Volume 3, Issue 1, January 2025 ISSN (E): 2938-3765

# DIAGNOSTIC SENSITIVITY AND RULES FOR PREPARING PATIENTS FOR LABORATORY STUDIES

Umarova T. A.
Assistant of the Department of Clinical Laboratory
Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD

Kudratova Z. E.
PhD, Ass.Professor of the Department of Clinical Laboratory
Diagnosis with the Course of Clinical Laboratory Diagnostics of PGD

Khoshimova L. U.
Cadet of the Department of Clinical Laboratory Diagnosis With the Course of Clinical Laboratory Diagnostics of PGD; Samarkand State Medical University Samarkand, Uzbekistan

**Abstract**
The diagnostic sensitivity of a test for a particular disease is defined as the percentage of cases of truly positive test results in patients with that particular disease. In ideal cases, the sensitivity is 100%. This means that each patient has a pathological value of the parameter under study corresponding to his disease, i.e. there are no false-negative results [7,9,11,12].

**Keywords**: Diagnostic sensitivity, patients, laboratory tests, specificity, pathological conditions.

## Introduction

A study with high diagnostic sensitivity is the determination of the activity of aminotransferases in liver diseases, antinuclear factor in systemic lupus erythematosus, myoglobin in myocardial infarction. The diagnostic specificity of a test for a particular disease is defined as the percentage of cases of true negative test results in persons who do not suffer from this particular disease; 100% diagnostic specificity means that only certain pathological conditions lead to results that go beyond the normal values (there are no false positive results). Such tests as the determination of troponin T and I in myocardial infarction, etc., have high diagnostic specificity.

A sensitive test will be especially informative if its result is negative (i.e. it will exclude a healthy person from the group of people examined for some pathology), and a specific test is most effective when its result is positive (it will confirm the presence of pathology in the examined). Therefore, the most sensitive tests are recommended to be used at the early stages of the diagnostic search to narrow its scope, when diagnostic tests allow you to exclude any diseases as unlikely. Specific tests are needed to confirm (establish) the diagnosis made on the basis of other data. The results of a highly specific test do not have to be positive in the absence of disease. A good example to illustrate the use of sensitive and specific tests is the examination for systemic lupus



Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

erythematosus. At the first stages, the presence of antinuclear antibodies in the patient's serum is determined as screening methods, and if the result is positive, clarifying tests are performed - antibodies to double-stranded DNA, highly specific for systemic lupus erythematosus. Indicators of sensitivity and specificity of the test, in relation to a certain pathology, are indicated in the annotations to the test systems.

Preparation of the patient for laboratory tests should include: • oral instructions (it is possible to issue a memo) on the features of the prescribed study;

• the patient's compliance with the prescribed regimen and rules for collecting material (especially in out-of-hospital conditions). For each biological material, taking into account the planned research method, there are its own features of obtaining, information about which is developed by the CDL and transmitted to clinical departments.

Taking material for laboratory research should be carried out, as a rule, in the morning hours. In case of emergency conditions, the study is carried out at any time of the day, but taking into account the possible influence of the time factor. The assessment of some laboratory parameters requires special preparation of the patient. So, to determine the level of uric acid in patients with suspected gout, a purine-free diet is necessary (exclude meat, fish, red wine, eggs, cheese, liver for three days before the test). When determining the level of serum iron, iron preparations are discontinued 7-10 days before the study.

Obtaining biological material. The collection of biological material for laboratory research should be carried out in compliance with the rules of asepsis and antiseptics, sanitary and anti-epidemic regime in accordance with the current regulatory documents. The choice of material for the study is made by the attending physician, but most often peripheral blood is used as biological material. The best and most common biological material is venous blood, since its production is as standardized as possible.

In addition, the calibration and control materials produced by the companies are focused mainly on venous blood. Arterial blood is rarely used, due to the complexity of obtaining the material, and capillary blood has a number of disadvantages. In particular, when taking blood from a finger, a number of methodological features are possible that are very difficult to standardize (cold, cyanotic, edematous fingers; a significant admixture of interstitial fluid; a small sample volume, etc.), which leads to significant variations in the results obtained and, as a result, to the need for repeated studies to clarify the result. Capillary blood is usually used when it is difficult to obtain venous blood (children under 1 year of age or weighing up to 9 kg, with extensive burns, the presence of hard-to-reach or very small veins, severe obesity, an established tendency to venous thrombosis). In any case, it should be remembered that the values of most laboratory parameters differ depending on the biomaterial used.

