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BIOSECURITY MANUAL

PROCEDURE FOR IMPLEMENTATION OF BIOSECURITY MEASURES AT THE FACULTY OF VETERINARY MEDICINE ZAGREB

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1. DEFINITIONS AND TERMS

Biosafety - involves the implementation of measures that reduce the risk of introduction and spread of pathogens, and requires the adoption of a set of attitudes and behaviors to reduce risk in all activities involving work with domestic, wild and exotic animals and their products.

Biological material - includes blood, serum, plasma, tissues, tissue fluids, urine and lyophilized materials of animal and human origin.

Biological agents - denote microorganisms, including those that have been genetically modified, cell cultures and human endoparasites, which are capable of causing any infection, allergy or poisoning, and which are classified into four groups according to the level of risk of infection.

Microorganism - means a microbiological cellular or non-cellular entity, which is capable of reproducing or transferring genetic material.

2. DUTIES AND POWERS

All employees of the VEF and students are obliged to act in accordance with this procedure and perform work in a safe manner, be aware of obligations and responsibilities, inform about changed working conditions and warn superiors of specific deficiencies in protection.

Superiors are obliged to provide all conditions, as well as funds for the implementation of measures prescribed by this procedure.

At the level of the VEF, there is a Commission for Biosafety, which is in charge of drafting the Biosecurity Manual and supervising the implementation of measures and compliance with the procedures prescribed by that Procedure.

At the VEF level, a person and his / her deputy have been appointed who are in charge at the VEF level to advise VEF staff on the implementation of biosecurity measures.

3. GOALS AND PRINCIPLES

Basic safety and health protection measures during exposure to biological agents due to work are determined by the Ordinance on the protection of workers from risks due to exposure to biological agents at work (OG 155/08), the Labor Act, and are addressed in the *Guidelines on the protection of workers and students exposed to biological and chemical agents at work*.

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Biosecurity involves the implementation of measures that reduce the risk of introduction and spread of pathogens, and requires the adoption of a set of attitudes and behaviors to reduce risk in all activities involving work with domestic, wild and exotic animals and their products. Preventive and control measures are implemented at the VEF with the aim of reducing the possibility of infection with the causative agents of various infectious diseases or the occurrence of nosocomial infections, and are adapted to our unique environment. Due to this unique environment, and in order to protect the health of all stakeholders, this procedure includes all prescribed measures and instructions to workers and students related to health protection and reduction of hazards that may arise due to their exposure to various biological agents.

Objectives of this procedure:

- Protection of staff, students and clients from exposure to zoonotic agents.
- Protection of patients from exposure to infectious and parasitic pathogens.
- Create an environment in which patient care can be optimized and which reduces the risk of nosocomial infections.
- Optimization of students' educational experiences related to biosecurity and biosafety by practically demonstrating the implementation of procedures related to the prevention and control of infection and other procedures related to occupational safety.

The following principles have guided the development of all procedures described in this procedure, and their observance will prevent the transmission of disease between patients, between patients and staff and eliminate the danger to the health of staff and students posed by various biological and chemical agents.

1. Optimization of hygiene through the use of standard precautions, including hand washing, the use of protective clothing and footwear, and the use of other protective aids. Appropriate waste disposal, proper and regular cleaning and disinfection.

2. Stopping the spread of infection is achieved by adhering to hygiene protocols, understanding the way the infection spreads by preventing the direct and indirect spread of infectious diseases.

3. Raising awareness and quality of education in the field of biosafety, biosecurity, hazards related to biological and chemical agents

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4. GENERAL REQUIREMENTS

4.1. Hygiene optimization / basic hygiene conditions

4.1.1. Hand washing

Hand washing is mandatory:

- o Before and after each work with the patient.
- o After contact with blood, body fluids, secretions, excreta and other contaminated substances regardless of whether gloves are worn or not.
- o Between different procedures on the same animal to prevent cross-contamination.
- o Immediately after removing gloves. Wearing gloves is not a substitute for hand washing.
- o After cleaning and washing cages, tables, floors.
- o Each time you leave the hospital / laboratory / clinic.
- o Before and after going to the toilet.

The recommended way to wash your hands is as follows:

- o Soak your hands and forearms in warm water
- o Pour liquid antiseptic soap into your hand (3-5 mL or 1-2 squeeze pumps)
- o Rub each side of the hand, between the fingers, under the nails and above the wrist for 10-30 seconds
- o Rinse well with warm water
- o Dry your hands with paper towels or a hot air dryer

Recommended way to use hand sanitizer:

- o Pour a small amount of disinfectant into your hand
- o Rub the disinfectant on the fingertips, between the fingers and the rest of the hand and repeat the procedure on the opposite hand
- o Rub your hands vigorously until the disinfectant dries

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4.1.2. Use of protective clothing and footwear

- Before starting work, it is mandatory to get acquainted with the precautions and safety measures at work and strictly adhere to them.
- Protective equipment for students / staff may include: protective white coat (buttoned-up, long sleeve), work suits, sterile or disposable protective gloves, goggles, mouth and nose mask, apron, disposable protective coat, shoe socks, disposable caps, boots, visor (See special part of the manual).
- Protective coats and other work clothes of employees are sent for washing to the laundry with which the organization has a contract. If there is a possibility that the coats are contaminated, they must be decontaminated before being sent for washing. Protective work clothes are left to be washed at the end of each working day or during the working day if they are soiled with blood, secretions and excreta.
- Protective gloves must be changed after contamination and before leaving the room. The gloves are disposable and must not be washed. Gloves must not be used on surfaces with which persons who do not wear gloves may come into contact (handles, bells, mobile phones, etc.).
- Footwear must protect the feet, and is selected depending on the workplace - see special requirements (boots, work footwear with a protective cap, clogs, etc.). If necessary, protective shoe socks are used.

4.1.3. Basic hygiene requirements (eating, drinking, jewelry, keeping plants and non-patient animals)

- Consumption and storage of food and beverages, smoking, putting contact lenses, applying cosmetics (except hand protection cream) is strictly prohibited in the premises of the Clinics / Laboratory
- Faculty staff and students who come into contact with biological agents or live animals must keep their nails short and avoid wearing jewelry on their hands to reduce the possibility of contamination and the effectiveness of hand washing.
- It is not allowed to keep plants or animals that are not patients of VEF in the premises of the Clinics / Laboratory.

4.1.4. Accommodation and environmental conditions

- Due to the risk of fire, each student is required at the beginning of the semester to find out where the fire extinguisher is and how it is handled, where the main power switches, and the main gas and water valves are located. The fire evacuation plan must be clearly indicated.

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- Facilities / premises where live animals, carcasses or organs are handled must be constructed and furnished in such a way as to allow easy cleaning and disinfection. The use of carpets and rugs is prohibited.
- Floors and work surfaces must be waterproof and easy to clean and disinfect. Work surfaces must be resistant to acids, alkalis, solvents and disinfectants.
- Furniture must be easy to clean and disinfect. The chairs must be covered with a non-porous material that is easy to clean and disinfect.
- Facilities / premises where live animals, carcasses or organs are worked on must have doors that allow restricted access.
- Each room must have at least one place for washing hands.
- Access to unemployed persons is limited and in some areas can take place only under the supervision of an official.
- It is forbidden to keep plants and / or non-patient animals in rooms where live animals, carcasses or organs are handled.

