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MILITARY MEDICINE

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Пособие состоит из трёх разделов (Units), каждый из которых включает уроки (Lessons), повествующие об истории военной медицины, дисциплинах военной медицины, организации оказания медицинской помощи в чрезвычайных ситуациях. Уроки (Lessons) включают в себя основные секции: отработка активной лексики раздела – Vocabulary; развитие различных навыков чтения (просмотрового, поискового, ознакомительного, изучающего) специальной литературы на английском языке – Reading; упражнения, направленные на развитие навыков устной речи – Speaking; развитие навыков аннотирования и реферирования – Writing; развитие навыков письменного перевода – Written Translation Practice; а также секции для самостоятельной проверки знаний – Questions – и секции с дополнительными заданиями – Extra Activities.

В соответствии с Общеввропейской системой оценки языковой компетенции (Common European Framework of Reference for Languages) пособие рассчитано на обучающихся со средним уровнем знаний английского языка (Intermediate/B1-B2) и выше.

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UNIT I.

THE HISTORY OF MILITARY MEDICINE

LESSON 1. MILITARY MEDICINE IN EARLY CIVILIZATIONS

VOCABULARY

Ex. 1. Study the active vocabulary and memorize the definitions:

1. To improve	to make or become better; to increase the value or good qualities; to advance or make progress in what is desirable. <i>Syn. to enhance</i>
2. Combatant	a person, group, nation, or country engaged in fighting during war. <i>Syn. soldier, warrior, fighter, trooper</i>
3. Weapon(s)	something (such as a gun, knife, sword, or bomb) that is used for fighting or attacking someone or for defending yourself when someone is attacking you; any means used for battle. <i>Syn. arms</i>
4. To emerge	to begin to exist or have power or influence; become visible, known; to come out. <i>Syn. to appear, to arise, to rise</i>
5. To interfere (with)	to become involved in the activities and concerns of other people, especially when your involvement is not wanted; to enter into the concerns of others; to intervene for a particular purpose or without invitation. <i>Syn. to interpose, to impede, to intervene</i>
6. To conquer	to overcome and take control of (a country, city, etc.) by military force; to gain the victory; to defeat. <i>Syn. to subdue, to defeat</i>
7. Survivor	someone (or something) who continues to live, to exist, through a difficult or dangerous period of time, event, or a situation
8. Troops	uniformed military personnel, soldiers, military forces. <i>Syn. army, armed force, fighting force, fighting men</i>
9. To trephine	to perforate (the skull) with a trepan, so as to remove a portion of a bone, and thus relieve the brain from pressure or irritation; to operate on with the trepan (usually on the skull). <i>Syn. to trepan</i>
10. To invade	to enter (a place, such as a foreign country, city) in order to take control by military force; to enter (a place) in large numbers; to enter or be in (a place where you are not wanted). <i>Syn. to encroach, to infringe, to trespass</i>

Ex. 2. Fill in the gaps with the words and phrases from the box below. Use these words to make up your own sentences:

<i>arrow</i>	<i>sword</i>	<i>wound</i>	<i>axe</i>
<i>spear</i>	<i>shield</i>	<i>fracture</i>	<i>battlefield</i>
<i>helmet</i>	<i>herb</i>	<i>injure</i>	<i>swelling</i>
<i>armor</i>	<i>bow</i>	<i>abscess</i>	

1. In primitive times people used ____ finding them in fields and forests to treat ____.
2. Egyptian military physicians demonstrated a surprisingly high level of ____ surgery.
3. The Mesopotamians also learned to use ____, first simple wooden arcs, to kill from a distance with ____.
4. The Sumerians of lower Mesopotamia learned to make weapons that were more effective than wooden ____ and stone ____ in the battle.
5. Sumerians erected the world's oldest known military stone monument, in 2525 B.C that showed a king leading troops wearing ____ and body ____.
6. Prehistoric fighters suffered both from crushing and penetrating ____.
7. Archaeological evidence confirms that ancient people had ____ and ____ for protection and attack during the fight.
8. The prehistoric technique for repairing skull ____ was rather sophisticated.
9. This ____ should be opened up immediately as the patient has high temperature and there is a great risk of infection in this case.
10. Egyptian physicians treated any eye ____ with herbs and ointments.

