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Anatomy and physiology 2 study guide pdf

Most people can recognize cockroaches quickly. They are brown or black insects, usually between half an inch and two inches (12-50 mm) and have a long antenna. Their heads are turning down, as if they were being built to plunge. Men usually have wings, but women often don't. Those that usually have trace wings - small, unredeveloped wings that often do not allow cockroaches to fly. Their reputation often distinguishes them, but cockroaches have a lot in common with other insects. Their bodies have three main areas: the head, thorax, and abdomen. They have three joint legs, one set of antennae and a hard exoskeleton. Cockroaches shed their exoskeletons, or molts, several times during their lives. After shedding, most cockroaches are white and easily injured until a hormone called a versicon darkens and hardens the exoskeleton. Sometimes cockroaches can re-grow lost limbs when it peels off, and even postpone molting so that new limbs can grow. Advertising cockroach heads accommodate their eyes, tentacles and mouth parts. In contrast to general perception, their heads also house their brains. However, many of their nervous system activities are carried out in the nervous nodes located throughout their bodies. This is one of the reasons why headless cockroaches can live for more than a week. The other is that cockroaches don't breathe through their noses and mouths. Instead, they draw air through spiracles, or holes in their sides. A tube called the trachea supplies oxygen from the spiracles to the organs and tissues. When a cockroach without a head finally dies, it dies of thirst. Cockroach eyes are not as characteristic as dragonfly and fly eyes, but cockroach eyes are complex and made of photoreceptor cells called ommatidia. A hard ring called the sclerite of the eye surrounds the photoreceptor. Because of this complex structure, cockroaches see the world as a mosaic. The highly tactile antenna allows you to feel the flag of the sense of touch and smell the world around it. The antenna looks like a thread, but it's actually made of a small segment covered with hair. These segments are short, thick, long and thin near the tip near the head of the cockroach. Cockroach mouths, like other insects, are very different from mammalian mouths. However, many mouth parts perform the same function as some of the mammalian mouths: labrum and labia form the lips. Two lower jaws have tooth-like cutting and grinding surfaces. While the cockroach bites, the two upper jaws manipulate the food. Cockroach thorax accommodates three pairs of leg attachments and has two pairs of wings if the cockroach has. Each of the three pairs of legs is named after the area of the thorax it attaches: the foreleg is closest to the head of a cockroach. These are the shortest legs of cockroaches and function like brakes when cockroaches run. Some of them also covers the head of a cockroach. The middle leg is the middle chest leg. They move back and forth to speed up the cockroach or slow it down. A very long metasternite is the hind legs of a cockroach and move the cockroach forward. Using its metathoracic legs, cockroaches can move about 50 bodies in length in one second. A man who moves quickly will be running about 200 miles an hour. When cockroaches run this quickly, they sometimes raise it and run with only its hind legs. The force of the air it encounters will keep it up-to-date. These three pairs of legs have very different lengths and functions, but they have the same part and move in the same way. The upper part of the leg is called a coxa, and the leg adheres to the thorax. The other part of the leg is close to the part of the human leg: the trochanter functions like a knee, and the cockroach can bend its leg. The femur and tibia are similar to the bones of the thighs and shins. Segmented tarsus functions like ankles and feet. Tarsus like hooks also helps cockroaches climb walls and walk upside down on the ceiling. Each leg moves up and down like a pogo stick and moves back and forth like a choreographer. The front and hind legs on one side move at the same time as the middle leg on the other side. In this way, cockroaches can move almost any terrain. When a cockroach is running as fast as possible, its feet move about 27 times per second. If you run upside down on the ceiling, you need a long step to avoid falling down. In fact, it needs much more energy to run upside down than cockroaches run up vertical walls. Abdominal Most insects have segmented abdomens, including most of the internal organs, and cockroaches are no exception. In the abdomen of cockroaches, a tubular heart moves blood to organs and tissues. Unlike human blood, cockroach blood does not use hemoglobin to carry oxygen, so it is colorless instead of red. Blood also does not pass through an extensive circulatory system. Large organs carry blood to certain organs, but much of the blood passes through a network of spaces called hemocoels. Cockroaches also have a little different fat from people. Instead of spreading it throughout most of their physical structure, they store it in one centralized place called the fat body. However, the