

**Ministry of Science and Higher Education of the Russian Federation  
State Federal-Funded Educational Institution of Higher Professional Training  
“Ulyanovsk state university”  
Institute of Medicine, Ecology and Physical Education**

*G.A. Shevalaev*

**INSTRUCTIONAL GUIDELINES  
FOR INDEPENDENT WORK OF STUDENTS  
ON THE DISCIPLINE "COMBINED TRAUMA"**

**Ulyanovsk – 2022**

UDC  
LBC

*Recommended for use in the educational process  
by decision of the Academic Council of the Institute of Medicine, Ecology and  
Physical Education of Ulyanovsk State University,  
Minutes № 9/239 of 18.05.2022*

**Reviewer:** Head of the Department of General and Operative Surgery with Topographical Anatomy and Dentistry Course of FGBOU VE "Ulyanovsk State University", Doctor of Medical Sciences, Professor Antonina Vasilievna Smolkina

**Shevalaev G.A.**

**Methodological guidelines for the organization of independent work of residents on the discipline "Combined trauma" / Shevalaev G.A. - Ulyanovsk, Ulianovsk State University, 2022.**

Methodical instructions are prepared in accordance with the working program of the discipline "Combined trauma". The structure includes methodical instructions for each studied topic according to the plan of extracurricular independent work. Methodical instructions are intended for residents of the Faculty of Postgraduate Medical and Pharmaceutical Education, studying on specialty «31.05.01 General medicine»

© Shevalaev G.A. 2022

## CONTENT

<b>No. n/a</b>	<b>Name of unit</b>	<b>Page</b>
1.	Introduction	4
2.	Purpose of the discipline	4
3.	Objectives of the discipline	4
4.	Expected results (competences)	4
5.	Content of the discipline	5
6.	List of questions for credit	7
7.	Educational-methodical support of the discipline	8

## INTRODUCTION

Methodical recommendations are intended for the organization of students' independent work during extracurricular time while studying the discipline "Combined Trauma". This discipline is part of the specialty program "31.05.01 General Medicine" for residents of the Medical faculty of T.Z. Biktimirov.

Form of training: full-time

**Objectives of the discipline:** the main purpose of teaching the discipline "Combined trauma", is to teach students the modern provisions of the theoretical and practical sections of combined trauma. To get knowledge on etiology, pathogenesis, diagnosis, clinical picture of combined injuries, methods of treatment.

### Tasks of mastering the discipline:

1. Assimilate students to all the issues of the program of combined trauma, relying on the knowledge obtained in other departments.
2. Development of clinical thinking of students, improvement of methods of differential diagnosis.
3. Teaching students the issues of organization of traumatological care for combined injuries in the Russian Federation.
4. The students' mastery of the basic principles of diagnosis and methods of treatment of patients with concomitant injuries.

## EXPECTED RESULTS (COMPETENCES)

Code and name of the implemented competence	The list of planned learning outcomes in the discipline (module), correlated with indicators of achievement of competencies
<b>UK – 1</b> Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	<b>Know:</b> The methodology of the systematic approach in analyzing and solving problem situations; <b>To be able to:</b> Analyze different problematic situations systematically and develop a strategy of actions to solve them <b>Own:</b> The methods and ways of systematic analysis and solution of problematic situations
<b>PC – 5</b> Readiness to collect and analyze patient complaints, data from his anamnesis, examination results, laboratory, instrumental,	<b>To know:</b> diagnostic methods, diagnostic capabilities of methods of direct examination of a patient of a therapeutic, surgical and obstetric-gynecological profile; modern methods of clinical, laboratory, instrumental examination of patients (including endoscopic, radiological methods, ultrasound.

