

**Meeting of the States Parties to the Convention  
on the Prohibition of the Development,  
Production and Stockpiling of Bacteriological  
(Biological) and Toxin Weapons and on Their  
Destruction**

15 December 2023

English only

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2023 Meeting  
Geneva, 11–13 December 2023

**Online training course on infectious diseases and biological  
safety**

**Submitted by the Russian Federation**



Meeting of the State Parties to the BWC  
Geneva, 11-13 December 2023

## **Online training course on infectious diseases and biological safety**

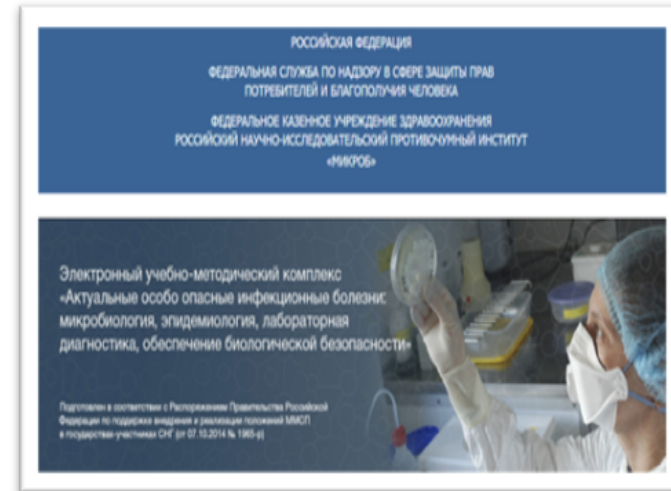
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# Online training course «Highly dangerous infectious diseases: microbiology, epidemiology, biosafety»

## Includes 10 digital training topics (DTT)

- Standard operation procedures
- Working in biosafety cabinets
- Inoculation and autopsy of animal models
- Management of incidents with pathogenic biologic agents
- Collection, packaging and transporting infected biological samples
- Microbiology, epidemiology and laboratory diagnostics of plague
- Microbiology, epidemiology and laboratory diagnostics of cholera
- Microbiology, epidemiology and laboratory diagnostics of anthrax
- Microbiology, epidemiology and laboratory diagnostics of brucellosis
- Microbiology, epidemiology and laboratory diagnostics of tularemia

**Developed with the support from the Government of Russian Federation**



## Each training topic includes

- List of knowledge and skills that are to be acquired;
- Theoretical sections, developed in accordance with the latest achievements of science and technology, modern legal documents;
- Interactive collection (photo-, audio- and video- data);
- Plans and methodical support for the practical trainings;
- Tests to monitor acquired knowledge and skills.

## DTT «Standard operation procedures»



- Intended to provide more safety when performing routine microbiological manipulations:
  - Putting on and taking off personal protective equipment (PPE)
  - Preparation of biosafety cabinets for work and their decontamination after the work
  - Sorting and registration of samples received in the laboratory
  - Preparation of samples to testing
  - Inoculation on solid and liquid nutrient media, evaluation of inoculation results
  - Preparation, staining, decontamination and examination of smears
  - Preparation of microbial suspensions
  - Preparation of disinfectant solutions
  - Performing diagnostic tests (fluorescent microscopy, ELISA, PCR)
  - Preparation of contaminated objects to steam sterilization and its implementation
- Includes 17 videos, interactive collection and 170 tests

## DTT «Working in biosafety cabinets»



- Intended for mastering the design and principles of operation of class I-III biosafety cabinets , their usage in accordance with the biosafety rules and safety regulations
- Information on the classification, purpose, design features, functionality of class I-III biosafety cabinets; selection of installation locations in the laboratory, preparation and operation in accordance with biosafety rules
- Requirements for maintenance of biosafety cabinets: timing of inspections, methods of testing protective and operational characteristics, procedure for disinfection treatment
- Includes 3 videos, interactive collection and 28 tests

## DTT «Inoculation and necropsy of animal models»



- Intended for mastering the procedures of inoculation and autopsy of animal models, in accordance with the biosafety rules
- The procedure for preparing workplaces for inoculation and autopsy of animal models is presented; methods of inoculation (intraperitoneal, subcutaneous, cutaneous); autopsy technique; possible emergency situations
- Includes 6 videos, interactive collection and 60 tests



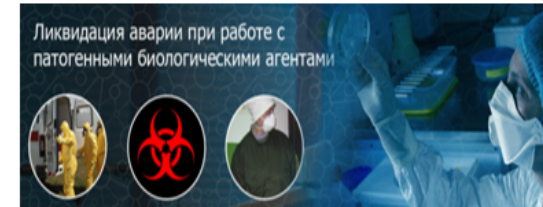
## DTT «Collection, packaging and transporting infected biological samples»



- Intended for mastering the procedures of collection clinical and environmental samples, their packaging and transportation to the laboratory, in accordance with the biosafety rules
- Includes:
  - Rules of sample collection, corresponding PPEs, sampling methods
  - Rules of sample packaging, requirements for containers, documentation
  - Rules of sample transportation, incidents management
- Includes 4 videos, interactive collection and 30 tests



