#### МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

## УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ «ГОМЕЛЬСКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ»

Кафедра хирургических болезней № 1

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# ОРГАНИЗАЦИЯ И ПРОВЕДЕНИЕ ВРАЧЕБНОЙ КЛИНИЧЕСКОЙ ПРОИЗВОДСТВЕННОЙ ПРАКТИКИ ПО ХИРУРГИИ

Учебно-методическое пособие для студентов 5 курса факультета по подготовке специалистов для зарубежных стран медицинских вузов

### ORGANIZATION AND ARRANGEMENT FOR MEDICAL CLINICAL TRAINING IN SURGERY

The educational methodical work for 5-th year students of the Faculty of preparation of experts for foreign countries of medical higher educational institutions

Гомель ГомГМУ 2014 УДК 617:371.388(072)=111 ББК 54.5(2Англ)я73 П 75

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Учебно-методическое пособие содержит инструктивный материал по организации и проведению врачебной клинической производственной практики по хирургии, рекомендации по оформлению дневника, регистрации в нем выполненной работы в стационаре, перечень практических навыков, задания по учебно-исследовательской, санитарно-просветительной работе, образцы оформления отчетной документации. Соответствует учебному плану и программе по хирургическим болезням для высших учебных заведений по специальности 1-79 01 01 «Предбивнатием» для студентов 5 курса факультета по подготовке специалистов для зарубежных стран медицинских вузов.

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#### INTRODUCTION

Program of medical clinical work experience in surgery is determined in accordance with the educational standard. The organization and procedure of the clinical training is established by the Regulations on the practice of students, trainees, students, approved by the Council of Ministers of the Republic of Belarus 03.06.2010 № 860, by the order «About the practical training» and the rector of the Gomel State Medical University.

The purpose of medical clinical work experience in surgery is to get familiar with the practical skills needed in the professional activities of a surgeThe aim of clinical training is:

- 1. Introduction to the organization and the main work indicators of the surgical department and regulations governing the work of the surgeon.
  - 2. Introduction to the surgical patient treatment protocols.
- 3. Study of the technique to perform basic medical diagnostic and surgical procedures and operations.
- 4. Formation of professional competence through the acquisition of practical skills based on the gained knowledge.

At the doctor's clinical work practice of surgery is given 80 hours after 10 semesters. Additionally allocated 16 hours, designed to perform tasks on public health and health care. Practice of students takes place in hospitals approved by the Ministry of Health of the Republic of Belarus and student operates as a medical assistant in a surgical hospital. Students do clinical practice in surgical departments: surgery, trauma, burns, neurosurgery, urology, ophthalmology, ENT, etc.

Student does not have right to change the time and the place of clinical practice individually.

For practical training the student is allowed after the instruction on safety at the workplace and in the provision of health certificates. During the period of clinical medical work experience students obey the rules of internal order of the hospital.

Head of the department is the immediate supervisor of the clinical practice. Educational-methodical management and teachers appointed by order of the rector of the university are responsible for carrying out the practice of the students. All therapeutic and diagnostic work of the student in the department is carried out with the permission and under the control of the head of the department and the ward doctor.

Duration of clinical practice of surgery is 13 days as a five-working day week. Students work from 8.00 to 15.00. One hour from the indicated time is devoted to issues on public health and health care. During the cycle, students are required to carry 1 duties (5 hours) in the emergency from 16.00 to 21.00.

## CONTENTS OF MEDICAL CLINIC PRACTICE IN SURGERY

In the hospital, the student studies the structure and organization of the surgery department, medical record, work parameters. Review and assess the dynamics of parameters. Student working as a medical assistant of a doctor, supervises 4–6 patients, makes daily rounds, fills history, keeps a diary, makes discharge summary, performs diagnostic and therapeutic manipulation. Independently takes history of the newly admitted patients, fills their medical history, determine a plan of evaluation and treatment. Produces some surgical procedures with the permission and under the supervision of the head of the department. Always present and possibly involves in all the operations. In the dressing room under the guidance of a doctor dresses, removes sutures, removes drains, etc. Presents at the autopsy. In the emergency works under the supervision of the doctor on duty. Provides first aid. Involves in X-ray, ultrasound and endoscopy. In addition, students participate in clinical meetings, clinical-anatomical conferences and semin**Surp**ervisor of health institution should:

- 1. Conduct safety training and the internal regulations of the institution.
- 2. Familiarize students with the structure of the medical institution, performance of the surgical department, regulations governing the surgical service. 3. Attract students to participate in surgical procedures, investigations of surgical patients.
  - 4. Check and sign daily diary of the student.
  - 5. At the end of practice provide a good standing letter to each student.

