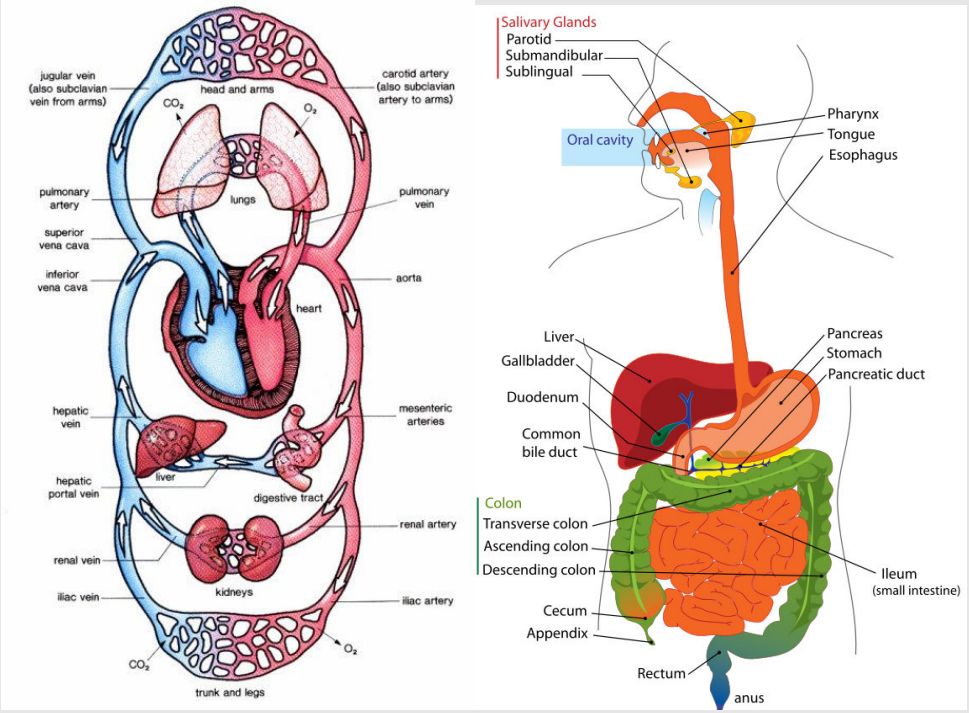
Organ Systems

VOCABULARY *in context*. Match the following definitions with words from the reading passage below, then give an appropriate translation in French.

1. *A pathological condition of a part, an organ, or a system of an organism resulting from various causes, such as infection, genetic defect, or environmental stress, and characterized by an identifiable group of signs or symptoms :* _____
2. *An elastic tubular channel, such as an artery, a vein, or a capillary, through which the blood circulates :* _____
3. *To cover a certain distance, To occupy a certain volume :* _____
4. *The opening at the lower end of the alimentary canal through which solid waste is eliminated from the body :* _____
5. *Physiology. To convert (food) into simpler chemical compounds that can be absorbed and assimilated by the body, as by chemical and muscular action in the alimentary canal :* _____
6. *To separate and discharge (waste matter) from the blood, tissues, or organs :* _____
7. *A useless or worthless byproduct 2. The undigested residue of food eliminated from the body; excrement :* _____
8. *The narrow, winding, upper part of the intestine where digestion is completed and nutrients are absorbed by the blood. It extends from the pylorus to the cecum and consists of the duodenum, the jejunum, and the ileum :* _____
9. *The portion of the intestine that extends from the ileum to the anus, forming an arch around the convolutions of the small intestine and including the cecum, colon, rectum, and anal canal :* _____
10. *To reserve or put away for future use :* _____
11. *The dense, semirigid, porous, calcified connective tissue forming the major portion of the skeleton. It consists of a dense organic matrix and an inorganic, mineral component. Numerous anatomically distinct structures making up the skeleton :* _____
12. *A tissue composed of fibers capable of contracting to effect bodily movement :* _____
13. *Anatomy. A sheet or band of tough, fibrous tissue connecting bones or cartilages at a joint or supporting an organ :* _____
14. *A band of tough, inelastic fibrous tissue that connects a muscle with its bony attachment :* _____
15. *Anatomy. A point of articulation between two or more bones, especially such a connection that allows motion :* _____
16. *Naturally;'Without any doubt; certainly :* _____
17. *The food served and eaten in one sitting; A customary time or occasion of eating food :* _____
18. *To win (obtain) the support of; get the help or services of :* _____
19. *To make or become wide or wider; open, grow larger, increase in diameter :* _____
20. *To make or become larger in number or amount (≠reduce) :* _____
21. *To excite to activity; To act or serve as a stimulant or stimulus :* _____
22. *A substance with a distinct molecular composition that is produced by or used in a process :* _____
23. *To set free; To emit; let out :* _____
24. *The flow of blood through the circulatory system of an organism :* _____
25. *A strong desire or need for food :* _____
26. *The quality or state of being full; saturation, completion; satisfaction :* _____

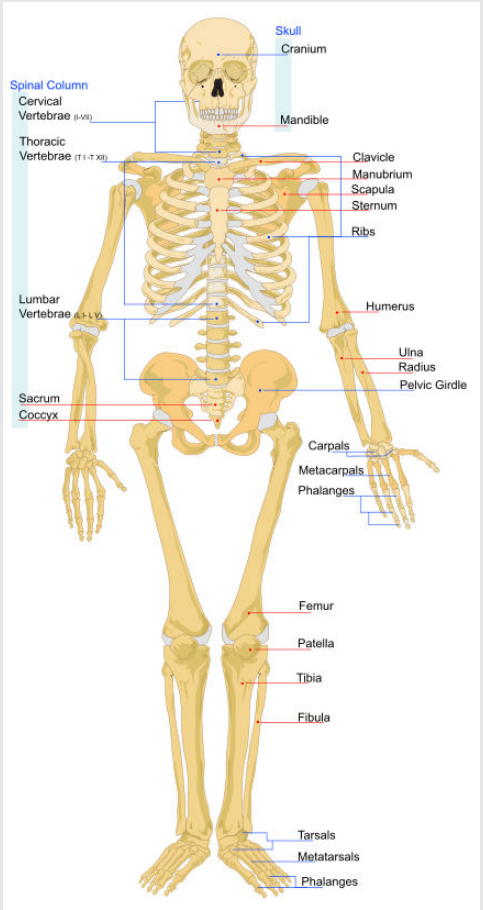
Although an organ has a specific function, organs also function as part of a group, called an organ system. The organ system is the organizational unit by which* medicine is studied, <u>diseases</u> are generally categorized, and treatments are planned. […]



Organ systems : cardiovascular and digestive systems

An example of an organ system is the cardiovascular system, which includes the heart (cardio) and blood vessels (vascular). The cardiovascular system is responsible for pumping and circulating the blood. The digestive (or gastrointestinal) system, extending from the mouth to the anus, is responsible for receiving and digesting food and excreting waste. This* system includes not only the stomach, small intestine, and large intestine, which* move and absorb food, but also associated organs such as the pancreas, liver, and gallbladder, which* produce digestive enzymes, remove toxins, and store substances necessary for digestion. The musculoskeletal system includes the bones, muscles, ligaments, tendons, and joints which* support and move the body.