4.1.5. Hygienic measures in patient care and minimization of contacts

- Cages and all accessories used in the treatment and care of the patient must be kept clean and disinfected regularly. These include cages, feeding and watering containers, leashes, sand containers, etc..
- Food and water given to animals must be fresh.
- Clinic rooms, hospitals and corridors must be cleaned every day, and disinfection must be carried out at least once a week after cleaning. If necessary, eg. if we know that a patient suspected of having an infectious disease has been present, the premises should be cleaned and disinfected immediately.
- It is extremely important to minimize the contact of staff and students with patients. Any contact with patients is avoided except when necessary for examination and treatment.
- Contact of any other person with patients is prohibited, which should be emphasized to owners when visiting their animal.

4.1.6. Waste management

- Students must be introduced to the types of waste generated during the work in clinics and ways of its disposal.
- Infectious waste includes all potentially contaminated items / accessories that are disposable, eg disposable syringes without a needle, gauze, cotton wool, test tubes, pads, etc. contaminated with blood, feces, urine or exudate.
- Infectious waste may be disposed of only in designated and specially marked bins, the quantity of which is kept in special records, and which are disposed of in a designated place.



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- Disposable utensils that have been in contact with infectious material are disposed of in infectious waste bins, with a red lid and label, or in suitable infectious waste bags.
- All utensils, if they are to be reused and have been in contact with infectious material, should be decontaminated appropriately. Utensils that are decontaminated, cleaned and sterilized in other rooms should be disposed of and transported in an impermeable container with a biohazardous material label visible after use.
- Equipment that has been in contact with biological material must be properly decontaminated prior to repair, service, maintenance or removal from the VEF premises.
- Handling sharp objects: needles, scalpels, etc. is done with extreme caution.
- In case of breaking glassware, bottles, etc., glass fragments are collected with a whisk and a solid plate, never by hand.
- Packages of medicines (bottles) without a needle contaminated with medicines are placed in the bins for pharmaceutical waste (green lid).
- Needles, blades or ampoules are placed in yellow buckets labelled as SHARP.
- Waste disposal is in accordance with legal documents. Infectious and pharmaceutical waste is removed from the VEF and then disposed of by the company with which the VEF has a contract.
- Carcasses and organs are disposed of through the Department of Veterinary Pathology, to which they are transported in special impermeable bags or bucket. From there they are taken to the Agroproteinka d.d. rendering plant.

4.2. CLEANING AND DESINFECTION

Disinfection is a set of various measures carried out with the aim of destroying, slowing down the growth and multiplication, or removal of most microorganisms, and is carried out by mechanical, physical or chemical measures.

Generally about cleaning and disinfection

- Staff and students must be familiar with the basics of cleaning and disinfection procedures.
- Disinfectants are classified into several groups. They differ in spectrum of action, route of administration, toxicity, ability to retain efficacy under different conditions and many other properties (See Table 1).
- Prior to the disinfection procedure, the surface or equipment to be disinfected should be thoroughly mechanically cleaned beforehand, as organic matter quickly inactivates most disinfectants.

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- Special attention should be paid to floors, boxes and various accessories with grooves and unevenness when cleaning. All dirt and organic matter from such surfaces should be cleaned thoroughly by scrubbing with a brush and soap!
- The same goes for flat and smooth surfaces stained with blood, secretions and excreta.
- Many disinfectants are also inactivated by the presence of detergents and soap, so after mechanical cleaning it is necessary to rinse the soap well and drain / dry them so that the water does not dilute the active substance of the disinfectant.
- Some disinfectants mutually diminish or cancel out the effectiveness.
- It is very important to respect the contact time of the disinfectant, which is usually 15 minutes, but it should be informed about the contact time of each individual disinfectant in use. At clinics that work with patients in categories 1 and 2, the tables should be mechanically cleaned and sprayed with disinfectant after the end of each working day or shift.
- In clinics dealing with patients of risk categories 1 and 2 (see Chapter 5) it is sufficient to use some of the usual disinfectants for disinfection of surfaces, tables, cages and utensils, except in cases where there is a suspicion that an animal with suspected / or confirmed infectious disease. In this case, a disinfectant should be used to disinfect contaminated areas and objects, depending on the cause.
- Reusable items, muzzles, ropes, leashes, scissors, etc. should be washed regularly and disinfected by immersion in 0.5% chlorhexidine.
- Reusable tubes and probes should be thoroughly washed, dried and immersed in a disinfectant solution immediately after use.
- Thermometers should be thoroughly cleaned after each use and wiped with disinfectant, and stethoscopes should be disinfected at least once a day with 0.5% chlorhexidine.
- The floors of the dispensary and waiting room should be disinfected at least once a week after washing with a broad-spectrum disinfectant.
- Generally speaking, the most resistant to common disinfectants are non-enveloped viruses (eg parvoviruses), protozoa (eg cryptosporidia), bacterial spores, fungal spores (eg dermatophytes) and acid-resistant bacteria (eg mycobacteria). In case of suspicion of contamination with these agents, disinfection with appropriate disinfectants should be carried out.

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- All disinfectants have advantages and disadvantages, the ideal disinfectant does not exist, although the manufacturer's instructions often state that the disinfectant acts on all bacteria, viruses and fungi.
- Cleaning and disinfection when working with patients in categories 3 and 4 is much more frequent and is carried out with different disinfectants depending on the cause.

Tablica 1. Antimicrobial spectrum of chemical disinfectants (Linton et al., 1987)										
Microorganism	Acid (hydrochloric, acetic, lemon acid)	Alcohols (ethyl, isopropyl)	Aldehyde (formaldehyde, glutaraldehyde)	Base (sodium or ammonium hydroxide, sodium carbonate)	Biguanide (clorhexidin)	Chlorine preparations (hypochlorite)	Iodine preparations	Oxidation (hydrogen peroxide, peroxyacetic acid)	Phenoles	Quaternary ammonium compounds
Mycoplasma	+	++	++	++	++	++	++	++	++	+
Gram positive bacteria	+	++	++	+	++	+	+	+	++	++
Gram negative bacteria	+	++	++	+	++	+	+	+	++	+
Pseudomonaceae	+	++	++	+	+-	+	+	+	++	-
Rickettsia	+ -	+	+	+	+ -	+	+	+	+	+ -
Viruses with envelope	+	+	++	+	+ -	+	+	+	+ -	+ -
Chlamydia	+ -	+ -	+	+	+ -	+	+	+	+ -	-
Viruses without envelope	-	-	+	+ -	-	+	+ -	+ -	-	-
Fungy spores	+ -	+ -	+	+	+ -	+	+	+ -	+	+ -
Picornavirus	+	N	+	+	N	N	N	+	N	N
Parvovirus	N	N	+	N	N	+	N	N	N	-
Mycobacterium	-	+	+	+	-	+	+	+ -	+ -	-
Bacterial spores	+ -	-	+	+ -	-	+	+	+	-	-
Coccidial oocyst	-	-	-	+	-	-	-	-	+	-
Prion	-	-	-	-	-	-	-	-	-	-

