Assessment tools for midterm assessment
“Clinical pharmacology”

Curriculum	31.05.01 General Medicine
Specialty	General Medicine
Form of education	Full-time
Designer Department	Internal diseases
Graduate Department	Internal diseases

12 term
Sample tasks and tests

Points for oral quiz.

1. Methods for assessing the reliability of medical information.
2. Pharmacoeconomics. The applied value.
3. Pharmacokinetics in the "mother-placenta-fetus" system
4. Pharmacotherapy of infections with intracellular localization of pathogens.
5. Factors of antibiotic resistance.
6. Cytokines as pharmacological agents.
7. Pharmacological incompatibility of vitamins.
8. Side effect of antihypertensive drugs.
9. Side effect of hormonal drugs.
10. Teratogenic effect of medicines.
11. The main parameters of pharmacokinetics and their significance in pharmacotherapy.
12. Factors affecting the absorption of drugs in the gastrointestinal tract.
13. Bioavailability of drugs and its determining factors.
14. Comparative effectiveness of modern medicines for the treatment of peptic ulcer disease.
15. Comparative characteristics of the clinical effectiveness of modern antihypertensive drugs.
16. Comparative characteristics of the clinical effectiveness of modern antianginal drugs.
17. Ways to prevent side effects of cardiovascular drugs.
18. Comparative characteristics of the effectiveness of modern antibiotics and chemotherapeutic agents.
19. Ways to prevent side effects of antibacterial agents.
20. Natural ways of drug metabolism in the human body.
21. Features of pharmacokinetics in childhood.
22. Features of pharmacodynamics in childhood.
23. Features of metabolism and the effect of drugs in the elderly. Ways to prevent side effects of drug therapy.
24. Self-medication as a problem of modern medicine.
25. Features of pharmacotherapy in pregnant women.
26. Informational and advisory work of a pharmacist in the conditions of a specialized department of a multidisciplinary hospital.
27. Modern information systems for drug search in a multidisciplinary hospital.

Practical skills assessments.

1. Compilation of the treatment algorithm for various nosologies.
2. Supervision of patients of therapeutic departments of the Surgut District Clinical Hospital with nosology on the topics of the cycle, in order to establish a diagnosis according to clinical recommendations and ICD 10, and further development of therapy schemes with writing appointment sheets (procedural, tablet), as well as drawing up a treatment plan at the outpatient stage after discharge from the hospital.

Task for credit with a mark
(Clinical and pharmacological map)

The control work is carried out in order to control the students' assimilation of the knowledge of the lecture course, to assess the knowledge and skills acquired during practical classes, as well as to test the ability to solve various tasks that develop professional abilities in accordance with the requirements of the qualification characteristics of a specialist. The control work is carried out according to the schedule during the hours of training sessions in the amount provided for by the work program for the discipline and the academic load of the teacher. The time to prepare for the test work is included in the number of hours of independent work of students and should not exceed 4 hours. The control work is evaluated by a differentiated assessment. In case of an unsatisfactory assessment received by a student, a new deadline for writing a test paper is assigned during extracurricular time.

(Surgut State University Quality Management System of SMK of Surgut State University STO-2.12.5-15 Organization of current monitoring of academic performance and intermediate certification of students Revision No. 2 p. 7 of 21)

CLINICAL AND PHARMACOLOGICAL MAP

1. **Fill out the protocol of the final work of the work.**

Patient's full name _____

Paul _____ age _____

date of receipt _____/ date of discharge _____

profession _____

Diagnosis from the medical history (from the bypass of the head of the department or the stage epicrisis): main _____

related _____

complications _____

1. A brief description of the patient's complaints at admission and at the time of examination.
2. Anamnesis of the disease. Pharmacological anamnesis (including allergological) is made out by filling in Table 1, when filling in which formulate questions to the patient and state the relevant information received from the patient.

Table 1

The scheme of collecting a pharmacological history

Information necessary for a pharmacological case history assessment	Formulated question	Information received from the patient
Currently used medicines		

Duration of use of these medicines		
The dose and frequency of taking these medicines		
The effectiveness of currently used medicines		
Tolerability (safety) of currently used medicines		
Medicines used earlier in similar situations		
Reasons for stopping taking previously used medicines		
Other medications used for concomitant diseases or for other purposes (oral contraceptives)		
Concomitant therapy with "alternative" means: phytopreparations, homeopathic preparations		
Undesirable drug reactions when taking previously used medications		
Attitude to alcohol, smoking and drugs		