Human skeleton :

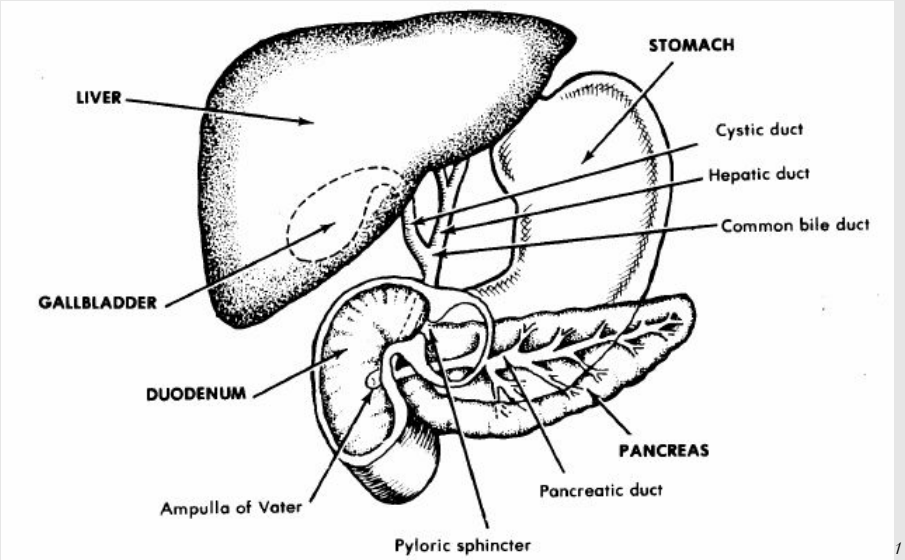


The human skeleton consists of both fused and individual bones supported and supplemented by ligaments, tendons, muscles and cartilage. It serves as a scaffold which supports organs, anchors muscles, and protects organs such as the brain, lungs and heart.

The longest and heaviest bone in the body is the femur, and the smallest is the stapes bone in the middle ear. In an adult, the skeleton comprises around 20% of the total body weight.

A typical adult human skeleton consists of 206 bones depending on age, though this number does vary owing to a variety of anatomical variations; for example, a small portion of the human population have an extra rib, or an extra lumbar vertebra.

Of course, organ systems do not function in isolation. For example, after a large meal is eaten, the digestive system needs more blood to perform its* functions. Therefore, it* enlists the aid of the cardiovascular and nervous systems. Blood vessels of the digestive system widen to transport more blood. Nerve impulses are sent to the brain, notifying it* of the increased work*. The digestive system even directly stimulates the heart through nerve impulses and chemicals released into the bloodstream. The heart responds by pumping more blood. The brain responds by perceiving less hunger, more fullness, and less interest in vigorous activity.



[1]

How is the digestive process controlled ?[2]

Hormone Regulators – *The major hormones that control the functions of the digestive system are are gastrin, secretin, and cholecystokinin (CCK). These hormones are produced and released by cells in the stomach and small intestine into the blood of the digestive tract, travel back to the heart and through the arteries, and return to the digestive system, where they stimulate digestive juices and cause organ movement.*

- **Gastrin** *is released by the stomach and duodenum in response to stomach distension, vagal stimulation or the presence of partially digested proteins. Gastrin stimulates the stomach to secrete gastric acid and pepsinogen (the precursor form of pepsin).*

[1] http://www.free-ed.net/sweethaven/MedTech/NurseCare/fig91801_02.jpg
[2] adapted from : http://digestive.niddk.nih.gov/ddiseases/pubs/yrdd/index.htm

- **Secretin**, *produced in the duodenum, causes the pancreas to send out a digestive juice that is rich in bicarbonate. It stimulates the stomach to produce pepsin, an enzyme that digests protein, and also stimulates the liver to produce bile.*
- **CCK** *is secreted by the duodenum and causes the pancreas to produce the enzymes of pancreatic juice, and it causes the gallbladder to empty. As a neuropeptide, CCK mediates satiety by acting on the CCK receptors distributed widely throughout the central nervous system.*[3]

Additional hormones in the digestive system regulate ***appetite*** *:*

- **Ghrelin** *is produced in the stomach and upper intestine in the absence of food and stimulates appetite. Receptors for ghrelin are expressed by neurons in the hypothalamus.*
- **Peptide YY** *is produced in the GI tract in response to a meal and inhibits appetite.*

Nerve Regulators *-- Two types of nerves help to control the action of the digestive system.*
Extrinsic (outside) nerves *come to the digestive organs from the autonomic nervous system, the unconscious part of the nervous system. The 2 major divisions are the sympathetic and parasympathetic systems. Two major neurotransmitters in the ANS are acetylcholine (parasympathetic) and norepinephrine, a.k.a noradrenaline (sympathetic).*[4]
The vagus nerve, which contains about 75% of all parasympathetic fibers[5]*, carries the parasympathetic innervation to most of the viscera (heart, lung, stomach, intestine*[6]*). The parasympathetic system slows the heart rate, and increases intestinal and gland activity*[7]*.*
The intrinsic nerves, *embedded in the walls of the esophagus, stomach, small intestine, and colon are triggered to act when the walls of the hollow organs are stretched by food. They release many different substances that speed up or delay the movement of food and the production of juices by the digestive organs.*

***What do the following words refer to ?**

a. *"by which* medicine is studied…"* → "Which" refers to …
b. *"This* system includes not only the stomach…"* → "This system" refers to …
c. *"which* move food"* → "Which" refers to …
d. *"which* produce digestive enzymes, remove toxins, and store substances"* → "Which" refers to …
e. *"which* support and move the body"* → "That" refers to …
f. *"more blood to perform its* functions"* → "Its" refers to …
g. *"Therefore, it* enlists the aid of the cardiovascular and nervous systems"* → "It" refers to …
h. *"notifying it* of the increased work"* → "It" refers to …
i. *"the increased work*"* refers to the work of …

True or False ? (Be ready to explain).

i. The digestive system needs more blood during digestion because its work increases.
ii. Organs can belong to more than one organ system.

Questions : (1) Ask questions about the following points, then (2) let someone else answer in a complete sentence (3) using as many of the suggested terms as possible.

HOW (×2) -- WHAT

1. *The means by which* food is broken down in the digestive tract. → …

tract i.e.[8] -- exposed to -- (e.g. --) -- released by -- glandular -- such as -- and -- as well as

As food moves …

2. The effect *of* digestion on blood flow. → …

sends out -- and -- which directly -- to pump -- moreover -- dilate -- the extra -- Thus[9] -- flow to -- during

After a meal …

3. *The reaction of* the brain during digestion. → …

less -- and less -- as well as -- feeling of -- in response to -- received from

In addition to the heart, the brain also …

4. Make up one original question of your own relating to this section of the article, and write a 2-3 line answer to it using information either from the article or from outside sources.

[3] http ://en.wikipedia.org/wiki/Cholecystokinin
[4] adapted from : http ://www.merck.com/mmpe/sec16/ch208/ch208a.html
[5] http://www.merck.com/mmpe/sec16/ch208/ch208a.html
[6] http ://www.uottawa.ca/academic/med/cellmed/auto_5302.pdf
[7] http://en.wikibooks.org/wiki/Human_Physiology/The_Nervous_System

[8] NB. i.e. = "id est" (lat.) / *c'est-à-dire*
[9] NB. thus = in this way, for this reason / *ainsi*

Organ Systems *(continued)*

VOCABULARY *in context*. Match the following definitions with words from the reading passage below, then give an appropriate translation in French.

