האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

Report on the actions made by The Koret School of Veterinary Medicine, The Hebrew University of Jerusalem, Israel since 2011 to rectify one major deficiency defined by The European Association of Establishments for Veterinary Education

Prepared for the Re-Visit of a Team of Experts from EAEVE

November 2016

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PREFACE

The Koret School of Veterinary Medicine (KSVM) was established by a decree of the Council for Higher Education of the Ministry of Education in 1985. The school was granted autonomous status within the Robert H. Smith Faculty of Agriculture, Food and Environment of the Hebrew University of Jerusalem. The Hebrew University of Jerusalem is committed to the highest standards and is known as the best university in Israel and for many years is ranked amongst the top 100 universities in the world. University policy dictates that departments of the university regularly undergo external evaluations of research and teaching. For this reason the Hebrew University of Jerusalem was fully supportive of our request to invite the European Association of Establishments for Veterinary Education (EAEVE) for a Stage 1 visit to the Koret School of Veterinary Medicine which was held on 21-25 February, 2011. Based on the visit to our school, ECOVE concluded on its meeting, on the 29-30 of November 2011, that one major deficiency has been present entitled "*Insufficiency in bio-security, bio-safety and general hygiene in different areas and facilities, among them, in specific, necropsy rooms and the large animal isolation ward*." Therefore, in accordance with EAEVE's standards and based on the educational requirements of the EC Directive 2005/36, Article 38, the status of the Koret School of Veterinary Medicine of Hebrew University of Jerusalem was defined as **CONDITIONAL APPROVAL**.

This report, which is the basis for the external evaluation by EAEVE, provides all the necessary information needed by the team of experts for the re-visit. The Koret School of Veterinary Medicine has adopted and honours all of the European directives relating to the Veterinary Profession.

In response to the report of EAEVE's expert team (2011), we made significant improvements, and great efforts were invested to waive and rectify the major deficiency identified in 2011. All actions and improvements are described in this report. We believe that in this report we have supplied all the relevant information required by the visiting Team of Experts. However the team should feel free to request any additional information, additional visits to sites or institutions, additional meetings or consultations with individuals or organizations within or outside the school and the university

Rehovot, September 22nd, 2016.

Sincerely

Prof. Gad Baneth
Director, Koret School of Veterinary Medicine, Hebrew University of Jerusalem

INTRODUCTION

Since the establishment of the State of Israel in 1948 until 1985 there was no facility for the training of veterinary students in Israel. A constant but increasing number of Israeli students studied abroad and returned to Israel together with new immigrant veterinarians to comprise the veterinary work force in Israel. There was no centre for basic veterinary research, veterinary continuing education and advanced veterinary training or specialty training. Veterinarians were not trained to meet the specific needs of the country and the changing profession. These factors lead to the eventual establishment of the Koret School of Veterinary Medicine at the Hebrew University of Jerusalem on November 28th, 1985.

The Hebrew University's Koret School of Veterinary Medicine is the only veterinary school in Israel. Its primary mandate is to create a permanently evolving cadre of Israeli-trained veterinary professionals with a broad expertise in the particular climatic, zoological, and environmental conditions of the country. Students trained in Israel become thoroughly familiar with the animal health problems endemic to the region - both in regard to clinical practice and in terms of the nature of the basic and applied research that is required to understand the aetiology of those problems and how to deal with them. Likewise, the Koret School of Veterinary Medicine is mandated to improve public health in Israel and around the world by addressing animal- and vector-borne diseases especially zoonotic diseases. The School is also concerned with promoting and improving animal welfare for livestock, food production and companion animals worldwide. The Koret School of Veterinary Medicine recognizes its special responsibility to the Middle Eastern and under developed countries. The Koret School of Veterinary Medicine is an independent school but an integral part of the Robert H. Smith Faculty of Agriculture, Food and Environment whose mission is to focus on "feeding the world".