<p>pathological and anatomical and other studies in order to recognize a condition or establish the presence or absence of a disease</p>	<p><b>Be able to:</b> determine the patient's status: collect anamnesis, interview the patient and / or his relatives, conduct a physical examination of the patient (examination, palpation, auscultation); to conduct a primary examination of systems and organs: respiratory, cardiovascular, blood and hematopoietic organs, digestive, endocrine and urinary; outline the volume of additional studies in accordance with the prognosis of the disease, to clarify the diagnosis and obtain a reliable result.</p> <p><b>Own:</b> methods of general clinical objective examination (questioning, examination, palpation, percussio) with diseases of internal organs; interpretation of the results of laboratory, instrumental diagnostic methods for pathology of internal organs, musculoskeletal system.</p>
--	---

## CONTENT OF THE DISCIPLINE

### **Topic 1. Features of damage in case of combined injury. Methods of diagnosis, treatment for combined trauma**

Questions on the topic of classes for independent work:

1. Organization of trauma care
2. Legal aspects of occupational injuries. The specifics of the paperwork.
3. Legal aspects of criminal injuries. The specifics of the paperwork.
4. Child injury

Report topics:

1. Instrumental methods of investigation in concomitant injuries
2. Conservative methods of treatment of multiple fractures of long bones
3. Modern methods of osteosynthesis in concomitant trauma

### **Topic 2. Combined traumatic brain injury**

Questions on the topic of classes for independent work:

1. Objective status of children and adolescents with combined traumatic brain injury
2. First aid for traumatic brain injury
3. Types of surgical treatment for traumatic brain injury
4. Prevention and correction of complications of traumatic brain injury

Report topics:

1. Pre-hospital stage of medical care in concomitant craniocerebral trauma
2. Combined craniocerebral injury and pelvic bone fractures
3. Combined craniocerebral trauma and femoral fractures

### **Topic 3. Combined thoracic injuries**

#### Questions on the topic of classes for independent work:

1. Objective status in case of chest injury
2. Objective status of penetrating wound into the thoracic cavity with organ damage
3. Transportation, first aid for thoracic injury
4. Diagnosis and relief of internal bleeding
5. Instrumental methods of investigation of patients with lung and heart injury
6. Surgical treatment for thoracic injury

#### Report topics:

1. Multiple rib fractures. Clinic, diagnosis and treatment.
2. Hemothorax. Clinical picture and methods of treatment.
3. Pneumothorax. Types, clinical picture and methods of treatment.
4. Closed trauma of the thorax. Pre-hospital stage of medical care.
5. Wounds of the thorax. Provision of medical care at the pre-hospital stage.

### **Topic 4. Combined injuries of the abdomen and retroperitoneal space**

#### Questions on the topic of classes for independent work:

1. Objective status in case of blunt abdominal trauma
2. Objective status of penetrating wound into the abdominal cavity with damage to the hollow organ
3. Transportation, first aid.
4. Diagnosis and relief of internal bleeding
5. Instrumental methods of investigation of patients with trauma of the hollow abdominal organs
6. Prevention and treatment of peritonitis
7. Surgical treatment for damage to the stomach and intestines

#### Report topics:

1. Blunt abdominal trauma. Clinic, diagnosis and treatment.
2. Damage of the parenchymatous organs. Clinic, diagnosis and treatment.
3. Closed injury of the kidneys. Clinic, diagnosis and treatment.

4. Wounds of the abdominal cavity. Provision of medical care at the pre-hospital stage.

### **Topic 5. Fractures of the pelvis and spine, limbs**

#### Questions on the topic of classes for independent work:

1. Methods of anesthesia for fractures of the bones of the pelvis, spine and extremities
2. Features of treatment of patients with uncomplicated fractures in outpatient settings.
3. Conservative methods of fracture treatment
4. Types of operations on bones. Basic principles of osteosynthesis
5. Extra- and intramedullary osteosynthesis. Types of metal structures and operational techniques.
6. Compression-distraction and extra-focal osteosynthesis
7. The volume of anti-shock measures in case of pelvic bone fracture at the stages of medical care.

#### Report topics:

1. Combined fractures of the pelvic bones. Operative methods of treatment.
2. Combined injuries of the spine. Clinic, diagnosis and treatment.
3. Multiple fractures of the bones of the extremities. Peculiarities of osteosynthesis.

