

**MINISTRY OF HEALTH OF UKRAINE
KHARKIV NATIONAL MEDICAL UNIVERSITY**

MEDICAL TERMINOLOGY

***Self-study guide
for English medium students***

Kharkiv 2013

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Foreword

The language of medicine, historically established on the basis of Latin, along with national medical vocabulary contains great number of Latin loanwords. Word formation and specifically medical terminology of Latin origin is of the crucial importance for medical students. When you work in health care, it is important to know the language of medicine. Doing so is vital to become an integral part of the team and is necessary to follow through on your job responsibility. Being able to speak and understand this language enables you to do your job quickly and efficiently.

The content of the guide is logically organized in three blocks (or modules). The general plan of the guide is as follows: the first four units (module 1) constitute the foundation of the course and introduce the overall approach to understanding the medical language. These units cover basic suffixes, prefixes, and combining forms, as well as terms involving the human body as a whole.

Module 2 (units 5 through 16) focuses on terminology related to the structure and functions of specific body systems (digestive, respiratory systems etc) on the ground of known and new combining forms, providing definitions that help connect words to their meanings. Several learning aids are included in this workbook, such as simple anatomical diagrams and figures representing body parts or systems. Each unit ends with self-check exercises and keys to them aimed to induce you to compare, analyze and realize your knowledge by the fulfillment of these tasks.

Chapters 17 through 20 deal with specialized areas of medicine – cancer medicine, medical imaging, pharmacology and microbiology. At the end of the book you will find the dictionary of combining forms and their meanings.

Every professional working in the health care industry – from first-year medical students to physicians – requires knowledge of the language of the medical terminology. Using the features of this guide you will be able to quickly and effectively perform your job and communicate with other health care professionals.

How to work with the guide

The book begins with two charts demonstrating the course content for the students of medicine and dentistry. Choose your chart. It shows all the topics studied and tests you are to pass. It also contains spaces for your notes.

Units 1 – 4 cover general rules of term analysis. They open with explanation of the rules followed by the list of prefixes, suffices, combining forms. Each unit contains exercises which will help you to get the experience of understanding and building new medical words. Working with these units you will build a medical language vocabulary.

Units 5 – 16 discuss the terminology of the body systems.

Units 17-20 concentrate on special areas of medicine. They continue the general format of the previous units.

Each unit contains a list of combining forms and their meaning. The exercises with keys will give you the opportunity to master and review the material of the unit. They will help you to prepare for the tests which are written after mastering the material of each unit.

Course content (medicine)

Module	Subject	Unit	Notes
1. Orientation to medical terminology	Basic word structure	1	
	Terms pertaining to the body as a whole	2	
	Combined test 1		
	Suffixes and final combining forms	3	
	Prefixes	4	
	Final test 1		
2. Body systems	Digestive system	5	
	Urinary system	7	
	Reproductive system	8	
	Combined test 2		
	Nervous system	9	
	Cardiovascular system	10	
	Respiratory system	11	
	Blood and lymphatic system	12	
	Combined test 3		
	Musculoskeletal system	13	
	Skin	14	
	Sense organs	15	
	Endocrine system	16	
	Final test 2		
3. Diseases, their causes, and treatment	Cancer	17	
	Medical imaging	18	
	Combined test 4		
	Pharmacology	19	
	Microbiology	20	
	Final test 3		

Course content (dentistry)

Module	Subject	Unit	Notes
1. Orientation to medical terminology	Basic word structure	1	
	Terms pertaining to the body as a whole	2	
	Combined test 1		
	Suffixes and final combining forms	3	
	Prefixes	4	
	Final test 1		
2. Body systems	Digestive system	5	
	Teeth and oral facial region	6	
	Urinary system	7	
	Reproductive system	8	
	Combined test 2		
	Nervous system	9	
	Cardiovascular system	10	
	Respiratory system	11	
	Blood and lymphatic system	12	
	Combined test 3		
	Musculoskeletal system	13	
	Skin	14	
	Sense organs	15	
	Endocrine system	16	
Final test 2			
3. Diseases, their causes and treatment	Cancer	17	
	Medical imaging	18	
	Combined test 4		
	Pharmacology	19	
	Microbiology	20	
Final test 3			

Recommended literature and sources of information:

A short course in medical terminology / C. Edward Collins. Philadelphia, Penn.; London: Lippincott Williams & Wilkins, 2006.

Chabner D.-E. Medical terminology : a short course St. Louis, Miss.: Elsevier Saunders, 2005.

Illustrated guide to medical terminology / Juanita J. Davies. Australia; United Kingdom: Thompson Delmar Learning, 2007.

Medical terminology: a living language / Bonnie F. Fremgen, Suzanne S. Frucht. Upper Saddle River, N.J. : Pearson Prentice Hall, 2009.

Medical terminology: a word-building approach / Jane Rice. Upper Saddle River, N.J. : Pearson/Prentice Hall, c2008.

Medical terminology and clinical procedures / Mary Bird. London: National Services for Health Improvement, c2008.

Medical Terminology Made Incredibly Easy, 2nd ed. Philadelphia: Lippincott Williams & Wilkins, 2002.

Medical terminology systems: a body systems approach / Barbara A. Gylys, Mary Ellen Wedding. Philadelphia: F. A. Davis, 2005.

The language of medicine: a write-in text explaining medical terms / Davi-Allen Chabner. Philadelphia; London: Saunders, 2001.

Concise medical dictionary. Oxford : Oxford University Press, 2007.

Dorland's electronic medical dictionary [electronic resource]. London : W.B. Saunders, 2000.

Dorland's illustrated medical dictionary. Philadelphia : Saunders, 2007.

Mosby's medical, nursing, & allied health dictionary. / chief lexicographer Douglas M. Anderson ; lexicographers: Jeff Keith, Patricia D. Novak : lexicographic coordinator: Michelle A. Elliot St. Louis, Mo.; London : Mosby, 2002.

Stedman's Medical dictionary / [editor, Marjory Spraycar ; senior editor, Elizabaeth Randolph] Baltimore ; London : Williams & Wilkins, 1995.

Assessment

The students' knowledge is assessed by means of tests (regular tests, combined tests and module tests). Twenty regular tests are done after each unit. A regular test contains 10 tasks to build a medical word and 10 tasks to analyze a medical word. The students are given 20 minutes to finish this test. The works are assessed by the percent of correct answers: 90-100% - 5; 75-89% - 4, 60-74% - 3; >60 - 2.

A combined test contains 20 tasks to analyze a medical word and 20 tasks to build a medical word. They are assessed in the similar way: 90-100% - 5; 75-89% - 4, 60-74% - 3; >60 - 2.

A module test has three levels. Level one measures understanding. This is a multiple choice test containing 20 tasks to be done in 10 minutes. The works are assessed by the percent of correct answers: 20 answers (100%) - 59 points, 19 answers (97%) - 57 points, 18 answers (93%) - 55 points, 17 answers (90%) - 53 points, 16 answers (87%) - 51 points, 15 answers (83%) - 50 points. The student who has made zero, one, or two mistakes can go to level two.

At level two the students are to do 10 tasks to build a medical word and 10 tasks to analyze a medical word. The works are assessed by the percent of correct answers: 20 answers (100%) - 71 points, 19 answers (97%) - 69 points, 18 answers (93%) - 67 points, 17 answers (90%) - 65 points, 16 answers (87%) - 63 points, 15 answers (83%) - 61 points. The student who has made zero, one or two mistakes can go to level three.

Level three is interview with the head of department or an associate professor. By the results of the interview up to 9 points can be added to the student's mark.

Module test assessment

% of correct answers	Number of correct answers	Level 1 points	Level 2 points
100	20	59	71
97	19	57	69
93	18	55	67
90	17	53	65
87	16	51	63
83	15	50	61

The students who transfer from the Russian medium to the English medium or from the medical school where this subject was not taught do a transfer test.

This test consists of three levels. Level one measures understanding. This is a multiple choice test containing 30 tasks to be done in 10 minutes. The works are assessed by the percent of correct answers: 30 answers (100%) - 59 points, 29 answers (97%) - 57 points, 28 answers (93%) - 55 points, 27 answers (90%) - 53 points, 26 answers (87%) - 51 points, 25 answers (83%) - 50 points. The student who has made zero, one, or two mistakes can go to level two.

At level two the students are to do 10 tasks to build a medical word and 10 tasks to analyze a medical word. The works are assessed by the percent of correct answers: 20 answers (100%) - 71 points, 19 answers (97%) - 69 points, 18 answers (93%) - 67 points, 17 answers (90%) - 65 points, 16 answers (87%) - 63 points, 15 answers (83%) - 61 points. The student who has made zero, one or two mistakes can go to level three.

Level three is interview with the head of department or an associate professor. If the student passes this stage, he gets 180 points (an excellent mark).

Transfer test assessment

% of correct answers	Number of correct answers	Points	Points
100	30	145	175
97	29	140	170
93	28	135	165
90	27	130	160
87	26	125	155
83	25	120	150

Module 1
Orientation to medical terminology
Unit 1
Basic word structure

Unit outline

- I. Objectives of studying medical language**
- II. Word elements and word structure**
- III. Medical term analysis using basic word elements**
- IV. Combining forms, prefixes and suffixes**
- V. Consolidation and self-check**

Unit objectives:

- define the basic parts of a medical term (root, suffix, prefix, combining form, combining vowel)
- learn to divide medical words into their component parts;
- identify the basic parts of a medical term;
- learn basic combining forms, prefixes;
- use these combining forms, prefixes and suffixes to build and analyze medical words;

I. Objectives of studying medical language:

- 1). To analyze words structurally
- 2). To correlate an understanding of words elements with the basic anatomy, physiology, and disease processes of the human body
- 3). To be aware of spelling and pronunciation problems

MEDICAL WORDS

About 90 % of medical words are of Ancient Greek and Latin origin. It is not difficult to understand them. Study the structure of a medical word **cardiologist** (a doctor who treats the heart):

cardi/ o / log / ist

Cardi is a root, **o** – a combining vowel (these two together are a combining form), **log** is another root, **ist** is a suffix. Some combining forms can be used only at the end of the word (they resemble suffixes and are often called suffixes). For example,

-logist - specialist

-logy - science

Combining forms which can be used at the beginning or in the middle of the word:

cardio - heart

hepato - liver

gastro - stomach

entero - intestine

ophthalmo - eye

oto - ear

dermato - skin

stomato - mouth

neuro - nervous system

uro - urinary system

gyneco - woman

histo – tissue

radio - rays

onco - tumor

bio – life

BASIC RULES

1. A **WORD ROOT** PROVIDES THE BASIC MEANING OF THE TERM.

EXAMPLE: HEPAT MEANS LIVER IN THE TERM HEPATITIS (INFLAMMATION OF THE LIVER)

2. A **PREFIX** APPEARS BEFORE THE WORD ROOT TO CHANGE THE MEANING.

EXAMPLE: ADDING OF PREFIX HYPO TO THE TERM DERMIC CHANGES THE MEANING FROM PERTAINING TO THE SKIN TO PERTAINING TO BELOW THE SKIN

3. A **SUFFIX** APPEARS AT THE END OF THE WORD.

EXAMPLE: IN THE TERM HEPATITIS SUFFIX ITIS WHICH MEANS INFLAMMATION IS ADDED TO THE ROOT CARDI.

