

## SEMI-INVASIVE BLOOD TEST

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One of the most informative laboratory diagnostics of the human body is a blood test and establish his individual patterns of oscillation analyzed indicators and definitions for each range change quantitative characteristics. The results depend on the technique of taking blood and on tools that directly influence on quality of diagnostic.

Currently, all methods can be divided into two main groups, such as invasive and non-invasive methods that have their advantages and disadvantages. Non-invasive methods, without blood from a finger or from a vein, can define all parameters of homeostasis of the body, replacing the clinical, immunological, biochemical blood [1]. Invasive methods require blood sampling in large enough volumes and compliance with a number of sample preservation requirements during transportation to the laboratory. Because of this, these methods are quite traumatic, have great value and require much time for analysis and diagnosis. But invasive methods have a significant advantage in quality and accurate analysis because non-invasive methods have measurement errors caused by the influence of blood components, surface tissue structures, their biophysical properties in different conditions of heat exchange, blood supply, resulting in the omission of simultaneous recording of many parameters outside and internal environment, which have a direct correlation.

Today there is such thing as minimally invasive blood test, where using micro needles and nano-biotechnological tests can be carried out qualitative analysis about a hundred indicators. Due to the speed, safety and ease of analysis this laboratory method research can be used for mobile rapid diagnosis.

The paper presents the development of a mobile unit for rapid laboratory tests of blood with international standards, consisting of biometric, information-analytical and bio-diagnostic blocks that allow you to comply with all the standards and use the unit in the field of humane medicine, veterinary, food production, forensic, insurance and other areas.

### Literature

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2. G. Wang. Development of Wearable Semi-invasive Blood sampling devices/ Gang Wang, Martin P.Mintchev.-Engineering, 2013, 5, pp. 42-46.