary (Essential)

No identifiable cause, develops gradually over years.

2 Secondary

Resulting from another condition for example Hyperparathyroidism, Obstructive Sleep Apnea, Renal Artery Stenosis, Adrenal tumors etc.

3 White-coat hypertension

Untreated condition in which BP is elevated in the office but is normal when measured by ambulatory blood pressure monitoring (ABPM), home blood pressure measurement (HBPM), or both.

4 Masked hypertension

Untreated patients in whom the BP is normal in the office but is elevated when measured by HBPM or ABPM.

RISK FACTORS

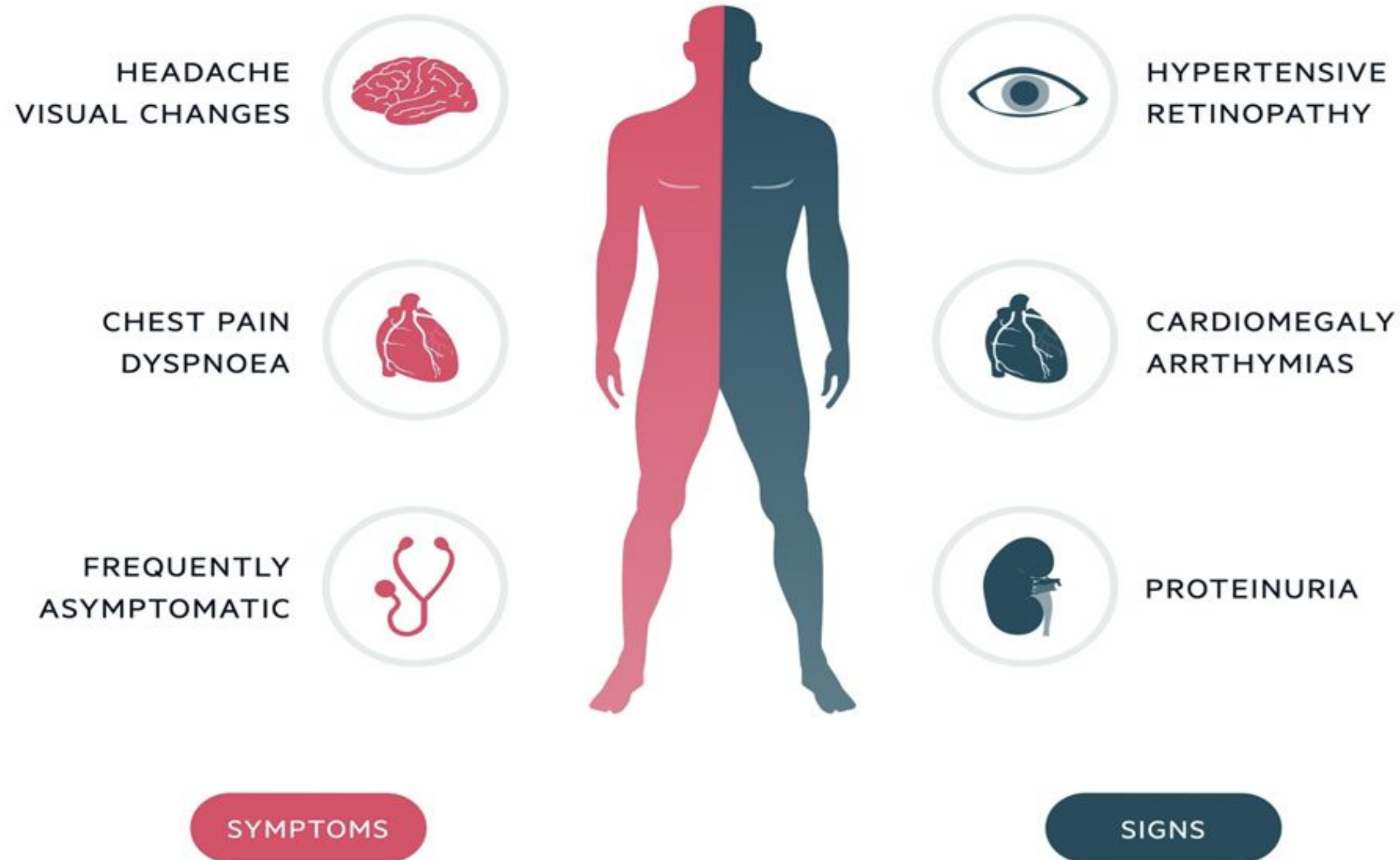
Additional Factors

- Prescription drugs (e.g., nonsteroidal anti-inflammatory drugs (NSAIDs), steroids, decongestants, oral contraceptive use)
- Others (e.g., alcohol, stimulants, sodium).