4. A **COMBINING VOWEL** CONNECTS WORD ROOTS.

EXAMPLE: LARYNGOSCOPE – O CONNECTS TWO ROOTS: LARYNG AND SCOPE IN THE WORD MEANING INSTRUMENT FOR VISUAL EXAMINATION OF THE LARYNX (VOICE BOX)

5. A COMBINING FORM CONSISTS OF A WORD ROOT AND A COMBINING VOWEL.

EXAMPLE: HEPAT + O = HEPATO (A COMBINING FORM MEANING LIVER)

6. A **COMBINING VOWEL** IS NOT USED BEFORE SUFFIXES AND ROOTS BEGINNING WITH A VOWEL, BUT IS USED BETWEEN TWO ROOTS IN A COMPOUND WORD.

7. THE MEANING OF A MEDICAL TERM CAN BE DETERMINED BY STARTING WITH THE SUFFIX AND MOVING BACK TO THE BEGINNING OF THE WORD;

EXAMPLE: HEPATITIS MEANS INFLAMMATION (ITIS) OF THE LIVER (HEPAT)

Remember that each term means more than you can learn from its literary meaning but word analysis will help you to understand complex terminology easier.

Compare the meanings of the terms derived from the word building elements and those described in *Mosby's Medical Encyclopedia for Health Professionals*

TERM	LITERARY MEANING	ENCYCLOPEDIA DEFINITION
Arthritis	Inflammation of the joint	any inflammatory condition of the joints, characterized by pain and swelling
Cardiology	Study of the heart	the study of the anatomy, normal functions, and disorders of the heart
Rhinitis	Inflammation of the nose	inflammation of the mucous membranes of the nose, usually accompanied by swelling of the mucosa and a nasal discharge. It may be complicated by sinusitis. Rhinitis may be acute, allergic, atrophic, or vasomotor

Study the combining forms and their meaning:

COMBINING FORMS

adeno - gland; arthro - joint; bio - life; carcino - cancerous; cardio - heart; cephalo - head; cerebro - brain; ciso - to cut; crino - to secrete; cyto - cell; dermo - skin, dermatology - skin; electro - electricity; encephalo - brain; entero - intestines (usually small intestines); erythro - red; gastro - stomach; geno - producing; gnosis - knowledge; gynecology - woman; hemo - blood; hematology - blood; leuko (leuco) - white; nephro - kidney; neuro - nerve; onco - tumor; ophthalmology - eye; osteo - bone; pathology - disease; physio - nature; psychology - mind; radio - rays; rhinology - nose; scopy - visual examination; sectio - to cut; thrombo - clot; tomo - to cut; uro - urine; algia - pain; cyte - cell; ectomy - surgical removal; emia - blood condition; gram - record; logy - science; oma - tumor; ophthalmology - to view; scope - instrument for visual examination; tome - instrument for cutting; tomy - process of cutting

SUFFIXES

-ac - pertaining to; -al - pertaining to; -ia - condition; -ic - pertaining to; -ist - specialist; -itis - inflammation; -osis - condition;

PREFIXES

a - no; an - no; auto - self; ana - up; dia - complete; endo - within; epi - above; ex - out; exo - outside; hyper - above, excessive; hypo - under; re - back; retro - behind; peri - surrounding; pro - before; trans - across;

Consolidation and self-check

Build medical words:

1. surgical cutting of the gland, 2. science about glands, 3. surgical cutting of the joint, 4. condition of absence of the brain, 5. pertaining to inside the heart, 6. pertaining to developing inside, 7. record of the heart, 8. science about the cells, 9. inflammation of the heart, 10. surgical cutting of the head;

Analyze the words:

11. dermic, 12. gastrotomy, 13. hematic, 14. hemarthrosis, 15. leukocytosis, 16. nephrocardiac, 17. neuritis, 18. pathology, 19. rhinoscopy, 20. psychologist.

Keys:

1. adenotomy, 2. adenology, 3. arthrotomy, 4. anencephaly, 5. endocardiac, 6. endogenic, 7. cardiogram, 8. cytology, 9. carditis, 10. cephalotomy, 11. pertaining to the skin, 12. surgical cutting of the stomach, 13. pertaining to the blood, 14. condition of blood in the joint, 15. disease of white blood cells, 16. pertaining to the kidney and heart, 17. inflammation of nerves, 18. science about diseases, 19. visual examination of the nose, 20. specialist in psychology (science about the mind).

Unit 2

Terms pertaining to the body as a whole

Unit outline

I. Levels of organism organization (cell, tissue, organ, system)

II. Positional and directional terms

III. Combining forms, prefixes and suffixes

IV. Consolidation and self-check

Unit objectives:

- to learn the terms which apply to the structural organization of the body;
- to become acquainted with the terms which describe positions, directions and planes of the body;
- to learn new word elements and use them to build and understand the meaning of medical terms

Positional and directional terms

Anterior	In front of the body
Central	Pertaining to the center
Deep	Away from the surface
Distal	Away from the beginning of the structure
Afferent	Conducting toward a structure
Superior	Pertaining to the head, situated above another structure
Medial	Pertaining to the middle
Inferior	Away from the head, situated below another structure
Proximal,	Pertaining to the beginning of the structure
Efferent	Conduction away from the structure
Lateral	Pertaining to the side
Superficial	Near the surface
Posterior	Back of the body

Study the combining forms and their meaning:

COMBINING FORMS

adipo - fat; antero - front; bolo-throw; caudo - tail; cervico - neck; chondro - cartilage; chromo - colour; coccygo - coccyx; cranio - skull; disto - tar; dorso – back; histo - tissue; ilio - ilium; inguino - groin; karyo - nucleus; latero - side; lumbo - lower back; medio - middle; myo - muscle; pelvo (pelvi) - pelvic cavity; postero - back; proto - first; proximo - near; sacro - sacrum; spino - spine; spondylo - vertebra; thelo - nipple; thoraco - chest; ventro - belly; vertebro - vertebra; viscerio - internal organs

PREFIXES

ana - up; cata - down; epi - above; inter - between; meta - change;

Consolidation and self-check

Build medical words:

1. tumor of fatty tissue, 2. surgical cutting of the cartilage, 3. pertaining to the back, 4. pertaining to tissue development, 5. pertaining to lower back, 6. disease of the heart muscle, 7. pertaining to the sacrum and ilium, 8. surgical cutting of the sacrum, 9. inflammation of joints of the spine, 10. pertaining to the chest

Analyze the words:

11. transthoracic, 12. ventrotomy, 13. viscerogenic, 14. myopathy, 15. medial, 16. lateral, 17. cervical, 18. superficial, 19. anterior, 20. posterior

Keys

1. adipoma, 2. chondrotomy, 3. dorsal, 4. histogenous, 5. lumbar, 6. myocardiopathy, 7. sacroiliac, 8. sacrotomy, 9. spondyloarthritis, 10. thoracic, 11. pertaining to across the chest, 12. surgical cutting of the abdomen, 13. originating from the internal organs, 14. disease of the muscles, 15. pertaining to the middle, 16. pertaining to the side, 17. pertaining to the neck, 18. pertaining to near the surface, 19. pertaining to the front, 20. pertaining to the back

Unit 3

Suffixes and final combining forms

Unit outline

I. Combining forms, prefixes and suffixes

II Plural forms of medical words

III. Combining forms, prefixes and suffixes

IV. Consolidation and self-check

Unit objectives:

- to learn new medical words;
- to learn new word building elements;
- to become acquainted with plural forms of medical words.

Study the combining forms and their meaning:

COMBINING FORMS

abdomino - abdomen; acro - extremities; acuo - sharp; arterio - artery; carcino - cancer; chiro - hand; chondro - cartilage; chrono - time; colo - colon; dactylo - finger (toe); eosino - rosy; gono - seed; granulo - granules; hepato - liver; hydro - water; ischo - to hold back; laparo - abdomen; laryngo - larynx; litho - stone; maxillo - upper jaw; morpho - shape; muco - mucus; myelo - bone marrow; necro - death; oto - ear; peritoneo - peritoneum; phago - to eat; philo - like; phobo - fear; plaso - development; pneumo - lungs; recto - rectum; staphylo - clusters; .strepto - twisted chains; thoraco - chest; tonsillo - tonsils; tracheo - trachea; veno - vein; algia - pain; cele - hernia; -centesis - surgical puncture; -coccus - berry - shaped; -cyte - cell; -ectomy - removal; -emia - blood condition; -genesis - condition of; -graph - instrument for recording; -graphy - process of recording; -malacia - softening; -megaly - enlargement; -odynia - pain; -stomy - to make a new opening; -tomy - cutting; -pathy - disease; -penia - deficiency; -pexy- fixation; -phobia - fear; -plasia - development; -plasty - surgical repair; -poiesis - formation; -ptosis - drooping; -sclerosis - hardening; -scope - instrument for visual examination; -stasis - stopping; -therapy - treatment; -tome - instrument to cut; -trophy - nourishment

SUFFIXES

-itis - inflammation; -lysis - breakdown; -osis - abnormal condition; -ia -condition; -y - condition; -ole - small; -ule - small; -or - one who; -er - one who; -ist - one who; -ic - pertaining to; -al - pertaining to; -ac - pertaining to; -ar - pertaining to; -ary - pertaining to; -ous - pertaining to; -oid - resembling

Plural forms of medical words

Singular ending	Plural ending	Example
A	ae	Vertebra - vertebrae
Ax	aces	Thorax - thoraces
Us	i	Fungus - fungi
Um	A	Bacterium - bacteria
Is	es	Diagnosis - diagnoses
Ma	mas / mata	Carcinoma – carcinomas / carcinomata
On	a	Protozoon - protozoa
Nx	nges	Phalanx - phalanges
Ex	ices	Apex-apices
Ix	ices	Appendix - appendices
En	ina	Lumen - lumina
Ies	ietes	Paries - parietes

BUT: CORPUS – CORPORA, VIRUS – VIRUSES, ARCUS – ARCUS, IRIS – IRIDES, SINUS-SINUSES, APPARATUS-APPARATUS

Consolidation and self-check

Build medical words:

1. small artery, 2. visual examination of the abdomen, 3. cancerous tumor, 4. new opening in the colon, 5. enlargement of fingers, 6. liver cell, 7. hernia of the liver, 8. fixation of the internal organs, 9. pain in the liver, 10. condition of low amount of water,

Analyze the words:

11. ischuria, 12. laparocentesis, 13. laryngotomy, 14. lithogenesis, 15. transabdominal, 16. mucoid, 17. myelogenesis, 18. necrotomy, 19. otoplasty, 20. hyperplasia

Keys:

1. arteriole, 2. abdominoscopy, 3. carcinoma, 4. colostomy, 5. dactylomegaly, 6. hepatocyte, 7. hepatocele, 8. visceropexy, 9. hepatodynia, 10. hydropenia, 11. holding back urine, 12. puncture of the abdomen, 13. surgical cutting of the larynx, 14. development of stones, 15. pertaining to across the abdomen, 16. resembling mucus, 17. development of the bone marrow, 18. surgical cutting of the dead tissue, 19. surgical repair of the ear, 20. excessive growth

Unit 4

Prefixes

Unit outline

I. Combining forms, prefixes and suffixes

II. Consolidation and self-check

Unit objectives:

- to learn basic prefixes used in the medical language;
- analyze medical terms which combine prefixes and other word elements.