Student with a clinical training must:

- 1. Study and strictly observe the safety rules.
- 2. Is subject to the health care facility in the internal regulations.
- 3. Fully implement the tasks specified in the program practice.
- 4. Keep a diary of work practices.
- 5. Provide report documentation for exam.

At the end of clinical medical practice in surgery student should know:

- 1. Peculiarities of organization of surgical services.
- 2. Standards for the treatment of major surgical diseases.
- 3. Diagnosis and treatment of acute surgical diseases in the provision of hospital care.

At the end of clinical medical practice in surgery student should be able:

- 1. To collect complaints and medical history, conduct a physical examination.
- 2. To make a plan of laboratory and instrumental examination.
- 3. To evaluate the results of common blood and urine tests, blood chemistry, coagulation test, blood cultures, fluid, etc.
- 4. To identify signs of major surgical diseases on radiographs ultrasonographs etc.
- 5. To diagnose major surgical diseases, the indications for surgery, preoperative and postoperative management.

- 6. To make a differential diagnosis.
- 7. To make medical documentations.
- 8. To provide first aid.
- 9. To assist as a 2nd and 1st assistant in the operations.
- 10. To know the technique of medical manipulations, do some of them under the supervision of a doctor.

#### LIST OF PRACTICAL SKILLS IN SURGERY

During practice the student should acquire the following skills:

- 1. Methods of physical examination of the patient with surgical pathology.
- 2. Methods of palpation, percussion, auscultation of the abdomen.
- 3. Method for determination of free fluid in the abdominal cavity.
- 4. Method for determination of free air in the abdominal cavity.
- 5. Method of determination of the main symptoms of acute appendicitis.
- 6. Method of determination of the main symptoms of acute cholecystitis.
- 7. Method of determination of the main symptoms of acute pancreatitis.
- 8. Method of determination of the main symptoms of acute intestinal obstruction.
- 9. Methods of determining the main peritoneal signs.
- 10. The diagnostic value of Courvoisier symptom.
- 11. Differential diagnosis of direct and oblique inguinal hernia.
- 12. Differential diagnosis of irreducible and strangulated hernia.
- 13. Methodology for functional tests for varicose veins of the lower extremities.
- 14. Method for determination of peripheral arterial pulsations of the lower limbs.
- 15. Method for determination of pericardial effusion.
- 16. Method for determination of pleural effusion.
- 17. Method of blood grouping.
- 18. Rules of transfusion of blood and blood products.
- 19. Tests for compatibility with blood transfusion.
- 20. Methods of temporary haemostasis.
- 21. Methods of permanent haemostasis.
- 22. Methods for determining the degree of blood loss.
- 23. The diagnostic value of the Moore's formula.
- 24. Haemostasis from esophageal varices.
- 25. Methods of anterior and posterior nose tamponade.
- 26. Principles of wound debridement.
- 27. Bandaging of the clean wound.
- 28. Bandaging of an infected wound.
- 29. Principles of applying plaster bandages.
- 30. Rules for elastic bandaging on lower extremities.
- 31. Rules for applying and removing the skin sutures.
- 32. Processing rules for the operating field.

- 33. Name and purpose of basic surgical instruments.
- 34. Preparing the patient for barium enema and colonoscopy.
- 35. Intubation of a gastric tube, gastric lavage technique.
- 36. Method of digital rectal examination.
- 37. Method of investigation of rectum. Anoscopy.
- 38. Method of performing sigmoidoscopy.
- 39. Method of Implementation of siphon enema.
- 40. Method of Implementation of enema.
- 41. Intubation per rectum.
- 42. The method of anesthesia of Oberst Lukashevich.
- 43. Rules for Novocain blockade.
- 44. Technique of perirenal blockade.
- 45. Technique of blockade by Shkolnikov.
- 46. Technique of blockade of round ligament of the liver.
- 47. Technique of blockade by Lorin Epstein.
- 48. Venipuncture technique.
- 49. Venesection technique.
- 50. Technique of joint injection.
- 51. Pericardiocentesis technique.
- 52. Thoracentesis technique.
- 53. Laparocentesis technique.
- 54. Technique of laparoscopy.
- 55. Catheterization technique.
- 56. Types of urinary catheters. Care of urinary catheters.
- 57. Technique of bladder puncture.
- 58. Incision and drainage of paronychia.
- 59. Incision and drainage of abscesses and phlegmons.
- 60. Rules of removing tampons and drainage from cavities and soft tissue wounds.
  - 61. Care for drains of bile ducts.
  - 62. Transport immobilization in injuries of the limbs.
  - 63. Transport immobilization of injured spinal cord and pelvis.
  - 64. First aid for chemical burns of the esophagus and stomach.
  - 65. Method of chest compressions and mechanical ventilation.