3. Physical examination data, the results of the main studies (from the medical history): indicate only deviations from the norm.
4. Description of the patient's pharmacotherapy. For each drug prescribed to the patient (information from the list of prescriptions), specify:
* The name of the drug (trade and international nonproprietary name), its pharmacological group.
* Justification of the choice of this drug (including with an assessment of the level of evidence) and its dosage regimen;
* If you do not agree with the choice of the drug and / or the dosage regimen that was carried out by the attending physician, offer your own version of pharmacotherapy with its justification.
5. Assessment of the dynamics of the patient's condition during the patient's curation period: it is necessary to reflect the dynamics of complaints and the patient's condition in the diaries, analyze new results of laboratory and instrumental research methods (only deviations from the norm), parameters of treatment effectiveness, manifestations of undesirable drug reactions, give comments on the pharmacotherapy correction carried out by the attending physician (according to information from the list of prescriptions: changing the dosage regimen, cancellation of medicines, addition of other medicines), assess the adequacy of pharmacotherapy correction.
6. Development of a program for evaluating the effectiveness of prescribed medications in a patient (Table 2). At the same time, it should be borne in mind that the same drug can be prescribed to a patient for several indications.

Table 2

Evaluation of the efficacy of medicinal products

Indications in patient	**Medicinal product**	**The mechanism of drug action corresponding to the indication**	**Methods for evaluation effectiveness**
Indication 1	Medicinal product 1	Mechanism 1	1. Clinical methods: ○ … ○ …
	Medicinal product 2	Mechanism 2	2. Laboratory methods:
	Medicinal product 3	Mechanism 3	

			○ … ○ … 3. Instrumental methods: ○ … ○ …
	…	…	
Indication 2			
Indication 3			

1. Development of a safety assessment program for each of the medicines prescribed to the patient (Table 3).

Table 3

Evaluation of the safety of medicinal products

Medicinal product	**Unwanted reaction**	**The mechanism of development of undesirable reactions**	**Methods of safety assessment**
	Reaction 1	Mechanism 1	1. Clinical methods: ○ … ○ … 2. Laboratory methods … ○ … 3.Instrumental methods … ○ …
	Reaction 2	Mechanism 2	
	…		
Medicinal product 2			
…			

1. Analysis of the clinical significance of pharmacokinetic parameters and other information on the pharmacokinetics of one of the drugs prescribed to the patient by filling out the table (Table 4). When filling out the table, use the section "Pharmacokinetics" of the standard clinical and pharmacological article (TCFS) The State Register of Medicines (TCFS) is also available on the website http://www.regmed.ru/search.asp).

Table 4

Evaluation of the clinical significance of pharmacokinetic parameters and other information on the pharmacokinetics of the drug

Pharmacokinetic parameter or other information on pharmacokinetics	**Parameter or information on the pharmacokinetics of a specific drug from the TCFS**	**The clinical significance of this parameter or information when using a particular drug**
Bioavailability, %		
The effect of food on absorption		
The time of onset of the maximum concentration		

(Tmax), h		
Connection with blood plasma proteins, %		
Volume of distribution, l/kg		
Cytochrome P-450 isoenzymes involved in metabolism		
First pass effect (high hepatic clearance)		
Active metabolites		
Half-life, T1/2, h		
Organs of excretion		
Clearance, ml / min		
% of the drug excreted unchanged		
Penetration into breast milk		
Penetration through histogematic barriers		
*If there is no information, put a dash.		

1. Assessment of drug-drug interaction (Table 5). When filling out the table, the cell at the intersection of two drugs indicates the type of interaction (pharmacokienetic/pharmacodynamic), the level of interaction, the mechanism of interaction, possible clinical consequences of the interaction.
If there is no interaction between drugs, then put a dash ("-").

Table 5

Assessment of inter-drug interaction

MP	Medication 1	Medication 2	Medication 3
Medication 1	-		
Medication 2		-	
Medication 3			-

1. If an undesirable drug reaction develops, fill out a notification card about its development, if undesirable drug reactions have not developed, simulate the situation when they develop and also fill out the notification card (Table 6). To justify the need in this case to fill out a notification card and send it to the Federal Center for Monitoring the Safety of Medicines of Roszdravnadzor.

Table 6

The scheme of drawing up a memo for the patient on the use of the drug

Questions that need to be answered by the patient	**Specific information for the patient regarding a certain drug**
Name of the medicinal product	
Why the drug is used?	
How and when to use the drug?	
How long should the drug be used?	
When and what positive effects of the drug can be expected?	

Possible problems that may arise when using the drug and what to do if these problems occur?	
What foods, beverages (including alcoholic beverages) and other medicines (including herbal medicines) should be avoided?	
What should I do if a dose of a drug is missed?	
Where can I get more detailed information about the drug?	

3. Conclusion on the assessment of pharmacotherapy in the supervised patient: to reflect the adequacy of the therapy (the choice of drugs and their doses, efficacy, safety, drug interaction) and its correction, the timing of the onset of a positive effect. If the pharmacotherapy is ineffective, indicate its possible causes, suggest ways to overcome it. If a real undesirable drug reaction develops, indicate the possibilities of its prevention, early diagnosis and correction.