Study the combining forms and their meaning:

COMBINING FORMS

amnio - amnion; bolo - to throw; cibo - meals; ciso - to cut; ducto - to lead; furco - branching; glosso - tongue; glyco - sugar; gnoso - knowledge; morpho - shape; morto - death; nati - birth; necto - to connect; normo - rule; oxo - oxygen; pneo - breathing; polio - gray matter of the brain; sectio - to cut; sepsis - infection; somno - sleep; sono - sound; -theo - to place; thelo - nipple; thyro - thyroid; topo - place; toxo - poison; veno - vein; -blast - immature; -crine - secrete; -cyesis - pregnancy; -drome - to run; -fusion - to pour; -grade - to go; -lysis - to break; -meter - to measure; -orrhoea - flow; -partum - birth; -plasia - formation; -physis - to grow; -stasis - to stop; -trophy - development

PREFIXES

a, an - without; ab - away from; ad - toward; ana - up; ante - before; anti - against; auto - self; bi - two; brady - slow; cata - down; con - with; contra - against; dia - complete; dys - bad; ec, ecto - outside; en, endo - within; epi - above; eu - good; ex - away from; hemi - half; hyper - excessive; hypo - under; in - not; in - in; infra - below; inter - between; intra - within; macro - large; mal - bad; meso - middle; meta - between; micro - small; pan - all; para - near; per - through; peri - surrounding; poly - many; post - after; pre - before; pro - before; pseudo - false; retro - back; semi - half; sub - under; supra - above; sym, syn - together; trans - across; ultra - beyond

Consolidation and self-check

Build medical words:

1. condition of no skin, 2. pertaining to the opposite side, 3. bad nourishment, 4. pertaining to a half of the tongue, 5. condition of many fingers, 6. condition of small heart, 7. bad formation, 8. instrument to view small things, 9. condition of small fingers, 10. complete atrophy,

Analyze the words:

11. pancytopenia, 12. polyarthritis, 13. incapacity 14. postencephalitic, 15. pseudoanemia, 16. endocrine, 17. subglossal, 18. suprarenal, 19. supersonic, 20. synostosis

Keys:

1. adermia, 2. contralateral, 3. dystrophy, 4. hemiglossal, 5. polydactyly, 6. microcardia, 7. malformation, 8. microscope, 9. microdactyly, 10. panatropy, 11. insufficiency of all cells, 12. inflammation of many joints, 13. no capacity, 14. pertaining to after the inflammation of the brain, 15. false anemia, 16. secreting inside, 17. pertaining to under the tongue, 18. pertaining to above the kidneys, 19. pertaining to high sound, 20. condition of bones together (fusion of bones).

Module 2
Body systems
Unit 5
Digestive system

Unit outline

I. Anatomy of the digestive system

II. Pronunciation clues

III. Combining forms and related terminology

IV. Combining forms, prefixes and suffixes

V. Consolidation and self-check

Unit objectives:

- learn the names, location, and functions of the major organs of the digestive system;
- understand the terms used to describe the major disease processes which affect these organs;
- learn the combining forms for the organs and structures of the digestive system.

Pronunciation clues

Here are some tips for pronunciation:

- Only the **s** sound in **ps** is pronounced, as in *pseudocarcinoma*
- Only the **n** sound in **pn** is pronounced, as in *pneumococcal*
- **G** and **c** assume the soft sound of **j** and **s**, respectively, when used before **e**, **i** and **y**; examples are *gene*, *gingivitis*, *cytology*
- **G** and **c** have hard sounds in front of other letters, such as *gastritis*, *cardiomegaly*
- **Ph** sounds like **f**, as in *phlegm*
- **X** sound like **z**, as in *xeroderma*
- **Ae** and **oe** are pronounced **ee**, as in *fasciae*
- **I** at the end of a word usually denotes a plural and is pronounced **eye**, as in *bronchi*
- **Es** at the end of a word may be pronounced as a separate syllable, as in *metastases*
- **P** when followed by a consonant (**t**, **n**, etc) in the beginning of a word is **silent** (*pneumonia*, *ptosis*); however, when the **p** is in the middle of the word it is pronounced (*gastroptosis*).

Because phonetic spelling isn't used in medicine, it's important to consult a dictionary when in doubt about pronunciation. Also some terms sound the same but are spelled differently and refer to different things. For example, *ileum* and *ilium* are pronounced alike, but the first term is part of the intestinal tract and the second one is a pelvic bone.

Study the combining forms and their meaning:

COMBINING FORMS

oro - mouth; stomato - mouth; bucco - cheek; lablo - lip; cheilo - lip; denti - tooth; odonto - tooth; gingivo - gum; linguo - tongue; qlosso - tongue; palato - palate; tonsillo - tonsil; sialo - saliva; sialadeno - salivary glands; pharyngo - pharynx; esophago - esophagus; qastro - stomach; celio - abdomen; entero - small intestine; duodeno - duodenum; jejuno - jejunum; ileo - ileum; ceco - cecum; appendico - appendix; appendo - appendix; colo - colon; sigmoido - sigmoid colon; recto - rectum; ano - anus; procto - anus; hepato - liver; chole - bile; bili - bile; cholecysto - gallbladder; choledocho - common bile duct; bilirubino - bilirubin; pancreato - pancreas; peritoneo - peritoneum; spleno - spleen; hernio - hernia; amylo - starch; qlyco - sugar; glyco - sugar; glycogeno - glycogen; lipo - fat; steato - fat; litho - stone; ase - enzyme; -iasis - condition; -prandial - meal-clysis -

washing; -ectasis, ectasia - stretching; -emesis - vomiting; -lysis - destruction; -rrhaphy - suture; -orrhagia - bursting forth of blood; -rrhea - flow; -rrhexis - rupture; -pepsia - digestion;

-phagia - eating; plasty - surgical repair; ptysis - spitting; spasm - involuntary contraction of muscles; -stalsis - constriction; -stasis - stopping; stenosis - tightening; tresia - opening

Consolidation and self-check

Analyze the words:

1) Anorexia; 2) amylase; 3) hyperglycemia; 4) sialadenolith; 5) oral; 6) cholestasis; 7) periesophageal; 8) dysentery; 9) peristalsis; 10) periodontist.

Build medical words:

11) Pertaining to the throat; 12) production of bile; 13) no nourishment of fat; 14) recording of gallbladder; 15) pain in teeth; 16) prolapse of the stomach and colon; 17) specialist in the stomach and intestine; 18) removal of the appendix; 19) inflammation of the liver; 20) involuntary contraction of the tongue.

Keys:

1) Condition of no appetite; 2) starch enzyme; 3) excessive sugar in blood; 4) stones in salivary glands; 5) pertaining to the mouth; 6) stoppage of bile; 7) pertaining to surrounding the esophagus; 8) bad condition of intestine; 9) surrounding contraction; 10) a specialist in the surrounding structures of teeth; 11) pharyngeal; 12) biligenesis; 13) lipoatrophy; 14) cholecystography; 15) odontalgia (dentalgia; odontodynia); 16) gastrocoloptosis; 17) gastroenterologist; 18) appendectomy; 19) hepatitis; 20) glossospasm

Unit 6

Teeth and facial region

Unit outline

- I. Anatomy of the oral cavity and facial region
- II. Terms pertaining to the teeth and facial region
- III. Combining forms, prefixes and suffixes
- IV. Consolidation and self-check

Unit objectives:

- to learn the names, location, and functions of the major structures of the face and oral cavity;
- to understand the terms used to describe the teeth, facial region, and major diseases of these structures;
- to learn the combining forms for the structures of the face and oral cavity.

Study the combining forms and their meaning:

COMBINING FORMS

Adamanto – enamel; alveolo – alveolus; bucco – cheek; cheilo – lip; denti – tooth; dentino – dentin; Enamelo – enamel; gingivo – gum; glosso – tongue; labio – lip; gnatho – jaw; linguo – tongue; mandibulo – lower jaw; maxillo – upper jaw; odonto – tooth; oro – mouth, palato – palate; pharyngo – throat; pulpo – pulp; sialo – saliva; stomato – mouth; tonsillo – tonsil; radi – root; mento – chin; cario – caries; cemento - cementum

SUFFIXES

-schisis – cleft; -lith – stone; -cele – hernia;

Consolidation and self-check

Build medical words:

1. surgical cutting of the lip, 2. inflammation of the tooth socket, 3. pertaining to tooth development, 4. breakdown of the tooth socket, 5. absence of some teeth (decreased number of teeth), 6. tooth breakdown, 7. pertaining to under the tongue, 8. pertaining to the chin, 9. tooth cutting, 10. cleft lip,

Analyze the words:

11. megalodontia, 12. gnathopalatoschisis, 13. macroglossia, 14. prosthodontist, 15. gnathalgia, 16. adamantine, 17. interdental, 18. periodontosis, 19. cementocyte, 20. enameloblast

Keys:

1. Cheilotomy, 2. dentoalveolitis, 3. dentogenous, 4. alveolysis, 5. hypodontia, 6. odontolysis, 7. sublingual, 8. mental, 9. odontotomy, 10. cheiloschisis, 11. condition of large teeth 12. clefting of the jaw and palate 13. large tongue 14. specialist in prosthodontics, 15. pain in the jaw, 16. pertaining to enamel, 17. pertaining to between the teeth, 18. disease of the periodontal membrane, 19. cells producing cementum, 20. immature enamel cells

Unit 7

Urinary system

Unit outline

I. Anatomy of major organs of the urinary system.

II. Urine production.

III. Combining forms, prefixes and suffixes

IV. Consolidation and self-check

Unit objectives:

- learn the location and the function of the organs in the urinary system
- understand the terms used to describe the major disease processes which affect these organs
- be able to use and recognize the combining forms, prefixes and suffixes of the system

Study the combining forms and their meaning:

COMBINING FORMS

cortico - cortex; glomerulo - glomerulus; medullo - medullar; nephro - kidney; reno - kidney; pyelo - renal pelvis; calio - calyx; uro - urine, urea; azoto - urea, nitrogen; uretero - ureter; cysto - urinary bladder, vesico - urinary bladder; urethro - urethra; dipso - thirst; uria - urination, urine; albumino - protein; pyo - pus-; nocti - night; oligo - scanty; bacterio - bacteria

Consolidation and self-check

Analyze the words:

1) Polycystic; 2) cystomorphous; 3) dialysis; 4) cystourethrogram; 5) pyelonephritic; 6) cystoscopic; 7) pyelography; 8) glomerular; 9) nephrohydrosis; 10) urethrodynia.