#### MINIMUM OF PRACTICAL SKILLS IN SURGERY

Practical skills	Recomended
1. Daily Supervision	4–6 patients a day
2. Execution and maintenance of patient history	12
3. Duty at emergency department	1
4. Subcutaneous and intramuscular injections	10
5. Intravenous infusion	5

Practical skills	Recomended	
6. Blood grouping	10	
7. Test for individual compatibility	2	
8. Test for biocompatibility	2	
9. Temporary haemostasis	1	
10. Dressing of the wound	10	
11. Dressing of the purulent wound	10	
12. Removal of stitches	5	
13. Removal of drains	5	
14. Local anesthesia	1	
15. Bladder catheterization	3	
16. Intubation of the gastric tube	2	
17. Digital examination of the rectum	2	
18. Anoscopy	1	
19. Intubation of the rectum	1	
20. Enema	1	
21. Siphon enema	1	
22. Transport immobilization	1	
23. Assistence in operations	3	
24. Presence at the operations	10	
25. Primary surgical treatment of wounds*	2	
26. The permanent haemostasis*	1	
27. Transfusion of blood*	3	
28. Venesection*	1	
29. Thoracentesis*	1	
30. Laparocentesis*	1	
31. Needling of the bladder*	1	
32. Laparoscopy*	3	
33. Sigmoidoscopy*	1	
34. Insertion of Blackmore tube*	1	
35. Novocaine blockade*	1	
36. Artificial respiration*	1	
37. Closed cardiac massage*	1	
38. Participation in the X-ray examination	3	
39. Participation in endoscopy	3	
40. Presence at autopsy	2	

**Note 1**. For the test, practical skills marked with «\*» — presence of a student is sufficient at the time of their execution by a doctor.

**Note 2**. By virtue of specificity of certain surgical hospitals, a number of procedures in them cannot be performed. In this case, the student must learn theory (technique) of the procedure.

#### EDUCATIONAL-RESEARCH WORK OF STUDENTS

Educational-research work of student (ERWS) is part of clinical training. It allows you to gain the skills to work independently with periodic and monographic literature to develop clinical approach, improve the theoretical and pro-

fessional training. Progress Report should be written in the form of an essay (abstract). Summary written by hand, and is submitted in the exam. The compulsory reference to the monographic and periodical literature (not less than 3).

Sample topics for essays on surgery ERWS.

- 1. Acute appendicitis in children, pregnant women, the elderly.
- 2. Postoperative complications of acute appendicitis.
- 3. Chronic appendicitis. Tumors of the appendix.
- 4. Hernia of the abdominal wall.
- 5. Surgical treatment of postoperative ventral hernias.
- 6. Complications of gallstone disease. Treatment.
- 7. Postcholecystectomy syndrome.
- 8. Reconstructive surgery on the biliary tract.
- 9. Complications of acute pancreatitis.
- 10. Surgical treatment of chronic pancreatitis.
- 11. Cancer and hormone-active tumors of the pancreas.
- 12. Jaundice.
- 13. Biliary fistula.
- 14. Duodenal ulcer stenosis.
- 15. Indications and types of operations for peptic ulcer.
- 16. Gastro-intestinal bleeding, non-ulcer aetiology.
- 17. Gastric cancer.
- 18. Diseases of the operated stomach.
- 19. Intestinal obsruction.
- 20. Adhesive disease of the abdominal cavity.
- 21. Strangulated intestinal obstruction.
- 22. Impairment of mesenteric blood circulation.
- 23. Polyps and polyposis of the colon.
- 24. Differential diagnosis of ulcerative and granulomatous colitis.
- 25. Cancer of the colon.
- 26. Diseases of the rectum and perianal area.
- 27. Intestinal fistula.
- 28. Abdominal trauma. Damage to the hollow and solid organ.
- 29. Modern principles of treatment of postoperative peritonitis.
- 30. Thyroid diseases.
- 31. Surgical treatment of varicose veins.
- 32. Thrombophlebitis of deep and superficial veins.
- 33. Sepsis.
- 34. Burns and scar stricture of the esophagus.
- 35. Surgical treatment of portal hypertension.
- 36. Hiatus hernia.
- 37. Burns, frostbite.
- 38. Parasitic cysts of the liver.
- 39. Obliterating diseases of arteries.