The Koret School is acknowledged to be responsible for important innovations and new dimensions in veterinary clinical practice and research in Israel and has raised the standards of veterinary care throughout the country. Likewise, through collaborative research with partners in neighbouring countries and around the world, the Koret School of Veterinary Medicine actively contributes to the improvement of animal medicine, animal welfare, food production, and public health in the region and around the globe. The school has now become accepted as the centre for all veterinary,

undergraduate, graduate and post graduate training in Israel, as well as for veterinary research and veterinary continuing education.

The school is comprised of two basic units:

1. **Basic Science** & **Pathobiology** – this unit includes the disciples of anatomy, physiology, pharmacology, toxicology, pathology, clinical pathology, microbiology, virology, parasitology and epidemiology.
2. **Clinical Sciences** – this unit includes the different clinical disciples (i.e. food producing animal medicine, small animal medicine and surgery, large animal medicine and surgery, exotic animal medicine, food hygiene and animal welfare). The clinical training takes place at the Veterinary Teaching Hospital and extramural veterinary facilities all over the country.

While the first unit is located in the Hebrew University, Robert H. Smith Faculty of Agricultural, Food and Environment campus in Rehovot, the teaching hospital is located 10 kilometres away at the Ministry of Agriculture Centre in the city of Rishon Lezion. Extramural facilities in different places in the country, mainly in central Israel, are being used.

Research at the Koret School of Veterinary Medicine involves a broad range of basic and applied topics in veterinary sciences, including infectious and zoonotic diseases that have serious implications for public and animal health; pathogenesis of vector-borne diseases (e.g. West Nile fever, epizootic haemorrhagic disease, leishmaniasis, ehrlichiosis, bartonellosis); immunology; pathogen-host interactions; development of new vaccines; molecular evolution and ecology; developmental biology; biomechanical properties of bone; neurological diseases and abnormalities; mechanisms responsible for epilepsy in animals; anaesthesiology; the pathogenesis of glaucoma and age-related macular degeneration (AMD); animal reproduction, animal welfare, veterinary pharmacological research, slow release preparations for drug administration through the gastrointestinal tract, veterinary oncology, and more.

The curriculum of the Koret School of Veterinary Medicine includes preclinical and clinical courses leading to a Doctor of Veterinary Medicine (DVM) degree. The school is built according to the Northern American model. The last year at the Koret School is a 12-months clinical year comprising

rotations through the various departments in the hospital as well as external rotations. The School also offers one-year internship programs for new graduates, three-year residencies in various specialties, externship programs for foreign students, continuing education programs for practicing veterinarians, special courses for new-immigrant veterinarians and a veterinary nursing programme. In recent years, the school opened a new Masters in Veterinary Public Health programme for veterinarians. In addition, the school offers MSc and PhD programmes as well as post-doctoral training.

The Veterinary Teaching Hospital opened its doors in 1988. Right from the beginning it became the heart of the Koret School of Veterinary Medicine of the Hebrew University. The hospital provides clinical training to veterinary students through the years (especially in the final year), serves as the leading primary care and veterinary referral centre in Israel, and acts as a positive stimulus for raising the level of clinical veterinary medicine throughout the profession in Israel. In the past 28 years since the hospital's inception, it has made tremendous progress in all aspects of its activities. The VTH staff includes 51 clinicians: 33 of whom are internationally recognized diplomates (board certified by the American or the European Veterinary Specialization Colleges) and additional 6 Israeli specialists, recognized as specialist by the Israeli Veterinary Services. The school now has specialists in Small Animal Internal Medicine, Small Animal Surgery, Neurology, Anaesthesiology, Ophthalmology, Cardiology, Oncology, Dermatology, Dentistry, Pharmacology and Toxicology, Clinical Pathology, Poultry Medicine, Emergency and Intensive care medicine, Bovine Health Management, Theriogenology, Equine surgery and Equine Internal Medicine. The primary strength of the hospital has always been its dedicated, motivated and extremely highly-qualified staff - clinicians, technicians and support staff. Several members of the staff serve on the boards of national and international organizations, editorial boards of international journals, and are invited speakers at professional and scientific international meetings. They present cutting-edge research, publish scientific papers in leading scientific journals and compete successfully for international research grants.

