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Senses and Others: Organs Systems of the Body

An organ system is a group of organs working together to perform a specific and complex function (Grabowski & Tortora, 2003). The human body is composed of 11 organ systems, all performing specific functions. This paper focuses on six organ systems, namely the integumentary system, muscular system, skeletal system, nervous system, endocrine system, and the sub-system sensory system.

The integumentary system is the system that is composed of glands, hair, nails, and the body's largest organ: the skin. The system's main function is to protect the other organs from invasion of harmful bacteria, viruses, and chemicals, as well as protect from injury. It also functions to prevent water loss, regulate body temperature, and sense the external environment (Patton & Thibodeau, 2003).

The integumentary system also aids in the diagnosis of a variety of the body's disorders. For example, blisters or warts in the skin may indicate possibility of infection of the human papilloma virus (HPV), or a yellowish skin may indicate hepatitis (Austen, Eisen, Freedberg, Goldsmith, Katz & Wolff, 1999).

One of the systems that the integumentary system protects is the muscular system. Aside from its function of movement and posture of the body, the muscular system also works with the integumentary system in regulating body temperature; the muscular system generates heat to maintain a constant temperature to the body's core (Patton & Thibodeau, 2003).

There are two types of muscles: the involuntary muscles and voluntary muscles. The involuntary muscles are the muscle tissues found in blood vessel walls and other tubular structures and aids in the functions of the different body organs by contracting and dilating to facilitate movement. An example of involuntary muscle is the cardiac muscle, a muscle tissue that contracts so that the heart can pump blood (Grabowski & Tortora, 2003).

Voluntary muscles, on the other hand, are muscle fibers that are, in general, attached to the skeleton by tendons and are moved by conscious control. These muscles are the large muscles that move the different parts of the body like legs, arms, head, and others (Patton & Thibodeau, 2003).

As discussed in the previous paragraph, voluntary muscles are attached to the skeleton. The skeletal system consists of the bones, the cartilage, and the ligaments. The skeletal system has several functions, the first of which is providing the framework. Other functions include support of the body as well as protecting some of the most crucial and vulnerable organs of the body like heart, lungs, and brain (Grabowski & Tortora, 2003). The joints of the bones allow bending and folding in certain areas of the body with the help of the muscular system attached to the bones (Patton & Thibodeau, 2003).

In all of these functions, perhaps the most crucial function of the skeletal system is the formation of blood cells in a process called hematopoiesis. As adults, bones that produce blood cells include the bones in the spine, ribs, breastbone, pelvis, and some small parts in the leg and upper arm. This function is crucial because blood delivers nutrients to all parts of the body (Grabowski & Tortora, 2003).

Another organ system is the nervous system. The nervous system is composed of the brain, the spinal cord, and the nerves. The nervous system controls the body functions, communicates and integrates all bodily functions, as well as recognizes sensory stimuli. All bodily movements, voluntary and involuntary, are controlled by the nervous system. This means that all bodily functions can only happen if the nervous system is working properly (Patton & Thibodeau, 2003).

This control is made possible by the nerves, which send impulses to and from the brain. These nerve impulses from the brain result in bodily movement as well as secretion of important fluids by the glands (Patton & Thibodeau, 2003).

Glands such as pituitary, hypothalamus, thyroid, and thymus glands compose what is known as the endocrine system. The endocrine system functions like the nervous system, the main difference is that the nervous system provides fast and brief control while the endocrine system provides slower but longer-lasting control by secreting hormones (Patton & Thibodeau, 2003).

An example of an endocrine gland is the pituitary gland that secretes growth hormones over a long period of time. Hormones produced by the glands of the endocrine system also regulate metabolism, reproduction, and digestion among others (Hoehn & Marieb, 2009).

The sensory system is a part of the nervous system that receives stimuli from internal and external environment so that the brain can process the

information. The sensory system has receptors that function as the receiver of specific stimulus or a nonspecific stimulus with a high intensity (Moller, 2002).

Commonly known examples of sensory receptors are touch, odor, vision, sound, and taste. Some other forms include sensory receptors for pain, temperature, linear acceleration, angular acceleration, and pressure (Moller, 2002).

In all of these systems, the sensory system plays an integral part. Sensory receptors are found throughout the body, ready to accept stimulus to send to the brain for processing. For example, a person suffering an ulcer in the stomach lining would feel pain because the sensory receptors in the stomach receives a stimulus that it sends to the brain. In the same way, sensory receptors sends signals to the brain if temperature outside the body changes. The sensory system basically links all the other systems to ensure that the nervous system can guide them into working together properly (Moller, 2002).

Organ systems do not work alone; all the organ systems work together to maintain balance in the body. An example of this is how the nervous system and the muscular system work together to maintain body core temperature. The nervous system receptors transmits external change of temperature to the brain, which processes it and then sends nerve pulses to the muscular system to generate more heat to maintain the body's core temperature.

All organ systems are important; one organ or organ system that does not work properly throws the body out of balance. Through homeostasis, these organs are able to work properly with other organs in the organ system, and each organ system is able to communicate with each other to keep the body balanced.

Reference List

Austen, K. F., Eisen, A. Z., Freedberg, I. M., Goldsmith, L. A., Katz, S., Wolff, K. (1999). Fitzpatrick's dermatology in general medicine (5th ed.). New York, NY: McGraw-Hill.

Grabowski, S. R. & Tortora, G. J. (2003). Principles of anatomy and physiology (10th ed.). Hoboken, NY: J. Wiley & Sons

Hoehn, K. & Marieb, E. N. (2009). Human anatomy and physiology. California: Benjamin-Cummings Publishing Co.

Moller, A. R. (2002). Sensory systems: Anatomy and physiology. Salt Lake City, UT: Academic Press

Patton, K & Thibodeau G., (2003). Structure and function of the body (12th ed.). Missouri: Mosby