READING

Ex. 3. Scan Text A and answer the following questions:

1. What kind of weapons did people use in prehistoric times? How do military historians know today about it, and where do they draw this information?
2. Do we know anything today about prehistoric treatment of soft tissue injuries?
3. Did the wounded individual survive the trepanning surgery in primitive times? What can we say about it looking at the found skulls?
4. How did people in Old Biblical Times react to those who interfered with the natural course of the misfortunes, like illnesses or injuries? What did Jews see in this hardship?

5. What can you say about military sanitation and hygiene in the Old Israelite army? Were Hebrew physicians familiar with the secrets of Egyptian and Babylonian medicine?

TEXT A. Military Medicine in Prehistoric Times. Old Biblical Medicine

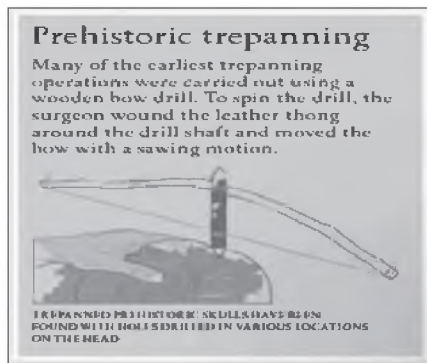
Ex. 4. Read and translate the text:

Primitive Times. Because no written record exists of care for sick or injured combatants in the prehistoric period, military historians rely on information gained indirectly, such as the study of artifacts for information about types of weapons, bones for evidence of injury or attempts to treat it, or surviving primitive cultures for clues to how ancient people with similar technology and lifestyles might have behaved.

Archaeological evidence confirms the use of rocks, clubs, slings, spears, and arrows as weapons, so we can assume that prehistoric fighters suffered both crushing and penetrating injuries. By far the most common direct evidence of injury from combat and its treatment is in surviving skulls. Trephined skulls have been found in Europe, the Americas (primarily Peru and the United States), Africa, and the Pacific Islands. Many of these remains suggest intentional efforts to repair depressed fractures – likely the result of a blow from a blunt object – and 63 percent of those in one collection show signs of healing that suggest that the wounded individual survived the surgery. Some South American skulls have even been fitted with silver plates to cover bony defects. Although they lacked writing, Incas recorded trephine on both vases and statues. The prehistoric technique for repairing skull fractures is suggested by that of early 20th-century Berbers, who rotated pointed iron rods against the head to penetrate bone. However, we know next to nothing about prehistoric treatment of soft tissue injuries as those wounds leave no evidence in skeletal remains.

Biblical Military Medicine (Old Testament). Biblical military medicine covers the history of military medicine in the ancient kingdoms of Israel and Judah.

Study of Old Testament-era military medicine is possible



only thanks to available written sources: the five books of the Torah, the Apocrypha, the Talmud, and the notoriously unreliable historian



A female skull from the Neolithic era (3500 b.c.e.); the patient survived, as there is evidence of healing. (Natural History Museum, Lausanne).

Josephus. Biblical Jews tended to see illness and injury as visitations from God and mistrusted anyone who interfered with the natural course of those misfortunes. The earliest biblical mention of a physician occurs when King Asa of Judah suffered from gangrene of the foot and was gently chastised for seeking the help of physicians rather than going first to God. The first mention of a battle injury is that of King *Joram* in a battle with the Syrians in 700 B.C. Even at the height of their military power under Solomon and David, the Israelites never had large

armies, and no evidence exists that they ever had dedicated military physicians.

They supervised rigid sanitation of water, food and the utensils used in food preparation. Although sanitary regulation of military camps returned with the Romans, neither the Greeks nor the Macedonians had any such rules. The Talmud, mostly in relation to rules of ritual slaughter, contains the only detailed gross pathological descriptions of diseased organs before the work of *Antonio Beniveni* and *Andreas Vesalius* 17 centuries later.

The Bible says nothing of Hebrew military surgeons, although it is known that the Israelites later adopted both splinting and circumcision from the Egyptians and knew how to suture wounds. Israelite physicians were also familiar with crutches and artificial limbs. A single skull from the Assyrian Sennacherib's defeat of *Hezekiah's* forces at Lachish in about 702 B.C. shows a healed trephine opening; proving both that Israelite physicians were capable of opening a wounded skull and having the patient survive.

