

Ready to be Medical Students

You will need to read the scenarios carefully and help the patient to get better if necessary.

We have not studied all the systems present, but use this example to make your answers as close to Excellent as possible.



Normal Vital Sign Parameters

	Normal Pulse (beats/min.)	Breathing (breaths/min.)	Blood Pressure (systolic)	Blood Pressure (diastolic)	Temperature (oral)	Normal Blood Sugar (fasting)
Adult	60 - 100	12 - 20	90 - 139	60 - 89	97.6° - 99.6°	70 - 100
Child	80 - 120	15 - 30	80 - 120	50 - 80	97.6° - 99.6°	70 - 100
Infant (0-1 yr.)	90 - 140	25 - 50	75 - 100	50 - 70	97.6° - 99.6°	70 - 100

A patient male 20 years old visiting from Spain, was admitted to the emergency department with weakness, nausea, vomiting and diarrhea. He reported that he was eating pizza at a dinner last night, in a restaurant in Santa Marta with his friends. He was very thirsty and had 5 fresh lemonades. The symptoms appeared the morning after, with pain in the upper area of the abdomen. During the day, he had headache and kind of disorientation. In the afternoon, after approximately 30 hours, the symptoms got worse. None of his friends have symptoms. His blood pressure is 90/55. His body temperature is 110 degrees. His breathing is less than 10 breaths a minute.

a. What systems are involved in this scenario? (CT2)

b. How are the systems being affected? (CT2)

c. Which components are working harder and which components are working less? (CT2)

A patient male 20 years old visiting from Spain, was admitted to the emergency department with weakness, **nausea, vomiting** and **diarrhea**. He reported that he was **eating** pizza at a dinner last night, in a restaurant in Santa Marta with his friends. He was very thirsty and had 5 fresh lemonades. The symptoms appeared the morning after, with pain in the **upper area of the abdomen**. During the day, he had **headache** and kind of disorientation. In the afternoon, after approximately 30 hours, the symptoms got worse. None of his friends have symptoms. His **blood pressure is 90/55**. His body **temperature is 110 degrees**. His breathing is less than **10 breaths a minute**.

a. The systems affected are the digestive system, excretory system, circulatory system, lymphatic system, and respiratory system.

b. The digestive system is in pain with pain possibly in the stomach. The excretory system is working faster getting all the toxins out of the body as quickly as possible with the vomiting and diarrhea. The circulatory system shows his blood pressure is low, so it is working slower and he has a headache that could be because of his blood pressure. His lymphatic system has started to attack the infection or bacteria because he has a very fever. His breathing is very slow and this affects his respiratory system by not getting enough oxygen to parts of his body.

c. The intestines and esophagus are working harder to release all the toxins quickly. The lymph nodes will need to attack faster with the white blood cells. The heart is pumping slower and the pressure is low because he does not have enough nutrients to keep the system working properly.



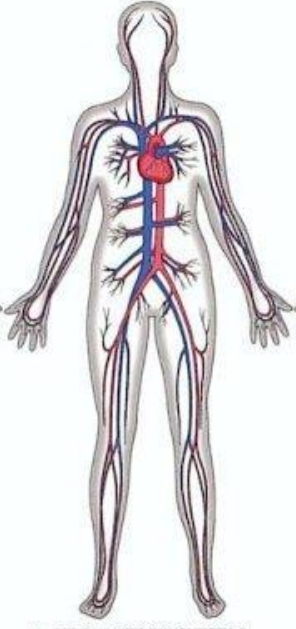
▲ **MUSCULAR SYSTEM**

The muscular system consists of layers of muscles that cover the bones of the skeleton, extend across joints, and can contract and relax to produce movement.



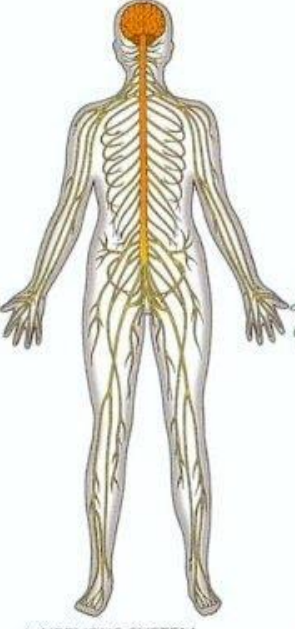
▲ **SKELETAL SYSTEM**

The skeleton is a strong yet flexible framework of bones and connective tissue. It provides support for the body and protection for many of its internal parts.



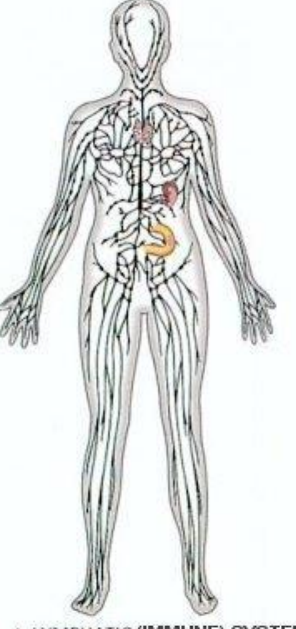
▲ **CIRCULATORY SYSTEM**

This system consists of the heart and a network of vessels that carry blood. It supplies oxygen and nutrients to the body's cells and removes waste products.



