

**Entrance exam program  
for the postgraduate Ph.D. programme  
in PREVENTIVE MEDICINE  
(Subject code: 32.06.03)**

**Hygiene**

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Medicine and Hygiene. Attributive Signs of Medicine and Hygiene, Commonality and Differences. Physical Properties of Air. Healthy Lifestyle and its Importance for Human Health. History of Hygiene. Impact of Air Pollution on Public Health and Urban Sanitation. Concept and Objectives of Personal Hygiene. Methods of Hygiene. Natural Light Sources and Natural Light. Ultraviolet Radiation, its Hygienic Value. Problem of Bad Habits, their Consequences for Human Health. Universal Principles of Hygienic Regulation. Value of Water for Humans. Organization of Medical and Preventive Care for Workers of Industrial Enterprises. Methods for Evaluating the Effectiveness of Hygienic Measures. Hygienic Requirements for Drinking Water Quality. Working Conditions, Occupational Diseases and their Prevention. Conceptual Diagram of the Structure of Medicine. Hygienic Characteristics of Drinking Water Supply Systems. Professionally-Caused Diseases. Stages of Hygiene Development. Importance of Nutrients in the Maintenance of the Body. Hygienic Basics of Health and Physical Development of Children and Adolescents. Hygienic Characteristics of Environmental Factors. Hygiene and Human Ecology. Health Status under Excessive Nutritional Status. Hygienic Characteristics of the Main Production Factors. Health Indicators as Fundamental Criteria for Assessing Human Well-Being and Environmental Status. Features of Planning of Populated Places. Industrial Injuries and Labor Protection. Methodology for Studying Public Health. Main Tasks of Hospital Hygiene. Recreational & Health-Improving Activities at Industrial Enterprises.

**Recommended literature:**

1. Hygiene [Text]: [textbook for higher vocational education]: in 2 vol. Vol.1. / [Yu. Pivovarov, V. Korolik, L. Zinevich et al.]; ed. Yu. Pivovarov. - 3rd ed., revised. - Moscow: Academy, 2015. - (Higher Education / Medicine).
2. Hygiene with the Basics of Human Ecology: Textbook / ed. Prof. P. Melnichenko. M.: GEOTAR-Media, 2013. - 752 p.:

**Epidemiology**

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Etymology and Modern Use of the Term "Epidemiology". Importance of Epidemiology for Medicine and Health Care, its Achievements. Subject Area, Purpose and Methods of Epidemiology. Epidemiological Approach to the Study of Human Pathology. Morbidity: Concept Definition, Objective and Subjective Factors that Determine the Morbidity of a Population, their Nature. Quantitative Measurement (Expression) of Morbidity. Comparison of Morbidity Rates and Interpretation of Information Obtained. Epidemiological Studies. Concept Definition, Synonyms, Subject, Research Purpose and Methods. Main Stages of Research Organization. Types (Distinctive Features) of Epidemiological Studies. Descriptive Epidemiological Studies, Research Subject, Purpose and Methods. Analytical Epidemiological Studies Concept Definitions, Case-Control and Cohort-type Studies, their Scope of Application, Advantages and