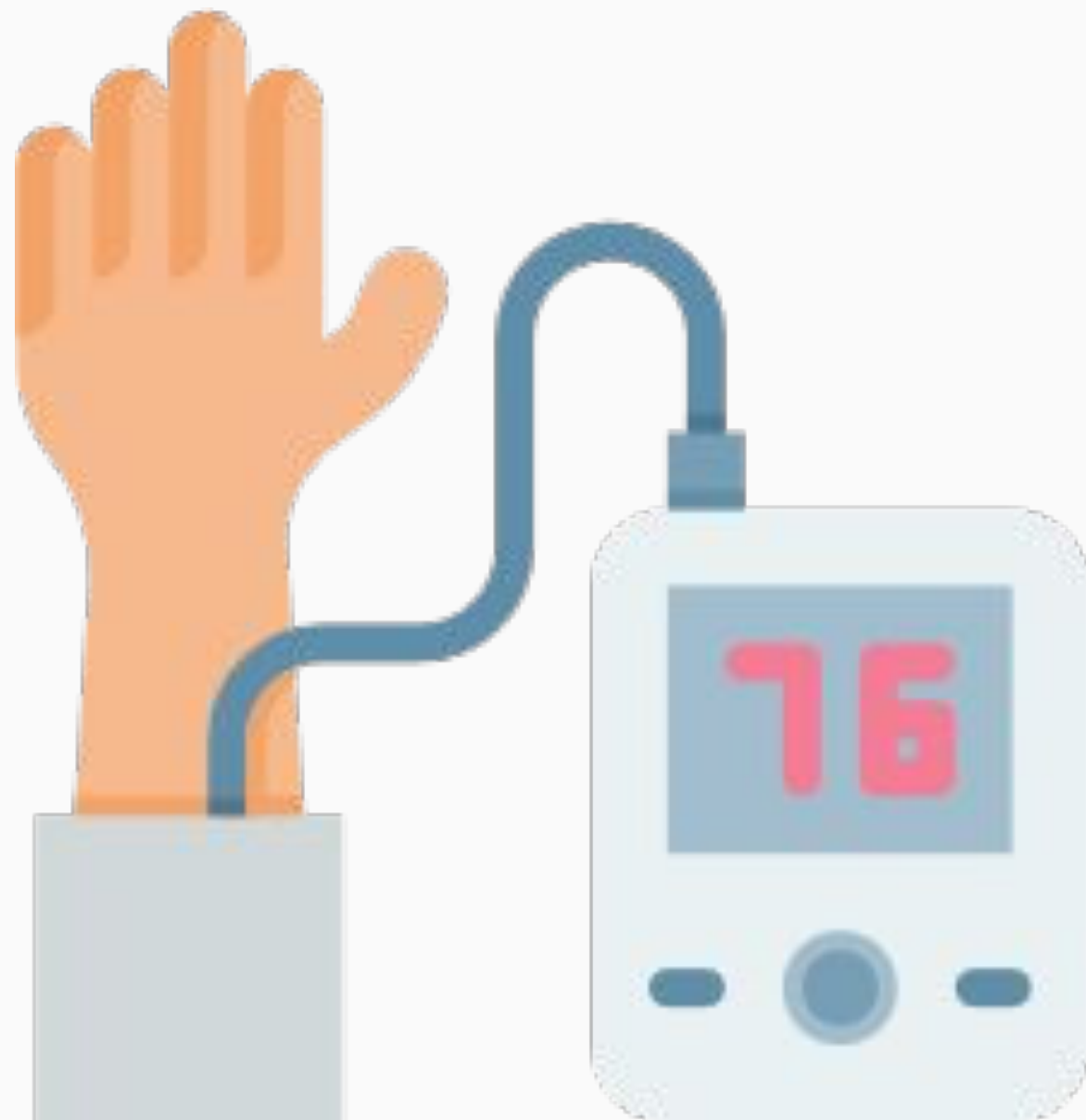
Signs and

SYMPTOMS



Why do we treat

HYPERTENSION?



High blood pressure often has **no warning signs** or symptoms. It is often asymptomatic.

If uncontrolled, it can lead to heart and kidney disease, stroke, and blindness.

High blood pressure is **dangerous** because it makes the heart work too hard, and the high force of the blood flow can harm arteries and organs such as the heart, kidneys, brain, and eyes.

Once it occurs, it usually **lasts a lifetime**.