Build medical words:

11) Pertaining to the meatus; 12) an X-ray record of any portion of the urinary tract; 13) formation of ketones; 14) pertaining to the formation of pus; 15) absence of urine formation (without urine); 16) bile in urine; 17) inflammation of the urinary bladder; 18) pertaining to the glomeruli; 19) cutting of stones in the kidneys; 20) painful urination.

Keys:

1) Pertaining to many sacs containing fluid; 2) relating to the shape of bladder or cyst; 3) complete separation; 4) a record of the bladder and the urethra; 5) pertaining to inflammation of kidneys and renal pelvis; 6) pertaining to the visual examination of the bladder; 7) recording of the renal pelvis; 8) pertaining to glomeruli; 9) condition of water in kidneys; 10) pain in urethra; 11) meatal; 12) urodiagram; 13) ketogenesis; 14) pyogenic; 15) anuria; 16) biliuria; 17) cystitis; 18) glomerular; 19) nephrolithotomy; 20) dysuria.

Unit 8

Reproductive system

Unit outline

I. Major organs of the female reproductive system. Anatomy of the male reproductive system.

II. Combining forms, prefixes and suffixes

III. Consolidation and self-check

Unit objectives:

- to learn the terms which describe the anatomical structure of female reproductive system
- to learn the terms which describe the anatomical structure of male reproductive system
- to study combining forms and terminology of male and female reproductive systems

Study the combining forms and their meaning:

COMBINING FORMS

oophoro - ovary; ovario - ovary; ovo - egg; salpingo - fallopian tubes; -salpinx - fallopian tubes; hystero - uterus; utero - uterus; metro, metrio - uterus; myo - muscle; cervico - cervix; bartholino - Bartholin's gland; vagino - vagina; colpo - vagina; culdo - cul-de-sac; perineo - perineum; episio - vulva; vulvo - vulva; meno - menses; chorio - chorion; amnio - amnion; mammo - breast; masto - breast; lacto - milk; gravido - pregnancy; para - live births; -tocia - birth; -cyesis - pregnancy; -archo - beginning; testo - testis; orchido, orchio, orcho - testis; vaso - vessel; prostato - prostate gland; vesiculo - seminal vessels; epididymo - epididymis; spermo, spermato - spermatozoa; zoo - animal life; andro - male; cryo - cold; crypto - hidden

1. Analyze the words:

1. metrorrhagia; 2. culdorrhexis; 3. cryptomenorrhea; 4. pyometritis 5. hypo-ovarionism; 6. hyperorchidism; 7. vesiculoprosstatitis; 8. spermocytoma; 9. ovariectomy; 10. salpingo-oophorectomy

2. Build medical words

11. sperm in urine; 12. Inflammation of seminal vesicles; 13. muscular layer of the uterus; 14. inflammation of cervix and vagina; 15. narrowing of the vulvar orifice; 16. fear of male 17. tumor of the testis; 18. scanty discharge during menses; 19. suturing of the fallopian tubes; 20. surgical puncture of cul-de-sac

Keys:

1. Bursting forth of blood from the uterus, 2. rupture of the cul-de-sac, 3. hidden menstruation, 4. inflammation with pus in the uterus, 5. condition of low function of the ovaries, 6. excessive function of the testis, 7. inflammation of vesicles and the prostate, 8. tumor of sperm cell, 9. removal of the ovaries and the uterus, 10. removal of the fallopian tubes and ovaries. 11. spermaturia, 12. vesiculitis, 13. myometrium, 14. cervicovaginitis, 15. vulvostenosis, 16. androphobia, 17. orchidoma, 18. hypomenorrhea, 19. salpingorrhaphy, 20. culdocentesis

Unit 9

Nervous system

Unit outline

I. General anatomical structure of the nervous system.

II. Physiology of the nervous system

III. Combining forms, prefixes and suffixes

IV. Consolidation and self-check

Unit objectives:

- to get acquainted with the structure of the nervous system;
- to learn the terms determining the structure of the nervous system;
- to study combining forms.

Study the combining forms and their meaning:

COMBINING FORMS

neuro - nerve; ganglio, ganglione - ganglion; plexo - network; cerebro - brain; encephalo - brain; cerebello - cerebellum; ponto - pons; thalamo - thalamus; ventriculo - ventricles of the brain; myelo - spinal cord; meningo, meningio - meninges; duro - dura mater; algesio - excessive sensitivity to pain; atelo - incomplete; brachio - arm; coccygo - coccyx.; esthesio - sensation; glio - glue; phaso - speech; polio - gray; -asthenia - lack of strength; -paresis - slight paralysis; -plegia - paralysis; taxo - coordination; kinesio - movement

Consolidation and self-check

1. Analyze the words:

1. pontomedullary; 2. kinesthesia; 3. ventriculoscopy; 4. angioparesis; 5. brachiocephalic; 6. atelomyelia; 7. cerebroma; 8. neurotomy; 9. epidural.

2. Build medical words

10. inflammation of the skin and nerves; 11. production of nerve diseases; 12. reduced sensitivity; 13. pain during movements; 14. inflammation of the brain and heart muscle 15. pertaining to the meninges and cortex 16. pertaining to the production of pain 17. pertaining the cortex and thalamus; 18. tumor of ganglion and nerves

Keys:

1. pertaining to the pons and the medulla oblongata, 2. sensation of movement 3. visual examination of cerebral ventricles 4 slight paralysis of vessels, 5. pertaining to the arm and the brain 6. abnormal condition of incomplete development of spinal cord, 7. brain tumor, 8 surgical incision of the nerve, 9. located on the dura mater 10. dermoneural, 11. neuropathogenesis, 12. neuropathogenesis, 13. kinesialgesia, 14. encephalomyocarditis 15 meningocortical, 16. algesiogenic, 17. corticothalamic, 18. ganglioneuroma

Unit 10

Cardiovascular system

Unit outline

I. General structure of the cardiovascular system

II. Anatomy of the heart.

III. Combining forms, prefixes and suffixes

IV. Consolidation and self-check

Unit objectives:

- to learn the structure of the nervous system
- to get acquainted with the function of its constituent parts.
- to study the combining forms and terminology
- to learn to analyze and make up medical terms relating to the structure of the cardiovascular system

Study the combining forms and their meaning:

COMBINING FORMS AND PREFIXES

cardio - heart; corono - heart; aorto - aorta; angio - vessel; vaso - vessel; arterio - artery; arteriolo - arteriole; phlebo - vein; veno - vein; venulo - venule; atrio - atrium; ventriculo - ventricle; valvo - valve; stetho - chest; sphygmo - pulse; oxo - oxygen; athero - yellowish plaque; aneurysmo - aneurysm; de - lack of

Consolidation and self-check

1. Analyze the words:

1. phlebolith; 2. cardiomyopathy; 3. aneurysmoplasty; 4. coronary; 5. ventriculography; 6. phlebotomy 7. cardiomyoliposis; 8. hyperoxia; 9. cardiodynia; 10. atriomegaly.

2. Build medical words

11. high blood pressure; 12. narrowing of the valve; 13. heart muscle; 14. inflammation of a vein; 15. rapid heartbeat; 16. hardening of arteries; 17. lack of oxygen; 18. visual examination of a ventricle; 19. pertaining to the production of yellowish plaques; 20. resembling a vessel

Keys:

1. stone in the vein; 2. bad nourishment of the heart; 3 surgical repair of the aneurysm; 4. pertaining to the heart; 5 process of recording heart ventricles; 6. surgical cutting of veins; 7. condition of fat in the heart muscle; 8. excessive oxygen 9. pain in heart; 10. enlargement of the atrium, 11. hypertension; 12. valvostenosis; 13. myocardium, 14. phlebitis; 15. tachycardia; 16 arteriosclerosis; 17. hypoxia, 18. ventriculoscopy, 19. atherogenic; 20 vasoid

Unit 11

Respiratory system

Unit outline

I. Anatomy of respiration.

II. Physiology of respiration

III. Combining forms, prefixes and suffixes

IV. Consolidation and self-check

Unit objectives:

- to get acquainted with the anatomy and physiology of respiration.
- to learn terminology combining forms and suffixes.
- to learn to analyze and make up medical terms relating to respiratory system

Study the combining forms and their meaning:

COMBINING FORMS

naso - nose; rhino - nose; adenoido - adenoids; tonsillo - tonsils; pharyngo - throat; laryngo - voice box; epiglottis - epiglottis; tracheo - trachea; broncho, bronchio - bronchial tube; bronchiolo - bronchiole; pulmono - lung; pneumono, pneumo - lung, air; lobo - lobe; phreno - diaphragm; pectoro - chest; pleuro - pleura; spiro - to breathe; sinus - sinus, cavity; conio - dust; anthraco - coal dust; alveolo - air sac; oxo - oxygen; cyano - blue; osmia - smell; capnia - carbon dioxide; phonia - voice; -ptysis - spitting; -pnea - breathing; ortho - straight; -thorax - chest; em - in

Consolidation and self-check

1. Analyze the words:

1. pulmonary; 2. pleurolysis; 3. anosmia; 4. anoxia; 5. cyanopsia; 6. dysphasia; 7. dysphagia; 8. hemoptysis; 9 bronchiolitis; 10. pharyngostenosis

2. Build medical words:

11. pertaining to bronchi and lungs, 12. instrument to visually examine the bronchi 13. removal of a lobe of lung; 14. increased (expressive) breathing; 15. inflammation of the voice box, 16. abnormal condition of dust in the lungs; 17. lack of sense of smell; 18. inflammation of small branches of bronchi; 19. difficult breathing; 20. blood in the thoracic cavity

Keys:

1. pertaining to the lungs, 2. destruction of the pleura, 3. no sense of smell, 4. no oxygen, 5 seeing everything in blue, 6. difficult speech, 7. difficult eating, 8. spitting up blood, 9. inflammation of bronchioles, 10. narrowing of pharynx; 11. bronchopulmonary; 12. bronchoscope, 13. lobectomy, 14. lobectomy, 15. laryngitis, 16. pulmonoconiosis, 17. hyposmia, 18. bronchiolitis, 19. dyspnea, 20. hemothorax

Unit 12

Blood and lymphatic systems

Unit outline

I. Blood and lymphatic systems (composition, anatomy, functions).

II. Combining forms, prefixes and suffixes

III. Consolidation and self-check

Unit objectives:

- to acquire basic knowledge about blood and lymph;
- to learn the terms denoting the components of blood and lymphatic system;
- to study combining forms and suffixes;
- to build medical terms related to blood and lymphatic systems.