Key:

++ very effective + effective +- partially effective - non-effective N unknown efficacy

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4.3. PROCEDURE WITH DRUGS AND SURGICAL MATERIAL

- Medicines and surgical material must be stored according to the manufacturer's instructions (room temperature, refrigerator, freezer, locked metal cabinet, etc.). Before using the medicine, the veterinarian is obliged to check its shelf life.
- All medicines are stored in the medicine storage, ie in the appropriate drawers in the dispensaries.
- Narcotics and drugs for euthanasia must be stored in a locked safe or drawer.
- People handling medicines must be aware that all medicines used in veterinary medicine are potentially toxic to humans, and they must use disposable protective gloves and, if necessary, a protective mask and goggles when working with them.
- Medicines may be handled by veterinarians and, as assessed and supervised, by students, volunteers and technical staff.
- When opening any medicine or reusable bottle, it is MANDATORY to write the date and time of opening on it.
- Medicines are drawn from the vials with freshly opened needles and syringes, before which the rubber stopper of the vial should be wiped with cotton wool and alcohol to prevent contamination of the contents.
- Injectors and needles are for single use only.
- Injectable syringes, if not used immediately, must be labeled with the name of the medicine.
- Special care should be taken when handling cytostatic drugs that must be handled in a digester, with disposable protective gloves, a protective mask and goggles.
- All medicines must be disposed of safely in a suitable container (green buckets or plastic bags for pharmaceutical waste) after use, and cytostatic drugs in a special container intended exclusively for cytostatic drugs (they are used only at the Clinic for Internal Medicine).
- The expiration date of medicines and surgical supplies must be monitored on an ongoing basis. At each clinic there is an authorized person and his deputy for this job. Authorized persons keep the List of medicines / surgical materials in such a way that they have a list of medicines / surgical materials with the quantities and their expiration date. Every three months, an inventory and control of the expiration date of all drugs and surgical material is performed, about which a record is kept.

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4.4. ACCIDENT PROCEDURE (IN CASE OF AN EMERGENCY)

- In the event of an accident, scratches, cuts / stabs with clean objects, the wound is rinsed with water and bandaged with a sterile compress. In case of heavy bleeding or deeper injuries, the superior person (Head of the Clinic/Dpt) should be informed and the help of a doctor should be sought.
- In case of scratches / cuts / punctures with contaminated objects that were in contact with biological material before the accident, the wound should be thoroughly washed under running water, washed with antiseptic soap and immediately inform the superior who will decide on further procedure.
- In case of a bite, the wound should be thoroughly rinsed with antiseptic soap and running water, disinfected with wound disinfectant and immediately notified to a superior and referred to a physician for further treatment (antimicrobial treatment, tetanus vaccination, anti-rabies center, etc.)
- In the case of other injuries of a traumatic nature, the superior should be notified and a decision on further proceedings.

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SPECIAL REQUIREMENTS

5. CRITERIA FOR ADMISSION OF PATIENTS AT THE CLINICS OF THE FACULTY OF VETERINARY MEDICINE (VEF) WITH THE AIM OF REDUCING THE POSSIBILITY OF INFECTION OF STAFF AND PATIENTS

5.1. General categorization of patients according to the risk of infection transmission:

Category 1: refers to patients suffering from diseases in which there is no danger of transmission to other patients or people. NORMAL RECEPTION / STATION

Category 2: refers to patients in whom, if there is an infection, the possibility of transmission of microorganisms is considered very low, for example pneumonia, infected wounds and various localized infections unless infection with a multidrug-resistant bacterium is detected. NORMAL RECEPTION / STATION

Category 3: refers to patients in whom a contagious or parasitic disease caused by low- or medium-level contagious agents and potential zoonotic agents has been suspected or confirmed. ADMISSION / STATION AT THE CLINIC FOR INFECTIOUS DISEASES. In case of suspicion of a parasitic disease that does not require the stationing of the animal, it can also be referred to the Parasitology and Dermatology Clinic of the Department of Parasitology and Invasive Diseases. Category 3 also includes animals in which infection with multidrug-resistant bacteria has been proven. Such animals can also be stationed at other clinics of the Faculty with the implementation of special precautions related to patients of category 3 (see item 12. Requirements for work at the Clinic for Infectious Diseases)!

Category 4: refers to patients in whom an infectious or parasitic disease caused by causative agents of dangerous zoonoses has been suspected or confirmed. RECEPTION AND ISOLATION EXCLUSIVELY AT THE CLINIC FOR INFECTIOUS DISEASES!

- Birds are admitted to the Department of Poultry Diseases with Clinic.
- When admitting animals, care should be taken to prevent the transmission of infections from patients suffering from contagious diseases to other patients and staff.
- As much as possible, care should be taken that patients suspected of having an infectious disease or those with a confirmed infectious disease are admitted to the Clinic for Infectious Diseases and do not enter the waiting rooms and dispensaries of other Clinics.
- Animals suspected of having a contagious infectious or parasitic disease are those in which acute diarrhea has occurred with or without vomiting, that there have been sudden onset of signs by the respiratory system (sneezing, coughing, discharge) from the eyes), animals with

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pronounced neurological signs that have not been vaccinated against rabies or whose vaccination status is unknown. A contagious disease is also suspected in the case of abortion.

- Animals in which a contagious disease has already been proven are also referred for admission and treatment to the Infectious Diseases Clinic.
- In case of suspicion or confirmed case of an infectious disease that must be reported to the Veterinary Directorate at the Ministry of Agriculture, it is necessary to immediately notify the doctor on duty of the Infectious Diseases Clinic, who will then contact the authorized veterinary inspector and act in accordance with his instructions. The list of infectious diseases for which a suspected and / or confirmed case of the disease is reported can be found in the Ordinance on the method of monitoring and reporting on the occurrence of animal diseases. (http://narodne-novine.nn.hr/clanci/sluzbeni/2014_11_135_2573.html).
- In case of suspicion of a highly contagious infectious disease that is on the list of diseases reported to the Veterinary Administration (eg swine fever, foot-and-mouth disease), the doctor on duty should contact the doctor of the Infectious Diseases Clinic who may refuse to receive the animal.

6. REQUIREMENTS FOR WORKING WITH SMALL ANIMALS (DOGS, CATS, BIRDS, EXOTIC ANIMALS) AT VEF CLINICS

- When working with the patient, staff and students must wear a protective work suit (coats or work blouses and pants, gowns) and protective footwear that must be closed and preferably waterproof and made of a material that is easy to clean and disinfect. Footwear should be cleaned and disinfected as soon as it is contaminated with biological material of animal origin.
- Protective clothing and footwear used when working with small animals in the clinic must not be used to work with large animals.
- Protective clothing and footwear must not be used outside the workplace.
- For the purpose of additional protection, muzzles must be used on all potentially dangerous animals, ie they must be sedated / anesthetized.
- The owner is not allowed to stay in the stationary and it is forbidden to leave toys and other animal objects in the cage. If an animal is left with an object in a cage, it must not be returned to the owner and he/she must be warned in advance.
- When working in a hospital, it is necessary to use cage markings of additional information, such as "animal bites", "collect feces", "do not put anything in the mouth", etc.