Disadvantages. Observational and Experimental Epidemiological Studies, Purpose, Scope. Analytical Research Errors. Morbidity Manifestations, Concept Definition. Traditional Terms. Features of Long-Term Dynamics of Morbidity, Methods of Detection, Interpretation. Features of Intra-Annual Dynamics and Structure of Monthly Indicators of Morbidity, Methods of their Detection, Interpretation. Features of the Dynamics and Structure of the Morbidity of Population Groups Identified by Individual Characteristics, Grouping Features, Interpretation of the Revealed Manifestations. Manifestations of Population Morbidity in Different Areas, Especially Groupings. Traditional Epidemiological Concepts, their Interpretation. Sufficient, Necessary and Additional Causes of the Emergence and Spread of Diseases and their Origin. Definition of "Risk Factor". Operational Epidemiological Analysis. Method of Epidemiological Analysis of Foci with Single and Multiple Diseases. Role of Biological, Social and Climatic Factors in the Formation of Manifestations of the Epidemic Process. Theory of the Epidemic Process by L. Gromashevsky. Sources of Infection. Concept Definition. Potential and Real Danger of Source of Infection. Measures Aimed at the Source of Infection. Mechanism, Ways and Factors of Transmission. Theory of Natural Foci of Infectious Diseases by E. Pavlovsky, its Present-Stage Development. Epidemiological Significance of Wild and Domestic Animals. Epidemiological Importance of Arthropod Vectors. Fundamental Principles of the Theory of Self-Regulation of Parasitic Systems (V. Belyakov with Co-Authors). Classification of Infectious Diseases. Anti-epidemic Measures. Concept Definition, Grouping Principles. Epidemic Focus. Concept Definition. Schematic Diagram of Activities carried out in the Epidemic Focus. Quality and Effectiveness of Anti-Epidemic Measures. Managed and Unmanaged Infection. Anti-epidemic System, its Structure. Functional Area of Activity of Specialists. Epidemiological surveillance is a form of anti-epidemic work, different ideas about its content. Disinfection. Its Importance in Different Groups of Infectious Diseases. Disinfection Types and Methods. Chemical Disinfectants: Groups of Chemicals Used in Disinfection, their Comparative Characteristics, Possibility of Use in Health Care Facilities. Deratization: Methods, Means, Organization. Determination of Deratization Efficiency. Disinsection: Methods, Means, Organizational Features. Justification of the Need for Immunoprophylaxis and its Effectiveness in Various Infectious Diseases. Emergency Prevention. Prevention of Tetanus and Rabies. Vaccinal Reactions, Post-Vaccination Complications and their Prevention. Immunization Schedule. Principles of its Preparation. Organization of Vaccinations: Performers, Planning, Accounting and Control of Vaccinations. General Characteristics of Anthroponoses with Fecal-Oral Transmission Mechanism. Typhoid and Paratyphoid Fever: Epidemiology and Prevention. Differential Diagnostic Signs of Various Outbreaks of Typhoid Fever. Shigellosis: Epidemiology and Prevention. Viral Hepatitis with Fecal-Oral Transmission Mechanism: Epidemiology and Prevention. Viral Hepatitis with Parenteral Transmission: Epidemiology and Prevention. General Characteristics of Aerosol Anthroponoses. Diphtheria: Epidemiology and Prevention. Streptococcal Infection: concept definition. Epidemiology and Prevention. Measles: Epidemiology and Prevention. Pertussis (Whooping Cough): Epidemiology and Prevention. Rubella: Epidemiology and Prevention. General Characteristics of Zoonotic Infections. Rabies: Epidemiology and Prevention. Leptospiroses. Epidemiology and Prevention. General Characteristics of Sapronoses. General Characteristics of Infectious Diseases with Vertical Transmission. Hospital Infection. Etiology, Epidemiology and Prevention. Content and Main Forms of Activity of the Hospital Epidemiologist. Malaria. Epidemiology and Prevention. Geohelminthiases. Ascariasis. Epidemiology and Prevention. Enterobiasis. Hymenolepiasis.

Epidemiology and Prevention. Biohelminthoses. Beef Tapeworm Infection and Diphyllbothriasis. Epidemiology and Prevention.

**Recommended literature:**

1. Epidemiology and Infectious Diseases Pokrovsky V., Pak S., Briko N., Danilkin B. M.: GEOTAR-MEDIA, 2013.
2. Guidelines for Practical Training in the Epidemiology of Infectious Diseases. Ed. Russian Academy of Medical Sciences, Prof. Pokrovsky V., Prof. Briko N. M.: GEOTAR-MEDIA, 2015.
3. General Epidemiology with the Basics of Evidence-Based Medicine. A Guide to Practical Exercises: textbook ed. Pokrovsky V., Briko N. - M.: GEOTAR-Media, 2012. 400 p.