### **Topic 6. Combined damages**

#### Questions about the topic of the lesson:

1. Principles of first aid and transportation of patients with catatrauma
2. Principles of first aid, evacuation and transportation of victims in an accident
3. Principles of first aid, evacuation and transportation of victims during the collapse of buildings.
4. Thermal lesions. Burn disease. Pathogenesis, clinic. Provision of medical care
5. Gunshot injury. Fundamentals of wound ballistics, morphology and features of a gunshot wound. Surgical treatment of wounds
6. Modern view on the pathogenesis, diagnosis and stage-by-stage treatment of long-term compression syndrome

#### Report topics:

1. Multiple fractures of the femur and thermal burns. Features of treatment.
2. Combined injuries. Classification. Principles of treatment.
3. Stages of medical care for combined injuries.

### **LIST OF QUESTIONS FOR CREDIT**

1. Features of collecting information in case of combined trauma in adults.
2. Features of collecting information in case of combined trauma of a child and a teenager.
3. Principles of providing prehospital care for combined trauma.
4. Specialized trauma centers of I, II, III level.
5. Methods of instrumental diagnostics for combined trauma
6. Traumatic disease.
7. Clinical characteristics of combined traumatic brain injury
8. Diagnosis of combined traumatic brain injury in children and adolescents
9. Combined thoracic injury, principles of prehospital care
10. Closed lung injuries, clinic, diagnosis and principles of conservative and surgical treatment.
11. Open lung injuries, clinic, diagnosis and principles of surgical treatment.
12. Hemothorax, clinic, diagnosis and principles of treatment.
13. Pneumothorax clinic, diagnosis and principles of treatment.
14. Damage to the rib frame. Mechanisms of respiration.
15. Wounds of the heart, hemipericardium. Clinic, diagnostics. Methods of treatment.
16. Types of ruptures of the spleen, clinical picture, diagnosis, treatment.
17. Classification of liver damage, clinical picture, diagnosis and treatment.
18. Complications of damage to parenchymal organs.
19. Mechanisms of damage to the stomach and intestines.
20. Damage to the small and large intestines.
21. The mechanism of damage to the genitourinary system.
22. Damage to the bladder. Classification. Clinical picture, diagnosis and treatment.
23. The most common complications of injury to the genitourinary system.
24. General issues of pelvic injury.
25. Tactics of treatment of pelvic injuries in childhood
26. Characteristics of the problem of combined spinal injury.
27. Conservative methods of treatment of combined compression fractures of vertebral bodies.
28. Complications of spinal fracture.
29. Fractures of the femur. Mechanisms of injury. Classification.
30. Fractures of the tibia. Classification. Conservative treatment, methods. Surgical treatment.
31. Fractures of both bones of the lower leg. Possible complications. Methods of



treatment.

32. Multiple fractures of the bones forming the knee joint

33. Fractures of the humerus. Mechanisms of injury. Classification.

34. Multiple fractures of the forearm bones. Clinical picture, diagnosis and treatment.

## **EDUCATIONAL-METHODICAL SUPPORT OF THE DISCIPLINE**

### **a) List of recommended literature**

#### **Main literature:**

Meir T. Marmor. Decision Making in Orthopaedic Trauma Edition: First edition. New York : Thieme. 2017. eBook.

<https://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=1704040&site=ehost-live&scope=site>

#### **Additional literature:**

1 Лашковский В. В. Traumatology and orthopedics = Травматология и ортопедия : сборник тестов для студентов факультета иностранных учащихся с английским языком обучения (специальность 1-79 01 01 «Лечебное дело») : Tests for students of faculty for international students with English language of study (speciality 1-79 01 01 «General Medicine») / В. В. Лашковский, А. Г. Мармыш, Г. А. Кошман. - Гродно : ГрГМУ, 2019. - 61 с. - ISBN 9789855950852. - Текст : электронный // ЭБС "Букап" : [сайт]. - URL : <https://www.books-up.ru/ru/book/traumatology-and-orthopedics-12069221/>

2 Fridun Kerschbaumer; Kuno Weise; Carl Joachim Wirth. Operative Approaches in Orthopedic Surgery and Traumatology Edition: 2nd edition. Stuttgart : Thieme. 2015. eBook.