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- The cage, food and water containers should be thoroughly cleaned at least twice daily.
- Urine and feces should be cleaned from the cage as soon as they are noticed.
- Thorough cleaning and disinfection of the cage should be performed between the two patients. The same applies to cleaning and disinfecting food and water containers. After releasing the animal, the ordinarius is obliged to place the mark "DISINFECT" on the cage.
- Animals must not be moved to another cage while cleaning the cage.
- Cleaning and disinfection of cages and boxes for animals is carried out using disposable protective gloves, protective masks and goggles.
- Disinfection and / or sterilization of instruments should be performed after work on each individual patient (otoscope, speculum, thermometer, tubes, razors ...) or at least twice a day (stethoscope).
- The space of the ambulance and hospital should be tidy without any unnecessary things. After treating the patient, the area should be cleaned immediately.
- If the animal defecates outside the cage, the floor should be cleaned and disinfected immediately.
- The outdoor area where patients are taken should be thoroughly washed and disinfected at least twice a week!
- When disinfecting, it should be borne in mind that a large number of disinfectants are inactivated in the presence of organic matter and / or detergents. Therefore, before disinfection, the surfaces must be thoroughly mechanically cleaned (washed), allowed to dry so that the active substance is not diluted due to the presence of water and only then well soaked with disinfectant and respect the contact time required for disinfectant action. For a list of disinfectants, their effects and instructions for use, see section 4.2. Cleaning and disinfection.

7. REQUIREMENTS FOR WORKING WITH HORSES AT VEF CLINICS

7.1. Criteria for admission of horses at the VEF Clinics in order to reduce the possibility of transmission of infections

Categorization of patients according to the risk of infection transmission:

Category 1: refers to patients suffering from diseases in which there is no danger of transmission to other patients or people. Includes horses without signs of fever and respiratory problems in the last 6 months NORMAL RECEPTION / STATIONING

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Category 2: refers to patients in whom, if there is an infection, the possibility of transmission of microorganisms is considered very low, for example pneumonia, infected wounds and various localized infections.

Category 3: refers to patients in whom a contagious or parasitic disease caused by low- or medium-level contagious agents and potential zoonotic agents has been suspected or confirmed. **ADMISSION / STATION AT THE CLINIC FOR INFECTIOUS DISEASES.**

Includes:

- horses with fever or leukopenia of unknown cause
- horses with acute cough and nasal discharge (less than 2 weeks)
- foals younger than 10 months with respiratory problems and cough and fever (suspected *R. equi*)
- horses with diarrhea without leukopenia and fever
- horses with haemorrhagic reflux or non-haemorrhagic reflux with fever and / or leukopenia
- horses with multidrug-resistant bacteria
- horses with contagious dermatological disease (dermatophytosis, dermatophilosis, chorioptes ..)

The last two categories can be stationed at other clinics with the implementation of special precautions for patients of category 3 (See Chapter 12)

Category 4: refers to patients in whom an infectious or parasitic disease caused by causative agents of dangerous zoonoses has been suspected or confirmed. **ADMISSION AND ISOLATION AT THE CLINIC FOR INFECTIOUS DISEASES**

Includes:

- horses with strangles (lymphadenopathy, fever, nasal discharge)
- horses with acute diarrhea, leukopenia and fever
- horses with acute progressive neurological disease with fever present
- mares that miscarried
- horses with confirmed infectious disease of zoonotic potential

Aborted mares can be treated at the Obstetrics and Reproduction Clinic with special precautions to be taken when treating Category 4 patients. In mares that gave birth between

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the 150th and 300th day of pregnancy, it is obligatory to send the fetus and placenta for an autopsy in order to exclude the infectious cause of the abortion. If the contagious etiology of abortion is ruled out, such animals are further treated as Category 1-2.

If the cause of abortion (dystocia, congenital anomalies, twins, separation of the placenta) is determined in mares that gave birth after the 300th day of pregnancy, they are further processed at the Obstetrics and Reproduction Clinic within Categories 1-2. If the cause has not been identified, they should be treated with special precautions for Category 4 (see Chapter 12). The fetus and placenta must be sent for an autopsy to rule out an infectious cause of the abortion. If the contagious etiology of abortion is ruled out, such animals are further treated as Category 1-2.

7.2. Personal protection

- When working in barns, all employees and students are required to wear protective clothing intended exclusively for work in the barn. Footwear must be impermeable and suitable for washing and disinfection, rubber boots are recommended, never sneakers or slippers.
- Cleaning and personal hygiene are performed in accordance with the General Requirements. Hand washing with antiseptic and disinfection with an alcohol-based agent is MANDATORY before and after the treatment of each individual patient.
- Gloves are mandatory when in contact with neonatal foals.

7.3. Cleaning and disinfection of cleaning rooms and accessories

- All barn, examination and operating room areas must be tidy, clean, dry and free of unnecessary items at all times.
- Boxes must be dry and clean, feces and urine must be cleaned twice a day and it is the duty of the paramedic. In neonatal patients, cleaning should be performed as soon as feces or urine are noticed and performed by all persons in charge of patient care.
- Watering and feeding cans as well as automatic drinkers must be cleaned every day, and after discharge the patient must be thoroughly washed and disinfected.
- Boxes are washed and disinfected after patient discharge.
- Before disinfecting the boxes, they should be thoroughly mechanically cleaned, rubbed with a brush and soap and rinsed well. This is extremely important because organic matter and soaps inactivate a large number of disinfectants. Also, disinfection includes not only walls and floors but also doors, door grilles, HANDLES, care accessories, feeding and watering containers, halters, leashes, etc.
- The barn must be neat and clean, without the presence of unnecessary things. It is the duty of all employees to clean up after themselves.

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- Any contamination of the area with blood, secretions and excretions should be cleaned immediately.
- If the horse defecates inside the building, the faeces should be collected immediately, and urine and floor washed. If the animal has had diarrhea, the surface should be disinfected after cleaning.
- Mechanical cleaning of the hallway and inspection room is done every day, and disinfection once a week.
- Washing and disinfection should also be carried out in corridors, inspection rooms, doors and troughs and cleaning equipment (points, shovels, forks) at least every two weeks.

7.4. Cleaning and disinfection of accessories, equipment and instruments

- Each animal should have separate care and cleaning equipment that should be cleaned and disinfected between patients by soaking in chlorhexidine.
- Stethoscopes should be disinfected with 0.5% chlorhexidine at least at the end of each working day.
- Thermometers should be cleaned and disinfected between each patient. The use of glass thermometers is prohibited.
- Cleaning and disinfection of surgical instruments is performed after each use, first by mechanical cleaning with soap and water, then disinfecting with 0.5% chlorhexidine and then sterilizing.
- All equipment used in surgery to restrain the animal should be thoroughly washed with soap and water after use and immersed in a 0.5% chlorhexidine solution.
- Non-sterilizable equipment and instruments (endoscopes, tubes) should also be mechanically cleaned with soap and water after use and disinfected by immersion in a disinfectant solution (See Chapter 5).
- Apparatus used for anesthesia of large animals must be regularly disassembled and disinfected and records must be kept.
- Gloves should be worn when inserting a venous catheter or endotracheal tube. When washing, the tube must not touch the sink or the floor to avoid contamination.