27. *In conformity with; in proportion to :* _____
28. *Necessity; obligation :* _____
29. *To stop work or activity; relax :* _____
30. *To reduce speed :* _____
31. *To accelerate; To increase speed :* _____
32. *Anatomy. A pair of organs in the dorsal region of the abdominal cavity, functioning to maintain proper water and electrolyte balance, regulate acid-base concentration, and filter the blood of metabolic wastes, which are then excreted as urine :* _____
33. *Dry; lacking (deficient) in water :* _____
34. *A state of equilibrium; stability :* _____
35. *The ability of an organism or a cell to maintain internal equilibrium by adjusting its physiological processes :* _____
36. *Not the one or the other :* _____
37. *To create; To manufacture :* _____
38. *To produce in excess of need :* _____
39. *To produce in a quantity insufficient to meet demand :* _____
40. *To preserve or retain; To support; To keep in existence; sustain :* _____
41. *To take place; exist :* _____
42. *The part of the nervous system that regulates involuntary action, as of the intestines, heart, and glands, and that is divided into the sympathetic nervous system and the parasympathetic nervous system :* _____
43. *A system of lines that cross or interconnect; A complex, interconnected system :* _____
44. *To control or direct a process :* _____
45. *In the body; physical as opposed to mental :* _____
46. *In the absence of :* _____
47. *observable; significant :* _____
48. *To go from one place to another; To be transmitted, as light or sound; move or pass :* _____
49. *A chemical substance, such as acetylcholine or dopamine, that transmits nerve impulses across a synapse :* _____
50. *A hormone secreted by the adrenal medulla that is released into the bloodstream in response to physical or mental stress, as from fear or injury. It initiates many bodily responses, including the stimulation of heart action and an increase in blood pressure, metabolic rate, and blood glucose concentration :* _____
51. *Terrified :* _____
52. *Two small, dissimilarly shaped endocrine glands, one located above each kidney, consisting of the cortex, which secretes several steroid hormones, and the medulla, which secretes epinephrine :* _____
53. *1. The act or process of flying; 2. The act of running away; an escape :* _____
54. *Strong(ly); forceful(ly), intense(ly), vigorous(ly) :* _____
55. *To become wider or larger; expand :* _____
56. *The process of respiration :* _____
57. *To become more rapid; accelerate :* _____
58. *To grow gradually less or smaller in number, amount, or intensity; diminish :* _____
59. *Spectacular; impressive, remarkable :* _____
60. *Anatomy. A member of a branching system of muscular, elastic tubes that carry blood away from the heart to the cells, tissues, and organs of the body :* _____
61. *The part of the body joining the head to the shoulders or trunk :* _____
62. *A small, oval endocrine gland attached to the base of the brain and consisting of an anterior and a posterior lobe, the secretions of which control the other endocrine glands and influence growth, metabolism, and maturation. Also called hypophysis :* _____
63. *A hormone secreted by the posterior lobe of the pituitary gland that constricts blood vessels, raises blood pressure, and reduces excretion of urine :* _____
64. *The waste product secreted by the kidneys that is a yellow to amber-colored, slightly acid fluid discharged from the body through the urethra :* _____
65. *To reserve; To keep :* _____
66. *A sensation of dryness in the mouth and throat related to a need or desire to drink. The desire to drink :* _____
67. *A system of glands, such as the thyroid, adrenal, or pituitary, having hormonal secretions that pass directly into the bloodstream :* _____
68. *A two-lobed endocrine gland located in front of and on either side of the trachea in human beings, and producing various hormones, such as triiodothyronine and calcitonin :* _____
69. *Several closely related metabolically active compounds (as triiodothyronine) that are stored in the thyroid gland in the form of thyroglobulin or circulate in the blood apparently bound to plasma protein; especially thyroxine :* _____
70. *Metabolism per unit time especially as estimated by food consumption, energy released as heat, or oxygen used in metabolic processes. (The complex of physical and chemical processes occurring within a living cell or organism that are necessary for the maintenance of life. Some substances are broken down to yield energy for vital processes while other substances, necessary for life, are synthesized). :* _____
71. *To go forward; advance; To carry on (execute) a process :* _____

72. *The act of using; application :* _____
73. *A class of water-soluble crystalline carbohydrates, including sucrose and lactose, having a characteristically sweet taste and classified as monosaccharides, disaccharides, and trisaccharides :* _____

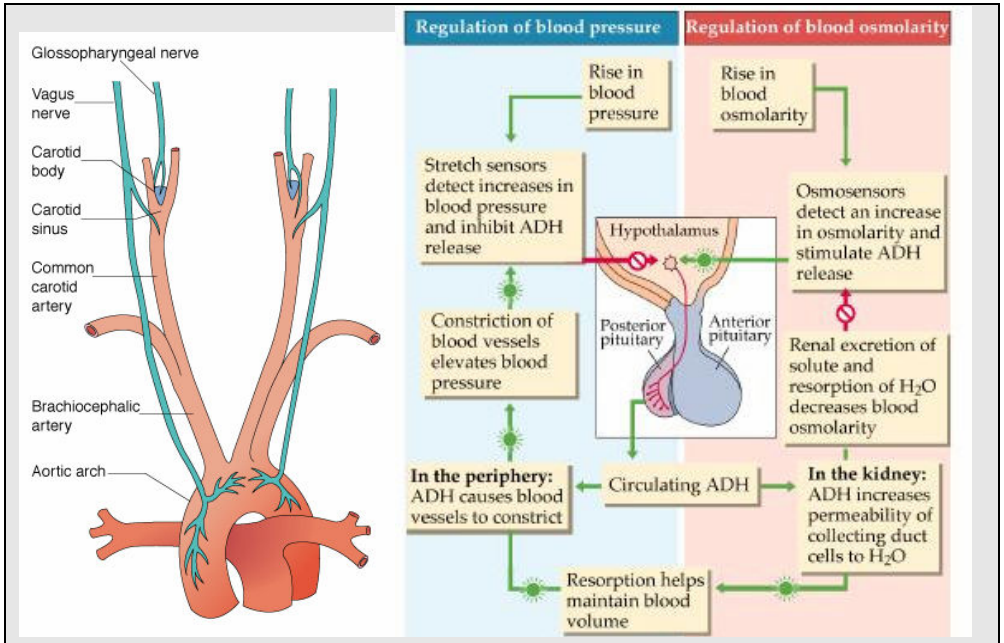
Communication between organs and organ systems is vital. Communication allows the body to adjust the function of each organ according to the needs of the whole body. The heart must know when the body is resting so that it* can slow down and when organs need more blood so that it* can speed up. The kidneys must know when the body has too much fluid so that they* can excrete more urine and when the body is dehydrated so that they* can conserve water.

Through communication, the body keeps itself in balance -- a concept called **homeostasis**. Through homeostasis, organs neither underproduce nor overproduce, and each organ facilitates the functions of every other organ.

Communication to maintain homeostasis can occur through the nervous system or through chemical stimulation. One part of the nervous system, the autonomic nervous system, largely controls the complex communication network that regulates bodily functions. This* part of the nervous system functions without a person's thinking[10] about it* and without much noticeable indication that it* is working. Chemicals used to communicate are called transmitters. Transmitters that are produced by one organ and travel to other organs through the bloodstream are called hormones. Transmitters that conduct messages between parts of the nervous system are called neurotransmitters.

One of the best known transmitters is the hormone epinephrine (adrenaline). When a person is suddenly stressed or frightened, the brain instantly sends a message to the adrenal glands, which quickly release epinephrine. Within moments, this* chemical has the entire body on alert, a response sometimes called the "fight-or-flight" response. The heart beats more rapidly and powerfully, the eyes dilate to allow more light in, breathing quickens, and the activity of the digestive system decreases to allow more blood to go to the muscles. The effect* is rapid and intense.

Other chemical communications are less dramatic but equally effective. For example, when the body becomes dehydrated and needs more water, the volume of blood circulating through the cardiovascular system decreases. This decreased blood volume is perceived by receptors in the arteries in the neck. They* respond by sending impulses through nerves to the pituitary gland, at the base of the brain, which* then produces antidiuretic hormone. This hormone signals the kidneys to produce less urine and retain more water. Simultaneously, the brain senses thirst, stimulating a person to drink.