The material can be picked up in a sitting or lying position. It is preferable to take blood from patients in a sitting position, with the exception of seriously ill patients. In the case of dynamic observation of the patient, the material should be taken in an identical position of the body.

As a rule, the material is obtained on the day of the study. It is forbidden to take blood for routine tests the night before. In some cases, for biochemical studies, it is allowed to store serum (but not blood!) in a refrigerator or freeze the sample once. Venous blood is taken by a procedural nurse. Depending on what material will be used for the study (serum or plasma), blood is collected in



Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

clean, dry centrifuge tubes without additives (to obtain serum) or with the addition of an anticoagulant (to obtain plasma). The choice of anticoagulant depends on the laboratory parameter to be determined.

**References**


1. Abduhakimov B. A. et al. Features of the course and clinical and laboratory methods of primary tuberculosis in children and adolescents //Educational innovation and integration. – 2024. – T. 32. – No. 3. – C. 139-143.
2. Berdiyarova Sh. Sh. et al. Clinical and laboratory diagnostics of folic acid-deficient anemia. UZ. – 2024. – T. 49. – №. 3. – P. 46-53.
3. Umarova T. A., Kudratova Z. E., Axmadova P. Role of conditionally pathogenic microflora in human life activities //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – T. 2. – №. 11. – C. 29-32.
4. Muhamadieva L. A., Kudratova Z. E., Sirojeddinova S. The role and modern diagnostics of atypical microflora in the development of pathology of the lower respiratory tract. Uz. – 2024. – T. 37. – No. 3. – C. 135-139.
5. Umarova T. A., Kudratova Z. E., Norboyeva F. Modern aspects of etiology and epidemiology of giardias //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – T. 2. – №. 11. – C. 25-28.
6. Isomadinova L. K., Daminov F. A. The importance of cytokines in glomerulonephritis disease //Journal of new century innovations. – 2024. – T. 49. – No. 2. – C. 117-120.
7. Umarova T. A., Kudratova Z. E., Maxmudova H. Mechanisms of infection by echinococcosis //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – T. 2. – №. 11. – C. 18-21.
8. Daminov F. A., Isomadinova L. K., Rashidov A. Etiopathogengetic and clinical-laboratory features of salmoneliosis. UZ. – 2024. – T. 49. – №. 3. – P. 61-67.
9. Umarova T. A., Kudratova Z. E., Baxromova M. Autoimmune diseases: new solutions in modern laboratory diagnostics //International Conference on Modern Science and Scientific Studies. – 2024. – C. 78-81.
10. Бердиярова Ш. Ш. и др. Узловой зоб и его клинико-лабораторная диагностика //TADQIQOTLAR. UZ. – 2024. – T. 49. – №. 3. – C. 38-45.
11. Umarova T. A., Kudratova Z. E., Muhsinovna R. M. The main purpose of laboratory diagnosis in rheumatic diseases //International Conference on Modern Science and Scientific Studies. – 2024. – C. 82-85.
12. Umarova T. A., Kudratova Z. E., Ruxshona X. Contemporary concepts of chronic pancryatitis //International Conference on Modern Science and Scientific Studies. – 2024. – C. 11-15.
13. Umarova T. A., Kudratova Z. E., Maxmudova D. Pathogenesis of bronchial asthma development at the present stage //International Conference on Modern Science and Scientific Studies. – 2024. – C. 21-24.
14. Umarova T. A., Kudratova Z. E., Muminova G. Instrumental diagnostic studies in chronic pancreatitis //International Conference on Modern Science and Scientific Studies. – 2024. – C. 16-20.




Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

15. Umarova T. A., Kudratova Z. E., Norxujayeva A. Etiopathogenesis and modern laboratory diagnosis of prostatitis //International Conference on Modern Science and Scientific Studies. – 2024. – C. 6-10.
16. Umarova T. A., Kudratova Z. E., Abduazizova Z. New views on clinical and laboratory aspects of rotavirus infection //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – T. 2. – №. 12. – C. 17-20.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5