



## Specific Features of Internal Medicine Propedeutics

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**Abstract:** This publication opens a series of authorial lectures devoted to questions of Propaedeutics of Internal Diseases, primarily based on the material of cardiovascular, endocrine and bronchopulmonary pathology. Propedeutics is widely interpreted by authors as an Introduction to Internal Medicine; therefore, these lectures also contain clinical pathophysiological material.

**Keywords:** Anamnesis; Cardiovascular Diseases; Communicative skills; Doctor-Patient Communication; Malpractice; Patient's Complaints; Patient interviewing; Personality; Physical Examination; Pulmonary Diseases.

### Introduction

The development of new complicated methods of diagnosis and treatment requires specialized skills and training on the part of the physician and has led to the formation of separate branches of medicine such as cardiology, gastroenterology, endocrinology, and hematology. This by no means indicates the division of the concept of "internal medicine" into "daughter subjects". The subject of propedeutics of internal diseases is introduction to therapy and diagnosis of the most common diseases of internal organs. Propedeutics of internal diseases includes 2 main parts: general propedeutics (basic principles and methods of diagnosis of internal diseases) and special (particular) propedeutics (basis of diagnosis of most common diseases of internal organs). Diagnosis in medicine is the determination of the nature of a disease. Modern diagnosis combines the taking of the patient's health history, a physical examination, and laboratory and radiological examinations. All symptoms (signs of diseases) are divided into subjective and objective symptoms. Subjective symptoms such as pain or nausea are experienced by the patient. These sensations reflect objective changes that occur in the patient's body. Signs of the disease that are revealed by the physician during his examination of the patient, e.g. jaundice or enlarged liver, are objective symptoms of the disease. Examination consists of two main parts - subjective (interview, or inquiry, taking of anamnesis) and objective examination.

### Literature review

The founder of the Russian therapeutic school, Matvey Mudrov (1776-1831), assumed that disease is a result of exposure of a man to unfavourable effects of the environment. He was the first who interrogated the patient in order to substantiate the anamnestic method. He developed a planned clinical examination, and recording case histories. In the field of general therapy he followed the principle of individual approach and claimed that the patient should be treated rather than his disease. Grigory Zakharyin (1829-1897) worked out in detail the anamnestic method of diagnosis which helped establish individual diagnosis (in addition to the physical examination of the patient) in the presence of not only morphological but also functional changes in various organs. An outstanding French practitioner of medicine Huchard wrote: "Zakharyin's school used observation, accurate anamnesis, and knowledge of etiology, which were raised to the level of an art". The

examination begins with an interview (inquiry, taking of anamnesis). The patient tells his complaints which often are of no less importance than a thorough objective examination of the patient. Some diseases are diagnosed almost exclusively by the patient's complaints. Angina pectoris, for example, is frequently diagnosed almost entirely from the character of pain in the region of the heart. Cholelithiasis is diagnosed by attacks of pain in the right upper abdominal quadrant. A detailed questioning of the patient concerning the time of the onset of the disease, its early symptoms (until the time of medical examination) is even more important in establishing a correct diagnosis. All this information is usually called anamnesis morbi (i.e. remembering the present disease by the patient, as distinct from anamnesis vitae which is the history of previous diseases of the patient). General scheme of inquiry is represented in the following kind: 1. Inquiry of the patient about complaints, about his sensations, experiences (Present complaints). 2. Inquiry about the present disease, about its beginning and the subsequent course to the present day, i.e. day of research of the patient, an anamnesis of disease (Anamnesis morbi, or History of present illness). Exact answers should be obtained from the patient concerning the following aspects of his present disease (anamnesis morbi): (1) the time of the onset of the disease; (2) the character of the first symptoms; (3) the course of the disease; (4) examinations and their results, if any; (5) treatment, if any, and its efficacy. The answers to these questions may give the physician the necessary information on the present disease.

### Research methodology

Medicine is based on international laws of natural sciences. Every time a medical doctor checks the arterial blood pressure from one of his or her patients, this physician (in any country of the world) applies the achievements of different national medical schools. This is plain medical fact, because the mercury sphygmomanometer device for this purpose was invented by an Italian doctor Scipione Riva-Rocci (1863–1937), the stethoscope used for this procedure was invented by a French physician Rene-Theophile-Hyacinthe Laennec (1781– 1826) and the physiological phenomenon of specific murmurs heard for arterial blood pressure check was discovered by a Russian surgeon Nicolai Sergeievich Korotkov (1874–1920). All that made it possible to control arterial blood pressure in clinics non-invasively. Therefore, in a simple medical procedure, the achievements of three different national medical schools are combined, and the same principle applies in other areas of Medicine. After the years of medical teaching, consulting and research in Russia and few other countries, with experience of having medical and dentistry students from almost 70 different states, we do believe that the principles of medical education are similar all over the world. In our current teaching, at the Medical Faculty of Saint Petersburg State University, we subscribe to the principles of early patient contact of the students, full integration between the Basic Sciences and Clinical Medicine, and the intermingled interdisciplinary approach that combines the concepts and findings taken from different medical disciplines.