1. Receptors : *Location and innervation of the aortic arch and carotid sinus baroreceptors and the carotid body chemoreceptors. ;* **2. Vasopressin (a.k.a. antidiuretic hormone ADH)**[11] *is secreted from the posterior pituitary gland in response to reductions in plasma volume and in response to increases in the plasma osmolality (osmotic pressure). Secretion in response to reduced plasma volume is activated by pressure receptors (a.k.a. baroreceptors) in the veins, atria, and carotids. Secretion in response to increases in plasma osmotic pressure (the tendency of a solution to take up water due to a high concentration of solutes[12]) is mediated by osmoreceptors in the hypothalamus.*

The body also has a group of organs – the endocrine system – whose* primary function is to produce hormones that regulate the function of other organs. For example, the thyroid gland produces thyroid hormone, which controls the metabolic rate (the speed at which the body's chemical functions proceed); the pancreas produces insulin, which controls the use of sugar; and the adrenal glands produce epinephrine, which stimulates many organs to prepare the body for stress. (see Major Organ Systems infra)

[10] NB. *N-'S + V-ING is the construction normally used to connect a substantive verb (V-ING) with its logical subject (N-'S).*

[11] Illustration : http ://www.mie.utoronto.ca/labs/lcdlab/biopic/fig/51.15.jpg

[12] http://everything2.com/index.pl?node_id=848513

***What do the following words refer to ?**

j. *"so that it* can slow down … so that it* can speed up"* → "It" refers to …
k. *"so that they* can excrete more urine … so that they* can conserve water"* → "They" refers to …
l. *"This* part of the nervous system functions"* → "This part" refers to …
m. *"without a person's thinking about it*"* → "It" refers to …
n. *"that it* is working"* → "It" refers to …
o. *"this* chemical has the entire body on alert"* → "This chemical" refers to …
p. *"The effect* is rapid and intense"* refers to the effect of …
q. *"They* respond by sending impulses"* → "They" refers to …
r. *"which* then produces antidiuretic hormone"* → "Which" refers to …
s. *"whose* primary function is to produce hormones"* → "Whose" refers to …

True or False ? (Be ready to explain).

iii. Vasoconstriction and vasodilation are examples of homeostasis.
iv. Through homeostasis the body maintains heart rate, respiration, temperature and blood pressure at a constant level.
v. The endocrine system is controlled by the autonomic nervous system.
vi. The hormones produced by the hypothalamus and pituitary gland stimulate other endocrine glands.

Questions : (1) Ask questions about the following points, then (2) let someone else answer in a complete sentence (3) using as many of the suggested terms as possible.

WHAT (×2) -- HOW MANY -- HOW (×2)

5. Systems *by which* the communication necessary for homeostasis is carried out. → …

regulation -- a.k.a.[13] -- in large part -- and also

Communication …

6. *The number of* major categories of chemical transmitters. → …

which -- through -- from -- by which -- produced -- to other -- and -- which -- within -- system

There are …

7. *The effects of* epinephrine on the body. → …

which -- released by -- as a reaction – causes S+TO+V -- rate and -- and makes S+V -- simultaneously -- decrease in -- so that -- more -- available for

Epinephrine, a.k.a. …

8. Processes *that* dehydration triggers (initiates) in the body. → …

as a result of -- send -- to -- which -- hormone -- thus signaling -- to -- and -- to sense

When blood volume …

9. *The importance of* endocrine hormones to the equilibrium of physiological processes. → …

system -- active in V-ING -- processes -- balance -- For example, -- of glucose -- thereby[14] -- level -- Likewise[15], -- speed -- consumed -- and energy is -- also known as -- by -- hormone

Certain hormones of …

10. Make up one original question of your own relating to this section of the article, and write a 2-3 line answer to it using information either from the article or from outside sources.

[13] NB. *a.k.a. = also known as*
[14] NB. thereby = By that means; because of that / *de cette manière, ainsi*
[15] NB. likewise = in the same way, similarly ; as well, also / *de même, de la même façon*

Major Organ Systems

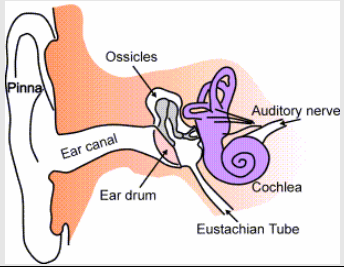
System	Organs in the System
Cardiovascular	• Heart • Blood vessels (arteries, capillaries, veins)
Respiratory	• Nose • Mouth • Pharynx • Larynx • Trachea • Bronchi • Lungs
Nervous	• Brain • Spinal cord • Nerves
Skin	• Skin
Musculoskeletal	• Muscles • Tendons and ligaments • Bones • Joints
Blood	• Blood cells and platelets • Plasma (liquid part of blood) • Bone marrow (where blood cells are produced) • Spleen • Thymus
Digestive	• Mouth • Esophagus • Stomach • Small intestine • Large intestine • Liver • Gallbladder • Pancreas (the part that produces enzymes)
Endocrine	• Thyroid gland • Parathyroid gland • Adrenal glands • Pancreas (the part that produces insulin)
Urinary	• Kidneys • Ureters • Bladder • Urethra
Male reproductive	• Penis • Prostate gland • Seminal vesicles • Vasa deferentia • Testes
Female reproductive	• Vagina • Cervix • Uterus • Fallopian tubes • Ovaries

Barriers on the Outside and the Inside

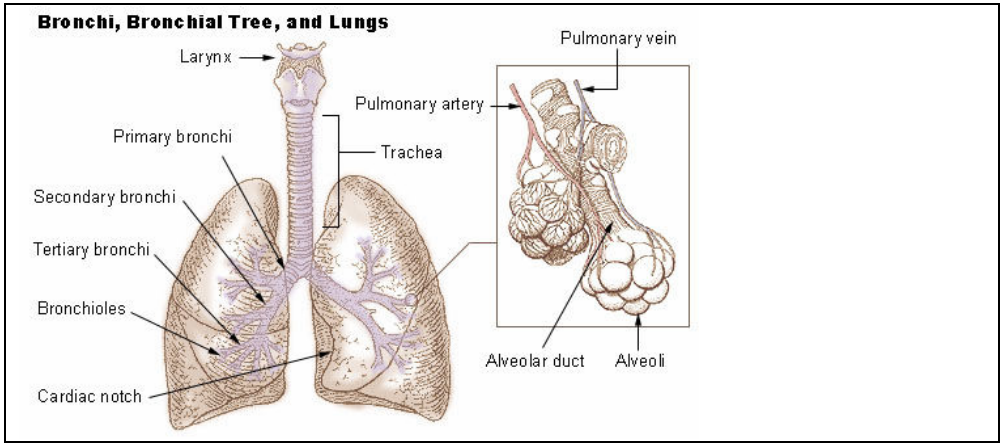
VOCABULARY *in context*. Match the following definitions with words from the reading passage below, then give an appropriate translation in French.

74. *In fact; really :* _____
75. *Easily perceived or understood; quite apparent :* _____
76. *A boundary or limit; obstacle :* _____
77. *To stop; to interpose an obstacle :* _____
78. *Injurious, destructive :* _____
79. *Despite the fact that :* _____
80. *Relatively small in extent from one surface to the opposite or in diameter :* _____
81. *Anatomy. The organ of hearing, responsible for maintaining equilibrium as well as sensing sound :* _____
82. *The narrow, tubelike passage through which sound enters the ear. :* _____
83. *To regard, consider, conceive :* _____
84. *Downward below a surface; inward from an outer surface; profound, penetrating :* _____
85. *The uppermost or forwardmost part of the body containing the brain and the eyes, ears, nose, mouth, and jaws :* _____
86. *To go along (a curving or twisting course) :* _____
87. *To go out :* _____
88. *A nutritious ingredient or substance in a food :* _____
89. *The part of the human face that contains the nostrils and organs of smell and forms the beginning of the respiratory tract :* _____
90. *1. The anterior portion of the neck. 2. Anatomy. The portion of the digestive tract that lies between the rear of the mouth and the esophagus and includes the fauces and the pharynx :* _____
91. *Anatomy. A thin-walled tube of cartilaginous and membranous tissue descending from the larynx to the bronchi and carrying air to the lungs :* _____
92. *A passage in which air circulates :* _____
93. *Two main branches of the trachea, leading directly to the lungs :* _____
94. *A nonmetallic element constituting 21 percent of the atmosphere by volume that occurs as a diatomic gas and in many compounds such as water. It is essential for respiration. Atomic number 8; atomic weight 15.9 :* _____
95. *Beneficial; Having practical utility :* _____
96. *Up to the time that; (Not) before :* _____
97. *A single thickness covering a surface; a stratum :* _____
98. *To form a bordering line; To cover the inner surface :* _____
99. *Various simple submicroscopic parasites of plants, animals, and bacteria that often cause disease and that consist essentially of a core of RNA or DNA surrounded by a protein coat :* _____
100. *Unicellular, prokaryotic microorganisms of the class Schizomycetes, which vary in terms of morphology, oxygen and nutritional requirements, and motility, and may be free-living, saprophytic, or pathogenic, the latter causing disease :* _____
101. *An infectious disease caused by the tubercle bacillus and characterized by the formation of tubercles on the lungs and other tissues of the body :* _____
102. *Except if :* _____
103. *A protein substance produced in response to a specific antigen, such as a bacterium or a toxin. They destroy or weaken bacteria and neutralize organic poisons, thus forming the basis of immunity :* _____
104. *To oppose; combat :* _____
105. *Invasion by and multiplication of pathogenic microorganisms in a bodily part or tissue, which may produce tissue injury and progress to disease through cellular or toxic mechanisms :* _____
106. *A microscopic hairlike process extending from the surface of a cell or unicellular organism. Capable of rhythmical motion, it acts in unison with other such structures to bring about the movement of the cell :* _____
107. *To clear away as if with a broom or brush :* _____
108. *Carried by or through the air :* _____