Study the combining forms and their meaning:

COMBINING FORMS

hemo, hemato - blood; erythro - red; iso - same; chromo - color; poikilo - irregular; sphero - globe; leuko - white; eosino - red; baso - base; neutro - neutral; granulo - granules; myelo - bone marrow; phago - to eat; mono - one; thrombo - clot; fibrino - fibrin; nucleo - nucleus; karyo - nucleus; morpho - shape; reticulo - network; normo - normal; agglutino - clumping; immuno - safe; sidero - iron; -globin - protein; globulin - protein; -blast - immature; emia - blood condition; cytolysis - condition of cell; -philia - attraction for; -poiesis - formation; -stasis - stop; -pheresis - removal; -phoresis - transmission; lympho - lymph; lymphadeno - lymph gland; lymphangio - lymph vessel; spleno - spleen; thymo - thymus gland

Consolidation and self-check

Build medical words:

1. lack of round cells; 2. no formation of granule cells; 3. cell which eats; 4. destruction of fibrin; 5. pertaining to nuclei of many shapes; 6. lack of iron; 7. pertaining to surrounding the thymus gland; 8. blood protein; 9. surgical removal of the lymph gland; 10. surgical puncture of the bone marrow

Analyze the words:

11. thromboplast; 12. reticulocyte; 13. promyelocytosis; 14. microkaryotic; 15. pancytopenia; 16. mononucleosis; 17. plasmapheresis; 18. hypochromia; 19. poikilocytosis; 20. leucotoxic

Keys:

1. spherocytopenia; 2. agranulocytopenia; 3. phagocyte; 4. fibrinolysis; 5. polymorphonuclear; 6. sideropenia; 7. perithymic; 8. hemoglobin; 9. lymphadenectomy; 10. myelocentesis; 11. immature platelet, 12. network cell, 13. cell condition of before bone marrow, 14. pertaining to small nucleus, 15. deficiency of all cells, 16. condition of single nucleus, 17. removal of plasma, 18. condition of deficient color, 19. condition of irregular cells; 20. pertaining to poison in WBC.

Unit 13

Musculoskeletal system

Unit outline

I. Organization of the musculoskeletal system.

III. Combining forms, prefixes and suffixes

IV. Consolidation and self-check

Unit objectives:

- learn the terms relating to the structure and function of bones, joints, and muscles;
- locate and name the major bones of the body;
- make words with and analyze the combining forms, prefixes, and suffixes; and
- learn the terminology relating to the major types of musculoskeletal disease conditions.

Study the combining forms and their meaning:

COMBINING FORMS

osteo - bone; calcio - calcium; -physis - to grow; vertebro - vertebra; spondylo - vertebra; rachio - spinal column; lamino - lamin; kypho - humpback; lordo - swayback; scolio - crooked; myelo - bone marrow; cervico - neck; thoraco - chest.; lumbo - lower back; -blast - immature cell; -clast - to break; -desis - to bind; -malacia - softening; -porosis - passage; cranio - skull; maxillo - upper jaw; submaxillo - lower jaw; mandibulo - lower jaw; claviculo - clavicle; scapulo - shoulder blade; costo - rib; sterno - sternum; humero - humerus; ulno - ulna; olecrano - elbow; radio - radius; carpo - carpus; metacarpo - metacarpals; phalango - phalanges; pelvi - pelvis; ilio - ilium; ischio - ischium; pubo - pubis; acetabulo - acetabulum; femoro - femur; patello - patella; tibio - tibia; fibulo - fibula; peroneo - fibula; calcaneo - calcaneus; arthro - joint; articulo - joint; synovio - synovia; burso - bursa; chondro - cartilage; fibroso - fibrous connective tissue; teno, tendo, tendino - tendons; ligamento - ligament; syndesmo - ligament; ankylo - crooked; amphio - on both sides; syn - together; di, dia - complete; myo - muscle; myoso - muscle; leiomyo - smooth muscle; rhabdomyo - striated muscle; sarco - flesh; myocardio - heart muscle; fascio - fascia; aponeuro - aponeurosis; -sthenia - strength; -trophy - development

Consolidation and self-check

Analyze the words:

1) Chondrogenesis; 2) spondylodysplasia; 3) patellar; 4) pubic; 5) kyphoscoliosis; 6) tenotomy; 7) muscular biopsy; 8) myokinetic; 9) periosteitis; 10) osteocyte.

Build medical words:

11) Pertaining to the lower back; 12) lateral curvature of the spine; 13) relating to two joints; 14) pertaining to the tibia and femur; 15) bad sensation; 16) pertaining to the production of the connective tissue; 17) inflammation of many muscles; 18) pertaining to death of bones; 19) specialist in the study of bones; 20) an immature bone cell.

Keys:

1) Formation of the cartilage; 2) pain in the vertebrae; 3) relating to the kneecap; 4) pertaining to the pubis; 5) abnormal condition of crooked humpback; 6) cutting of the tendon of a muscle; 7) process

of diagnostic examination of a removed muscular tissue; 8) pertaining to the movement of muscles; 9) inflammation of surrounding bones (periosteum); 10) a cell of bones; 11) lumbar; 12) scoliosis; 13) diarticular (diarthric); 14) femorotibial; 15) dysesthesia; 16) sarcogenic; 17) polymyositis; 18) osteonecrotic; 19) osteologist; 20) osteoblast.

Unit 14

Skin

Unit outline

I. Structure of the skin.

II. Combining forms, prefixes and suffixes

III. Consolidation and self-check

Unit objectives:

- identify the layers of the skin and the accessory structures which are associated with the skin;
- build medical terms using the combining forms which are related to the specialty of dermatology
- become familiar with terms used to describe lesions, symptoms, and pathological conditions which relate to the skin

Study the combining forms and their meaning:

COMBINING FORMS

dermo, dermato - skin; cutaneo – skin; xero – dry; pachyo - thick; xantho - yellow; melano - black; leuko - white; albo - white; erythemo - flushed, redness; kerato - horny; acantho - thorny; onycho - nail; unguo - nail; myco - fungus; sebo - sebum; diaphoro - sweat; hidro - sweat.; squamo - scale; histio - tissue; adipo - fat; lipo - fat; tricho - hair; causo - burn

Consolidation and self-check

Analyze the words:

1) Pyoderma; 2) epidermoid; 3) keratosis; 4) squamous; 5) mycotoxicosis; 6) dermatocoinosis; 7) seborrhea; 8) hidrotic; 9) onychomycosis; 10) causalgia.

Build medical words:

11) Bad nourishment of nails; 12) inflammation of sweat gland; 13) formation of sweat; 14) inflammation of skin and joints; 15) pertaining to the nail; 16) an instrument to cut the skin; 17) abnormal thickness of the fingernails or toenails; 18) inflammation of muscles and skin; 19) pertaining to inside skin; 20) red skin.

Keys:

1) pus in the skin; 2) resembling epidermis; 3) abnormal condition of the horny layer; 4) pertaining to scales; 5) poisoning due to the ingestion of fungi; 6) abnormal condition of skin caused by dust; 7) flow of sebum; 8) pertaining to the condition of sweat; 9) fungi on the skin; 10) pain caused by a burn; 11) onychodystrophy; 12) hidradenitis; 13) hidropoiesis; 14) dermatoarthritis; 15) unguis; 16) dermatotome; 17) pachyonychia; 18) adipoplasty; 19) dermatomyositis; 20) erythroderma.

Unit 15

Sense organs

Unit outline

- I. The eye (anatomy and physiology).
- II. The ear (anatomy and physiology).
- III. Combining forms and suffixes.
- IV. Consolidation and self-check

Unit objectives:

- to learn the terms which describe the anatomical structure and physiology of the eye;
- to learn the terms which describe the anatomical structure and physiology of the ear;
- to study combining forms and terminology;
- to build medical terms related to sense organs.

Study the combining forms and their meaning:

COMBINING FORMS

ophthalmo - eye; oculo - eye; coreo, coro - pupil; pupillo - pupil; kerato - cornea; corneo - cornea; sclero - sclera; iro, irido - iris; retino - retina; cyclo - ciliary body of the eye; uveo - vascular layer of the eye; lacrimo - tear; dacryo - tear; dacryoadeno - tear gland; dacryocysto - tear sac; conjunctivo - conjunctiva; blepharo - eyelid; aqueo - water; vitreo - glassy; xero - dry; photo - light; iso - equal; mio - less, smaller; myco - fungus; glauco - gray; amblyo - dull; presbyo - old age; emmetro - in due measure; opla - vision; -tropia - to turn; audio - hearing; acouo - hearing; oto - ear; auro, auri - ear; cerumino - cerumen; stapedo - stapes; myringo - eardrum; tympano - eardrum; salpingo - eustachian tube; mastoido - mastoid process; -emphraxis - obstruction; -cushis - hearing; phonia - sound

Consolidation and self-check

Build medical words:

1. pertaining to dull sensation; 2. condition of stones in the tear gland; 3. dull hearing; 4. slight paralysis of the eyelid; 5. pertaining to the movement of the ciliary body; 6. loss of hearing in old age; 7. excessive softening of the cornea ; 8. bypass between the throat and Eustachian tube; 9. surgical repair of the eardrum and stapes; 10. abnormal condition of dry sclera

Analyze the words:

11. exotropia; 12. subconjunctival; 13. photophobia; 14. intraocular; 15. ophthalmoscope; 16. acoustic; 17. sappingoscopy; 18. coreometer; 19. audiogram; 20. dysphonia

Keys:

1. amblyesthesia, 2. dacryoadenolithiasis, 3. amblyocushis, 4. blepharoparesis, 5. cyclokinetic, 6. presbyacusis, 7. hyperkeratomalacia, 8. pharyngosalpingostomy, 9. tympanostapedoplasty, 10. xerosclerosis; 11. to turn outside, 12. pertaining to under the conjunctiva, 13. fear of light, 14. pertaining to inside the eye, 15. instrument for visual examination of the eye, 16. pertaining to hearing, 17. visual examination of the Eustachian tube, 18. instrument to measure the pupil, 19. record of hearing, 20. bad sound.

Unit 16

Endocrine system

Unit outline

I. The endocrine system.

II. Combining forms, prefixes and suffixes

III. Consolidation and self-check

Unit objectives:

- to distinguish between an endocrine and an exocrine gland;
- to name the major endocrine organs and list the hormones they secrete;
- to locate and identify by labeling diagrams the endocrine glands of the human body;
- to analyze and apply the combining forms associated with the endocrine system.

Study the combining forms and their meaning:

COMBINING FORMS

thyroido, thyro - thyroid gland; toxico - poison; homeo - sameness; calco - calcium; parathyroido - parathyroid glands; stero - solid structure; adreno, adrenal - adrenal glands; cortico - cortex; kali - potassium; natro - sodium; gluco - sugar; glyco - sugar; thyrno - thymus gland; somato - body; gonado - sex glands; lacto - milk; andro - male; pancreato - pancreas; estro - female; testo - testes; dipso - thirst; uro - urine; physis - growth; tocin - delivery

Consolidation and self-check

Analyze the words:

1) Gluconeogenesis; 2) decalcification; 3) adrenocortical; 4) hypogonadism; 5) thyroaplasia; 6) homeotherapeutic; 7) hypoparathyroidism; 8) hyponatremia; 9) pineoblastoma; 10) adrenocarcinoma.

