MAIVA MATERIAL

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READING TEST 6

Reading: Part A

TIME LIMIT: 15 MINUTES

Instructions:

- Complete the following summary using the information in the four texts provided.
- You do not need to read each text from beginning to end to complete the task. You should scan the texts to find the information you need.
- Gaps may require 1, 2 or 3 words.
- You should write your answers next to the appropriate number in the right-hand column.
- Please use correct spelling in your responses.

Text 1

Acute diarrhea is one of the most commonly reported illnesses in the United States, second only to respiratory infections. Worldwide, it is the leading cause of mortality in children younger than four years old (infants and young children are always much more susceptible) in both developing and underdeveloped countries.

Definition
An abnormal looseness of the stool, changes in stool frequency, consistency, urgency and continence (an increased number of stools or looser form than is customary for the patient, lasting less than 2 weeks, and often associated with abdominal symptoms such as cramping, bloating and gas). Although often mild, acute diarrhea can lead to severe dehydration as a result of large fluid and electrolyte losses.

Text 2

Acute, watery diarrhea is usually caused by a virus, rotavirus (viral gastroenteritis.) It can also occur due to food poisoning (common agents are salmonella and campylobacter). Medications such as antibiotics and drugs that contain magnesium products are also common offenders. Recent dietary changes can also lead to acute diarrhea; these include: intake of coffee, tea, colas, dietetic foods, gums or mints that contain poorly absorbable sugars. Acute bloody diarrhea suggests a bacterial cause like campylobacter, salmonella or shigella.

Traveling to developing areas of the world can result in exposure to bacterial pathogens common in certain areas and eating contaminated foods such as ground beef or fresh fruit can cause diarrhea due to E.coli 0157:H7. Most episodes of acute diarrhea resolve themselves quickly and without antibiotic therapy, with simple dietary modifications. See a doctor if you feel ill, have bloody diarrhea, severe abdominal pain or diarrhea lasting more than 48 hours.

Text 3

In patients with mild acute diarrhea, no laboratory evaluation is needed because the illness generally resolves itself quickly (patients typically recover in 10-15 days). Your doctor may perform stool cultures or parasite exams if your diarrhea is severe or bloody, or if you traveled to an area where infections are common. The doctor will want to talk to you about your symptoms to try to identify a cause. The doctor will also want to examine you, including your abdomen and possibly your back passage. The most important test to perform at this stage is an examination of your stool to determine whether there are any infective agents present that might be the cause of the diarrhea and other symptoms. It may also be necessary to examine the bowel by endoscopy to determine whether there is inflammation in the rectum or colon (colitis).

Text 4

It is important (especially related to children) to take plenty of fluids (these may include mineral water and fruit juices) and salt soups (sodium), carbohydrates (pasta, rice, salty crackers etc.), to avoid dehydration. However, milk and dairy products should be avoided for 24 to 48 hours as they can make diarrhea worse. Initial dietary choices when re-feeding should begin with soups and broth. Anti-diarrheal drug therapy can be helpful to control severe symptoms, and includes bismuth subsalicylate and antimotility agents such as loperamide. These, however, should be avoided by people with high fever or bloody diarrhea and also by children because the use of antidiarrheals can lead to complications of hemolytic uremic syndrome in cases of Shiga toxin E coli. Your doctor may prescribe antibiotics if you have a high fever, dysentery, or moderate to severe traveler's diarrhea.

Summary task

Diarrheal disease is a significant cause of 1…….. worldwide and represents a leading cause of 2……. death in the developing world. The term diarrhea is used when 3…… are passed more than three times a day and when the stools become loose or 4……..

In 5……diarrhea, symptoms come on suddenly but usually clear up within 6…….. days. Diarrhea can also occur when there is excessive secretion of fluid into the bowel that overwhelms the ability of the gut to reabsorb the secreted 7…….. and salts. The most common cause of an attack of acute diarrhea is an 8…… infection. 9…….. and 10……. are particularly susceptible to intestinal infections which are most commonly caused by 11…… 12…… is another common form of acute diarrhea, most commonly caused by the 13…….. and 14…….... Most episodes of acute diarrhea will settle spontaneously without the need for any 15……. However, if the episode is 16……., it is important to ensure that you take additional fluids and salts to replace those lost in the 17…….. For most 18…….. oral rehydration can usually be achieved simply by increasing 19……..... intake in the form of 20……., fruit juices (which also contain potassium) and salty soups (sodium), together with some form of 21…… (rice, pasta, salty crackers) which is important for promoting fluid and salt absorption.

Reading Test - Part B

Time allowed: 60 minutes

- There are two reading passages in this test. After each passage, you will find a number of questions or unfinished statements about the passage, each with four suggested answers or ways of finishing.
- You must choose the one which you think fits best, i.e. the best answer. For each question, 1-20, indicate on your answer sheet the letter A, B, C or D against the number of the question.
- Answer all questions. Marks will not be deducted for incorrect answers.