digestive system of cockroaches has some changes that make them eat cellulose and other tough ingredients. One of them is a crop called Proventriculus that holds swallowed food until a part of the food of the digestive tract can grind it. The sac, called gastric caeca, retains enzymes and microorganisms that continue to digest food. This extra digestion help is especially important when cockroaches eat cellulose or wood. Only after the material has been thoroughly disassembled the middle intestine of cockroaches absorbs nutrients in food. Two segmented cerci are located outside the lower part of the cockroach's abdomen. These are somewhat similar to antennae and can act as sensory organs. The nerves in the cockroach can detect the movement of air around its cerci. This is one of the reasons why catching cockroaches gets in the way very quickly when trying to crush or get in the way. The reproductive system of cockroaches is also located in the abdomen. Let's take a look at this system and the life cycle of cockroaches. The lungs are the main organs of the respiratory system. Healthy lung tissue looks pink, soft and sponge-like. It has an important elasticity and recoil to put air in and force it back again. It is useful to know a little about the rest of the respiratory system and how they work together to understand the anatomy of the lungs. Before air enters the lungs, it moves through the upper trachea: nose, pharynx, larynx, and trachea. Lining the nose is a soft and moist layer of cells called mucous membranes that warm and dampen the air. The pharynx and larynx form the throat and lead to the trachea or trachea. The trachea connects the upper air canal to the lungs. A tubular structure consisting of a ring of cartilage surrounded by thin, smooth muscles. Usually the trachea is a positive middle line, but it may shift slightly to the right and sit near the aortic arch. It is about 4-5 inches long and is between 1.2 and 3/4 width. Yodim/ Getty Images After the trachea, the respiratory path is divided into the main bronchi of the left and right. The right bronchus is about an inch long and wider and more vertical than the left. It is almost in line with the trachea, so if someone suffocates with a foreign body, it is likely to dwell in the right bronchus. The left bronchus is about 2 inches long and intersects in front of the esophagus. The main bronchus is divided into twigs called the bronchi. There are three types of bronchi: conductive, end-of-life, and respiratory. Each lung has about 20-25 conductive bronchi. As they continue to spread and narrow, they mark the end of the pathway and become the end bronchus. These are further divided into the smallest and narrowest branches called the breathing bronchi. Magic min / Getty Images Respiratory bronchi create alveolar These small sacs are responsible for gas exchange and account for about 90% of lung volume. They are arranged in units called Akinsi, of which there are about 30,000. Each alveolus has a partition wall that provides a structure to prevent collapse and excessive distortion and allows for gas exchange. The lungs also release surfactants that protect the alveolar from collapse when the amount of air is small. Mohamed Honeyfa Nizamdeen/Getty Images Each animal has an inner layer of small blood vessels called capillaries. Oxygen and carbon dioxide transfer Between the lungs and blood in the membranes of each capillary. Oxygen molecules adhere to hemoglobin, return to the heart, and then return to the whole body. Carbon dioxide enters the lungs, and the body discharges it every time it is reoxygenated. The right and left lungs are very similar in size and shape, but not symmetrical. There are three lobes in the right lung and a little smaller on the left and divided into two. This is because the left lung has the impression of the heart accommodating the heart, located slightly to the left of the center. It is made of a film that folds into itself to form two layers. The pleural of the outer layer or top of the head adheres to the chest wall and is very sensitive to pain. The inner layer is a visceral pleural. It covers the lungs and does not have any sensory interpolation. The thin space between them is the pleural cavity. Contains a small amount of liquid that acts as a lubricant. The yumiyum/Getty Images ribs are not part of the respiratory system, but they are necessary for the lungs to continue functioning properly and are one of the strongest structures in the body. They completely surround and protect the lungs and heart. The ribs connect to the ribs and ribs, giving them the flexibility to extend when the lungs are filled with air. Renphoto/Getty Images Each inhaled, the lungs draw air into the mouth, nose and upper air path, where they heat and humidify. From there, it enters the main bronchus through the trachea, where it is divided into the right lung and the left lung. In each lung, the air moves down the bronchi and oxygen and carbon dioxide move to the alveolar membranes that pass through the capillaries. Oxygen enters the blood, enters the heart, and then enters the body. When the lungs exhale, the carbon dioxide in the alveolar moves through the bronchi, trachea, trachea, mouth, and nose. Body.