Build medical words:

11) Removal of the adrenal gland(s); 12) excessive sugar in blood; 13) tumor of the thymus gland; 14) pertaining to the cortex; 15) one who produces male; 16) pertaining to above kidneys (x2); 17) no strength in the body; 18) pertaining to the bodily sensation (conscious awareness of the body); 19) pertaining to the study of the causes; 20) excision of sex glands (ovary or testis).

Keys:

1) New formation of glucose; 2) getting rid of calcium; 3) pertaining to suprarenal cortex; 4) low function of sex glands; 5) no development of the thyroid gland; 6) relating to the treatment with sameness; 7) low function of the parathyroid glands; 8) low sodium in blood; 9) a tumor arising from immature cells in the pineal gland; 10) a cancerous tumor of adrenal glands; 11) adrenalectomy; 12) hyperglycemia; 13) thymoma; 14) cortical; 15) androgen; 16) adrenal (suprarenal); 17) somatasthenia; 18) somatesthetic; 19) etiology; 20) gonadectomy.

Unit 17

Cancer

Unit outline

I. Cancer (etiology, cancerous tumors, heredity, treatment)

II. Combining forms, prefixes and suffixes

III. Consolidation and self-check

Unit objectives:

- to get acquainted with cancer medicine (etiology, heredity, cancerous tumors, treatment);
- to learn the terms determining cancer medicine;
- to study combining forms and suffixes;
- to build medical terms related to cancer medicine.

Study the combining forms and their meaning:

COMBINING FORMS

onco - tumor; carcino - cancer; sarco - flesh; adeno - gland; leiomyo - smooth muscle; rhabdomyo - striated muscle; lipo - fat; osteo - bone; scirrho - hard; medullo - soft; papillo - nipple-like; polypo - polyp; cysto - sac of fluid; alveolo - small sac; folliculo - small sac; pleo - more; terato - monster; -plasia - formation; -plasm - formation, karyo - nucleus; nucleo - nucleus; muto - mutation; bolo - to cast; somo - body; ribo - sugar; chromo - color; mito - thread; proteo - first; zymo - catalyst, muta - change; retino - retina of the eye; germo - seed; carcino - cancer; onco - tumor; iono - ions; radio - rays, x-rays; viro - virus; chemo - drug; pharmaco - drug; toxo - poison; loxico - poison; cryo - cold; cautero - heat; mito - thread; xero - dry; polypo - polyp; -cidal - pertaining to killing

SUFFIXES

-oid - resembling; -oma - tumor

PREFIXES

ana - up; epi - upon; meta - change, near, beyond

Consolidation and self-check

Build medical words:

1. body of fat; 2. destruction of a nucleus; 3. production of catalysts; 4. pertaining to excessive color; 5. immature tumor of the retina brain; 6. process of "throwing down"; 7. pertaining to attraction for sugar; 8. fear of drugs; 9. process of "casting up"; 10. incision into the tumor of the thymus gland

Analyze the words:

11. toxicopathic; 12. mitogenesis; 13. cyanesthesia; 14. oncotomy; 15. germocidal; 16. toxicography; 17. canceroid; 18 radiodiagnosis; 19. cancerolytic; 20. cryopathy

Keys:

1. liposome; 2. karyolysis; 3. zymogenesis; 4. hyperchromatic; 5. retinoblastoma; 6. catabolism; 7. ribophilic; 8. pharmacophobia / chemophobia; 9. anabolism; 10. thymoncotomy; 11. pertaining to disease due to poison, 12. production of threads, 13. no sensation of cold, 14. cutting of tumour, 15. pertaining to killing seeds, 16. recording of poisons, 17. resembling cancer, 18. complete knowledge using rays, 19. pertaining to destruction of cancer; 20. disease caused by cold.

Unit 18

Medical imaging

Unit outline

I. Medical imaging.

II. Combining forms, prefixes and suffixes.

III. Consolidation and self-check

Unit objectives:

- to get acquainted with radiography, radiology, X-ray examination;
- to learn the terms connected with medical imaging;
- to study combining forms and suffixes;
- to build medical terms related to medical imaging.

Study the combining forms and their meaning:

COMBINING FORMS

radio - rays; roentgeno - x-rays; tele - distant; iso - same; iono - wander; thermo - heat; xero - dry; sono - sound; echo - sound; luco - light; -opaque - dark; opaco - to light rays; fluoro - luminous; cine - movement; stereo - solid, 3-dimensional; tomo - to cut; scinti - spark; -graphy – process of recording; graph - instrument for recording; -gram - record

PREFIXES

intra - within; inter - between

Consolidation and self-check

Build medical words:

1. recording of sparks; 2. pertaining to visual examination of heat; 3. abnormal condition of excessive luminosity; 4. study of the urine with x-rays; 5. process of recording of the ventricles of the brain; 6. pertaining to ions; 7. sound recording with movement; 8. abnormal condition of unequal dryness; 9. inflammation of the region between the kidneys; 10. pertaining to inside the artery

Analyze the words:

11. radiologist; 12. intravenous; 13. radiopaque; 14. xeroradiography; 15. radiotherapy 16. echogram; 17. thermograph; 18 fluoroscopy; 19. lymphangiogram; 20 lucotherapy

Keys:

1. scintigraphy; 2. thermoscopic; 3. hyperfluorosis; 4. radiourology; 5. ventriculography; 6. ionic; 7. cineasonography; 8. anisoxerosis; 9. internephritis; 10. intraarterial; 11. specialist in rays, 12. pertaining to inside the vein, 13. dark rays, 14. process of recording of dryness, 15. treatment with movement, 16. record of sound, 17. instrument to record heat, 18. visual examination of luminosity, 19. record of lymph vessels; 20. treatment with light.

Unit 19

Pharmacology

Unit outline

I. Pharmacology (drug names, administration of drugs, drug classes)

II. Combining forms, prefixes and suffixes

III. Consolidation and self-check

Unit objectives:

- to get acquainted with pharmacology (drug names, administration of drugs, drug classes);
- recognize the terms which describe different types of drug actions and drug toxicities;
- to study combining forms and suffixes;
- to build medical terms related to pharmacology.

Study the combining forms and their meaning:

COMBINING FORMS

pharmaco - drug; chemo - drug; toxo, toxico - poison; linguo - tongue; dermo - skin; entero - intestine; veno - vein; theco - sheath; aero - air; ergo - work; idio - individual, distinct, own; iatro - physician; craso - disease; phylaxis - protection; narco - numbness; pyro - fever; hypno - sleep; esthesio - feeling; algesio - sensitivity to pain; histo - tissue; vaso - vessel; ergo - work; myco - mold; vito, vita - life; -cidal - killing; -static - stopping; -phoria - feeling; -phylaxis - protection; -mimetic - to copy; -lytic - destruction

PREFIXES

anti - against; intra - within; contra - against

Consolidation and self-check

Build medical words:

1. condition of work together; 2. poisons in blood; 3. pertaining to against infection; 4. pertaining to inside muscles; 5. pertaining to against fever; 6. no sensation of pain; 7. good feeling; 8. pertaining to killing viruses; 9. pertaining to work of adrenal gland; 10. pertaining to no sensation.

Analyze the words:

11. narcotic; 12. hypnotic; 13. antibiotic; 14. bacteriostatic; 15. sympatholytic; 16. sympathomimetic; 17. prophylaxis; 18. dyscrasia; 19. hypodermic; 20. pharmacology

Keys:

1. synergism; 2. toxemia; 3. antiseptic; 4. intramuscular; 5. antipyretic; 6. analgesia; 7. euphoria; 8. viricidal; 9. adrenergic; 10. anesthetic; 11. pertaining to numbness, 12. pertaining to sleep, 13. pertaining to against life, 14. pertaining to stopping of bacteria, 15. pertaining to destruction of disease together, 16. pertaining to copy disease together, 17. before protection, 18. condition of bad mixture, 19. pertaining to under skin; 20. study of drugs.

Unit 20

Microbiology

Unit outline

- I. An introduction to the microbial world.
- II. Combining forms, prefixes and suffixes
- III. Consolidation and self-check

Unit objectives:

- to learn the medical terms related to the general characteristics of microorganisms;
- to understand the basis for classification of microorganisms
- to learn combining forms related to the specialty of microbiology.

Study the combining forms and their meaning:

COMBINING FORMS

amebo-ameba; diplo-double; etio-cause; onto-being; staphylo-clusters; strepto-twisted chains; xeno-foreign

SUFFIXES AND FINAL COMBINING FORMS

-amine-acid; -coccus-berry-shaped; -iasis-condition; -static-pertaining to; -phyte-plant

Consolidation and self-check

Analyze the words:

1) Oncogenic; 2) antiseptic; 3) antibiotic; 4) microbiology; 5) xenophobia; 6) bacterioid; 7) pyrogenic; 8) bacteriosis; 9) protozoology; 10) pyemia.

Build medical words:

11) Pertaining to many forms; 12) the study of bacteria; 13) disease caused by poison; 14) double spherical-shaped bacteria; 15) pertaining to the production of individual (being); 16) resembling fungi; 17) bacteria in blood; 18) killing of fungi; 19) pertaining to the stopping of fever; 20) study of viruses.

Keys:

1) Relating to the production of tumors; 2) pertaining to against infection; 3) pertaining to against abnormal condition of life; 4) science about small lives; 5) fear of strangers; 6) resembling bacteria; 7) relating to the production of fever; 8) abnormal condition of bacteria; 9) the study of protozoa; 10) presence of pus in blood; 11) polymorphous; 12) bacteriology; 13) toxicopathy; 14) diplococci; 15) ontogenic; 16) mycoid; 17) bacteriemia; 18) mycocidal; 19) pyrostatic; 20) virology.