READING PASSAGE A

Occupational Lung Diseases

Paragraph 1

Occupational lung diseases are a group of illnesses that are caused by either repeated, extended exposure or a single, severe exposure to irritating or toxic substances that leads to acute or chronic respiratory ailments. The rate of occupational lung conditions was highest for education and health service workers in the private sector and local government workers at 3 .8 and 5 .9 per 10,000 full time workers, respectively. There are two broad categories of occupational lung diseases: (i) Diseases that are not occupation-specific, but are aggravated at work, such as occupational asthma (ii) Diseases related to a specific occupation, such as asbestosis, coal worker's pneumoconiosis (black lung), berylliosis (brown lung), and farmer's lung.

Common occupational lung diseases include mesothelioma, occupational asthma, silicosis, asbestosis, and sick building syndrome. Adult-onset asthma can be triggered by occupational exposures.

Paragraph 2

The estimated yearly cost of occupational injuries and illnesses is between $128 and $150 billion. Although, occupational lung diseases are often incurable, they are always preventable. Improving ventilation, wearing protective equipment, changing work procedures, and educating workers are key factors for prevention.

Paragraph 3

Occupational Asthma (OA) is the most common form of occupational lung disease. Occupational asthma (also known as work-related asthma) is asthma that is caused by or made worse by exposures in the workplace. Estimates suggest that 15 to 23 percent of new asthma cases in adults are work related. Four states (California, New Jersey, Massachusetts, and Michigan) tracked cases of occupational asthma over a seven-year period. During this time, the occupations with the highest percentage of asthma cases were operators, fabricators, and laborers (32.9%); managerial and professional specialty (20.2%), and technical, sales, and administrative support jobs (19.2%). The four most common agents associated with occupational asthma were miscellaneous chemicals (19.7%), cleaning materials (11.6%), mineral and inorganic dust (11.1%), and indoor air pollutants (9.9%).

Paragraph 4

Malignant mesothelioma is a fatal type of cancer caused by exposure to asbestos. Millions of construction and general industry workers have been exposed to asbestos while on the job. Occupations associated with significantly higher mesothelioma deaths include plumbers, pipefitters, and steamfitters; mechanical engineers; electricians; and elementary school teachers. In the U.S., asbestos use peaked in 1973 but had declined by 99.8 percent in 2007. Because mesothelioma usually does not show up until 20 to 40 years after exposure, most of the deaths from the disease are the result of exposures that occurred decades ago. This long lag time means that mesothelioma deaths are expected to peak around 2010, despite the much lower current use of asbestos. From 1999 to 2005, 18,068 malignant mesothelioma deaths were reported in the U.S. Men (81%) and Caucasians (95%) accounted for the majority of these cases.

Paragraph 5

Silicosis is a disabling, dust-related disease and is one of the oldest occupational lung diseases in the world. Silicosis is caused by exposure to and inhalation of airborne crystalline silica. Dust particles from silica can penetrate the respiratory system and land on alveoli (airsacs). This causes scar tissue to develop in the lungs and impair the exchange of oxygen and carbon dioxide in the blood. Though symptoms of silicosis rarely develop in less than five years, progression of the disease can lead to extreme shortness of breath, loss of appetite, chest pains, and respiratory failure, which can cause death. Silicosis also makes a person more susceptible to infectious diseases of the lungs, such as tuberculosis. Death rate is generally low, but still too high considering that every one of these deaths could have been prevented. Because of the low number of overall deaths due to silicosis, multiple years of data are combined to provide a more accurate estimate of the burden of this disease.

Questions

1 According to paragraph 1, the rate of OLC is reported to be higher in
A health care service providers (private sectors)
B professionals in the field of education
C government officials
D local government workers and health care professionals in private industries

2 According to paragraph 1, one of these groups of diseases doesn't come under OLD
A mesothelioma and occupational asthma
B occupational asthma and silicosis, asbestosis
C asbestosis and mesotheliomaic
D asbestosis and silicosis

3 According to paragraph 2, OLDs are
A incurable
B curable
C preventable but not curable
D curable and preventable

4 According to paragraph 3, "work related asthma" means
A a disease which occurs due to more work
B a disease which occurs due to less work
C a disease which occurs due to exposure to work
D none of the above

5 According to paragraph 3, common agents which are associated with OA in the lowest percentage are
A air pollutants
B mineral and inorganic dust

C cleaning materials
D miscellaneous chemicals

6 According to paragraph 4, the root cause of malignant mesothelioma is associated with the
A use of the asbestos in the construction field
B exposure to asbestos on a regular basis
C low quality asbestos
D none of the above

7 According to paragraph 4, the use of the asbestos was almost next to naught in the year
A 1997
B 1973
C 2007
D 2010

8 According to paragraph 5, dust particles from silica can
A damage lung tissues
B impair O_2 and CO_2 exchange
C develop a scar on the lung
D all of the above

9 According to paragraph 5, silicosis can cause
A tuberculosis
B pneumonia
C chest pain
D none

10 According to paragraph 5, silicosis is
A more dangerous than occupational asthma
B more dangerous than mesothelioma
C not as fatal as occupational asthma and mesothelioma
D not very fatal

Reading Passage - Two

Immune System – Notes

Paragraph 1

Since inflammation in the body can lead to inflammation in the brain, we first need

to understand what inflammation is. Inflammation is part of the immune system's response to defend you against microbial infections. It is the body's first line of defense against invasion by microorganisms such as bacteria and viruses, and it is activated rapidly after infection. The microbes are detected as foreign to the body by immune cells such as macrophages (literally "big eater"). When macrophages encounter and recognize a foreign microorganism they engulf the microorganism and, in addition, release a variety of cellular products into the space around them that start and regulate further defenses that include inflammation. Two classes of these products, known as cytokines and chemokines, lead to inflammation. Cytokines are chemical messengers that travel away from the cells that release them which causes alterations to the function of other cells. Chemokines also leave the cell and attract other cells into the region. Together, they alter the blood vessels near the site of infection, causing increased blood flow to the area and the entry of immune system cells.