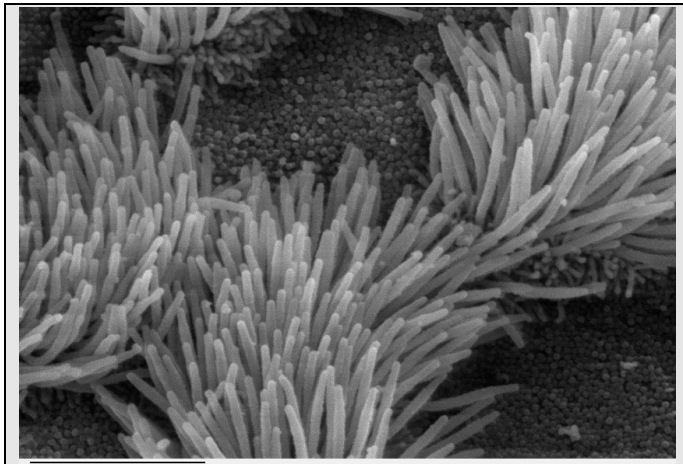
As strange as it* may seem, defining what's outside and what's inside the body isn't always easy because the body has many surfaces. The skin, which is actually an organ system, is obviously outside the body. It forms a barrier that prevents many harmful substances from entering the body. Although covered* by a thin layer of skin, the ear canal is usually thought of as inside the body because it* penetrates deep into the head. The digestive system is a long tube that begins at the mouth, winds through the body, and exits at the anus. Is food that's partially absorbed as it* passes through this* tube inside or outside of the body ? Nutrients and fluid aren't really inside the body until they* are absorbed into the bloodstream.



The ear canal, *is a tube running from the outer ear to the middle ear. The ear canal extends from the pinna to the eardrum and is about 26 mm in length and 7 mm in diameter.*



Air passes through the nose and throat into the windpipe (trachea), then into the extensive, branching airways of the lungs (bronchi). At what point is this passageway inside the body? Oxygen in the lungs is not useful to the body until it* enters the bloodstream. To enter the bloodstream, oxygen must cross through a thin layer of cells lining the lungs. This layer acts as a barrier to viruses and bacteria, such as those* that cause tuberculosis, which* may be carried into the lungs with air. Unless these* organisms penetrate the cells or enter the bloodstream, they* generally do not cause disease. Because the lungs have many protective mechanisms, such as antibodies to fight infection and cilia to sweep debris out of the airways, most airborne infectious organisms never cause disease.



SEM micrograph of the cilia projecting from respiratory epithelium in the lungs

***What do the following words refer to ?**

t. *"As strange as it* may seem"* → "It" refers to …
u. *"Although covered* by a thin layer of skin"* → covered refers to …
v. *"because it* penetrates deep into the head"* → "It" refers to …
w. *"as it* passes through"* → "It" refers to …
x. *"passes through this* tube"* → "This tube" refers to …
y. *"until they* are absorbed into the bloodstream"* → "They" refers to …
z. *"does this* passageway stop being outside"* → "This passageway" refers to …

aa. *"until it* enters the bloodstream"* → "It" refers to …
bb. *"such as those* that cause tuberculosis"* → "Those" refers to …
cc. *"which* may be carried into the lungs with air"* → "Which" refers to …
dd. *"Unless these* organisms penetrate the cells or enter the bloodstream, they* don't cause disease"* → "These organisms" and "they" refer to …

True or False ? (Be ready to explain).

vii. Nutrients, oxygen and pathogens are only considered to be inside the body once they enter the bloodstream.
viii. The airways stop stop being outside and become inside the body in the alveoli.
ix. Infection in the lungs is known as "pneumonia".

Questions : (1) Ask questions about the following points, then (2) let someone else answer in a complete sentence (3) using as many of the suggested terms as possible.

WHERE -- WHAT -- HOW -- WHAT SORT

11. *One area in which* skin is considered to be inside the body. → …

typically -- as -- surface -- thin -- which lines -- deep -- and consequently -- usually

Although skin …

12. *The* point *at which* food is actually considered to be inside the body. → …

through -- system -- only partially -- the rest -- eventually -- Thus[16], -- actually -- only when -- into

As food …

13. *Ways in which* the lining of the lungs prevents disease. Protective mechanisms *that* it contains. → …

not only -- barrier to -- but also -- such as -- to fight -- and -- out of -- and thus -- most of -- carried into -- (e.g.[17] -- or --) -- from

The lining …

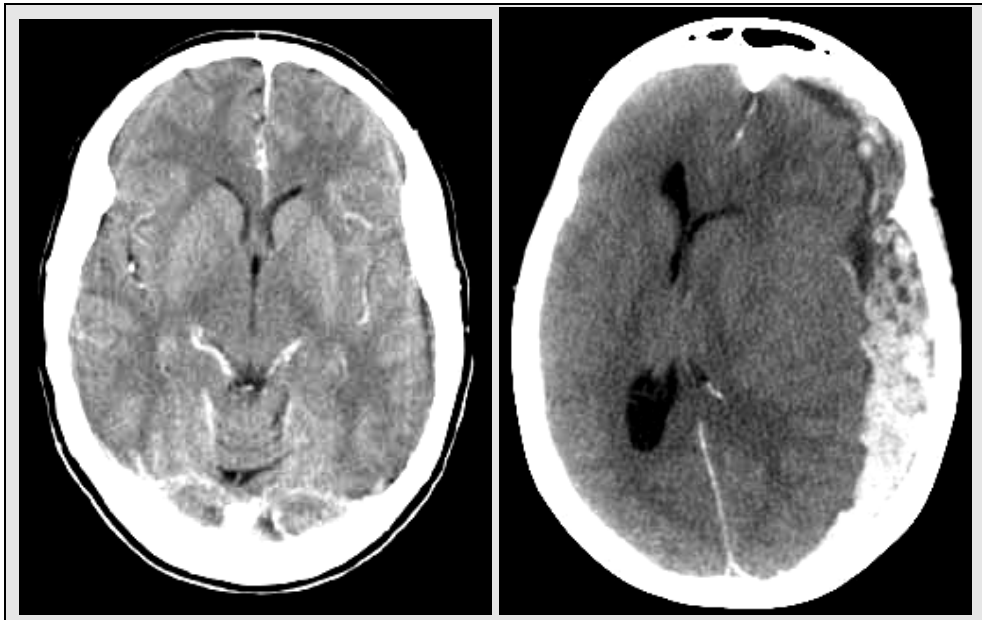
14. Make up one original question of your own relating to this section of the article, and write a 2-3 line answer to it using information either from the article or from outside sources.

[16] NB. thus = in this manner ; therefore, consequently / *ainsi*
[17] NB. e.g. = (latin) exempli gratia, for example

VOCABULARY *in context*. Match the following definitions with words from the reading passage below, then give an appropriate translation in French.