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8. Requirements for working with farm animals at VEF Clinics

8.1. Criteria for admission of cattle at the VEF Clinics in order to reduce the possibility of transmission of infections

Farm animals are admitted to each Clinic of the Faculty of Veterinary Medicine according to the previously mentioned risk categories.

Additional criteria according to which cattle are classified in category 3:

- fever and / or leukopenia of unknown cause
- viral respiratory diseases: cough, nasal discharge accompanied by fever lasting less than 2 weeks
- diarrhea without fever and / or leukopenia / leukocytosis
- infections with multi-resistant bacteria
- contagious infectious skin diseases: dermatophytosis, scabies, lice, etc.

Additional criteria according to which cattle are classified in category 4:

- any disease characterized by the formation of vesicles, erosions or ulcerations on the mucous membranes, udder or in the hoof area
- acute diarrhea with leukopenia / leukocytosis and / or fever
- acute neurological disease with rapid progression with fever
- chronic progressive neurological symptoms with or without fever
- abortion in the second half of pregnancy and perinatal death without symptoms of dystocia, premature separation of the placenta
- zoonoses: rabies, brucellosis, anthrax, tuberculosis. Svinje sumnjive na zaraznu bolest se ne stacioniraju i ne iskrcavaju iz prikolice nego se vrate odakle su došle ili se proslijede na eutanaziju i razudbu gdje se tretiraju kao kategorija 3-4.

Additional criteria according to which pigs are classified in category 3:

- fever and / or leukopenia of unknown cause
- diarrhea without fever and / or leukopenia / leukocytosis
- infections with multi-resistant bacteria

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- contagious infectious skin diseases: dermatophytosis, scabies, lice, etc.

Additional criteria according to which pigs are classified in category 4:

- all diseases manifested by the formation of vesicles, erosions or ulcerations on the mucous membranes or in the area of the hooves
- all diseases manifested by signs of acute septicemia: hyperemic areas on the skin, spotted and streaked bleeding with fever
- respiratory diseases: cough, nasal discharge accompanied by fever lasting less than 2 weeks
- acute diarrhea with leukopenia / leukocytosis and / or fever
- acute neurological disease with rapid progression with fever
- miscarriage in the second half of pregnancy and perinatal death without symptoms of dystocia, premature separation of the placenta
- zoonoses: rabies, brucellosis, tuberculosis, influenza

8.2. Personal protection

- When working in barns, all employees and students are required to wear protective clothing intended exclusively for work in the barn. Footwear must be impermeable and suitable for washing and disinfection, rubber boots are recommended, never sneakers or slippers.
- Cleaning and personal hygiene are performed in accordance with the General Requirements. Hand washing with antiseptic shampoo and disinfection with an alcohol-based agent is MANDATORY before and after treatment of each individual patient.

8.3. Cleaning and disinfection of cleaning rooms and accessories

- All barn, examination and operating room areas must be tidy, clean, dry and free of unnecessary items at all times.
- Boxes must be dry and clean, feces and urine must be cleaned twice a day and it is the duty of the paramedic.
- Watering and feeding cans as well as automatic drinkers must be cleaned every day, and after discharge the patient must be thoroughly washed and disinfected.
- Boxes are washed and disinfected after patient discharge.

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- Before disinfecting the boxes, they should be thoroughly mechanically cleaned, rubbed with a brush and soap and rinsed well. This is extremely important because organic matter and soaps inactivate a large number of disinfectants. Also, disinfection includes not only walls and floors but also doors, door grilles, HANDLES, care accessories, feeding and watering containers, halters, leashes, etc.
- Any contamination of the area with blood, secretions and excretions should be cleaned immediately.
- Mechanical cleaning of the hallway and inspection room is done every day, and disinfection once a week.
- Washing and disinfection should also be carried out in corridors, inspection rooms, doors and troughs and cleaning equipment (points, shovels, forks) at least every two weeks.

8.4. Cleaning and disinfection of accessories, equipment and instruments

- Each animal should have separate care and cleaning equipment that should be cleaned and disinfected between patients by soaking in chlorhexidine.
- Stethoscopes should be disinfected with 0.5% chlorhexidine at least at the end of each working day.
- Thermometers should be cleaned and disinfected between each patient. The use of glass thermometers is prohibited.
- Cleaning and disinfection of surgical instruments is performed after each use, by first mechanically cleaning with soap and water, then disinfecting with 0.5% chlorhexidine and then sterilizing.
- All equipment used in surgeries to restrain the animal should be thoroughly washed with soap and water and immersed in a 0.5% chlorhexidine solution.
- Equipment and instruments that cannot be sterilized (endoscopes, tubes, speculas) should also be mechanically cleaned with soap and water after use and disinfected by immersion in a disinfectant solution (See Chapter Disinfection).

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9. REQUIREMENTS FOR CONDUCTING FIELD TEACHING OF THE OUTPATIENT (AMBULATORY) CLINIC COURSES AND OTHER SUBJECTS WITHIN FIELD TEACHING IS PLANNED

- Students and staff participating in fieldwork are required to wear protective clothing and footwear described in the general section of this manual. In any case, they must have a buttoned white coat with long sleeves and long protective trousers, as well as rubber boots and gloves and, if necessary, as assessed by the subject teacher, other protective equipment.
- A vehicle used by students and staff to go to field classes never, without exception, enters the farm fence.
- All students are introduced to the rules and procedures of behavior during classes before starting field classes and at the place of teaching.
- Before the teaching date, the course leader is informed about the epizootiological condition and health status of the animals that are included in the system of implementation of legal measures.
- After arriving on the farm and getting off the bus, employees and students are obliged to protect themselves with the prescribed equipment. On that occasion, they are acquainted in detail with the biosecurity measures that are implemented on the farm by the facility manager and are obliged to follow the additional oral instructions of the teacher.
- When getting off the bus, and before entering the facility, all persons who will be involved in working with patients should wear work clothes and rubber boots or disposable plastic socks.
- Wear disposable gloves before contact with patients. Protective disposable masks, protective disposable caps, as well as other pieces of protective equipment available on the bus (disposable protective overalls, rubber gloves, rubber aprons and veterinary gynecological gloves) will be used only as directed and supervised by the subject teacher.
- Before entering the facility where the animals are housed, students are warned not to approach or touch animals or take photos without the permission of the subject teacher (the use of cameras or mobile phones by students is strictly prohibited during classes - warning before classes).
- As part of the professional activities, the animals are approached in the presence of the animal owner or farm manager, and the subject teacher gives students oral instructions on how to approach the animals.