### Analysis and results

Although the Science of Medicine is similar worldwide, the sphere of Health Care still is divided with national borders and has pretty much of specifics in every country, with their different legislations, standards, traditions, mentalities and cultures. Even in the epoch of globalization this should be taken in account by international medical students and medical doctors, traveling for employment. The phenomenon called ‘white thrombus’ on this side of English Channel, is called ‘platelet plug’ in Britain and all its former colonies. It does not mean that medical doctors living on particular shore of the sea are more (or less) sophisticated. However, it means difference in their thesaurus and their traditions. The main foundation for clinical reasoning is a clinical language. Nevertheless, this great pre-requisite of medical professionalism is not identical in different countries and even in the same country, but within the various specialties and occupations of Medicine. In order to improve the performance of international medical students and make the tasks of the guest physicians easier, we have composed this cycle of lectures both for Russian and Foreign readers, persuading the goal to acquire and apply medical skills globally. More than three centuries ago, the Tsar of Russia, Peter the Great, has founded the city of St. Petersburg and – a bit later (1724) – also our University. His idea was to create a place, which was suitable for hybridization and interaction between the Russian mind and spirit and European culture. That is why today, Saint Petersburg is

probably the right place to study Medicine. Here you can combine the achievements of Russian and European cultures, with fundamentals of Russian and international Medicine. The University puts together the intellectual efforts and creative potential of many people of different ethnic origin. The authors wish you success on your way to medical professionalism and good achievements in future career of physician. In order to accomplish this goal contemporary medical doctor has to be a multilingual person. Let the words of famous English physician Dr. W.W. Gull, opening the text of lectures as an epigraph, accompany you on your way.

Breathlessness (or dyspnea) – the breath disorder, distressing for patient. In cardiac patients, dyspnea is a manifestation of circulatory insufficiency. It may be of various severity, graded. That's why, it is necessary to reveal when and under which conditions it arises in a patient (e.g.: In rest state, on walking, on running, on going upstairs, on climbing a hill or, finally, during arduous exercises, physical work or in certain sports training). Ask, if the patient gets relief in some specific posture/position. The doctor needs to know is the breathlessness permanent or intermittent, setting in with attacks, is it accompanied with the sense of fear. The dyspnea in heart failure is caused by hypercapnic, hypoxemic and other influences on the integrative brain respiratory center. The most severe dyspnea is that of rest state, when a patient may suffer from it even staying in bed. Dyspnea is common for valve disease patients, particularly in mitral stenosis, but also occurs in atherosclerotic cardiosclerosis, pericarditis, myocardial infarction and other cardiac diseases, e.g. cardiomyopathies. Commonly, the breath shortness in cardiac diseases is of inspiratory (Traube's1 dyspnea) or mixed type. Dyspnea is both objective and subjective symptom. The extreme severity of dyspnea may force a patient keep a sitting position, holding some support with his hands in order to bring the additional respiratory musculature in action (constrained posture). Dyspnea is brought in by congestive disorders in lesser circulation, which deteriorate the blood gases exchange and impair the blood arterialization by the lungs, hampering the blood flow in greater circulation. As a result, growing blood levels of carbon dioxide and metabolic products of incomplete oxidation overexcite the respiratory center. Reflex influence from pulmonary J-receptors and via analeptic elements of sinocarotid zone are also essential. The extreme irritation of the center may decrease its excitability, elevate the threshold of hypercapnic reaction, thus causing Chayne-Stokes' (tidal) respiration, which is considered to be rather unfavorable for prognosis. Usually it occurs in the nighttime, when sleeping. However, sometimes it is observed in apparently healthy person (in weakness of hypoxic reflex drive from sinocarotid area, as if it happens in sleeping infants or very old people). Sometimes sudden assaults of breath shortness may occur. These are so-called asphyxia attacks. They should be distinguished from the breathlessness of constant character. The asphyxia may occur in resting state, after exercises or stress as well, more often with time intervals, while sleeping. Permanent dyspnea may serve as a background for the asphyxia assaults. Obesity is associated with such asphyxia episodes in sleep.

## Conclusions

Cardiovascular patients may present a variety of other complaints. Some of them seem, at first glance, unrelated to the heart and vessels. Examples may include:

- Hoarse voice in advanced mitral stenosis;
- Cough in lesser circulation congestion;
- Stomachache in an atypical abdominal form of myocardium infarction and thromboembolism of mesenteric artery;
- Black stools and coffee-like vomits in acute gut ulcer, caused by stress in myocardium infarction.
- Muscular and joint pains and ache in the left side may manifest Dressler's post-infarction syndrome (autoimmune polyserositis-synovitis).

Every complaint must be carefully analyzed and explained in accordance with the other ones. Patients usually tell the truth, with the exception of aggravators. It is advisable for a beginning practitioner to write down the case history in the course of questioning lest he/she should forget some important details. Growing experience will train the memory and allow postponing this

process. Tape recording is not a proper aid during an interview, because some patients get too conscious of it, so the attempt of tape recording makes a patient inhibited and less communicable. After the complaints have been acquired, it is necessary to proceed to anamnesis morbi.

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