COMPLICATIONS



BRAIN

- Stroke
- Confusion
- Headache
- Convulsion



RETINA OF EYE

- Hypertensive retinopathy



HEART

- Heart attack
- Heart failure



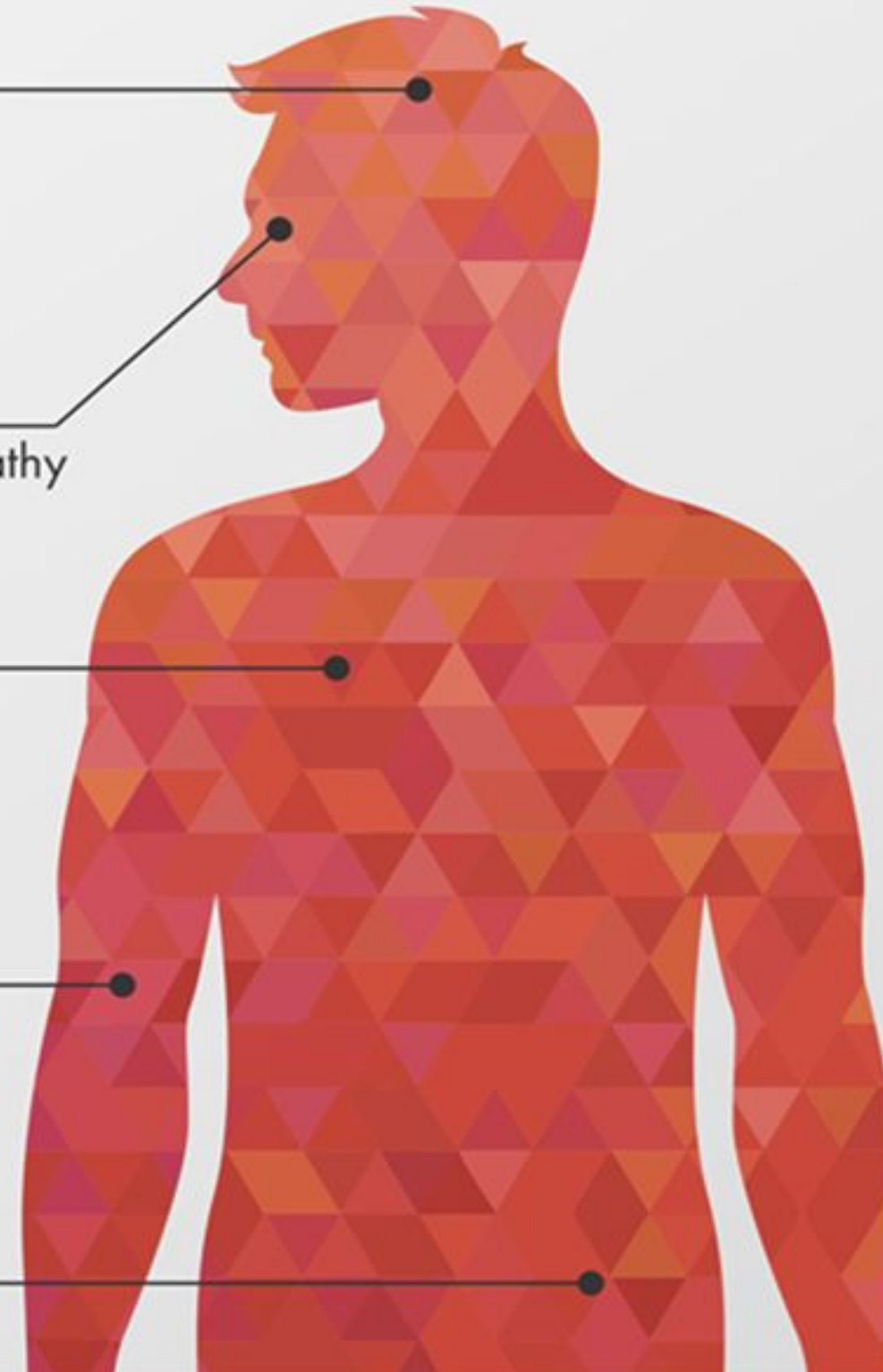
BLOOD

- Elevated sugar levels



KIDNEYS

- Chronic renal failure



REMEMBER DOUG?

Since Doug's office blood pressure was elevated, he was advised to measure BP at home in the mornings for 2 weeks and get labs done.



MEASURING BLOOD PRESSURE

Systolic

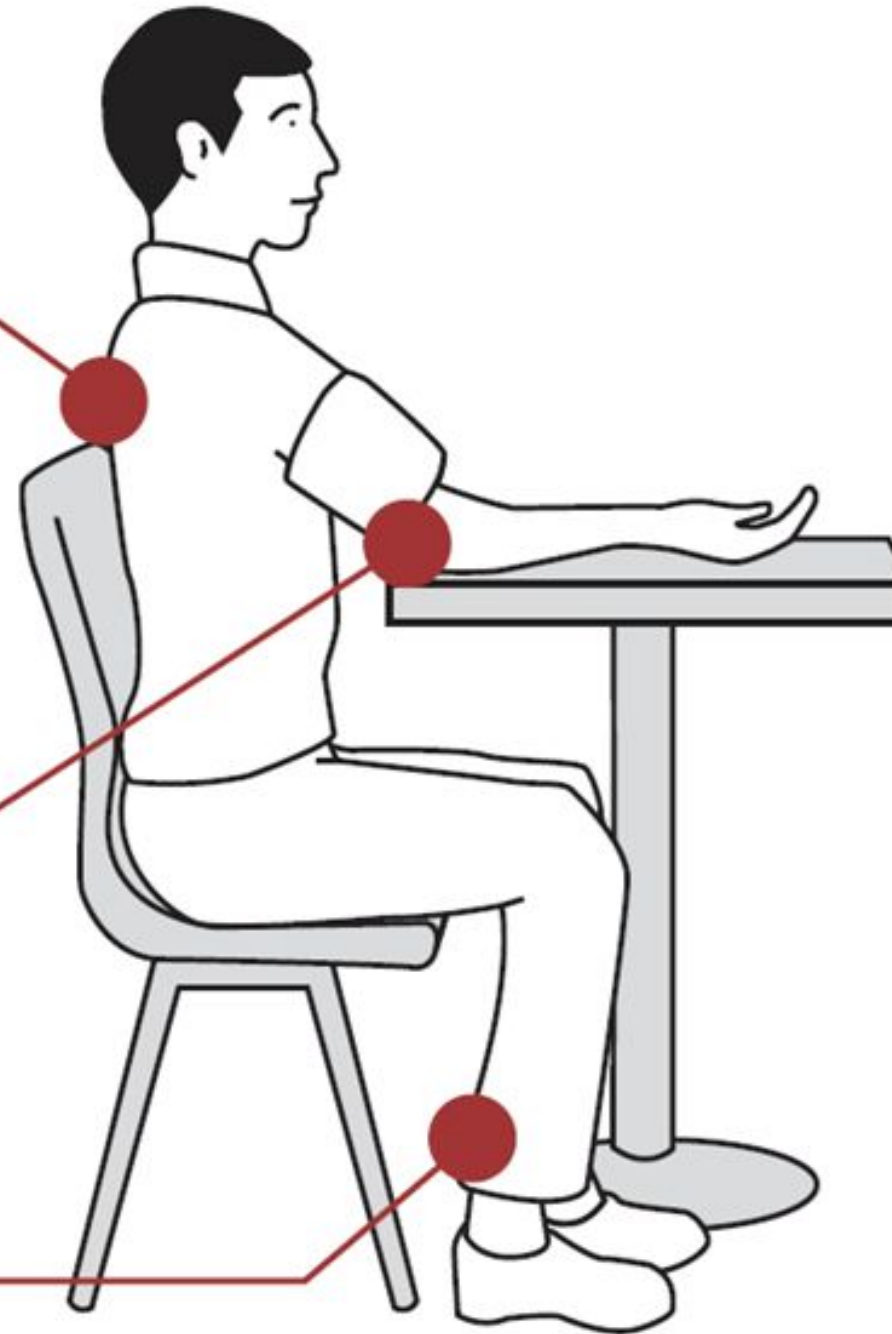


Diastolic



Figure 2: Standardized Technique for Hypertension Measurement (Image reproduced from Hypertension Canada Guideline⁶)