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- In case of an accident, follow the instructions of the subject teacher and contact the head of the subject and the head of the Department / Clinic who decides on further procedures.
- At the end of classes, staff and students wash their boots and spray them with disinfectant, and all used disposable equipment is removed to the designated place (special bin in the bus) according to the prescribed biosecurity measures.
- Protective clothing and footwear are removed before boarding the bus.
- At the end of the class, students are given instructions on how to wash clothes and shoes and wash and disinfect their hands.
- If there is a need, or any suspicion of the occurrence of an infectious disease in the visited farm, disinfection of the external parts of the vehicle is performed.
- After the classes, all disposable protective equipment will be stored in a closed bin for infectious waste, which after returning from the field, the paramedic will take to the designated place for waste collection at the Faculty of Veterinary Medicine.
- Rubber boots will be stored in the bus bunker before and after classes.
- Immediately after working with patients, it is essential that all persons who have been in direct contact with animals or parts of the housing wash their hands with liquid soap and / or disinfectant.
- All instruments and pieces of equipment that are subject to sterilization after arrival from the field are washed and disinfected and finally sterilized in a designated area within the Outpatient Clinic.

9.1. Special requirements for teaching Hunting

- Use protective gloves, boots and aprons when processing large game (roe deer, wild boar - evisceration, skinning, removal of the head and metapodia).
- If persons who are not employees of the VEF also participate in the game extermination procedure, they are obliged to respect the principles of safety at work.
- The same protection is required when finding the carcass of the said game, which is transported to the VEF in accordance with the provisions on the transport of carcasses or is removed harmlessly according to the decision of the professional hunting service.
- When handling small feathered game, the use of protective gloves is mandatory.

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- In addition to protective gloves, the use of face masks is necessary during the evisceration of the common rabbit. Face masks are also necessary when finding the carcass to be treated as well as the carcasses referred to in point 3.
- In case of shooting or finding a dead fox and other carnivores, it is necessary to protect your hands with protective gloves, and hold the game through a plastic bag and drag the bag over the carcass without touching the carcass.
- Carnivores should not be de-skinned before getting the results on rabies status. If the finding is positive, the corpses are safely removed in accordance with the provisions of the Act.
- It is necessary to wash the hands after each handling of shot game or found carcasses, regardless of the use of protective gloves. Hands are washed in accordance with the instructions for washing and disinfecting hands.
- In case of injury with sharp objects, it is necessary to wash and disinfect the wound, and in the case of a serious injury or suspicious health status of the game, and outpatient treatment.
- Employees and students of the VEF are obliged to be vaccinated against rabies, and employees according to the assessment and additionally against tick-borne meningoencephalitis.

9.2. Vehicle cleaning and disinfection

The procedure for cleaning animal transport vehicles

- Wash the inside and outside of the vehicle with warm water and detergent to soften deposits.
- Use high-pressure sprayers with caution - avoid them in cases of infectious microorganisms to avoid further spread.
- Mechanically scrape off any visible deposits.
- Rinse with clean water.
- Leave for 5-10 minutes for the water to drain.

Disinfection procedure for animal transport vehicles

- Use a registered disinfectant.
- Apply it under low pressure on all surfaces, which must be completely soaked with the product and leave it for the contact time according to the manufacturer's instructions.
- Rinse thoroughly with clean water. This is necessary because dried residual detergents or disinfectants can damage the vehicle.

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- Allow the vehicle to dry - preferably overnight.

Procedure of disinfection of buses (vans) for transport of students and employees of the VEF

- The bus (van) must be disinfected by spraying tires and chassis with a broad-spectrum disinfectant (chlorine preparation) before each departure and arrival at the VEF, if it is used to go to the epizootiological area or epizootiological unit.
- The product is applied until the treated surfaces become wet.

10. REQUIREMENTS FOR WORK IN SECTION HALLS AND SPACE FOR EXENTERATION

The purpose of these instructions is to determine the manner of work in the section halls in a way that will ensure the safety of staff and students who perform and participate in the necropsy and perform other procedures in the section hall. In addition, a method of operation is described that must prevent the spread of pathogens into the environment and prevent or reduce the possibility of infection of humans, animals and the mutual contamination of samples taken for additional laboratory tests.

- There is a risk of infection in the section hall and students and staff of the VEF should protect themselves as much as possible from infections in their work environment.
- The work in section hall should always be treated as if there is a possibility of infection with a biological agent from category 2.
- In case of necropsy of primates or other cases when there is a risk of infection with pathogens from category 3, necropsy and sampling are performed by the staff of the Department of Veterinary Pathology without active participation or completely without the presence of students.
- In primate necropsy, the most dangerous pathogens are blood viruses and inhaled pathogens, such as *Mycobacterium tuberculosis*. All these microorganisms are classified in category 3.
- In the clean part it is allowed to stay in civilian clothes and shoes.
- In the transitional part, it is mandatory to wear protective footwear, and if you enter or leave the dirty part, protective clothing is mandatory.
- It is mandatory to wear protective clothing and footwear in the dirty area. In the unclean and transitional part it is forbidden to consume food and drink.
- All students and staff who actively participate in the necropsy must be vaccinated against rabies.
- Students and staff of the VEF who actively participate in the necropsy must be protected by a long coat with long sleeves, under which they wear a T-shirt and pants. If the clothing is not waterproof, it should have at least 2 layers. It is mandatory

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to wear a waterproof long apron that completely covers the chest, abdomen and legs, rubber gloves and rubber boots.

- At the discretion of the teacher or at their own discretion and desire, students and staff can protect themselves by using face masks that protect the mouth and nose from direct contamination by spraying, goggles and a protective cap.
- When opening the cranial cavity, spinal canal and when using a saw, staff and students must use a wire glove.
- According to the teacher's assessment or according to their own assessment and desire, students and staff can protect themselves by using goggles or visors.
- Students and staff of the VEF who are in the section hall, but do not actively participate in the discussion, must be protected by the following equipment: protective long coat or T-shirt and pants or one-piece overalls, rubber boots or shoes, and according to the teacher's instructions, by others protective equipment.
- Upon completion of the necropsy, students and staff are required to perform the following procedures in the following order:
 - o wash gloves with water and detergent
 - o removing protective aprons
 - o washing protective aprons and boots with water and detergent
 - o immersing the apron in a container of disinfectant
 - o removal of disposable protective gloves and disposal in the intended containers for inorganic infectious waste; reusable gloves are disinfected and disposed of in the provided dryer
 - o washing and disinfecting hands and all parts of the skin that may have been contaminated
 - o removing protective masks, protective clothing and footwear. Disposable protective clothing, masks, caps and shoe covers are disposed of in containers for inorganic infectious waste. Other protective clothing (coats, T-shirts, pants, hats), if not contaminated, is stored in the wardrobe, and if contaminated, it is sent for washing.
 - o hand washing and disinfection is performed according to the procedure described in the general part of this Manual.
 - o When leaving the section building, it is mandatory to pass through the disinfection barrier!

10.1. Sample taken for additional laboratory tests

- All samples for additional tests must be packed in airtight packaging. Samples for histopathological examination should be fixed in 10% buffered formalin. After closing, all packaging must be washed and, if necessary, in accordance with the instructions of the necropsy, disinfected and only then removed from the section hall.
- After necropsy and removal of carcass remains, all floors, tables and dissection accessories, as well as any dirty walls in the section hall and rooms with a cold chamber for carcass remains, must be washed with high pressure water (high pressure washer),

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detergent and rinse again with water. After that, all washed surfaces are sprayed with disinfectant using a hand sprayer.