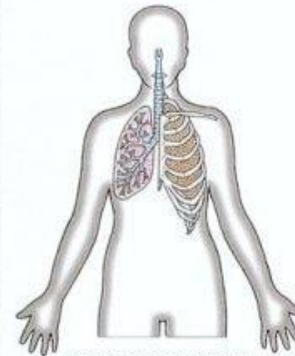
▲ **NERVOUS SYSTEM**

The nervous system is the body's main control system. It consists of the brain, the spinal cord, and a network of nerves that extend out to the rest of the body.



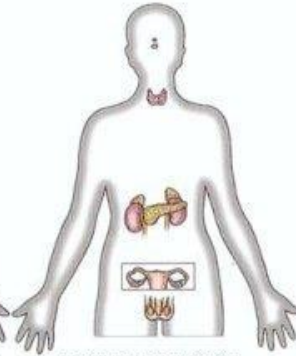
▲ **LYMPHATIC (IMMUNE) SYSTEM**

This system is a network of vessels that collects fluid from tissues and returns it to the blood. It also contains groups of cells that protect the body against infection.



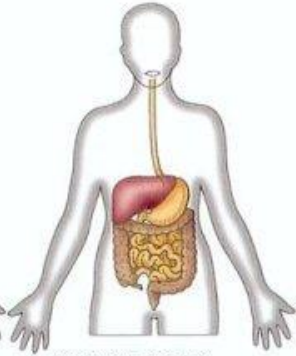
▲ **RESPIRATORY SYSTEM**

The respiratory system is centered on the lungs, which work to get life-giving oxygen into the blood. They also rid the body of a waste product, carbon dioxide.



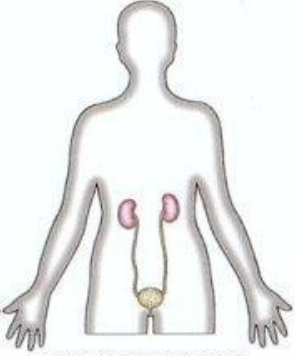
▲ **ENDOCRINE SYSTEM**

Many body processes, such as growth and energy production, are directed by hormones. These chemicals are released by the glands of the endocrine system.



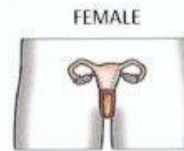
▲ **DIGESTIVE SYSTEM**

The digestive system takes in the food the body needs to fuel its activities. It breaks the food down into units called nutrients and absorbs the nutrients into the blood.

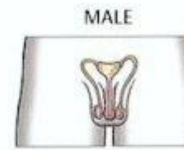


▲ **EXCRETORY SYSTEM**

The body's cells produce waste products, many of which are eliminated in urine. The job of the urinary system is to make urine and expel it from the body.



FEMALE



MALE

▲ **REPRODUCTIVE SYSTEM**

The male and female parts of the reproductive system produce the sperm and eggs needed to create a new person. They also bring these tiny cells together.

d. Make a diagnosis. (CT1)

e. What can the patient do to get better? (CT1)

f. Explain to the patient what is happening in their body by using an analogy. (Practice for CR1)

g. Explain to the patient, if they are in serious danger or if it is normal for their body to react in this way.

A patient male 20 years old visiting from Spain, was admitted to the emergency department with **weakness, nausea, vomiting** and **diarrhea**. He reported that he was eating pizza at a dinner last night, in a restaurant in Santa Marta with his friends. **He was very thirsty and had 5 fresh lemonades**. The symptoms appeared the morning after, with pain in the upper area of the abdomen. During the day, he had headache and kind of disorientation. In the afternoon, after approximately 30 hours, the symptoms got worse. None of his friends have symptoms. His blood pressure is 90/55. His body temperature is 110 degrees. His breathing is less than 10 breaths a minute.

d. My diagnosis is he has had an allergic reaction to the water from the 5 lemonades he drank the night before. The water is not treated and he has some parasites in his system. He is dehydrated because of all the vomit and diarrhea and needs to replenish his liquids quickly.

e. The patient will need to rehydrate. He is almost done cleaning his system. He will need to stay in the hospital one more night and drink a lot of liquids with salt (electrolytes) to get the balance back in his body. I will give him something for the pain, like aspirin.

d. Make a diagnosis. (CT1)

e. What can the patient do to get better? (CT1)

f. Explain to the patient what is happening in their body by using an analogy. (practice for CR1)

g. Explain to the patient, if they are in serious danger or if it is normal for their body to react in this way. (CT1)

f. Mr. Patient, your body has some nasty friends attacking your intestines. Your body reacted to the parasites that are found in the water in Santa Marta. The lemonade most likely was not made with bottles or potable water. You basically invited some crazy friends to a party in your body and they made a big mess. Your body has asked them to leave by attacking the body with diarrhea and vomit and soon those nasty friends will be gone.

g. This is a normal reaction to something that you are not used to. Your body reacted to untreated water. It is unpleasant to feel this way, but next time be careful with the water you drink while traveling. You will feel better soon. If your body continues to react this way for a long period of time, it will be serious.

Your Turn...

You will do one with a partner and the second one individually.