COMBINING FORMS, PREFIXES, SUFFIXES

(combining form - meaning)

a - without
ab - away from
abdomino - abdomen
acouo - hearing
acro – extremities
-ac – pertaining to
ad – forward
adamanto- enamel
adeno - gland
adipo - fat
adrenalo - adrenal glands
adreno - adrenal glands
aero - air
algesio - ex-cessive sensitivity to pain
-al – pertaining to
albo – white
albino - white
-algia - pain
al-veolo - air sac, alveolus
amblyo- weak, dull
amnio- amnion
amylo - starch
an - no
andro – male
aneurysmo - aneurysm
angio - vessel
ano - anus
ante - befo-re
antero - front
anthraco - coal dust
anti - against
aorto – aorta
appendo – appendix
appendoco – appendix
aqueo- water
arteriolo - arteriole
arterio - artery
arthro - joint
articulo - joint
-ase - enzyme
atelo- incomplete
-asthenia – no strength
athero – yellowish plaque
atrio - atrium
audio - hearing
auri - ear
auro - ear
auto – self

azoto - nitrogen
bacterio – bacteria
bi - two
bili - bile
bilirubino - bilirubin
bio - life
-blast - immature cell
blepharo - eyelid
brachio - arm
brady - slow
bronchio - bronchial tube
bronchiolo- bronchiole
broncho - bronchial tube
bucco - cheek
burso - bursa
calcaneo – heel bone
calio - calyx
-capnia – carbon dioxide
calcio – calcium
calco - calcoum
carcino - cancer
cardio – heart
cario – caries
carpo - wrist
cata – down
caudo - tail
ceco - cecum
-cele- hernia
celio – abdomen
cemento - cement
-centesis - surgical puncture
cephalo - head
cerebro – brain
cerebello- cerebellum
cerumino - cerumen
cervico - neck
cheilo - lip
chemo - drug
chole - bi-le
cholecysto – gallbladder
chromo- color
cineo- movement
colono – colon
colpo - vagina
chondro - cartilage
-cidal - killing
ciso - to cut
claviculo - clavicle
-clysis - washing
-coccus - berry-shaped
coccygo - coccyx

colo - colon
 con - with
 conio – dust
 conjunctivo - conjunctiva
 contra – against
 coreo- pupil
 coro- pupil
 corneo - cornea
 corono - heart
 cortico - cortex
 costo - rib
 cranio – skull
 craso- disease
 -crine - secrete
 crino - to secrete
 cryo – cold
 crypto – hidden
 cusic- hearing
 cutaneo - skin
 cyano – blue
 cyclo- ciliary body
 -cyesis - pregnancy
 cysto - urinary bladder
 -cyte - cell
 cyto - cell
 cytosis - condition of cell
 dacryo - tear
 -empraxis – obstruction, blockage
 enamelo - enamel
 encephalo - brain
 endo - within
 entero - intestines
 eosino - pink
 epi - above
 epididymo - epididymus
 epiglotto – epiglottis
 ergo- work
 erythemo- redness
 erythro - red
 esophago - esophagus
 esthesio – feeling
 estro- female
 etio-cause
 eu - good
 ex - out
 exo – outside
 fascio - fascia
 femoro - femur
 fibulo – fibula
 fibrino- fibrin
 fluoro- luminous
 folliculo - small sac

dactylo - finger (toe)
 de - lack of
 denti – tooth
 dentino- dentin
 -derma - skin
 dermato - skin
 dermo - skin
 dia – complete
 diplo- double
 dipso - thirst
 disto - far
 dorso - back
 ducto - to lead
 duodeno - duodenum
 duro - dura mater
 dynia - pain
 dys - bad
 echo - sound
 ectasia - stretching
 -ectasis- stretching
 ecto - outside
 -ectomy - surgical removal
 electro - electric-city
 em - in
 -emesis - vomitig
 -emia - blood condition
 emmetro- in due measure
 furco - branching
 gastro - stomach
 -genesis – development, production, origin
 geno – producing
 germo- seed
 gingivo – gum
 glauco- gray
 -globin - protein
 -globulin - protein
 glomerulo - glomerulus
 glosso - tongue
 gluco - sugar
 glyco – sugar
 gnatho - jaw
 gonado - sex glands
 gono - seed
 -gram - record
 granulo - granules
 -graph - instrument for recording
 -graphy - process of recording
 gravido- pregnancy
 gyneco - woman
 hemato - blood
 hemi - half
 hemo - blood

hepato – liver
hernio- hernia
hidro - sweat
histo – tissue
homeo- constant
humero - humerus
hydro - water
hyper - above
hypno - sleep
hypo - under
hystero - uterus
-ia - condition
-iasis - condition
iatro – physician
-ic – pertaining to
idio-individual
ileo - ileum
ilio - ilium
immuno - safe
in – in; no
infra - below
inter - between
intra – within
iono-charged particles
irido – iris
iro - iris
ischio - ischium
ischo - to hold back
iso - equal
-ist - specialist
-itis - inflammation
jejuno - jejunum
kali - potassium
karyo - nucleus
kerato - cornea
ki-nesio - movement
labio - lip
lacrimo - tear
lacto - milk
laparo - abdomen
laryngo - larynx
latero - side
leiomyo - smooth muscle
leuko - white
ligamento - ligament
linguo - tongue
lipo – fat
- lith - stone
litho - stone
lobo - lobe
-logy – science
luco- light

lumbo - lower back
lympho - lymph
-lysis – destruction
- lytic – pertaining to destruction
macro - large
mal - bad
-malacia - softening
mammo - breast
mandibulo - lower jaw
masto - breast
mastoido – mastoid process
maxillo - upper jaw
medio- middle
medullo - medullary
-megaly - enlargement
melano - black
meningio - meninges
meningo - meninges
mento- chin
meso – middle
meato- meatus
meta – between
metacarpo - metacarpus
-meter - to measure
metrio – uterus
metro - uterus
micro – small
mimetic – mimic, copy
mito- thread
mio- small
mono - one
morpho - shape
muco - mucus
muta - change
myco - fungus
myelo - bone marrow
myelo - spinal cord
myo - muscle
myoso – muscle
myringo- eardrum
narco - numbness
naso - nose
nati – birth
natro- sodium
necro - death
nephro - kidney
neuro - nerve
neutro – neutral
nocti- night
normo - normal
nucleo - nuc-leus
oculo - eye

odonto - tooth
 -oid – resembling
 -ole - small
 oligo - scanty
 -oma - tumor
 onco – tumor
 onycho - nail
 oophoro - ovary
 -opaque – dark
 opaco- dark
 ophthalmo - eye
 -opia - vision
 -opsy - to view
 orchido - testis
 orchio - testis
 orcho - testis
 oro – mouth
 -orrhoea - flow
 -orrhagia - bursting forth of blood
 ortho - straight
 -osis - condition
 -osmia - smell
 osteo - bone
 oto – ear
 -ous – pertaining to
 ovario - ovary
 ovo - egg
 oxo – oxygen
 pachy- thick, heavy
 pachyo- thick, heavy
 palato- palate
 pan - all
 pancreato - pancreas
 papillo - nipple-like
 para – near
 parathyroido – parathyroid gland
 -paresis - slight paralysis
 - partum – delivery
 patello – knee cap
 patho - disease
 -pathy - disease
 pectoro - chest
 pelvi - pelvis
 -penia - deficiency
 -pepsia - digestion
 per - through
 peri – surrounding
 perineo - peineum
 peritoneo - peritoneum
 -pexy - fixation
 -phagia - eating
 phago - to eat

phalango - phalanges
 pharmaco - drug
 pharyngo - pharynx
 phaso - speech
 -pheresis - removal
 -philia - attraction for
 phlebo - vein
 -phobia - fear
 -phonia - sound
 -phonia - voice
 -phoresis - trans-mission
 -phoria - feeling
 photo - light
 phreno - diaphragm
 -physio- nature
 -physis – growth
 pineo- breathing
 -plasia - deve-lopment
 - plasm - growth
 -plasty - surgical repaire
 -ple-gia - paralysis
 pleo- more
 pleuro – pleura
 plexo - plexus
 -pnea - breat-hing
 pneo - breathing
 pneumo - lung
 pneumono – lung
 -poiesis – formation
 poikilo- irregular
 polio- gray matter
 ponto - pons
 poly – many
 polypo- polyp
 porosis - passage
 post - after
 postero - back
 -prandial – meal
 pre – before
 presbyo- old age
 pro – before
 proteo- first
 procto - anus
 pros-tato - prostatic gland
 proximo - near
 pseudo - false
 psycho - mind
 -ptosis - drooping
 -ptysis – spitting
 pubo – pubic bone
 pulmono – lung
 pulpo- pulp

pupillo - pupil
 pyelo - renal pelvis
 pyloro - pylorus
 pyo - pus
 pyro – fever
 radi - root
 radio – rays, radius
 recto - rectum
 reno - kidney
 reticulo - network
 retino - retina
 retro – back
 rhabdomyo – striated muscle
 rhino – nose
 ribo- sugar
 -rrhaphy - suture
 -rrhea - flow
 -rrhexis – rupture
 salpingo – fallopian tube; eustachian tube
 sacro – sacrum
 sarco- flesh
 scapulo - shoul-der blade
 schisis – cleft
 scinti- spark
 scirrho- hard
 sclero - sclera
 -sclerosis - hardening
 scope - instru-ment for visual examination
 scopo - visual examination
 sebo - sebum
 sectio - to cut
 semi - half
 sepsis - infection
 sialo – saliva
 sidero - iron
 sigmoido - sigmoid colon
 sinuso – sinus
 somo- body
 somato - body
 some – body
 squamo- scale
 spasm – sudden contraction of muscles
 spermato - spermatozoa
 spermo – spermatozoa
 sphero – globe-shaped
 sphygmo - pulse
 spino - spine
 spiro - to bre-athe
 spleno - spleen
 spondylo - vertebra
 -stalsis – contraction
 stapedo – stapes

staphylo- grapes
 -stasis – stop
 -static – pertaining to stopping
 -stenosis - tightening
 sterno – sternum
 stereo- three-dimensional
 stero- solid
 -sthenia - strength
 stomato - mouth
 -stomy - to make a new opening
 strepto- twisted chains
 sub - under
 submaxillo - lo-wer jaw
 super - above
 supra - above
 sym - together
 syn – together
 syndesmo – ligament
 synovio- synovia
 tacy – fast
 taxo- order
 tele – distant
 terato- monster
 testo - testes
 tha-lamo – thalamus
 theco- sheath, meningeal covering
 -therapy - treatment
 thermo - heat
 thoraco - chest
 -thorax - chest
 thrombo - clot
 thymo - thy-mus gland
 thyro - thyroid gland
 tibio - tibia
 -tome - instrument for cutting
 tomo - to cut
 -tomy – surgical cutting
 tonsillo - tonsil
 topo- place
 tocia - delivery
 toxico - poison
 toxo - poison
 tracheo - trachea
 trans – across
 -tresia - opening
 tric-ho - hair
 -trophy – development, nourishment
 -tropia - turn
 tympano - eardrum
 - ule – small
 ulno - ulna
 ultra - be-yond

unguo - nail
uretero - ureter
urethro - urethra
-uria – urination, urine
uro – urine
uveo- vascular layer of the eye
utero – uterus
vagino - vagina
valvo - valve
vaso - vessel
veno - vein
ventriculo – ventricle
ventro – belly
venulo - venule
vertebro - vertebra
vesico - urinary bladder
viro - virus
viscero - internal organs
vita- life
vitreo-vitreous body
vulvo - vulva
xantho - yellow
xeno- foreign
xero – dry
-y - condition
zoo - animal life
zymo- catalyst