- Necropsy equipment is washed with water and detergent and immersed in disinfectant according to the manufacturer's instructions and then dried.
- Bacteriological control of floors, work surfaces and instruments is performed at least once a year.
- Deratization and disinsection of all rooms is performed as needed.
- The floors in the rooms of the clean and transitional part, and all surfaces in the sanitary facilities and in the places for washing and disinfection are washed daily. Other surfaces are washed as needed, with a suitable detergent with disinfectant activity and with equipment (cloths, brushes, sponges) that is not used to maintain the premises of the dirty part.
- In the section hall, it is mandatory to install first aid kit.
- In case of a serious injury, it is mandatory to seek professional medical help.

10.2. Process of receiving carcasses and removing carcass residues, organic and inorganic infectious waste

- Carcasses enter the section hall at a separate entrance (unclean part).
- Only the staff of the Department of Veterinary Pathology (DVP) has access to the carcass collection area.
- Carcasses are kept in a cold chamber until they are necropsied (if the size of the animal allows it). The carcasses are stored in a cold chamber by the technical staff of the DVP.
- Carcasses can also be stored in the freezer located next to the cold room. In case of freezing, the carcasses must be in impermeable packaging.
- All biological remains from the necropsy are stored in special waterproof and impermeable containers that are stored in a cooling chamber in the carcass storage room.
- The remains of the carcasses are taken for harmless removal to the rendering plant Agroproteinka d.d. in Sessvetski Kraljevec (removal is performed by an authorized company).
- Documents on the removal of carcasses are kept in the archives of the DVP.
- In case the owner of the animal independently organizes harmless removal, the carcass is issued in impermeable packaging to an employee of an authorized company that issues documents on harmless removal (cremation) which are stored in the archives of DVP.

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- Inorganic infectious waste from all areas is stored in designated containers that are disposed of through an authorized company, which is recorded in the DVP.
- All liquid waste is collected by the sewage system and collected in tanks before being discharged into the municipal sewerage network.

11. REQUIREMENTS FOR WORK AT THE DEPARTMENT OF RADIOLOGY, ULTRASOUND DIAGNOSTICS AND PHYSICAL THERAPY

Personal protection

- Every worker must be properly dressed when entering the X-ray and ultrasound diagnostics and physical therapy rooms (see General section).
- Every worker must wear protective gloves at every contact with the animal or animal excrement. For the purpose of additional protection, muzzles must be used in all potentially dangerous animals, ie they must be sedated / anesthetized.
- Technicians, paramedics and all other persons, if assisting with X-ray imaging (clients, students), must wear a protective apron and protective gloves. Pregnant women and persons under the age of 18 are not allowed to enter the X-ray room.
- After each recording, the work surfaces must be cleaned and, if necessary, disinfected. Twice a week, all items used in working with patients are cleaned and disinfected.
- Consumption of food and beverages is prohibited in the premises of X-ray, ultrasound diagnostics and physical therapy.

Work with animals suspected of / or confirmed contagious infectious disease (categories 3 and 4)

The main responsibility to warn the staff of the Department of Radiology, Ultrasound Diagnostics and Physical Therapy rests with the veterinarian who referred the animal. Referrals should clearly indicate that such a patient is involved. Attempts should also be made to film such animals at the end of working hours and to disinfect areas and surfaces that may have been contaminated afterwards.

When transferring an animal for imaging, it should preferably be carried or driven in a special vehicle and avoid waiting in the waiting room and contact with other animals.

When performing an ultrasound examination of such an animal, it is good to protect the probe and the pillow with a disposable glove or bag.

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12. REQUIREMENTS FOR WORK WITH ANIMALS AT THE CLINIC FOR INFECTIOUS DISEASES

12.1. Work with small animals

Depending on the clinical symptoms and / or diagnosis, small animals of risk categories 1 to 4 are admitted to the Clinic for Infectious Diseases.

Small animals are received in two separate dispensaries, one of which (Ambulance 1) is used exclusively for vaccination and microchipping of healthy animals and taking ear swabs of animals sent for sampling from other Clinics of the VEF and veterinary organizations outside the VEF. The second clinic (Ambulance 2) receives sick animals in which there is a greater or lesser potential for the spread of the disease to other animals and humans (categories 2-4). These two ambulances are staffed by separate staff, who must not come into contact with the premises, people and animals of the other ambulance during their work.

In Ambulance 1, the same manner of behavior, cleaning and use of protective clothing is applied as in other Clinics of the VEF, suitable for the treatment of patients within categories 1-2.

In Ambulance 2, stricter criteria of personal protection and cleaning and disinfection of utensils, surfaces and spaces are applied. After the treatment in the Ambulance 2, based on the clinical findings, a decision is made to discharge the patient or place the patient in the stationary rooms of the Clinic.

Ambulance 1, Ambulance 2 and stationary rooms are physically and functionally separate units. All accessories, instruments and equipment (thermometers, stethoscopes, bandages, test tubes ...) **MUST NOT** be transferred from one space to another.

All dogs with acute diarrhea and altered general condition must be tested for parvovirus.

In each occurrence of acute diarrhea of dogs and cats that we decided to station, due to zoonotic potential and / or special requirements in disinfection and prevention of the spread of the disease, it is necessary to differentially exclude the following causes: *Salmonella* sp., *Campylobacter* sp., Parvovirus, *Cryptosporidium*, *Giardia* (see clinical protocol for treating dogs with diarrhea!).

If we find out from the anamnesis at the time of ordering the patient or before the admission that it is a case of acute diarrhea, the owners can be immediately told to bring feces for examination in a urine cup before coming to the Clinic.

12.2. Work in stationary rooms of the Clinic for Infectious Diseases

- The Infectious Diseases Clinic has four separate stationary rooms (hospitals) for small animals that are designed to separate patients in order to prevent the spread of infections among patients.

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- Stationaries are intended for the separation of animals with gastrointestinal infections, respiratory infections, neurological problems suspected of being caused by an infectious disease, and one room is intended for cats.
- Depending on the occupancy of the cage and the need, stationaries can also be converted. Therefore, more attention should be paid to preventing the possibility of spreading the infection than to the primary purpose of the room. For example, one should avoid stationing a cat with upper respiratory syndrome in the same space as a cat with a retroviral infection (FIV, FeLV). Cats with retroviral infections should never be stationed with animals suffering from aerogenously transmitted infections!
- For dogs with suspected or confirmed parvovirus, the same room is always used.
- For work in stationaries, separate protective clothing should be used, in which you must not leave the corridor of the hospital.
- All staff and students must have clean protective clothing to be replaced as soon as it gets dirty. After attending the exercises in the Ambulance 2 or the stationaries of the Clinic for Infectious Diseases, students **MUST** tie their clothes in a plastic bag and wash them at 90 C. They must never use them again before washing.
- When handling patients, the use of disposable gloves is mandatory, and according to personal preference, of protective masks and goggles if there is a possibility of spraying of secretions.
- Before and after contact with each patient, it is **MANDATORY** to wash your hands thoroughly with antiseptic soap.
- Containers with antiseptic soap and alcohol-based disinfectant are placed in each ambulance and every stationary room of the Clinic for Infectious Diseases.
- Care must be taken not to touch the handles, switches, telephones, etc. with gloves or unwashed hands!
- For patients with suspected or confirmed canine parvovirus / feline panleukopenia, it is mandatory to use disposable protective coats assigned only to that patient that are kept near the cage and disposed of in infectious waste bins after discharge.
- In all areas of the hospital, any dirt must be cleaned and disinfected **IMMEDIATELY**. It is the responsibility of all staff and students!
- All stationed animals must have usual patient protocol on the cage with indicated signs of disease and, if possible, a diagnosis and a plate with the category to which they belong (3 or 4) and, if necessary, additional instructions from the doctor on duty related to each patient.