- ✓ Sitting position
- ✓ Back supported
- ✓ Arm bare and supported
- ✓ Use a cuff size appropriate for your arm
- ✓ Middle of the cuff at heart level
- ✓ Lower edge of cuff 3 cm above elbow crease
- ✓ Do not talk or move before or during the measurement
- ✓ Legs uncrossed
- ✓ Feet flat on the floor



REMEMBER DOUG?

Doug returns to his GP's office. His home BP readings averaged around 150/95. His repeat office reading is 155/96.

A diagnosis of Hypertension (Stage 1) is confirmed.

Lab results are reviewed and show small amounts of protein in the urine.

Doug and his GP discuss options including lifestyle modifications and medication therapy. Doug decides to try lifestyle changes and follow up in 3 months.



How is hypertension

DIANOSSED ?



Physical Exam

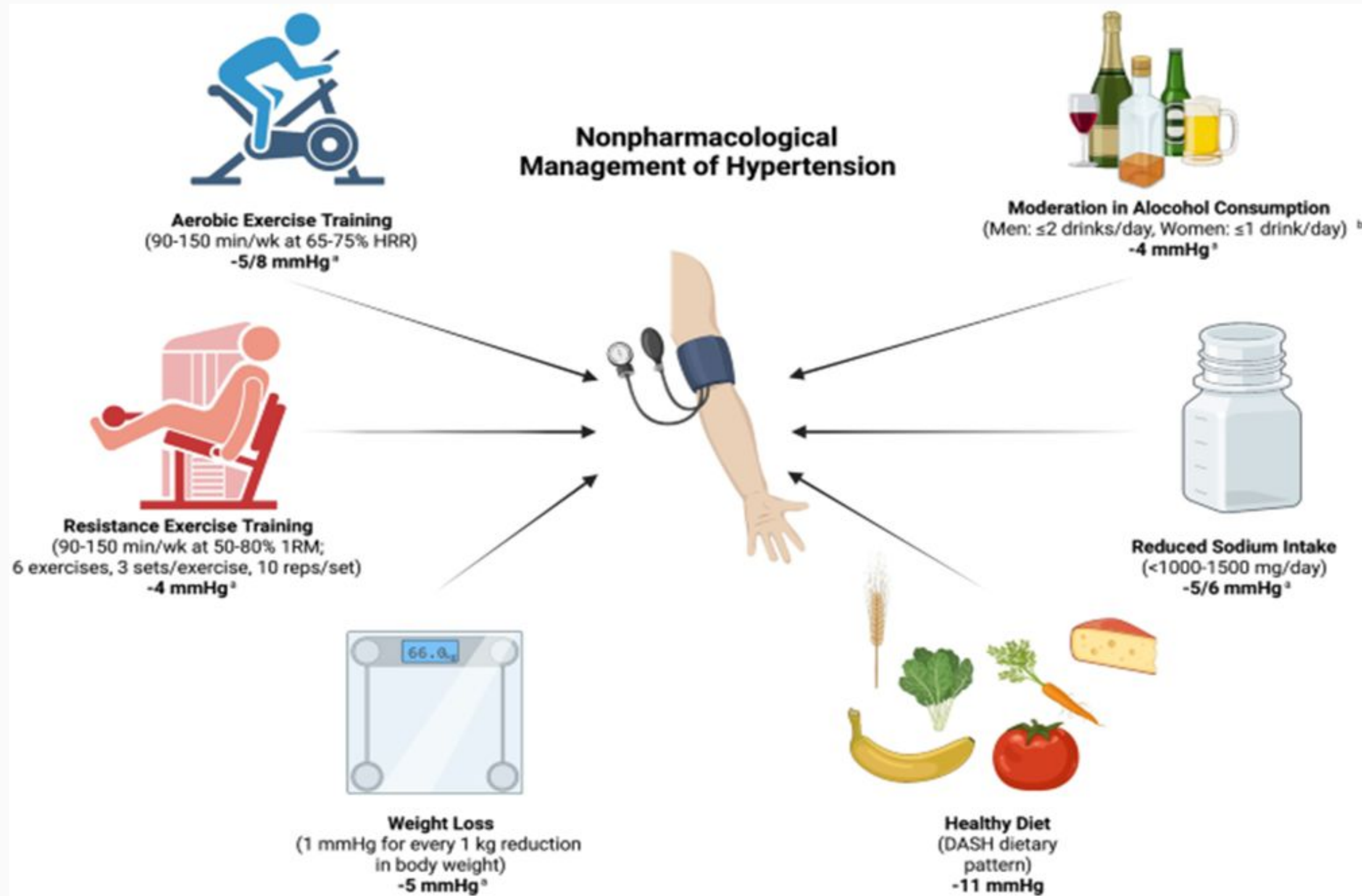
- Weight
- Height
- Waist circumference
- Dilated fundoscopy
- Central and peripheral cardiovascular examination
- Abdominal examination



Laboratory Tests

- **Urinalysis**: ACR ~ hematuria (detects kidney damage)
- **Blood chemistry**: potassium, sodium, creatinine/eGFR
- **Fasting blood glucose** or hemoglobin A1C level
- **Blood lipids**: non-HDL cholesterol and triglycerides
- **ECG** (assesses heart strain)

MANAGEMENT AND TREATMENT



Management and Treatment

SALT

Nutrition Facts	
Serving size 1 oz. Servings per container 5	
Amount per serving	
Calories 170	Calories from Fat 20
% Daily Value*	
Total Fat 1g	3%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 0g	0%
Sodium 100g	4%
Total Carbohydrate 0g	0%
Dietary Fiber 0g	0%
Sugars 0g	0%
Protein 3g	
Vitamin A 0%	Vitamin C 10%
Calcium 5%	Iron 5%
Thiamin 2%	Niacin 0%
Vitamin B ₆ 3%	Phosphorus 3%
Zinc 3%	
* % Daily Values are based on a 2,000 calorie diet. Your daily needs may be higher or lower depending on your caloric needs.	

