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**STEPAN GZHYTSKYI NATIONAL UNIVERSITY OF
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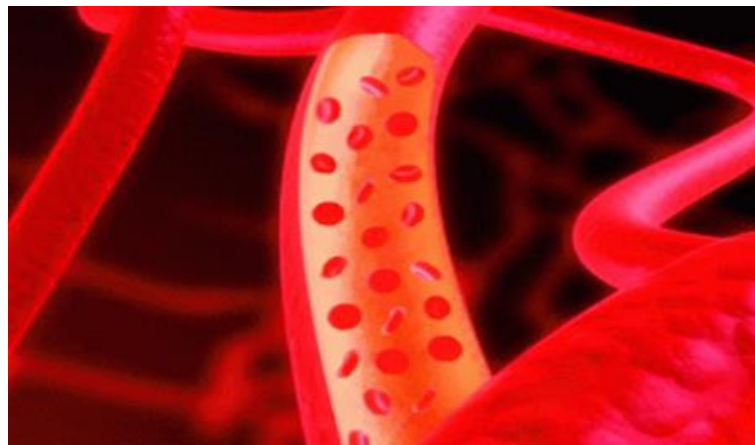
Faculty of Veterinary Medicine



**Department of Normal and
Pathological Physiology named
after S. V. Stoianovskiy**

PHYSIOLOGY OF THE BLOOD SYSTEM

**Methodological instructions for laboratory classes of subject
«Animal physiology» for foreign students of the speciality 221
«Veterinary medicine», branch of knowledge 21 «Veterinary
Medicine»**



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In the methodological instructions are represented the main experiments of the chapter «Physiology of the blood system», handout for foreign students, which correspond to the syllabus of the educational discipline «Animal Physiology» for foreign students of the speciality 221 «Veterinary medicine», branch of knowledge 21 «Veterinary Medicine». They contain also list of questions for current and summary (examination) knowledge control. They include a list of methodological and recommended literature. The methodological instructions will be also useful for foreign students of medical and biological high schools.

The methodological instructions have been read and approved at the meeting of department of Normal and Pathological Physiology named after S.V. Stoianovskiy protocol №9 from the «15th» of February 2022, and approved by the decision of the educational-methodical commission of the Faculty of Veterinary Medicine, Stepan Gzhytskyi National University of Veterinary Medicine and Biotechnologies Lviv protocol № 6 from the «17th» of February 2022.

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LABORATORY CLASS 1

TECHNIQUE OF BLOOD COLLECTION IN LABORATORY ANIMALS

Overview. Higher forms of animals have developed circulating blood, and the fluids derived from it, as a means of maintaining a relatively constant environment for all cells. Blood system consists of four parts: blood proper, hemopoietic organs, organs of blood destruction, and regulatory neurohumoral mechanisms. Blood, lymph and Interstitial fluid compose the internal medium of the organism.

Objectives. To become familiar with the procedure of technique of blood collection in laboratory animals in order to complete subsequent lessons with the following objectives.

Equipment. Laboratory animal (rabbit, guinea pig, rat, mouse), blood needles, cotton wool, 96 ° alcohol, anticoagulant (5% sodium citrate, heparin), glass test tubes.

Procedure. The following includes detailed instructions for the procedure of technique of blood collection in laboratory animals listed below. First of all the animals are securely fixed. The fixation is partial or complete immobilization of any animal. Then the hair is cut or shaved, the skin is wiped with an alcoholic solution of ether. A sterile needle is used to do prick or injection the skin, the vessel wall, and collect the appropriate amount of blood in a sterile test tube. If we need the whole blood we use an anticoagulant. First of all anticoagulant is poured into a test tube. After it blood is collected.



Figure 1. Technique of blood collection in rabbit

Note. Here and below, the source of the figures is: Novosad N.V. Laboratory animals and biological experiment techniques: Educational and methodological manual for students of the Faculty of Biology of full-time and part-time departments (field of study: "Biology"; field of knowledge: "Natural Sciences"). – Zaporizhzhia: ZNU, 2011. – 85 p.

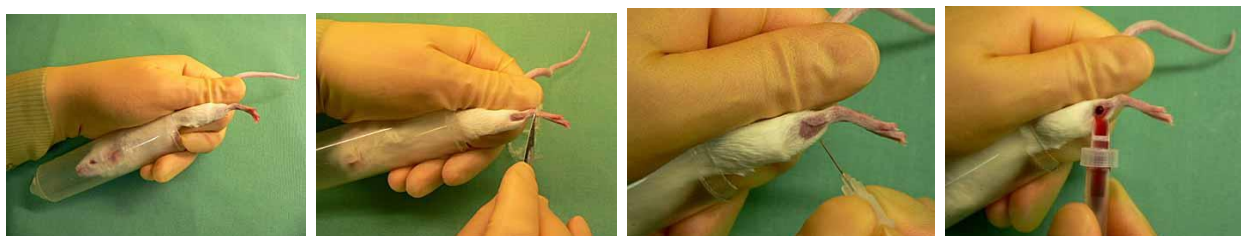


Figure 2. Technique of blood collection in mouse

Research results. In results students describe the differences in procedure of blood collection in laboratory animals.

Conclusions. Conclusions are based on the analysis of the results of experimental studies.

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