Ex. 5. Look through Text A again and name the main “achievements” of Prehistoric Times medicine.

ADDITIONAL READING

TEXT B. Mesopotamian Military Medicine (Ancient Babylon)

Ex. 6. Scan the text and find the words that you do not understand. Consult a dictionary to find their meanings:

The story of military medicine parallels the evolution of military technology. Not long after settling into the riverine civilizations, men learned to make weapons that were more effective than wooden spears and stone axes, and, by the time writing emerged around 5000 B.C., the Sumerians of lower Mesopotamia had already moved beyond simply crushing, slashing, and poking with a stick or a stone. They had learned to harden copper into bronze that would hold an edge sharp enough to slice skin and muscle and could, when mounted at the tip of a spear, penetrate any protection that was not metal itself. They also learned to use bows, first simple wooden arcs and then compound recurved models, to kill from a distance.

Mesopotamia, a name derived from the Greek for “between the rivers,” refers to the area between the Tigris and the Euphrates rivers and is encompassed in modern Iraq. Mesopotamia shares the distinction of being a cradle of civilization. The area’s ability to produce large amounts of wheat, made concentrations of people possible, and cities appeared here between the rivers by 4000 B.C. These cities reached populations of 30,000-35,000. With cities came leaders who could precipitate in wars, soldiers who could fight them. The various empires that ruled Mesopotamia lasted almost 5,000 years beginning with the ancient Sumerians, who created the mathematics, from which our decimal system is derived, the time divisions still in use, and writing.

In 2750 B.C., Sargon I of Akkad in the northern part of Mesopotamia invaded Sumer and united the entire valley. The Mesopotamians were aggressively militaristic. After the valley united, the various governments directed their energies against their neighbors. Sumerians erected the



The Code of Hammurabi.
Louvre Museum, Paris

Stele of cultures, the world's oldest known military monument, in 2525 B.C. The great stone shows a king in his chariot (the oldest known military use of the wheel) leading troops in phalanx formation wearing helmets and body armor and carrying metal-tipped weapons.

In some areas, the Sumerians were empirical scientists including medical fields. They introduced the concepts of diagnosis, prognosis, physical examination, and prescriptions. They understood the relation between poor sanitation and disease and built sophisticated water supply and sewer systems. They knew a surprising amount about parasites and insects and their relation to disease. Only two incomplete clay tablets survive that deal directly with Sumerian military medicine, although these writings, which date to 2300 B.C., are the oldest known medical documents. The tablets deal almost exclusively with prescriptions and herbal remedies, but it is possible to infer a good deal about Sumerian medicine from later tablets as the transfer of knowledge in Mesopotamia seems to have been smooth and well maintained from century to century.

The eight-foot-tall black stone inscribed with the Code of Hammurabi includes, in laws 215–233, several statutes dealing with fees and with penalties for malpractice but little else of medical interest. However, Assurbanipal (668–626 B.C.), the last of the great Assyrian kings, was a compulsive book collector. When his library at Nineveh was destroyed, some 30,000 clay tablets, including 800 that deal specifically with medicine, were buried in a trench, from which they were unearthed in 1853. Most are prescriptions, but 40 tablets comprise the Treatise of Medical Diagnosis and Prognosis and form the backbone of what we know about Mesopotamian medicine.

Mesopotamian medicine recognized three ways of healing: incantations and prayers, drugs, most of which were botanicals; and a limited repertoire of surgical procedures. We can guess about their treatment of war wounds and diseases based on what we can glean from knowledge of Mesopotamian medicine in general. The doctors recognized fever and local heat and swelling as the general and local signs of inflammation and, unlike the Greeks and all other practitioners to modern times, had no illusions about pus being a laudable development. They used metal tubes to drain pus and incised abscesses and other wounds with knives identical to those used by barbers for shaving. Wounds were treated in three phases: washing, application of poultices, and bandaging. Unlike the Egyptians, Mesopotamians seem never to have learned to suture wounds or splint fractures.