Nutrition Facts	
Serving Size 3 oz. (85g) Serving Per Container 2	
Amount Per Serving	
Calories 200	Calories from Fat 120
% Daily Value*	
Total Fat 15g	20 %
Saturated Fat 5g	28 %
Trans Fat 3g	
Cholesterol 30mg	10 %
Sodium 650mg	28 %
Total Carbohydrate 30g	10 %
Dietary Fiber 0g	0 %
Sugars 5g	
Protein 5g	
Vitamin A 5%	Vitamin C 2%
Calcium 15%	Iron 5%
*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300mg 375mg
Dietary Fiber	25g 30g

Most adults only need **1500 mg of sodium** each day, but many eat much more than this.

Read the Label

- Buy products that generally have **less than 5%** of the recommended daily intake of sodium
- Aim to reduce your sodium intake to **2000 mg or less** per day

THE SALTY SIX



BREADS & ROLLS

Some foods that you eat several times a day, such as bread, add up to a lot of sodium even though each serving may not seem high in sodium. Check the labels to find lower-sodium varieties.

1



COLD CUTS & CURED MEATS

One 2 oz. serving, or 6 thin slices, of deli meat can contain as much as half of your daily recommended dietary sodium. Look for lower-sodium varieties of your favorite lunch meats.

2



PIZZA

A slice of pizza with several toppings can contain more than half of your daily recommended dietary sodium. Limit the cheese and add more veggies to your next slice.

3



POULTRY

Sodium levels in poultry can vary based on preparation methods. You will find a wide range of sodium in poultry products, so it is important to choose wisely.

4



SOUP

Sodium in one cup of canned soup can range from 100 to as much as 940 milligrams—more than half of your daily recommended intake. Check the labels to find lower sodium varieties.