#### SANITARY-EDUCATIONAL WORK

Conduct of general and thematic discussions with patients and their relatives is an important section of the doctor's work in any specialty. Students conduct sanitary-educational work in the form of individual and group discussion with patients overseen. Text of the conversation is available in standStagsple topics of health education.

- 1. Actual problems of surgery (peptic ulcer, gall-stone disease, acute and chronic pancreatitis, abdominal wall hernias, varicose veins, diabetic angiopathy, etc.).
  - 2. The importance of early activation of the patients in the postoperative period.
  - 3. Maintaining a healthy lifestyle.
  - 4. Food hygiene.
  - 5. Balanced diet in diabetes.
- 6. The effect of smoking on the occurrence and complications of occlusive vascular disease of the lower extremities, diseases of the chest, etc.
  - 7. The role of alcohol in the occurrence of domestic and industrial accidents.
  - 8. Alcohol and diseases of gastro-intestinal tract.
  - 9. Prevention of complications of diabetes.

#### THE REPORT DOCUMENTATION ON PRACTICE

All the work is recorded in the student's diary.

- Diary of a work experience should be written by hand in A4 format paper.
- At the beginning of the diary- a brief description of the surgical department.
- Daily diary reflects all the work done, indicating name and diagnoses of patients examined, number of medical procedures and manipulations.
- Fixes the topic of ERWS and sanitary-educational work. Abstract ERWS and text conversations are provided in the exam.
  - Diary daily signed and stamped by the head of practical of the hospital.
- Describes the duties with date, time and work done. Diary is signed and stamped by the surgeon on duty.
- 1. At the end of the diary, a final report is made on the implementation of the program of practice. Report sealed by health institutions.
- 2. At the end of the practical, supervisor issues a good standing certificate to each student. Stamped by health institutions.
  - 3. After the end of practice students sit in an exam.

In the absence of reporting documentation the student is not allowed to sit in the exam.

A student who has not carried out a full program of practice, received a negative review of supervisor or a failing grade in the exam, is directed to re-practical training.

# The example of the title page of the diary of practical in surgery

## MINISTRY OF PUBLIC HEALTH REPUBLIC OF BELARUS GOMEL STATE MEDICAL UNIVERSITY

APPROVED

Stamp of the hospital	Medical superintendent of the hospital Name «
	DIARY
Medical cli	inical training in surgery
Student 5 groupe	NAME
Place of training:	Hospital
	Department
Period of training: from «» to «»	20 Γ. 20 Γ.
Supervisor of Practical training:	
PostName	Stamp of the supervisor

Date	Completed work			
«»20	-			
Time	Morning medical conference.			
Time	Round in the ICU. Patients examined: name, diagnosis, treatment.			
Time	Round in the ward.			
	Checked patients: Name, diagnosis, treatment.			
	Inspection of newly admitted patients: Name, diagnosis made on the			
	basis of Planning operation Justification of the chosen			
	method.			
Time	Writing diaries and case histories of newly admitted patients,			
	making discharge slips, etc.			
Time	Was present at investigation of patient, Name.			
Time	Work in the dressing room. Write the work done.			
Time	Assisted as 1st assistant for operations Patient's name.			
Time	Attended operations Patient's name.			
Time	Writing the diary of practical training.			
Time	Quest for public health and health care			
	Sign and stamp of supervisor.			
Time	Duty in emergency department.			
	Write names of all patients checked, diagnosis, investigations and			
	tests, treatment.			
	Sign and stamp of surgeon on duty.			

**Note.** Depending on the specific department the order can be different from those in the sample.

The example of report documentation of practical in surgery

#### S U M M A R Y of clinical practice in surgery Student <u>5</u> group

Hospita	al:	N	Name		
Depart					
• 1	A list of completed pracequired practical skills gi				ls in surgery».
No	Practical skills	Minimum	Done by self	Was present at procedure	Learned theoretically
1 2 3					
3					
Etc.					
educatio	Write the topic of educational — research work should be write the topic of sanital — educational work should be sho	nould be producate	aced at exam.		•
Studen	t		sign	Name	
Supervisor « » 20 г.		sign	Name		
«»_	20 г.	0	tamp f the ervisor		

#### **CHARACTER CERTIFICATE**

student _	5	_ group
1	Vame	

In characteristic should reflect the following students' work in practice:

- 1. Level of theoretical knowledge.
- 2. Professional qualities of the student.
- 3. The relationship with the team, meet the standards of medical ethics and deontology.
  - 4. Tasks for ERWS and sanitary educational work.
  - 5. Overall assessment of the level of practical training.
- 6. Recommendations for the students to the current certification in clinical practice.

