

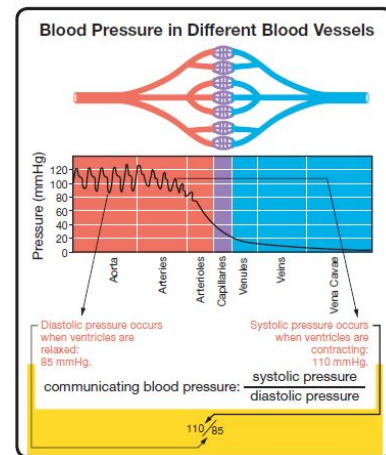
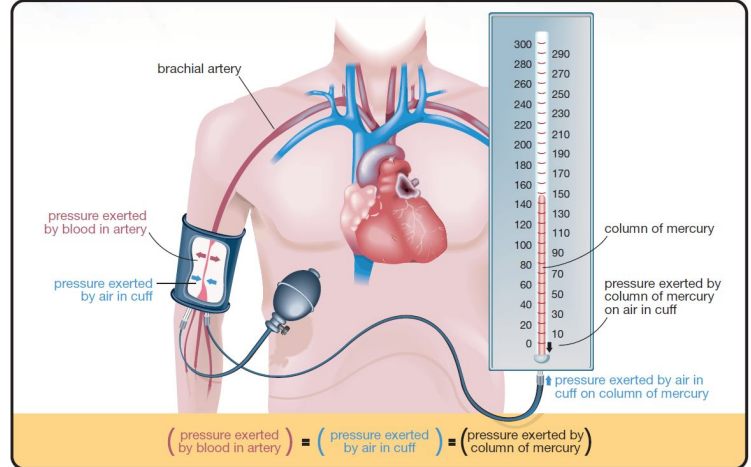
Blood Pressure

the pressure exerted by blood on the walls of a major artery

Two types:

- **Systolic Pressure:** the pressure exerted on the artery walls when the heart's ventricles are contracting
- **Diastolic Pressure:** the residual pressure exerted on the artery walls when the heart's ventricles are relaxing.

Normal: 110/85 (110 mmHg Systolic Pressure, 85 mmHg Diastolic)



Health Implications

Hypertension: chronic, abnormally high blood pressure

Characterized by values greater than 140/90

Science 30 - Lesson 3 - Blood Pressure

Name: _____

1) While waiting at a pharmacy to pick up a prescription, you decide to have your blood pressure tested using the automated machine available for customers. The machine says that your blood pressure is 138 over 96.

a) Explain what the values of 138 and 96 measure. What is happening in your heart and arteries?

b) Identify what unit could be included with each measurement you explained in question 1.a.

c) Is 138 over 96 a cause for concern? What would you do with this information?

2) During diastole, the heart's ventricles are relaxing but there still is residual pressure in the arteries. Identify the source of this pressure.

3) Identify some factors that can cause a person's blood pressure to increase.

4) Blood Pressure Lab Analysis

- 1) Obtain a class average for resting blood pressure. Compare the class average to the average adult blood pressure of 120 mmHg/80 mmHg. Describe how your own resting blood pressure compares to the average adult blood pressure.

- 2) Compare your blood pressure before and after exercising. Explain why your blood pressure changed after the exercise.

- 3) Compare the change in your systolic blood pressure reading after exercise to the change in your diastolic blood pressure reading after exercise. Did the readings change by the same amount? Can you account for the changes observed?

- 4) List some sources of error that may have affected the accuracy of the measurements made in this activity. Describe some improvements that could create more accurate measurements.
