

«Telediagnosics» Experiment

**STUDY OF THE INFLUENCE OF IONIZING RADIATION
AND OTHER SPACE FACTORS ON A HUMAN ORGANISM
BY TELEMEDICINE AND COMPUTER DIAGNOSTIC TECHNIQUE**

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Development and testing of a new model of medical monitoring of astronauts is proposed.

We will apply telemedicine technology, namely teletransfer of primary information (ultrasonic images, ECG, EEG etc.) on medical condition of astronauts to the ground-based laboratory for further analysis, creation of databases and computer diagnostic systems.

Telemedicine technology for remote analysis of the state of a human organism, e. g. neuro-psychiatric, cardiovascular, endocrinal and hematogenic systems,

will be developed. We are planning to test such a technology for monitoring the medical condition of people living and working in 30-km zone of Chernobyl, at the «Shelter» object and SE «Radek», as well as Chernobyl power plant.

The integrated program developed in this experiment will be applied for monitoring the nervous, endocrinal and circulatory systems of persons living in the Chernobyl power plant zone and exposed to the long-term influence of small doses of ionizing radiation.

«Thrombocytes» Experiment

**INFLUENCE OF SPACE FLIGHT FACTORS ON PROCESSES
OF THROMBUS FORMATION AND DESTRUCTION IN HUMAN BLOOD**

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The purpose of the experiment is to study the influence of space flight factors on the blood coagulation processes and the blood clot enzyme destruction. These processes are the basis of regulatory mechanisms of the thrombus formation and thrombolysis.

The main objectives are the following:

— to reveal the direction and essence of simultaneous influence of space flight factors on the velocity of fibrin clot formation and of its enzyme destruction, as well as on separate steps of these processes;

— to study the microgravity influence on factors VII, IX, X, II, I, protein C, plasminogen, plas-

minogen activators and plasmin inhibitor concentration, integral parameters of the blood coagulation and fibrinolysis systems in blood plasma of astronauts;

— to study possible changes of the protein — protein interactions in microgravity and adaptive ability of two equilibrium systems of blood plasma — blood coagulation and fibrinolysis.

Integral parameters of blood coagulation and fibrinolysis system will be determined by the immunological methods with standard tests.

The results will be used in the field of space medicine for astronauts' screening and for choice of prophylactic measures in long-term space flights.