

Blood Pressure

Facts



Human intelligence has yet to devise a more reliable, efficient machine than the human heart. Even when the body is at rest, this incredible organ pumps more than 1,800 gallons of blood a day. Can you imagine how much greater that volume is during exercise or other periods of physical stress and strain? In this issue, we examine some factors that influence heart action, circulation and blood pressure, including nutrients that support the processes of blood pressure.

Blood is circulated by the heart's pumping action through blood vessels: an estimated 60,000-plus miles of arteries, veins and capillaries. These vascular tubes of varying diameter comprise a circular system that transports blood away from the heart to the tissues and back again.¹

Blood pressure is the force exerted by blood as it presses and attempts to stretch the walls of blood vessels, particularly the arteries. Blood pressure's numeric reading is determined primarily by three factors: the rate of the heartbeat, the strength of the heartbeat and the amount of blood that passes through the vessels. Resistance to the blood by the arteries is the result of the chemical properties of blood itself and the size of the vessels carrying the blood.

STRESS

If stress, either internal or external, causes an increase in heartbeat, the following sequence of events occurs. The heart increases its beats per minute, pushing more blood through the ventricle into the arteries at a faster rate per minute, which increases pressure on the arterial walls. This higher pressure is detected by pressure-sensitive nerve cells in the arteries, which send messages in the form of nerve impulses to the brain.

The brain responds to the message by telling the heart to slow down. This normally decreases the blood pressure and defuses the situation. The nervous system continually monitors blood pressure in this manner, in an effort to maintain a normal flow of blood.² This is called a feedback system.

FEEDBACK SYSTEM

A feedback system is any circular situation, or loop, through which information about and the status of an operation are continually



reported to a central control area. The manner in which the nervous system and the brain interact is a good example of a feedback system.

In regulating blood pressure, the input (stimulus) is the information reported by the pressure-sensitive nerve cells (an increase in blood pressure), and the output (response) is the interaction between the brain and the heart, as the heart decreases its beats per minute and returns the blood pressure to normal.

The monitoring of blood pressure by the pressure-sensitive nerve cells is continual, occurring even after the return to homeostasis begins and blood pressure normalizes. The cells continue to send the monitoring impulses to the brain, and if the pressure is still too high, the brain continues to send impulses to the heart to slow down its heartbeat.

The blood vessels, the nerve cells and the brain's neurotransmitters all must function together to maintain the homeostasis, or natural balance, of the blood pressure.

IMPORTANT FOR BLOOD PRESSURE

Calcium – A mineral important for neuromuscular excitability and the transmission of nerve impulses.

Taurine – An amino acid known to affect certain biological functions, including cardiac contractility.³

Magnesium – Essential for normal metabolism of potassium and calcium.

Potassium – A mineral vital in the transmission of nerve impulses, an important action in the operation of normal blood pressure. Also balances sodium in the body.

Vitamin D – Helps the body utilize calcium efficiently.

Vitamin B6 – Necessary for the proper functioning of pressure-sensitive nerve cells and cardiac muscles. Involved in maintaining normal blood pressure.

HELPFUL HERBS

Cayenne and garlic – Each has a long history of being beneficial for the cardiovascular system.



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- FEATURED PRODUCT -
MICHAEL'S® BLOOD PRESSURE FACTORS™

MICHAEL'S® BLOOD PRESSURE FACTORS™ contains nutrients essential for maintaining the homeostasis of blood pressure, complemented with the herbs garlic and cayenne, both known for their helpful attributes.

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 Seasoned health food shoppers know a combination of nutrients is more effective than single nutrients. Combinations increase assimilation and reduce the amount of binders and fillers. That's why MICHAEL'S® created the **FACTORS OF LIFE®** basic nutritional support programs, which provide synergistically complete nutrition.

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Every product is double safety-sealed with an outer shrink-wrap and inner-bottle freshness seal. As is normal with all-natural products, some color and texture variations may occur but this does not affect product purity, potency or assimilation.

REFERENCES

- ¹Tortora, Gerard J. and Grabowski, Sandra R. (1993) Principles of Anatomy and Physiology (7th ed.) New York: Harper Collins College Publishers, 11.
²Tortora, 11

- ³Shils, Maurice E., M.D., & Young, Vernon R., Ph.D. (1988) Modern Nutrition in Health and Disease (7th ed.) Philadelphia: Lea & Febiger, 466.
⁴Tortora, 9-10.

**Homeostasis –
 homeo = same;
 stasis = standing still**

Balance and harmony within the body; the condition created when each cell in the body functions in an internal environment that remains within certain physiological limits.

Homeostasis can be achieved when the body (1) has the proper amounts of gases, nutrients, ions and water; (2) maintains optimal internal temperature, and; (3) has an optimal volume for the health of cells. When homeostasis is disturbed, it may affect health.⁴

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Blood Pressure Factors™

Supplement Facts

Serving Size: Three (3) Tablets

Amount Per Serving	% Daily Value	
Vitamin D3 (as Cholecalciferol) (from Lanolin)	1.25 mcg	6%
Vitamin B6 (as Pyridoxine Hydrochloride)	100 mg	5882%
Calcium (as Dicalcium Phosphate and Calcium Amino Acid Chelate)	200 mg	15%
Magnesium (as Magnesium Amino Acid Chelate)	30 mg	7%
Manganese (as Manganese Amino Acid Chelate)	11 mg	478%
Potassium (as Potassium Amino Acid Chelate)	210 mg	4%

Proprietary Blend 1.73 g (1725 mg) *
 Hawthorn Berry (*Crataegus oxyacantha*), Apple Pectin, Garlic Bulb Powder (*Allium sativum*), Hops Flower (*Humulus lupulus*), Valerian Root (*Valeriana officinalis*), Taurine, Cayenne Fruit (*Capsicum annuum*) and Celery Seed (*Apium graveolens*)

*Daily Value not established.

OTHER INGREDIENTS: Stearic Acid, Inulin (from Agave), Vegetable Magnesium Stearate, Silicon Dioxide, and Pharmaceutical Glaze (Shellac, Povidone).

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 Blood Pressure Factors™**
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 90 tablets & 180 tablets.
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 local health food store.

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