Supervisor of the practical			Name
« »	20 г.	sign	
· ·		Stamp of the supervisor	

#### RECOMMENDED LITERATURE FOR SURGERY

- 1. Surgical Diseases: Manual. / M. I. Cousin [et al.]; ed. M. I. Kuzin. 3rd ed., revised. and add. M.: Medicine, 2005. 784 p.
- 2. Surgical Diseases: Manual: In 2 t / V. S. Saveliev [et al.]; under Society. Ed. V. S. Saveleva, A. I. Kirienko. M.: GEOTAR Media, 2005.
- 3. 50 lectures on surgery / V. S. Saveliev [et al.]; under Society. Ed. V. S. Saveleva. M.: Triad-X, 2004. 752 p.
- 4. Zavada, N. V. Emergency surgery of the abdominal cavity (the standards of diagnosis and treatment) / N. V. Zavada. Minsk: BelMAPO, 2006. 117 p.
- 5. Clinical Surgery. National leadership + CD: in 3 volumes. / Ed. V. S. Saveleva, A. I. Kirienko. V. 1. M., 2008. 864 p.; V. 2. M., 2009. 832 p.; V. 3. M., 2010. 1008 p.
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- 7. Emergency surgery of the abdomen: the manual / Ed. V. V. Levanovicha. M., 2007. 288 p.
- 8. Schott, A. V. Lectures on private surgery / A. V. Shott, V. A. Shott. Minsk: Asar, 2004. 525 p.
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- 20. Forrest, A. P. M. Principles and practice of surgery / A. P. M. Forrest, D. C. Carter, J. B. Macleod. Churchill Livingstone, 1989. 672 p.

- 21. *Mann, Ch. V.* Bailey and Love's short practice of surgery / Ch. V. Mann, R. C. G. Russel. 22<sup>nd</sup> Ed. M., 1995. 1041 p.
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- 24. Way, L. W. Current surgical diagnosis and treatment / L. W. Way. Lange med book. 9<sup>th</sup> Ed. M., 1991.
  - 25. Lectures on surgical diseases.

#### REGULATORY DOCUMENTS FOR SURGERY

- 1. Clinical protocols for the diagnosis and treatment of adults with acute surgical diseases. Annex 8 to the Order of the Ministry of Health of the Republic of Belarus of 27.09.2005 № 549.
- 2. Temporary protocols (standard) evaluation and treatment of patients with general surgical profile in an outpatient and inpatient from 15.02.2002 № 24.
- 3. Clinical protocols for emergency (emergency) medical care for adults. Annex to the Order of the Ministry of Health of the Republic of Belarus of 30.09.2010 № 1030.
- 4. Hygienic and surgical antiseptic skin health personnel. The instruction of the Ministry of Health of the Republic of Belarus of 05.09.2001 № 113-0801.
- 5. The injection and intravenous infusion in health care facilities and at home. The instruction of the Ministry of Health of the Republic of Belarus of  $23.03.1999 \text{ N}_{2} 40-9003$ .
- 6. Hygienic requirements for design and content of health care organizations and for the sanitary hygienic and anti-epidemic measures for the prevention of infectious diseases in health care organizations. Decision of the Ministry of Health of 09.08.2010 № 109.
- 7. On carrying out disinfection and sterilization of health care institutions. The Ministry of Health of the Republic of Belarus of 25.11.2002 № 165.
- 8. Prevention of intrahospital HIV infection and prevention of occupational exposure of health workers. The Ministry of Health of the Republic of Belarus of  $16.12.1998 \, \text{N} \, \text{2} \, \text{3} \, \text{5} \, \text{1}$ .
- 9. Requirements for surveillance of viral hepatitis in the Republic of Belarus. Decision of the Ministry of Health of 14.11.2011 № 112.

#### Учебное издание

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# ОРГАНИЗАЦИЯ И ПРОВЕДЕНИЕ ВРАЧЕБНОЙ КЛИНИЧЕСКОЙ ПРОИЗВОДСТВЕННОЙ ПРАКТИКИ ПО ХИРУРГИИ

(на английском языке)

Учебно-методическое пособие для студентов 5 курса факультета по подготовке специалистов для зарубежных стран медицинских вузов

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