5



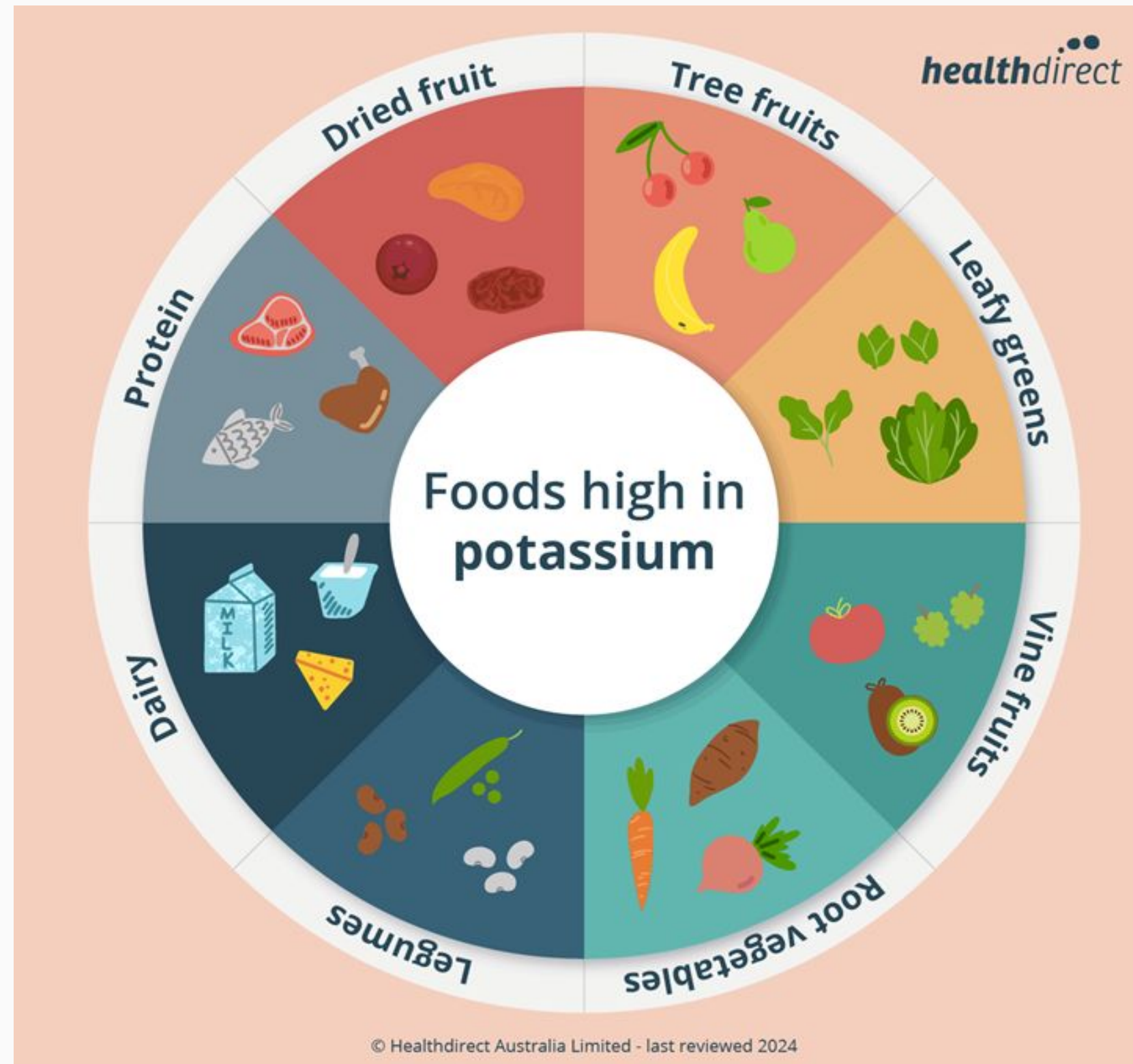
SANDWICHES

A sandwich or burger from a fast food restaurant can contain more than 100 percent of your daily suggested dietary sodium. Try half a sandwich with a side salad instead.

6

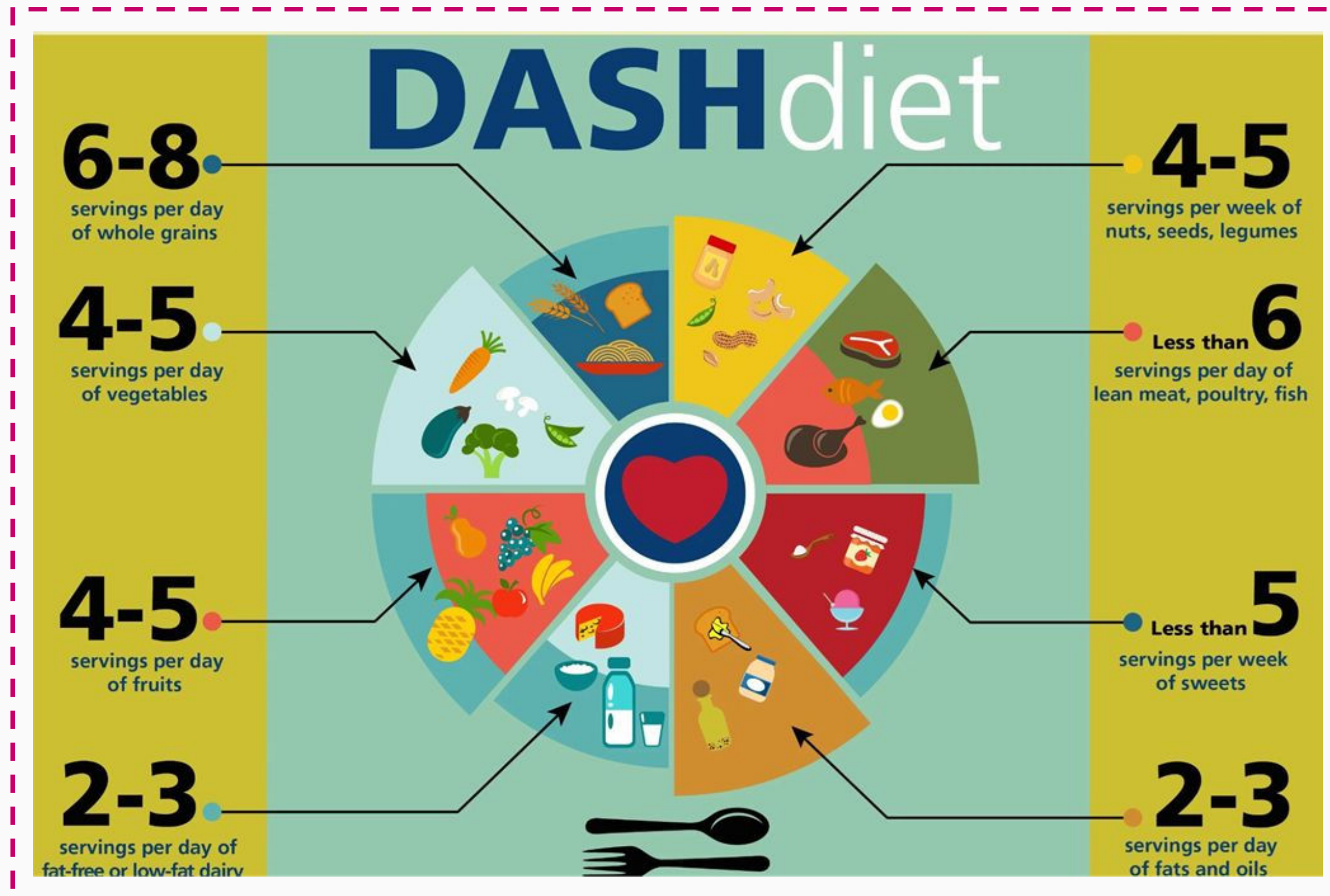
Management and Treatment

POTASSIUM



Management and Treatment

DIET



Follow the **DASH Diet**

Dietary
Approaches to
Stop
Hypertension

Management and Treatment

ALCOHOL



Management and Treatment

SMOKING



People who quit smoking see an **immediate improvement** in their blood pressure

Management and Treatment

WEIGHT



Goal: BMI Under 25

Increase activity to lose weight

If your health care professional recommends that you lose weight, there's a simple rule to follow: move more and eat well.