<https://search.ebscohost.com/login.aspx?direct=true&db=e600xww&AN=975416&lang=de&site=ehost-live&scope=site>

### **b) Software:**

SPS Consultant Plus

NEB RF

IPRBooks

AIBS "MegaPro"

OC Microsoft Windows

## **c) Professed data base, directory and search systems professional databases in Russian:**

### **1. Electronic library systems:**

1.1. Digital educational resource IPRsmart : electronic library system : site / LLC Company "IPR Media". - Saratov, [2022]. – URL: <http://www.iprbookshop.ru>. - Access mode: for registered users. - Text : electronic.

1.2 YURIGHT educational platform : educational resource, electronic library : website / YURIGHT Electronic Publishing Ltd. - Moscow, [2022]. - URL: <https://urait.ru>. - Access mode: for registered users. - Text : electronic.

1.3 Database "Electronic library of technical university (EBS "Student's Consultant") : electronic library system : site / Polytehresource Ltd. - Moscow, [2022]. - URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. - Access mode: for registered users. - Text : electronic.

1.4 Physician Consultant. Electronic medical library : database : site / High School of Health Care Organization and Management - Comprehensive Medical Consulting. - Moscow, [2022]. - URL: <https://www.rosmedlib.ru>. - Access mode: for registered users. - Text : electronic.

1.5. Big medical library : electronic library system : site / Bukap Ltd. - Tomsk, [2022]. - URL: <https://www.books-up.ru/ru/library/>. - Access mode : for registered users. - Text : electronic.

1.6. EBS Lan : electronic library system : site / Lun. - Saint Petersburg, [2022]. - URL: <https://e.lanbook.com>. - Access mode: for registered users. - Text : electronic.

1.7. Znaniy.com EBS : electronic library system : site / Znaniy Ltd. - Moscow, [2022]. - URL : <http://znaniy.com> . - Access mode : for registered users. - Text : electronic.

1.8. Clinical Collection : EBSCO Scientific Information Database // EBSCOhost : [portal]. – URL: <http://web.b.ebscohost.com/ehost/search/advanced?vid=1&sid=9f57a3e1-1191-414b-8763-e97828f9f7e1%40sessionmgr102> . - Access mode : for authorized users. - Text : electronic.

1.9. database "Russian as a foreigner" : electronic educational resource for foreign students : website / LLC Company "IPR Media". - Saratov, [2022]. - URL: <https://ros-edu.ru>. - Access mode: for registered users. - Text : electronic.

**2. KonsultantPlus [Electronic resource]:** legal reference system. / OOO "Consultant Plus" - Electronic. data. - Moscow : ConsultantPlus, [2022].

### **3. periodicals databases:**

3.1. Database of periodicals EastView : electronic journals / IVIS LLC. - Moscow, [2022]. - URL: <https://dlib.eastview.com/browse/udb/12>. - Access mode : for authorized users. - Text : electronic.

3.2. eLIBRARY.RU : scientific electronic library : site / OOO Scientific Electronic Library. - Moscow, [2022]. - URL : <http://elibrary.ru>. - Access mode : for authorized users. - Text : electronic.

3.3 Electronic library of Grebennikov publishing house (Grebinnikon) : electronic library / Grebennikov Publishing House Ltd. - Moscow, [2022]. - URL : <https://id2.action-media.ru/Personal/Products>. - Access mode : for authorized users. - Text : electronic.

**4. Federal State Information System "National Electronic Library" : electronic library : website / FGBU RSL. - Moscow, [2022]. - URL: <https://нэб.рф>. - Access mode : for scientific library users. - Text : electronic.**

**5. SMART Imagebase : EBSCO scientific information database // EBSCOhost : [portal]. - URL: <https://ebSCO.smartimagebase.com/?TOKEN=EBSCO-1a2ff8c55aa76d8229047223a7d6dc9c&custid=s6895741>. - Access mode : for authorized users. - Image : electronic.**

#### **6. Federal informational and educational portals:**

6.1. Single window of access to educational resources : federal portal . - URL : <http://window.edu.ru/> . - Text : electronic.

6.2 Russian education : a federal portal / founder FITSTO Federal State Educational Institution. - URL : <http://www.edu.ru>. - Text : electronic.

#### **7. Ulyanovsk State University educational resources:**

7.1 Ulyanovsk State University Electronic Library System : module "Electronic Library" ABIS Mega-PRO / LLC "Data Express". - URL: <http://lib.ulsu.ru/MegaPro/Web>. - Access mode : for scientific library users. - Text : electronic.