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- Each patient is assigned a thermometer and a stethoscope during hospitalization, which must be used only for that animal!
- There are disinfection barriers at the entrance to the corridor between stationary rooms as well as before entering rooms for patients with gastrointestinal infections. Bypassing or jumping the disinfection barrier is strictly forbidden!
- Disinfection barriers are washed and filled with disinfectant every day, of which records must be kept.
- Cages are mechanically cleaned every day, more thoroughly if the animal is taken out of the cage
- Animals stationed at the Clinic for Infectious Diseases must not be taken anywhere except in the outlets of the Clinic. If they defecate there, the faeces should be collected and disposed of in an infectious waste bin, and the surface should be washed and disinfected immediately (see Disinfection section).
- After releasing the animal, the cages are taken to the cage washing room where they are first rubbed with a brush, soap and warm water, rinsed well and after drying soaked in disinfectant (depending on the disease the animal suffered from, see Disinfection), left to stand for 20 minutes and rinse thoroughly. The cage thus washed is ready to receive a new patient.
- When cleaning the cage, the feeding bowls and all care equipment should also be cleaned and disinfected. Food that has not been consumed is thrown in infectious waste bins, never taken out or given to another animal.
- When discharging a patient, detailed instructions should be given to the owner about the risk of spreading the infection to other horses and humans and how to prevent it.

12.3. Work with horses

Admission of horses

Horses are admitted to the Clinic according to the criteria already described (Chapter 7).

If there is already a horse in the barn, it is avoided to receive horses with aerogenic infections.

Horses with neurological problems must be stationed in a padded box.

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Work in a stable for horses

- It is obligatory to wear protective clothing in the stable, which is used only for work in the stables, as well as protective footwear, which is necessarily impermeable.
- It is forbidden to enter the stable in slippers or sneakers!
- It is obligatory to keep the stable completely clean and to remove any traces of dirt, secretions, blood, etc., after which the surface must be washed and disinfected.
- During the patient's stay in the stable, handles, medicine bottles and similar accessories used during work with the horse are disinfected every day.
- A disinfection barrier must be placed at the entrance to each occupied box.
- In all horses with signs of diarrhea and / or leukopenia, a salmonellosis test should be performed by collecting a total of 5 fecal samples (2 each day), sampled from the rectal ampoule, and such a pooled sample is sent for examination.
- In addition to the patient protocol, each box must have a plate with the risk category to which the animal belongs.
- Gloves must be changed between contact with another patient or accessories that come into contact with another patient.
- Each animal must have an assigned thermometer, stethoscope, and staff coats used only for that animal. The thermometer and stethoscope should be disinfected by mechanical cleaning and 0.5% chlorhexidine after each use, and the coats should be discarded after the animal has been released.
- It is necessary to clean the box of feces and urine every day, and the waste is transported to the container. Trolleys must not be loaded to the top and care must be taken that their contents do not fall on the way to the container. When cleaning the box daily, the walls should also be cleaned if they are soiled with feces or blood.
- When cleaning the box, care should be taken to contaminate the hallway as little as possible. This also applies to getting out of the box and out of the stable hallway back into the examination room. Before passing through the disinfection barrier, dirt and sawdust should be removed from the boots as much as possible.
- Every day after using the trolleys, they should be thoroughly mechanically washed and sprayed with disinfectant (the type of disinfectant will be determined by the doctor in charge of the patient depending on the cause).
- Before and after contact with the patient, cleaning and feeding, it is mandatory to wash your hands thoroughly with antiseptic soap and disinfect with an alcohol-based antiseptic.
- After discharging the patient, all litter and excrement should be removed from the box (transported in a trolley as already described), floor, walls and door of the box should be mechanically cleaned (including detailed scrubbing of the upper grille); stable hallway and examination room should be cleaned with detergent and warm water. After that, disinfection is carried out with the agent according to the instructions of the doctor in charge of the patient.
- When discharging a patient, detailed instructions should be given to the owner about the risk of spreading the infection to other horses and humans and how to prevent it.

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12.4. Work with farm animals

Farm animals are housed at the Clinic for Infectious Diseases according to the previously described criteria.

Before disembarking from the trailer, the cattle **MUST** be examined by the doctor on duty at the Clinic for Infectious Diseases, who decides on the basis of a detailed anamnesis and clinical findings whether to receive the animal. If he/she suspects a highly contagious infectious disease, he may refuse to accept the animal. The same goes for goats and sheep.

If the animal is admitted, it is examined in a large animal ambulance and stationed in a small ruminant box or a cattle box where the biosecurity measures described in the previous chapter are followed.

12.5. Access and movement of people within the Clinic for Infectious Diseases

- Within the entire premises of the Clinic for Infectious Diseases, the entry and movement of people should be reduced as much as possible. Entry into the premises of the stationaries and stables is strictly forbidden to all except the staff of the Clinic for Infectious Diseases and, with the permission of the doctor or teacher on duty, students of the VEF.
- The doctor or teacher, according to whose permission students enter the premises of the Clinic, is responsible for the behavior of students and the supervision of compliance with the biosecurity measures prescribed by this procedure. All students must be allowed to read this procedure before entering the Clinic for the first time. Students who do not adhere to the prescribed measures will be removed from classes.
- Students come to classes exclusively through the door on the north side of the Clinic. From there they enter the locker room where they change and enter further into the "clean" part of the Clinic if they are assigned to work in Ambulance 1 or pass through a negative pressure room in the "dirty" part of the Clinic and move to the stationaries or Ambulance 2.
- All students and staff are required to walk through the disinfection barrier wherever they encounter it! Also, in the event of contamination of footwear, it must be mechanically cleaned immediately to reduce contamination of disinfection barriers with organic matter.
- The owners have normal access to the waiting rooms, Ambulance 1 and Ambulance for large animals. When admitting animals to Ambulance 2, an attempt should be made to reduce the number of people entering the Clinic. If more people came with the animal, it is recommended that only the owner enter Ambulance 2.
- Access to the stationaries and stables is strictly forbidden for the owners!
- Staff should pay attention to the so-called "crossing of roads", ie if they work in Ambulance 1, they must not enter Ambulance 2 and stationaries and vice versa.

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BIOSECURITY MANUAL

The part of the Clinic where work related to small animals is performed is physically separated by a disinfection barrier from the part of the Clinic where large animals are received and stationed. This separation should be respected in every sense, from the use of separate protective clothing to the assignment of separate professional and technical staff to perform tasks related to a particular area of work of the Clinic on a given day.

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