

## TOPIC: HYPERTENSION AND MINERALS

### Hypertension

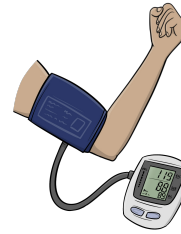
◆ **Blood pressure:** how much the blood pushes against the arteries during heart contraction & relaxation.

▪ **Systolic blood pressure:** pressure when the heart is \_\_\_\_\_.

- Should be below \_\_\_\_\_ mmHg.

▪ **Diastolic blood pressure:** pressure when the heart is \_\_\_\_\_.

- Should be below \_\_\_\_\_ mmHg.



120  
80

◆ **Hypertension:** blood pressure > \_\_\_\_/ \_\_\_\_ mmHg → can lead to cardiovascular disease and stroke.

▪ Risk factors for hypertension:

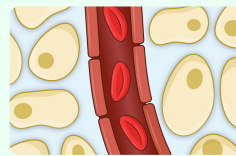
Things you \_\_\_\_\_ change:

- Family history/genetics. - \_\_\_\_\_.

Things you \_\_\_\_\_ change:

- Diet: \_\_\_\_\_ sodium and insufficient \_\_\_\_\_.

- Obesity. - Physical inactivity. - Tobacco use.



### EXAMPLE

Determine if the statements below are true or false. If they are true, write "T" on the line. If they are false, write "F" on the line and rewrite the statement to make it true.

a. Water moves out of the cells and into the blood when blood sodium concentration is high. \_\_\_\_\_

b. Blood pressure is given as diastolic blood pressure over systolic blood pressure. \_\_\_\_\_

c. When sodium concentration increases, blood volume decreases. \_\_\_\_\_

d. Hypertension is defined as having a blood pressure over 130/ 80 mmHg. \_\_\_\_\_

## **TOPIC: HYPERTENSION AND MINERALS**

### **PRACTICE**

Diuretics are often given as a first line of defense against hypertension. Why could diuretics potentially reduce hypertension?


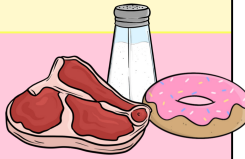
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- a) Diuretics cause the body to retain water, lowering sodium concentration in the blood.
- b) Diuretics cause the body to increase urine production, lowering blood volume and aiding in the removal of sodium in the urine.
- c) Diuretics cause the body to retain water, leading to a net movement of water from the blood and into cells by osmosis.
- d) Diuretics cause the body to increase urine production, helping the body to remove excess potassium from extracellular fluid.

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### DASH Diet

- ◆ To lower blood pressure:
  - Reduce sodium → doesn't \_\_\_\_\_ help on its own.
  - Increase potassium, \_\_\_\_\_, & calcium → other minerals important for heart & muscle health.
- ◆ \_\_\_\_\_ Diet (Dietary Approach to Stop Hypertension): created by the National Heart, Blood, & Lung Institute.

General Dash Recommendations	
<ul style="list-style-type: none"><li>◆ ____ whole grains, fruits, &amp; _____.</li><li>◆ ____ low fat or fat free dairy.</li><li>◆ ____ seeds, nuts, legumes, &amp; beans.</li></ul> 	<ul style="list-style-type: none"><li>◆ ____ red meat.</li><li>◆ ____ sweets &amp; fats.</li><li>◆ ____ sodium (less than 3 g/ day).</li></ul> 

### **PRACTICE**

Which minerals, thought to decrease risk for hypertension, are plentiful in the DASH diet?

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- a) Calcium, magnesium, & sulfur.
- b) Sodium, potassium, & zinc.
- c) Potassium, magnesium, & calcium.
- d) Magnesium, potassium, & phosphorous.