109. *To maintain; preserve :* _____
110. *Correct; appropriate :* _____
111. *To be suspended in or move through space as if supported by a liquid :* _____
112. *An accumulation of liquid :* _____
113. *Under normal circumstances; ordinarily, usually :* _____
114. *To restrict :* _____
115. *To escape or pass through an opening or a rupture :* _____
116. *Excessive discharge of blood from the blood vessels; profuse bleeding :* _____
117. *To be deficient; perform ineffectively; To be unsuccessful :* _____
118. *Hurt; injury; damage :* _____
119. *Enough (adequate) space :* _____
120. *The bony or cartilaginous framework of the head, made up of the bones of the braincase and face; cranium :* _____
121. *Quantity :* _____
122. *1 a : the part of the body between the thorax and the pelvis with the exception of the back — called also belly b : the cavity of this part of the trunk lined by the peritoneum, enclosed by the body walls, the diaphragm, and the pelvic floor, and containing the visceral organs (as the stomach, intestines, and liver) c : the portion of this cavity between the diaphragm and the brim of the pelvis — compare PELVIC CAVITY :* _____
123. *The watery mixture of secretions from the salivary and oral mucous glands that lubricates chewed food, moistens the oral walls, and contains ptyalin :* _____
124. *To draw into the lungs; breathe in, take in :* _____
125. *A clear, colorless, poisonous, highly acidic aqueous solution of hydrogen chloride, HCl. It is found in the stomach in dilute form :* _____
126. *To damage by fire, heat, radiation, electricity, or a caustic agent :* _____
127. *The muscular, membranous tube for the passage of food from the pharynx to the stomach :* _____
128. *To move in the manner characteristic of a fluid; To circulate :* _____
129. *In reverse :* _____
130. *Waste matter eliminated from the bowels; excrement :* _____
131. *Potentially mortal; extremely dangerous :* _____
132. *Constituting the intestine; inside the intestine :* _____
133. *The cavity within the abdomen that contains the stomach, intestines, liver, pancreas, gallbladder, spleen, and kidneys, and the lower part of the esophagus :* _____

Body surfaces not only separate the outside from the inside, but also keep structures and substances in their* proper place so that they* can function properly. For example, internal organs do not float in a pool of blood; blood is normally confined to blood vessels. If blood leaks out of the vessels into other parts of the body (hemorrhage), it* not only fails to bring oxygen and nutrients to tissues but also can cause severe harm. For example, a very small hemorrhage into the brain destroys brain tissue because there is no room for expansion in the skull. On the other hand, a similar amount of blood leaking into the abdomen does not destroy tissue because the abdomen has room for expansion.



1. Normal head CAT scan. 2. Recent bleeding (subdural hematoma) *in an injured patient is seen as a bright mass that is pushing the brain to the other side.*[18]

Saliva, so important in the mouth, can cause severe damage if* inhaled into the lungs, because saliva carries bacteria that can cause an abscess to form in the lung. The hydrochloric acid produced by the stomach rarely causes harm there*. However, the acid can burn and damage the esophagus if it* flows backward and can damage other organs if it* leaks through the stomach wall. Stool (a.k.a. feces), the undigested part of food expelled through the anus, can

[18] http://www.radiologyinfo.org/en/photocat/photos_more_pc.cfm?pg=headct&bhjs=0

cause life-threatening infections if it* leaks through a hole the intestinal wall into the abdominal cavity.

***What do the following words refer to ?**

ee. *"in their* proper place so that they* can function properly"* → "Their" and "they" refer to …
ff. *"it* not only fails to bring oxygen"* → "It" refers to …
gg. *"can cause severe damage if* inhaled into the lungs"* means that severe damage can occur if …
hh. *"rarely causes harm there*"* → "There" refers to …
ii. *"burn and damage the esophagus if it* flows backward… if it* leaks through the stomach wall"* → "It" refers to …
jj. *"if it* leaks through the intestinal wall into the abdominal cavity"* → "It" refers to …

True or False ? (Be ready to explain).

x. A hemorrhage in the abdomen is less dangerous than a hemorrhage in the brain.
xi. A "hematoma" is the result of blood leaking out of vessels into other parts of the body.
xii. The medical term for the escape of acid from the stomach back into the esophagus is reflux or gastroesophageal reflux disease (GERD).

Questions : (1) Ask questions about the following points, then (2) let someone else answer in a complete sentence (3) using as many of the suggested terms as possible.

HOW -- WHAT + HAPPEN

15. *The relative danger of* a minor hemorrhage in the abdomen or in the brain. → …

not -- pressure -- tissue in -- which -- compensate by V-ING -- the same -- severely -- for lack of

Whereas[19] a small …

16. *The potential risk* when usually harmless bodily substances accidentally come into contact with nearby organs. → …

severe -- or -- threatening -- if -- accidentally -- for example -- inhaled -- when -- through -- or -- up into -- or if -- from -- into

Usually harmless …

17. Make up one original question of your own relating to this section of the article, and write a 2-3 line answer to it using information either from the article or from outside sources.

[19] NB. whereas = while on the contrary / *tandis que* + prop (**ne pas confondre** avec "unlike" = contrairement à + nom)

Anatomy and Disease

VOCABULARY *in context*. Match the following definitions with words from the reading passage below, then give an appropriate translation in French.

134. *To plan out in systematic form; To create for a particular purpose :* _____
135. *A large amount (quantity) or degree :* _____
136. *More than usual, more than necessary :* _____
137. *Satisfactory or sufficient :* _____
138. *Two out of three equal parts (67%) :* _____
139. *To continue to live; To remain alive or in existence after an event :* _____
140. *Complete :* _____
141. *Resulting from operations or procedures involving the removal or replacement of a diseased organ or tissue :* _____
142. *On the condition that, provided that :* _____
143. *A sudden severe attack, as of paralysis; A sudden loss of brain function caused by a blockage or rupture of a blood vessel to the brain, characterized by loss of muscular control, diminution or loss of sensation or consciousness, dizziness, slurred speech, or other symptoms that vary with the extent and severity of the damage to the brain. Also called cerebral accident, cerebrovascular accident :* _____
144. *Incapable; incompetent :* _____
145. *One of the jointed appendages such as an arm or a leg used for locomotion or grasping :* _____
146. *Acute myocardial infarction typically resulting from an occlusion or obstruction of a coronary artery and characterized by sudden, severe pain in the chest that often radiates to the shoulder, arm, or jaw :* _____
147. *A transformation; modification :* _____
148. *An amount or quantity available (ready, accessible) for use; provision :* _____
149. *Pathology. Necrosis as a result of obstruction of local blood supply, as by a thrombus or an embolus :* _____
150. *Irregular; strange :* _____
151. *Any of the valves regulating the flow of blood through and from the heart, consisting of the aortic valve, the left and right atrioventricular valves, and the pulmonary valve. :* _____
152. *Pathology. An abnormal mass of tissue, such as a tumor, growing in or on a living organism :* _____
153. *Malignant neoplasms characterized by the proliferation of anaplastic cells that tend to invade surrounding tissue and metastasize to new body sites :* _____
154. *Force applied over a surface :* _____
155. *At the end of a process; At last; in the end; eventually :* _____
156. *A chief (principal) support :* _____
157. *Medicine. The act or process of identifying or determining the nature and cause of a disease or injury through evaluation of patient history, examination, and review of laboratory data. The opinion derived from such an evaluation :* _____
158. *A major achievement or success that permits further progress, as in technology :* _____
159. *A relatively high-energy photon with wavelength in the approximate range from 0.01 to 10 nanometers. A stream of such photons, used for their penetrating power in radiography, radiology, radiotherapy, and scientific research :* _____
160. *To make able (capable); supply with the means, knowledge, or opportunity :* _____
161. *Techniques for making detailed x-rays of a predetermined plane section of a solid object :* _____
162. *To connect :* _____
163. *An image produced by a device that produces cross-sectional views of an internal body structure using computerized axial tomography :* _____
164. *Medicine. The use of ultrasonic waves for diagnostic or therapeutic purposes, specifically to visualize an internal body structure, monitor a developing fetus, or generate localized deep heat to the tissues :* _____
165. *A moving curve; an undulation; Physics. A disturbance traveling through a medium by which energy is transferred from one particle of the medium to another without causing any permanent displacement of the medium :* _____
166. *An audible or inaudible longitudinal pressure variation :* _____
167. *The use of a nuclear magnetic resonance spectrometer to produce electronic images of specific atoms and molecular structures in solids, especially human cells, tissues, and organs :* _____
168. *A unit of matter, the smallest unit of an element, having all the characteristics of that element and consisting of a dense, central, positively charged nucleus surrounded by a system of electrons :* _____
169. *A condition found in the region around a magnet or an electric current, characterized by the existence of a detectable magnetic force at every point in the region and by the existence of magnetic poles :* _____
170. *An isotope of artificial or natural origin that exhibits radioactivity. They serve as agents in nuclear medicine and genetic engineering, and play a role in computer imaging for diagnosis and experiment […] :* _____
171. *Process whereby a radionuclide is injected or measured (through tissue) from an external source, and a display is obtained from any one of several rectilinear scanner or gamma camera systems. The image obtained from a moving detector is called a scan, while the image obtained from a stationary camera device is called a scintiphotograph. :* _____
172. *Not penetrating the body, as by incision or injection :* _____
173. *A manner or method :* _____