## DTT«Management of incidents with pathogenic biologic agents (PBA)»



- Intended for acquiring knowledge and skills for prevention of incidents with pathogenic biologic agents and their management in accordance with biosafety rules
- Includes:
  - Classification of incidents, procedures implemented in case of an incident, emergency first aid kit
  - Procedures implemented in case of aerosol PBA incident in a working room
  - Procedures implemented in case of aerosol PBA incident in a biosafety cabinet
  - Procedures implemented in case of non-aerosol PBA incidents
  - Procedures implemented in case of PBA incidents with PPE integrity violation
  - Procedures implemented in case of PBA incidents with skin integrity violation
  - Procedures implemented in case of incidents during PBA transportation
  - Notification procedures
- Includes 8 videos, interactive collection and 18 tests

## DTT«Microbiology, epidemiology and laboratory diagnostics of cholera»



- Intended for acquiring knowledge and skills of cholera laboratory diagnostics in accordance with biosafety rules
- Includes:
  - Modern data on microbiology and epidemiology of cholera,
  - Response measures during surveillance and outbreaks of cholera
  - Algorithms and methods of laboratory diagnostics
  - Ensuring biological safety during the work with cholera agent: using PPEs, disinfectants, methods of decontamination for objects containing cholera agent
- Includes plans for 12 practical lessons, interactive collection and 130 tests

## DTT «Microbiology, epidemiology and laboratory diagnostics of anthrax»



- Intended for acquiring knowledge and skills of anthrax laboratory diagnostics in accordance with biosafety rules
- Includes:
  - Modern data on microbiology and epidemiology of anthrax,
  - Response measures during surveillance and outbreaks of anthrax
  - Algorithms and methods of laboratory diagnostics
  - Ensuring biological safety during the work with anthrax agent: using PPEs, disinfectants, methods of decontamination for objects containing anthrax agent
- Includes plans for 4 practical lessons, interactive collection and 50 tests



## DTT «Microbiology, epidemiology and laboratory diagnostics of brucellosis»



- Intended for acquiring knowledge and skills of brucellosis laboratory diagnostics in accordance with biosafety rules
- Includes:
  - Modern data on microbiology and epidemiology of brucellosis,
  - Response measures during surveillance and outbreaks of brucellosis
  - Algorithms and methods of laboratory diagnostics
  - Ensuring biological safety during the work with brucellosis agents: using PPEs, disinfectants, methods of decontamination for objects containing brucellosis agents
- Includes plans for 8 practical lessons, interactive collection and 81 tests

## DTT «Microbiology, epidemiology and laboratory diagnostics of tularemia»



- Intended for acquiring knowledge and skills of tularemia laboratory diagnostics in accordance with biosafety rules
- Includes:
  - Modern data on microbiology and epidemiology of tularemia,
  - Response measures during surveillance and outbreaks of tularemia
  - Algorithms and methods of laboratory diagnostics
  - Ensuring biological safety during the work with tularemia agent: using PPEs, disinfectants, methods of decontamination for objects containing tularemia agent
- Includes plans for 6 practical lessons, interactive collection and 60 tests



## DTT «Microbiology, epidemiology and laboratory diagnostics of plague»

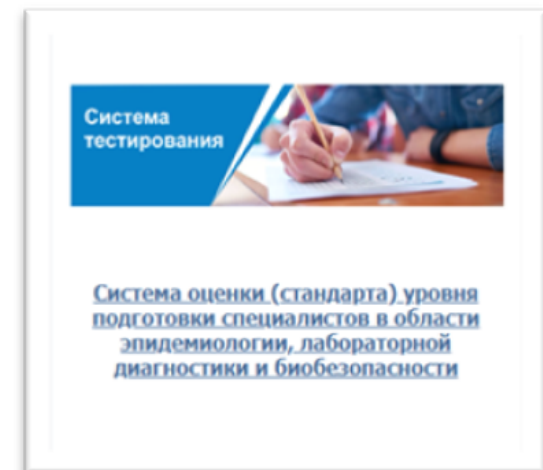


- Intended for acquiring knowledge and skills of plague laboratory diagnostics in accordance with biosafety rules
- Includes:
  - Modern data on microbiology and epidemiology of plague,
  - Response measures during surveillance and outbreaks of plague
  - Algorithms and methods of laboratory diagnostics
  - Ensuring biological safety during the work with plague agent: using PPEs, disinfectants, methods of decontamination for objects containing plague agent
- Includes plans for 20 practical lessons, interactive collection and 160 tests



## «System for assessing the level of training of specialists in the fields of epidemiology, laboratory diagnostics and biosafety» allows to:

- Create and edit database of tests in 3 languages (Russian, English, French);
- Create and update database on the specialists trained (specialties, countries, institutions);
- Perform testing, including remote testing, in different modes (self-testing, trial testing, final testing);
- Make reports with the analysis of testing results



**Database of the «System for assessing the level of training of specialists in the fields of epidemiology, laboratory diagnostics and biosafety» includes:**

**989 tests**

**Epidemiology**  
**252**

**Laboratory diagnostics**  
**475**

**Biosafety**  
**262**

**Target audience:**

- Heads of the laboratories
- Bacteriologists
- Virologists
- Laboratory technicians
- Zoologists
- Doctors and nurses of the hospitals for patients with highly dangerous infectious diseases

## **Using this online training course allows to:**

- significantly expand the training opportunities for individual and individual professional groups;
- conduct self-study according to an individual schedule, repeatedly using educational materials, including educational films and test tasks;
- For each training topic, objectively and in detail assess the level of knowledge and identify issues that require additional training

**Thank you for your attention!**