

## How Is Blood Pressure Measured?

Blood pressure measures the force of blood pushing against the walls of the arteries. It is measured in **millimeters of mercury (mmHg)** and is written as two numbers: **120 / 80 mmHg**

**Systolic pressure:** the top number; pressure when ventricles contract.

**Diastolic pressure:** the bottom number; pressure when ventricles relax.

When taking blood pressure manually, the cuff is inflated and then slowly deflated while listening with a stethoscope.



**First Korotkoff sound → Systolic pressure**

**Sounds disappear → Diastolic pressure**

| Blood Pressure Category       | Systolic (top number) | Diastolic (bottom number) |
|-------------------------------|-----------------------|---------------------------|
| Normal                        | Less than 120         | and less than 80          |
| Elevated                      | 120–129               | and less than 80          |
| High Blood Pressure - Stage 1 | 130–139               | or 80–89                  |
| High Blood Pressure - Stage 2 | 140 or higher         | or 90 or higher           |
| Hypertensive Crisis           | Higher than 180       | and/or higher than 120    |

1. Which pressure is measured when the ventricles contract?
2. Which pressure is measured when the ventricles relax?
3. A patient's blood pressure is 124/78 mmHg. Which number represents the systolic pressure?
4. What does the unit mmHg stand for?
5. While taking a patient's blood pressure, you first hear a tapping sound at 132 mmHg. The sounds disappear at 74 mmHg. What blood pressure should you record?
6. Explain why two pressure measurements are needed to describe blood pressure.

| Systolic                                                                            | Diastolic                                                                           | Blood Pressure |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|
|    |    | Reading:       |
|                                                                                     |                                                                                     | Category:      |
|    |    | Reading:       |
|                                                                                     |                                                                                     | Category:      |
|   |   | Reading:       |
|                                                                                     |                                                                                     | Category:      |
|  |  | Reading:       |
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|                                                                                     |                                                                                     | Category:      |