174. Relating to a medical procedure in which a part of the body is entered, as by puncture or incision : _____

The human body is remarkably well designed. Most of its* organs have a great deal of extra capacity or reserve : They* can still function adequately even though damaged*. For example, more than two thirds of the liver must be destroyed before serious consequences occur, and a person can usually survive after an entire lung is surgically removed as long as the other lung is functioning normally. Other organs can tolerate little damage before they* malfunction and symptoms occur. For example, if a an artery in the brain becomes blocked or ruptures (stroke), and even a small amount of tissue in a vital part of the brain is destroyed, a person may be unable to speak, move a limb, or maintain balance. If a heart attack destroys a small amount of tissue in the part of the heart that creates or carries the signals to beat, the heart rate may become dangerously slow and the person may even die.

Disease often affects anatomy, and changes in anatomy can cause disease. If the blood supply to a tissue is blocked or cut off, the tissue dies (infarction), as in a heart attack (myocardial infarction) or stroke (cerebral infarction). An abnormal heart valve can cause heart malfunction. Trauma to the skin may damage its ability to act as a barrier, which may lead to infection. Abnormal growths, such as cancer, can directly destroy normal tissue or produce pressure that ultimately destroys it*.

Because of the relationship between disease and anatomy, methods of seeing into the body have become a mainstay in the diagnosis and treatment of disease. The first breakthrough came with x-rays, which enabled doctors to see into the body and examine organs without surgery. Another major advance was computed tomography (CT), in which* x-rays are linked with computers. A CT scan produces detailed, cross-sectional (two-dimensional) images of the body's interior.

Other methods of producing images of internal structures include ultrasound scanning, which uses sound waves; magnetic resonance imaging (MRI), which uses the movement of atoms in a magnetic field; and radionuclide imaging, which uses radioactive chemicals injected into the body. These* are noninvasive ways to see into the body, in contrast to surgery, which is an invasive procedure.

[20]

Magnetic resonance angiography (MRA) *is used to generate pictures of the arteries in order to evaluate them for stenosis (abnormal narrowing) or aneurysms (vessel wall dilatations, at risk of rupture). MRA is often used to evaluate the arteries of the neck and brain, the thoracic and abdominal aorta, the renal arteries, and the legs.*

***What do the following words refer to ?**

kk. *"Most of its* organs have a great deal of extra capacity"* → "Its" refers to …
ll. *"They* can still function adequately"* → "They" refers to …
mm. *"even though damaged*"* means even if …
nn. *"before they* malfunction"* → "They" refers to …
oo. *"or it* may result in death"* → "It" refers to …
pp. *"that ultimately destroys it*"* → "It" refers to …
qq. *"in which* x-rays are linked with computers"* → "Which" refers to …
rr. *"These* are noninvasive ways to see into the body"* → "These" refers to …

[20] http://en.wikipedia.org/wiki/Image:Mra1.jpg

True or False ? (Be ready to explain).

xiii. Common causes for pneumonectomy (removal of a whole lung) include lung cancer, transplantation and tuberculosis.

xiv. Some lung transplants come from living donors.

xv. "Benign" tumors are not dangerous, unlike "malignant" tumors.

xvi. Other modern, non-invasive techniques of medical imaging include PET (positron emission tomography), ultrasound, and endoscopy.

Questions : (1) Ask questions about the following points, then (2) let someone else answer in a complete sentence (3) using as many of the suggested terms as possible.

WHY -- HOW MUCH -- CAN -- HOW (×2) -- WHAT SORTS/KINDS (×2)

18. *The reason* certain organs can sustain substantial damage without endangering a person's life. *The quantity of* healthy tissue that can maintain adequate liver function. *The possibility of remaining* alive with just one lung. → …

can -- because -- a great deal -- functional -- Indeed[21], -- adequately -- even -- less -- intact -- Likewise, -- healthy -- enable -- to -- despite -- of the other

Organs like …

19. *The potential seriousness of* infarctions in sensitive organs (e.g. the brain or heart). Losses or impairments *that* such infarctions may cause. → …

(a.k.a. -- attack) -- or -- (a.k.a. --) -- especially -- given that -- even -- slight -- causing -- of speech -- motor -- output -- and even

Infarctions that occur …

20. *The relationship between* disease and anatomy. → …

sign of -- such as -- but -- also -- either by -- or by -- and -- supply -- thus causing

Anatomical changes, e.g. …

21. *Tools that* have become essential to the diagnosis and treatment disease. → …

many other -- i.e. nonsurgical -- of seeing -- such as -- (another -- technology) -- (which exploits --) -- (which involves -- chemicals --) -- become -- diseases affecting

Since the discovery of …

22. Make up one original question of your own relating to this section of the article, and write a 2-3 line answer to it using information either from the article or from outside sources.

[21] NB. indeed = used in order to introduce an example, explanation or justification / *en effet*

