

OUR PRIZE COMPETITION.

EXPLAIN WHAT IS MEANT BY BLOOD PRESSURE.

We have pleasure in awarding the prize this week to Miss D. Saddington, Western Hospital, Seagrave Road, Fulham, S.W.

PRIZE PAPER.

The moving blood current exerts a certain amount of pressure upon the vessel walls; this in health is normal blood-pressure—estimated by the experienced touch, but registered far more accurately by delicate instruments designed for the purpose, whereby the pressure in an accessible artery is recorded upon a graduated scale. The instrument is the Sphygmomanometer, of which there are various designs.

Cause of Blood Pressure is the resistance in front of the stream, resulting from the constantly diminishing size of the arteries reacting to the attempt to drive blood through them.

Arterial Pressure is illustrated by the force of the stream spurting from the mouth of a severed artery. In a small vessel this is an interrupted force, giving the appearance of throbbing or beating in the stream.

Venous Pressure causes the blood to well up in a wound, rapidly but with a steady flow; *Capillary blood* simply oozes.

Blood Pressure is increased by an increase in the effort of the heart, increase of resistance in front of blood stream, or increase in the volume of the blood. On the other hand, blood pressure is diminished by lessened heart force, diminished resistance, and diminished volume.

Physiological or normal high pressure is caused temporarily by a quickening of the circulation, as in vigorous muscle exercise, and by nervous excitement, as fear, anger, and joy.

Pathological or abnormal high pressure may be caused by poisons, either swallowed or retained in the system from tissue waste, as in fevers, renal or thyroid disease.

Long-continued high pressure is a common cause of arterio-sclerosis, since it calls for increasing action of the muscles and elastic fibres in the tunica media, and at last tires them out. The elasticity of the vessel wall has gone, it can no longer preserve normal tone; connective tissue thickening follows, and later a uniform hardness and brittleness follow, of which a common result is rupture and hæmorrhage.

Low pressure is observed in conditions of depression, muscle exhaustion, and after a debilitating illness and in a very warm atmosphere.

Many of the ductless glands exert an influence upon blood pressure through the medium of their internal secretions. The chief of these are:

Adrenal Bodies.—The internal secretion—epinephrin—causes contraction of small arteries, thus increasing blood pressure; at the same time it exerts an inhibitory action on the heart.

Thyroid Gland and Pituitary Body (hypophysis cerebri).—The internal secretion of both glands increases blood pressure.

Thymus Gland.—During foetal and infant life the secretion of this gland diminishes blood pressure.

Blood Pressure is easily influenced by the use of drugs. For example:—Nitro-glycerin lowers it by dilating arterioles; strychnia raises it by contracting them. These are familiar examples; many more might be cited.

HONOURABLE MENTION.

The following competitors receive honourable mention:—Miss A. M. Johnson, Miss D. Tayler, Miss B. Grey Johnson, Miss P. Robinson, Miss M. James, and Miss Marion Scott Braidwood, whose paper did not arrive in time to include in the competition.

QUESTION FOR NEXT WEEK.

Name some of the causes of the great mortality in infants, and how to prevent them.

THE NURSES' PETITION TO THE PRIME MINISTER.

TO OUR READERS.

Have you signed the Petition to the Prime Minister, asking for representation on the First Council set up in a Nurses' Registration Bill—to make the Rules *you* will have to obey—no matter by whom the Bill is introduced? If you are a thoughtful, responsible woman, you will realise it is your duty to yourself and your fellow nurses to have power to express your opinion, before such Rules are in force. *You* are not the type of woman who is content to be governed without consent, or you would not be a subscriber to the *B.J.N.*

If you and all your colleagues have not yet signed the Petition—*do it now*. The forms can be obtained free at the office, 431, Oxford Street, London, W. 1. Write for a budget—and, if approved, return them signed without delay. The name of every certificated nurse who loves liberty should be found on this Roll.

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