#### **1. Электронно-библиотечные системы:**

1.1. Цифровой образовательный ресурс IPRsmart : электронно-библиотечная система : сайт / ООО Компания «Ай Пи Ар Медиа». - Саратов, [2022]. - URL: <http://www.iprbookshop.ru>. - Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.2. Образовательная платформа ЮРАЙТ : образовательный ресурс, электронная библиотека : сайт / ООО Электронное издательство ЮРАЙТ. - Москва, [2022]. - URL: <https://urait.ru>. - Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.3. База данных «Электронная библиотека технического ВУЗа (ЭБС «Консультант студента») : электронно-библиотечная система : сайт / ООО Политехресурс. - Москва, [2022]. - URL: <https://www.studentlibrary.ru/cgi-bin/mb4x>. - Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.4. Консультант врача. Электронная медицинская библиотека : база данных : сайт / ООО Высшая школа организации и управления здравоохранением-Комплексный медицинский консалтинг. - Москва, [2022]. - URL: <https://www.rosmedlib.ru>. - Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.5. Большая медицинская библиотека : электронно-библиотечная система : сайт / ООО Букап. - Томск, [2022]. - URL: <https://www.books-up.ru/ru/library/> . - Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.6. ЭБС Лань : электронно-библиотечная система : сайт / ООО ЭБС Лань. - Санкт-Петербург, [2022]. - URL: <https://e.lanbook.com>. - Режим доступа: для зарегистрир. пользователей. - Текст : электронный.

1.7. ЭБС **Znanium.com** : электронно-библиотечная система : сайт / ООО Знаниум. - Москва, [2022]. - URL: <http://znanium.com> . - Режим доступа : для зарегистрир.

пользователей. – Текст : электронный.

1.8. Clinical Collection : научно-информационная база данных EBSCO // EBSCOhost : [портал]. – URL: <http://web.b.ebscohost.com/ehost/search/advanced?vid=1&sid=9f57a3e1-1191-414b-8763-e97828f9f7e1%40sessionmgr102> . – Режим доступа : для авториз. пользователей. – Текст : электронный.

1.9. База данных «Русский как иностранный» : электронно-образовательный ресурс для иностранных студентов : сайт / ООО Компания «Ай Пи Ар Медиа». – Саратов, [2022]. – URL: <https://ros-edu.ru>. – Режим доступа: для зарегистрир. пользователей. – Текст : электронный.

**2. КонсультантПлюс** [Электронный ресурс]: справочная правовая система. /ООО «Консультант Плюс» - Электрон. дан. - Москва : КонсультантПлюс, [2022].

### **3. Базы данных периодических изданий:**

3.1. База данных периодических изданий EastView : электронные журналы / ООО ИВИС. - Москва, [2022]. – URL: <https://dlib.eastview.com/browse/udb/12>. – Режим доступа : для авториз. пользователей. – Текст : электронный.

3.2. eLIBRARY.RU: научная электронная библиотека : сайт / ООО Научная Электронная Библиотека. – Москва, [2022]. – URL: <http://elibrary.ru>. – Режим доступа : для авториз. пользователей. – Текст : электронный

3.3. Электронная библиотека «Издательского дома «Гребенников» (Grebinnikon) : электронная библиотека / ООО ИД Гребенников. – Москва, [2022]. – URL: <https://id2.action-media.ru/Personal/Products>. – Режим доступа : для авториз. пользователей. – Текст : электронный.

**4. Федеральная государственная информационная система «Национальная электронная библиотека»** : электронная библиотека : сайт / ФГБУ РГБ. – Москва, [2022]. – URL: <https://нэб.рф>. – Режим доступа : для пользователей научной библиотеки. – Текст : электронный.

**5. SMART Imagebase** : научно-информационная база данных EBSCO // EBSCOhost : [портал]. – URL: <https://ebSCO.smartimagebase.com/?TOKEN=EBSCO-1a2ff8c55aa76d8229047223a7d6dc9c&custid=s6895741>. – Режим доступа : для авториз. пользователей. – Изображение : электронные.

### **6. Федеральные информационно-образовательные порталы:**