The Human Body – Part 2

- *a great deal / une bonne quantité, beaucoup*
- *abdomen / 1. l'abdomen OU 2. la cavité abdomino-pelvienne*
- *abdominal cavity / la cavité abdominale (ou abdomino-pelvienne)*
- *abnormal / anormal*
- *according to / selon, en fonction de*
- *actually / en fait, en réalité*
- *adequate(ly) / suffisant (suffisamment), acceptable(ment), (de manière) satisfaisant(e)*
- *adrenal glands / les surrénales*
- *airborne / aérotransporté*
- *airway / une voie respiratoire*
- *although / bien que*
- *amount / une quantité*
- *antibody / un anticorps*
- *antidiuretic (hormone) / antidiurétique*
- *anus / l'anus*
- *artery / une artère*
- *as long as / tant que, à condition que*
- *atom / un atome*
- *autonomic nervous system / le système nerveux neurovégétatif*
- *backward(s) / en arrière*
- *bacterium (pl. bacteria) / une bactérie*
- *balance / l'équilibre*
- *barrier / une barrière*
- *blood vessel / un vaisseau sanguin*
- *bloodstream / le système sanguin, le sang*
- *bodily / corporel*
- *bone / l'os*
- *breakthrough / une percée, une découverte capitale*
- *breathing / la respiration., le souffle*
- *bronchus (pl. bronchi) / la bronche*
- *burn / brûler*
- *cancer / le cancer*
- *CAT scan (Also called CT scan) / le scanner, la tomodensitométrie (TDM)*
- *change / un changement*
- *chemical / une substance chimique*
- *cilium(pl. cilia) / un cil (NB le cil de la paupière = eyelash))*
- *confine (to) / limiter, enfermer, confiner*
- *decrease / diminuer, baisser, (se) réduire*
- *deep / profond*
- *dehydrated / déshydraté*
- *design / concevoir*
- *diagnosis / un diagnostic (NB. pl. = diagnosES; ne pas confondre avec le verbe "to diagnoSE")*
- *digest / digérer*
- *dilate / (se) dilater*
- *disease / une maladie, une pathologie*
- *dramatic / spectaculaire, remarquable*
- *ear / l'oreille*
- *ear canal / le conduit auditif (externe)*
- *enable / permettre à qqn. de, rendre qqn. capable de*
- *endocrine system / le système endocrinien*
- *enlist / mobiliser, faire appel à*
- *entire / entier*
- *epinephrine (adrenaline) / l'adrénaline*
- *esophagus / l'œsophage (m.)*
- *excrete / excréter*
- *exit / sortir*
- *extend (from … to) / s'étendre de… à*
- *extra / supplémentaire, en plus*
- *fail to / échouer, manquer, ne pas réussir*
- *feces / le fecès*
- *fight / combattre*
- *flight / la fuite (aussi : le vol en avion etc.)*
- *float / flotter*
- *flow / couler, circuler*
- *frightened / effrayé*
- *fullness / la satiété*
- *growth / une excroissance, une grosseur (aussi : la croissance)*
- *harm / du mal, du tort*
- *harmful / nuisible, nocif*
- *head / la tête*
- *heart attack / une crise cardiaque, un infarctus du myocarde*
- *heart valve / une valve cardiaque*
- *hemorrhage / une hémorragie*
- *homeostasis / l'homéostasie*
- *hunger / la faim*
- *hydrochloric acid / l'acide chlorhydrique*
- *increase / augmenter*
- *infarction / un infarctus*
- *infection / l'infection*
- *inhale / inhaler, inspirer*
- *intestinal / intestinal*
- *invasive / invasif*
- *joint / une articulation*
- *keep / garder, maintenir*
- *kidney / le rein*
- *large intestine / le gros intestin*
- *layer / une couche, une épaisseur*
- *leak / fuir, s'échapper (liquide), (aussi : une fuite)*
- *life-threatening / qui peut être mortel*
- *ligament / un ligament*
- *limb / un membre*
- *line / recouvrir (l'intérieur)*
- *link with / relier à*
- *magnetic field / un champ magnétique*
- *magnetic resonance imaging (MRI) / l'IRM (imagerie par résonance magnétique)*
- *mainstay / un soutien, un support, une base, un pilier*
- *maintain / maintenir*
- *meal / un repas*
- *metabolic rate / le rythme métabolique, le métabolisme (de base)*
- *muscle / le muscle*
- *neck / le cou*
- *need / un besoin*
- *neither … nor / ni (l'un) ni (l'autre)*
- *network / un réseau*
- *neurotransmitter / un neurotransmetteur, un neuromédiateur*
- *noninvasive / non invasif*
- *normally / habituellement, d'ordinaire*
- *nose / le nez*
- *noticeable / sensible, visible*
- *nutrient / un nutriment*
- *obvious / évident*
- *occur / se produire, avoir lieu*
- *of course / bien sûr*
- *overproduce / surproduire*
- *oxygen / l'oxygène (m.)*
- *pituitary gland / l'hypophyse (f.), la glande pituitaire*
- *pool / un étang, une mare*
- *powerful(ly) / puissant (puissamment), fort*
- *pressure / la pression*
- *prevent (from V-ING) / empêcher (de), (aussi : prévenir)*
- *proceed / se passer, se dérouler, avancer (procéder)*
- *produce / produire*
- *proper / juste, correct*
- *quicken / accélérer, hâter*
- *radionuclide / un radionucléide*
- *radionuclide imaging / °la scintigraphie, °l'exploration radio isotopique, (°techniques de l'imagerie nucléaire)*
- *regulate / régler, réguler*
- *release / (re)lâcher, libérer*
- *rest / le repos*
- *retain / retenir*
- *room for / (assez d') espace pour*
- *saliva / la salive*
- *skull / le crâne*
- *slow (down) / ralentir*
- *small intestine / l'intestin grêle*
- *sound wave / une onde sonore*
- *speed (up) / accélérer*
- *stimulate / stimuler*
- *store / stocker, conserver, garder en réserve*
- *stroke / un accident cérébrovasculaire (vasculaire cérébral), un AVC*
- *sugar / le sucre, les glucides*
- *supply / une provision, un approvisionnement, une alimentation (en…)*
- *surgical(ly) / chirurgical, par intervention chirurgicale*
- *survive / survivre*
- *sweep / balayer*
- *tendon / un tendon*
- *thin / mince, fin*
- *think of (as) / considérer comme*
- *thirst / la soif*
- *throat / la gorge*
- *thyroid gland / la thyroïde*
- *thyroid hormone / une hormone thyroïdienne*
- *tomography / la tomographie*
- *travel / se déplacer*
- *tuberculosis / la tuberculose*
- *two thirds / les deux tiers*
- *ultimately / finalement, en fin de compte, en dernière analyse*
- *ultrasound (scan) / une échographie, un ultrason*
- *unable to+V / incapable de*
- *underproduce / produire insuffisamment*
- *unless / à moins que*
- *until / 1. jusque, jusqu'à ce que 2. (pas) avant*
- *urine / les urines*
- *use / l'usage, la consommation*
- *useful / utile*
- *virus (pl. viruses) / un virus*
- *waste / des déchets, des excréments*
- *wave / une onde*
- *way (to+V / of+V-ING) / une manière de, un moyen de*
- *widen / élargir, agrandir*
- *wind (through) / onduler*
- *windpipe (trachea) / la trachée*
- *without / sans*
- *x-ray / un rayon X*

Medical Vocabulary : The Human Body parts 1 & 2 (*liste récapitulative du vocabulaire à réviser pour l'examen*)
Dorenavant le vocabulaire à réviser sera donné en italique et numéroté en gras.

- abdomen
- abdominal cavity
- abnormal
- adrenal glands
- airways
- amount
- antibody
- antidiuretic hormone
- anus
- aorta
- appendix (vermiform appendix)
- artery
- atom
- autonomic nervous system
- bacterium (pl. bacteria)
- bile
- biopsy
- bladder (urinary)
- blood
- blood vessel
- bloodstream
- bodily
- bone
- brain
- breast
- breathing
- bronchus (pl. bronchi)
- cancer
- CAT scan (Also called CT scan)
- cell division
- cell membrane
- central nervous system
- centriole
- chemical
- chromosome
- cilium (pl. cilia)
- compartment
- connective tissue
- cornea
- cytoplasm
- decrease
- dehydrated
- diagnosis
- diaphragm
- digest
- disease
- drug
- ear canal
- egg (cell)
- endocrine system
- endoplasmic reticulum
- enzyme
- epinephrine (adrenaline)
- epithelium
- esophagus
- excrete
- eye
- feces
- gallbladder
- glandular
- Golgi apparatus
- gross anatomy
- growth
- head
- heart
- heart attack
- heartbeat
- hemorrhage
- homeostasis
- hormone
- hydrochloric acid
- impulse
- impair
- infarction
- infection
- inhale
- insulin
- intestinal
- invasive
- joints
- kidney
- large intestine
- layer
- lens
- life-threatening
- ligament
- limb
- lining
- liver
- lung
- lysosome
- magnetic field
- magnetic resonance imaging (MRI)
- metabolism (metabolic rate)
- microscope
- mitochondrion
- mouth
- mucus
- muscle
- muscle fiber
- neck
- nerve
- network
- neuron (also called *nerve cell*)
- neurotransmitter
- noninvasive
- nose
- nucleolus
- nucleus
- nutrient
- organ
- organelle
- oxygen
- pancreas
- perform
- pituitary gland
- pupil
- radionuclide
- radionuclide imaging
- rate
- receptor
- rectum
- refer to (as)
- ribosome
- saliva
- sample
- skin
- skull
- small intestine
- sound wave
- spinal cord
- spleen
- stomach
- tendons
- throat
- thyroid gland
- thyroid hormone
- tissue
- tomography
- trachea (windpipe)
- tuberculosis
- ultrasound
- ureter
- urethra
- urine
- valve
- vena cava (pl. venae cavae)
- virus (pl. viruses)
- wall
- waste
- wave
- x-rays