**Public Health and Healthcare**

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Public Health and Health Care as a Science and Teaching Subject; Concept of Public Health and Factors Determining it. Basic Research Methods Used to Assess Public Health and the Performance of Health Authorities and Institutions. Concept of Medical Statistics. Importance and Use of Statistics for the Study of Public Health and the Evaluation of Health Institutions. Main Stages of Statistical Research. Types of Statistical Tables and their Compilation Rules. Law of Large Numbers as the Theoretical Basis of the Sampling Method. Requirements for the Selective Method. Statistical Aggregate and its Structure. Continuous and Selective Methods of Statistical Research. Concept of Representativeness. Relative Values in Statistics, their Meaning and Application. Possible Errors in Case of Incorrect Application of Relative Values. Average Values, their Value and Application in Medical Practice. Meaning and Application. Sigma ( $\sigma$ ) and Coefficient of Variation (Cv). Statistical Evaluation of the Reliability of the Research Results. Application of the "T" Criterion. Confidence Limits of Average and Relative Values. Standardization Method, its Meaning and Application. Correlation: Determination, Application and Evaluation of Correlation Coefficient. Graphical Representation of Statistical Indicators. Basic Principles of Health Care in Accordance with the Fundamentals of Legislation on the Protection of Public Health in the Russian Federation. Current Trends and Features of Health Indicators in Different Countries of the World. Methods and Types of Study of Morbidity in Russia. Advantages and Disadvantages of Each Method. Accounting and Reporting Documentation for the Registration of Diseases at Outpatient Clinics and its Importance for the Analysis of the Activities of Doctors and Institutions as a Whole. Calculation Method for Indicators of Primary Morbidity and Prevalence. Importance of their Parallel Analysis. Accounting and Reporting Documentation for the Registration of Diseases at Inpatient Facilities. Hospitalized Morbidity: Methods of Registration and Analysis. General, Infectious and Non-Epidemic Morbidity: Methods of Disease Registration and Analysis. Diseases of the Circulatory System as a Medical and Social Problem. Main Trends and Age and Sex Characteristics of Morbidity, Disability and Mortality. Risk Factors and Prevention of Cancer. Respiratory Diseases as a Medical and Social Problem. Main Trends and Age and Sex Characteristics of Morbidity, Disability and Mortality. Neuropsychiatric Diseases as a Medical and Social Problem. Influence of Socio-Economic and Biological Factors on the Prevalence of Neuropsychiatric Diseases. Drug and Substance Abuse as a Medical and Social Problem. Substantiation of the Relevance and Social Significance of Drug and Substance Abuse. Alcoholism as a Medical and Social Problem. Traumatism as a Medical and Social Problem. Traumatism Causes and Types. Medical Care Organization. Emergency Medical Care Organization. Phasing in the Organization of Medical and

Preventive Care in the Maternity and Child Welfare Service. General Practitioner, Objectives and Content of Activities. Current Development of Specialized Types of Medical Care. Quality of Medical Care: Definition and Characteristics. Modern Problems of Medical Care Quality. Disability: Definition. Concept of Disability. Disability Groups, Criteria Determining Disability Groups. Terms of Re-examination. Types of Social Protection of Disabled People in Russia. Organization of Medical and Social Expertise. Main and Primary Social Security & Medical Assessment Board; Functions and Composition. Procedure for Appealing the Decision of the Social Security & Medical Assessment Board. Rehabilitation. Types and Means of Medical, Social and Vocational Rehabilitation. Risk Factor: Definition, Classification. Anti-risk Factors: Definition. Screening: Definition. Screening Purpose and Types. Risk Groups. Hygienic Training and Education of the Population: Purpose, Objectives, Principles. Healthy Lifestyle. Doctor's Role in the Formation of a Healthy Lifestyle. Health Economics: Purpose, Objectives, Main Directions. Concepts of Medical Performance, Social and Economic Efficiency of Health Care and Indicators Characterizing them. Concept of Economic Damage Due to Morbidity and its Structure. Compulsory Medical Insurance Program and Free Medical Care State Guarantee Program. Obligatory Medical Insurance: Definition, Principles. OMI System Participants. Ethics and Deontology in the Work of the Attending Physician.

**Recommended literature:**

1. Selected Lectures on Public Health and Health Care: Textbook. - M.: OJSC Medicina Publishing House, 2012. 464 p.
2. Provision of a Master's Programme in Public Health. Introduction to Public Health. Textbook / ed. Syrtsova L. - M.: Medicine for All, 2014.
3. L. Syrtsova, I. Kosagovskaya, M. Avksentyev. Fundamentals of Epidemiology and Statistical Analysis in Public Health and Health Management. Textbook for Residents and Graduate Students. Moscow, 2013.