(meaning - combining form)

abdomen - abdomino
abdomen - celio
abdomen - laparo
above - epi
above - hyper
above - super
above - supra
across - trans
adius - radio
adrenal glands - adrenalo
adrenal glands - adreno
after - post
against - anti
against - contra
air - aero
air sac, alveolus - al-veolo
all - pan
amnion - amnio
aneurysm - aneurysmo
animal life - zoo
anus - ano
anus - procto
aorta - aorto
appendix - appendo
appendix - appendoco
arm - brachio
arteriole - arteriolo
artery - arterio
atrium - atrio
attraction for - -philia
away from - ab
back - dorso
back - postero
back - retro
bacteria - bacterio
bad - dys
bad - mal
befo-re - ante
before - pre
before - pro
belly - ventro
below - infra
berry-shaped -coccus
between - inter
between - meta
be-yond - ultra
bile - bile
chole-bile
bilirubin - bilirubino
birth - nati
black - melano

blood - hemato
blood - hemo
blood condition - -emia
blue - cyano
body - somato
body - -some
body - somo
bone - osteo
bone marrow - myelo
brain - cerebro
branching - furco
breast - mammo
bre-ast - masto
bre-athe - spiro
breathing - pineo
breat-hing - -pnea
breathing - pneo
bronchial tube - bronchio
bronchial tube - broncho
bronchiole - bronchiolo
bursa - burso
bursting forth of blood - -orrhagia
calcium - calcio
calcoum - calco
calyx - calio
cancer - carcino
carbon dioxide - -capnia
caries - cario
cartilage - chondro
catalyst - zymo
cause - etio
cecum - ceco
cell - cyte
cell - cyto
cement - cemento
cerebellum - cerebello
cerumen - cerumino
change - muta
cheek - bucco
chest - pectoro
chest - thoraco
chest - -thorax
chin - mento
ciliary body - cyclo
clavicle - claviculo
cleft - -schisis
clot - thrombo
coal dust - anthraco
coccyx - coccygo
cold - cryo
colon - colo
colon - colono

color - chromo
complete - dia
condition - -ia
condition - -iasis
condition - -osis
condition - -y
condition of cell - cytosis
conjunctiva - conjunctivo
constant - homeo
contraction - -stalsis
copy - mimetic
cornea - corneo
cornea - kerato
cortex - cortico
cut - sectio
cut - tomo
dark - opaco
dark - -opaque
death - necro
deficiency - -penia
delivery - - partum
delivery - - tocia
dentin - dentino
destruction - -lysis
development - -plasia
development, nourishment - -trophy
enamel - enamelo
enlargement - -megaly
enzyme - -ase
epididymus - epididymo
epiglottis - epiglottis
equal - iso
erain - encephalo
esophagus - esophago
eustachian tube - salpingo
excessive sensitivity to pain - algesio
extremities - acro
eye - oculo
eye - ophthalmo
eyelid - blepharo
fallopian tube - salpingo
false - pseudo
far - disto
fascia - fascio
fast - tachy
fat - adipo
fat - lipo
fear - -phobia
feeling - esthesio
feeling - -phoria
female - estro
femur - femoro

development, production, origin - -genesis
diaphragm - phreno
digestion - -pepsia
disease - craso
disease - patho
disease - -pathy
distant - tele
double - diplo-
down - cata
drooping - -ptosis
drug - chemo
drug - pharmaco
dry - xero
duodenum - duodeno
dura mater - duro
dust - conio
ear - auri
ear - auro
ear - oto
eardrum - myringo
eardrum - tympano
eat - phago
eating - -phagia
egg - ovo
electricity - electro
enamel - adamanto
fever - pyro
fibrin - fibrino
fibula - fibulo
finger (toe) - dactylo
first - proteo-
fixation - -pexy
flesh - sarco
flow - -rrhea
flow -orrhea
foreign - xeno
formation - -poiesis
forward - ad
front - antero
fungus - myco
gallbladder - cholecysto
gland - adeno
globe-shaped - sphero
glomerulus - glomerulo
good - eu
granules - granulo
grapes - staphylo
gray - glauco
gray matter - polio
growth - -physis
growth - plasm
gum - gingivo

hair - tric-ho
 half - hemi
 half - semi
 hard - scirrho
 hardening - -sclerosis
 head - cephalo
 hearing - acouo
 hearing - audio
 hearing - cusic
 heart - cardio
 heart - corono
 heat - thermo
 heavy – pachy
 heavy – pachyo
 heel bone - calcaneo
 hernia - cele
 hernia - hernio
 hidden - crypto
 hold back - ischo
 humerus - humero
 ileum - ileo
 ilium - ilio
 immature cell - -blast
 in - em
 in – in
 in due measure - emmetro
 incomplete - atelo
 infection - sepsio
 inflammation -itis
 instrument for cutting - -tome
 instrument for recording - -graph
 instru-ment for visual examination - scope
 internal organs - viscero
 intestines - entero
 iris - irido
 iris - iro
 iron - sidero
 irregular - poikilo
 ischium - ischio
 jaw - gnatho
 jejunum - jejuno
 joint - arthro
 joint - articulo
 kidney - nephro
 kidney - reno
 killing - cidal
 knee cap - patello
 lack of - de
 large - macro
 larynx - laryngo
 life - bio
 life - vita

ligament - ligamento
 ligament - syndesmo
 light - luco
 light - photo
 lip - cheilo
 lip - labio
 liver - hepato
 lobe - lobo
 lower back - lumbo
 lower jaw - mandibulo
 lo-wer jaw - submaxillo
 luminous - fluoro
 lung - pneumo
 lung - pneumono
 lung - pulmono
 lymph - lympho
 make a new opening - -stomy
 male - andro
 many - poly
 mastoid process - mastoido
 meal - -prandial
 measure - -meter
 meatus - meato
 medullary - medullo
 meninges - meningio
 meninges - meningo
 metacarpus - metacarpio
 middle - medio
 middle - meso
 milk - lacto
 mimic – mimetic
 mind - psycho
 monster - terato-
 more - pleo
 mouth - oro
 mouth - stomato
 movement - cineo
 movement - ki-nesio
 mucus - muco
 muscle - myo
 muscle - myoso
 nail - onycho
 nail - unguo
 nature - -physio
 near - para
 near - proximo
 neck - cervico
 nerve - neuro
 network - reticulo
 neutral - neutro
 night - nocti
 nipple-like - papillo

nitrogen - azoto	prostatic gland - pros-tato
no - an	protein - -globin
no - in	protein - -globulin
no strength - -asthenia	pubic bone - pubo
normal - normo	pulp - pulpo
nose - naso	pulse - sphygmo
nose - rhino	pupil - coreo
nucleus - karyo	pupil - coro
nuc-leus - nucleo	pupil - pupillo
numbness - narco	pus - pyo
-obstruction, blockage - empraxis	pylorus - pyloro
old age - presbyo	parathyroid gland - parathyroido
one - mono	rays – radio
opening - -tresia	record - gram
order - taxo	rectum - recto
out - ex	red - erythro
outside - ecto	redness - erythemo
outside - exo	removal - pheresis
ovary - oophoro	renal pelvis - pyelo
ovary - ovario	resembling - -oid
oxygen - oxo	retina - retino
pain - -algia	rib - costo
pain - dynia	root - radi
palate - palato	rupture - -rrhexis
pancreas - pancreato	sacrum - sacro
paralysis - -ple-gia	safe - immuno
passage - porosis	saliva - sialo
peineum - perineo	scale - squamo
pelvis - pelvi	scanty - oligo
peritoneum - peritoneo	science - -logy
pertainig to destruction - lytic	sclera - sclero
pertaining to - -ac	sebum - sebo
pertaining to - -ic	secrete -crine
pertaining to - -ous	seed - germo
pertaining to -al	seed - gono
pertaining to stopping - -static	self - auto
phalanges - phalango	sex glands - gonado
pharynx - pharyngo	shape - morpho
physician - iatro	sheath, meningeal covering - theco
pink - eosino	shoul-der blade - scapulo
place - topo	side - latero
pleura - pleuro	sigmoid colon - sigmoido
plexus - plexo	sinus - sinuso
poison - toxico	skin - cutaneo
poison - toxo	skin - dermato
polyp - polypo	skin - dermo
pons - ponto	skin -derma
potassium - kali	skull - cranio
pregnancy - cyesis	sleep - hypno
pregnancy - gravido	slight paralysis - -paresis
process of recording - graphy	slow - brady
producing - geno	small - micro

small - mio
 small - ole
 small - -ule
 small sac - folliculo
 smell - -osmia
 smooth muscle - leiomyo
 sodium - natro
 softening -malacia
 solid - stero
 sound - echo
 sound - -phonia
 spark - scinti
 specialist - -ist
 speech - phaso
 spermatozoa - spermato
 spermatozoa - spermo
 spinal cord - myelo
 spine - spino
 spitting - -ptysis
 spleen - spleno
 stapes - stapedo
 starch - amylo
 sternum - sterno
 stomach - gastro
 stone - lith
 stone - litho
 stop - -stasis
 straight - ortho
 strength - -sthenia
 stretching - ectasia
 stretching - -ectasis
 striated muscle - rhabdomyo
 sudden contraction of muscles - - spasm
 sugar - gluco
 sugar - glyco
 sugar - ribo
 surgical cutting - -tomy
 surgical puncture -centesis
 surgical removal - -ectomy
 surgical repaire - -plasty
 surrounding - peri
 suture - -rrhaphy
 sweat - hidro
 synovia - synovio
 tail - caudo
 tear - dacryo
 tear - lacrimo
 testes - testo
 testis - - orcho
 testis - orchido
 thalamus - tha-lamo
 thick - pachy

thick - pachyo
 thirst - dipso
 thread - mito
 three-dimensional - stereo
 through - per
 thy-mus gland - thymo
 thyroid gland - thyro
 tibia - tibio
 tightening - -stenosis
 tissue - histo
 to cut - ciso
 to lead - ducto
 to secrete - crino
 together - sym
 together - syn
 tongue - glosso
 tongue - linguo
 tonsil - tonsillo
 tooth - denti
 tooth - odonto
 trachea - tracheo
 trans-mission - -phoresis
 treatment - -therapy
 tumor - -oma
 tumor - onco
 turn - -tropia
 twisted chains - strepto
 two - bi
 ulna - ulno
 under - hypo
 under - sub
 upper jaw - maxillo
 ureter - uretero
 urethra - urethro
 urinary bladder - cysto
 urinary bladder - vesico
 urination - -uria
 urine - -uria
 urine - uro
 uterus - hystero
 uterus - metrio
 uterus - metro
 uterus - utero
 vagina - colpo
 vagina - vagino
 valve - valvo
 vascular layer of the eye - uveo
 vein - phlebo
 vein - veno
 ventricle - ventriculo
 venule - venulo
 vertebra - spondylo

vertebra - vertebro
vessel - angio
vessel - vaso
view - -opsy
virus - viro
vision - -opia
visual examination – scopo, scopy
vitreous body - vitreo
voice - -phonia
vomiting - -emesis
vulva - vulvo
washing - clysis
water - aqueo
water - hydro
weak, dull - amblyo-
white - albino
white - albo
white - leuko
with - con
within - endo
within - intra
without - a
woman - gynecology
work - ergo
wrist - carpo
yellow - xantho
yellowish plaque - athero

Навчальне видання

Методичні вказівки до самостійної роботи (для іноземних студентів)

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