- Gradually increase your physical activity beyond the American Heart Association's recommendation of 150 minutes of moderate-intensity aerobic activity per week
- Lower the number of calories you take in
- Eat a healthy diet



You don't have to join a gym or buy equipment to fit in physical activity. These **low- or no-cost community resources** can offer access to safe places to exercise:



YMCA



Community centers or senior centers



Parks and recreation departments



Faith-based groups



10 BEST EXERCISES FOR **HIGH BLOOD PRESSURE**

Take a walk

Go for a bike ride

Engage in workouts

Try Pilates

Incorporate strength training

Hiking

Practice yoga and
relaxation techniques

Explore Tai Chi

Enjoy swimming

Get grooving with dancing



Management and Treatment

STRESS

7 WAYS TO REDUCE STRESS

AND KEEP BLOOD PRESSURE DOWN

MANAGING STRESS IS ONE OFTEN-OVERLOOKED STRATEGY FOR PREVENTING AND TREATING HIGH BLOOD PRESSURE.

GET ENOUGH SLEEP



1. Inadequate or poor-quality sleep can negatively affect your mood, mental alertness, energy level, and physical health.

LEARN RELAXATION TECHNIQUES



2. Meditation, progressive muscle relaxation, guided imagery, deep breathing exercises, and yoga are powerful relaxation techniques and stress-busters.

STRENGTHEN YOUR SOCIAL NETWORK



3. Connect with others by taking a class, joining an organization, or participating in a support group.

HONE YOUR TIME-MANAGEMENT SKILLS



4. The more efficiently you can juggle work and family demands, the lower your stress level.

RESOLVE STRESSFUL SITUATIONS



5. Don't let stressful situations fester. Hold family problem-solving sessions and use negotiation skills at home and at work.

NURTURE YOURSELF



6. Treat yourself to a massage, take a walk or a nap, or listen to your favorite music.

ASK FOR HELP



7. Don't be afraid to ask for help from your spouse, friends, and neighbors. If stress and anxiety persist, talk to your doctor.

WWW.HEALTH.HARVARD.EDU



COMMON
MEDICATIONS
USED TO
TREAT
HYPERTENSION

Blood pressure medicine	Example of drugs in this group	Common side effects
Alpha-blockers	Doxazosin	Dizziness, headache, incontinence in women
ACE-inhibitors or 'prils'	Lisinopril, perindopril, ramipril	Cough
ARBs or 'sartans'	Losartan, candesartan, irbesartan, valsartan	Tiredness
Beta-blockers	Atenolol, bisoprolol, propranolol	Cold hands and feet, tiredness
Calcium antagonists	Amlodipine, felodipine, nifedipine, diltiazem, verapamil	Swollen ankles
Other drugs	Moxonidine, hydralazine	Tiredness and a build up of fluid in the body with hydralazine
Water tablets (diuretics)	Furosemide, bendroflumethiazide, spironolactone	Dehydration, dizziness, increase or decrease in potassium levels in the blood.

REMEMBER DOUG?

Doug returns after 3 months of making lifestyle changes which involved dietary changes, increasing physical activity, weight loss, smoking cessation, limiting alcohol intake and reducing stress levels.

His BP measured in office is **139/88** which falls in the high normal category. **Repeat labs are normal** without any evidence of urinary protein.

After discussing further options with his GP, Doug decides to continue with lifestyle modifications prior to considering medication therapy.



Managing hypertension in

EVERYDAY LIFE

✓ Regular BP check

- Every 1-2 years for those with normal BP
- More frequently if hypertensive

✓ Adhering to medications

- Take medications as prescribed
- Discuss any side effects with your healthcare provider