Paragraph 2

Inflammation—swelling, redness and heat—is part of the immune system's first response to microbial infections, but this defensive response is not limited to the bodily site of infection. Soon after infection, a pattern develops that includes what is called the "acute phase response (APR)" and "sickness behavior." Fever is the most prominent feature of the APR and for good reason: many microorganisms reproduce best at humans' normal core body temperature, and many of the immune system's agents for killing them are bolstered by elevated temperature.

Paragraph 3

Sickness behaviors are well known to anyone who has had the flu. They include reductions in activity, food intake, social interaction, mood sags; difficulty in forming new memories; sleep changes; and sensitivity to pain increases (just think of how even a light touch hurts when you have the flu). These changes also reduce the energetic costs of behavior to free available energy stores to fight the infection. Fever, for example, is quite energy intensive, requiring an extra 10 to 12 percent in energy for each degree rise. It is obvious how all the sickness behaviors, with the exception of memory disruption, fit the scheme of keeping us away from our usual activities. Memory disruption serves a different purpose.

Paragraph 4

We now understand that all of the changes described above are accomplished through the CNS. Fever, for example occurs because the set point of temperature-sensitive cells in the hypothalamus is increased. Of course, behavior, mood, and pain are all products of the CNS. This raises two issues: a) How does the CNS "know" what is going on in the peripheral immune system, and b) What kinds of

changes are produced in the CNS that mediate fever and sickness behaviors? The same cytokines that participate in producing the inflammatory response in the body also initiate the communication process to the CNS. They accumulate in the bloodstream and thereby travel to the brain, where, although they are large proteins and cannot readily cross the blood-brain barrier, these chemical signals are carried across the barrier by active transport. They cross into the brain in regions where the barrier is weak, and they bind to receptors on the insides of the cerebral vascular blood vessels, thereby inducing the production of soluble mediators within the epithelial cells that can cross into the brain.

Paragraph 5

The cytokine interleukin-1 beta is released in response to pathogen recognition, and a) activates vagal fibers, b) diffuses into the brain where the barrier is weak, and c) are actively transported across. In the brain, they act on microglia, which then produce and secrete further cytokines that can act on neuronal cells, thereby producing sickness behaviors.

Paragraph 6

Often, a set of mechanisms that evolve to handle acute emergencies lead to outcomes that nature did not intend if they are engaged too long. During a normal infection, neuro- inflammation and the resulting adaptive sickness behaviors persist only for several days. However, if these responses become exaggerated or prolonged, the outcomes may well become established, leading to cognitive impairment instead of brief memory disruption, depression instead of reduced mood, fatigue instead of inactivity, and chronic pain instead of acute pain. That is, physiology can become pathology when a set of processes designed to be relatively brief becomes prolonged.

Questions

1 According to paragraph 1, first line of defense implies
A macrophages
B immune system
C inflammation
D all of the above

2 According to paragraph 1, chemical messengers have
A the ability to change the functioning of other cells
B a greater level of mobility
C no capacity to move further away from cells
D none

3 According to paragraph 2, APR develops
A at the time of infection
B after the infection
C after cure of the infection
D before or after infection

4 According to paragraph 2, fever occurs
A due to the increase in the growth of the microbes
B due to a powerless immune system
C due to the multiplication of the microbes, supported by temperature of the human body
D none

5 According to paragraph 3, one of the following is not associated with sickness behaviors
A loss of appetite and reduction in social interaction
B reduction in social interaction and sleeping hours
C change in mood and body language
D body language and sleeping disorder

6 According to paragraph 4, cytokines are described as
A messenger cells
B protein bodies and messenger cells
C immune response bodies
D none

7 According to paragraph 4, cytokines cross the barrier
A through active transport
B by bridging the blood brain barrier
C by penetrating into the blood vessels
D through the blood stream and lymph vessels

8 Which of these describes "paragraph 5"?
A depiction of how the peripheral immune system communicates to the brain
B depiction of how the peripheral immune system stops the communication process
C depiction of how the immune system weakens
D A and B

9 Paragraph 6 talks about
A what would happen if the processes become prolonged

B what would happen if the processes terminated
C what would happen if the processes are interrupted
D what would happen if the processes are not started

10 According to paragraph 6, if the responses become exaggerated then
A loss of memory may take place
B reduction in normal mood may be noted
C cognitive impairment occurs
D acute pain may begin

END OF READING TEST