✓ Home monitoring

- Use home BP monitors

✓ Healthy routine

- Incorporate exercise, balanced meals, stress management

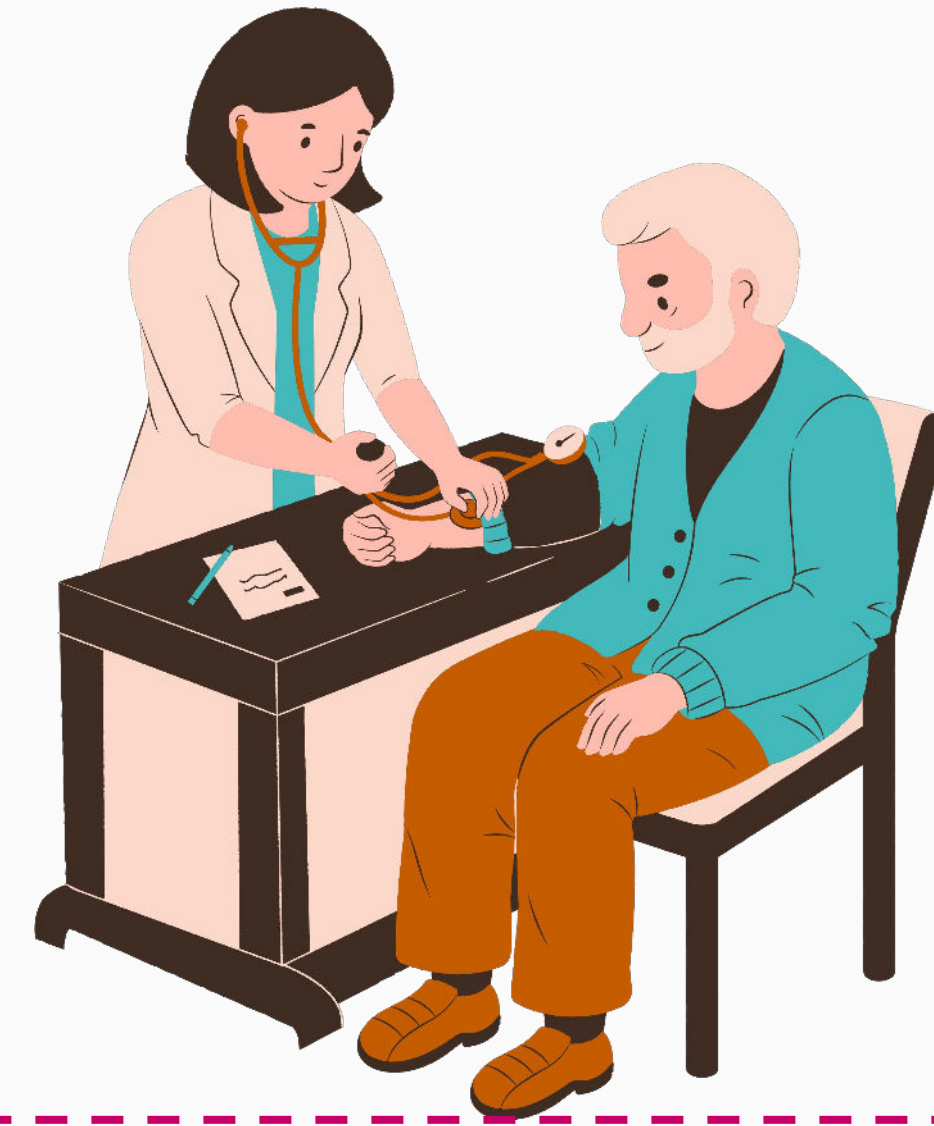
✓ Partner with a healthcare team

- Work with doctors, dieticians and fitness experts to create a personalized management plan

KEY TAKEAWAYS



Hypertension is common but manageable with lifestyle changes and medications



Regular monitoring and proactive management are essential for long term health.

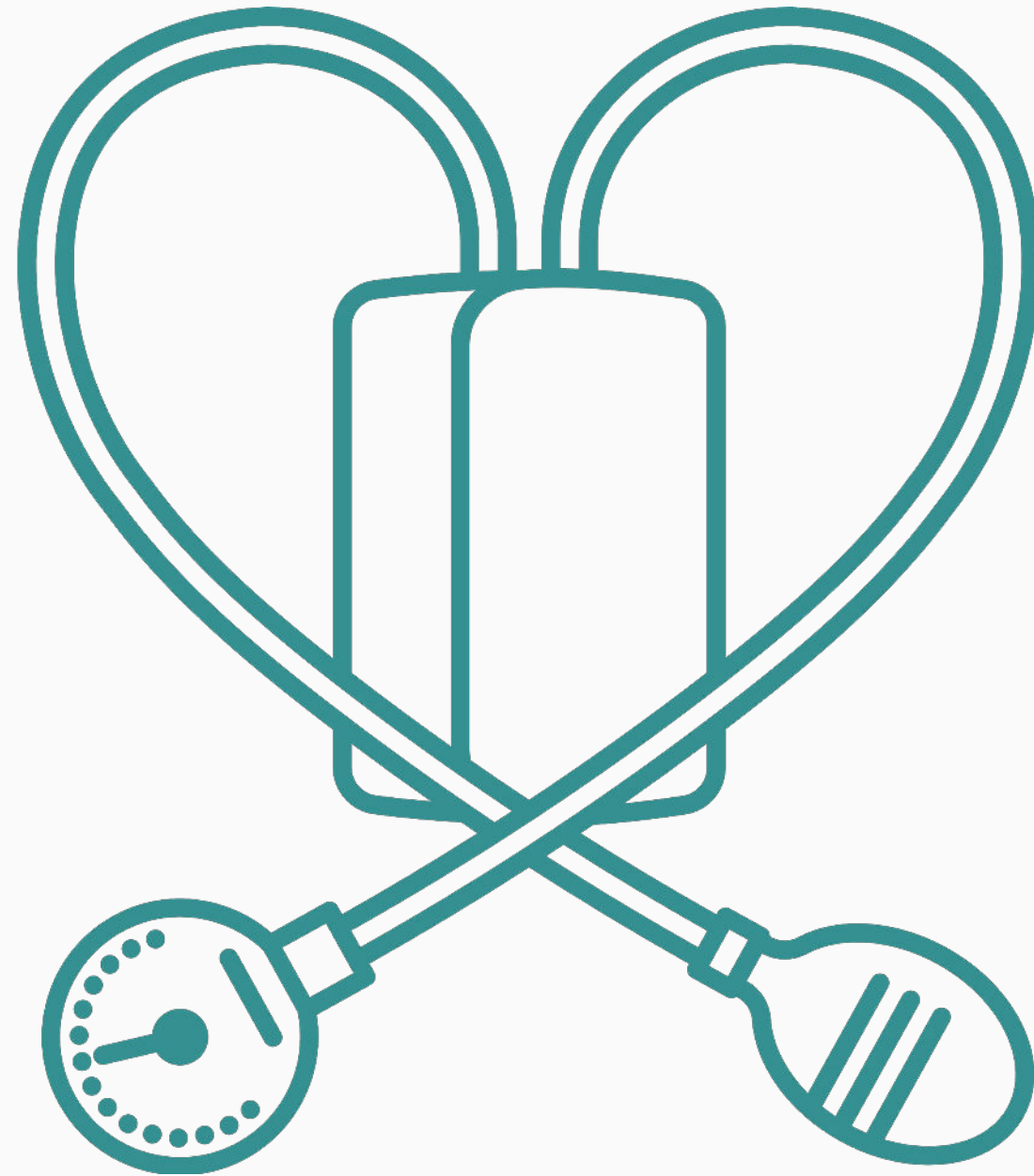
RESOURCES



Handouts

- [DASH Diet overview](#)
- [Home blood pressure monitoring instructions](#)
- [List of reliable BP monitors in Canada](#)
- [Call 8-1-1 to speak with a registered dietitian](#)

THANK YOU!



Surrey-North Delta
Primary Care Networks

QUESTIONS ?