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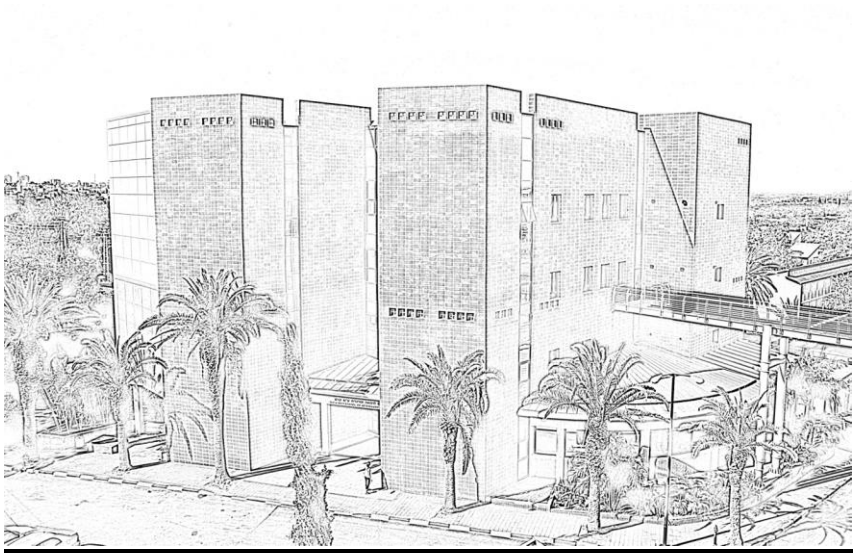
General Safety at the Koret School of veterinary Medicine, The Hebrew University of Jerusalem



General safety at the Koret School of veterinary Medicine, The Hebrew University of Jerusalem.

The Hebrew University has a Department of Occupational and Environmental Health and Safety comprised of 14 staff members, including Dr. Kenny Schneider who serves as the Safety Officer of the Rehovot Campus and the Veterinary Teaching Hospital. He has a technical assistant, Mr. Reuven Zuckerman. Dr. Schneider consults when necessary with the Department's Safety Specialist Staff including a Biological Safety Officer (Dr. Ora Grafstein), Chemical Safety Officer (Dr. Margarita Shenglof), Industrial Hygienist (Nechama Peled), Radiation Safety Officer (Rinat Adelhighet), Chemical Waste Officer (Dr. Chaim Appelbaum), Fire Safety Officer (Yochai Shlomo) and other support university personnel.

The Department of Occupational and Environmental Health and Safety assures that the University is compliant with safety and environmental protection regulations including: university rules and directives, Israeli legislation (including Ministry of Environmental Protection, National Labor Inspectorate, Ministry of Health and Ministry of Agriculture) and international environmental safety standards. All employees and students receive initial and refresher safety training including frontal lectures, computer tutorials and drills. The Department of Occupational and Environmental Health and Safety conducts a scheduled yearly safety inspection at each department and laboratory and a report is sent to correct the inspection deficiencies and rejects to comply with safety regulation as described below.

Biological safety classification of The Koret School of Veterinary Medicine: BSL2.

The Hebrew University laboratories which are suitable for work at the containment level BSL2 are inspected and certified as follows. Laboratory practices, including: restricted access and signage, hand hygiene, safe handling of sharps, work surface decontamination and prohibition of food or beverage storage or consumption in the laboratory and vaccinations as necessary – including the requirement that all students and workers handling material of human origin be vaccinated against Hepatitis B.

Safety equipment, including: certified biosafety cabinet – usually Class IIA, autoclave eyewash and shower station; sharps containers and biohazard waste containers.

Laboratory facilities, including: hand washing sink, suitable lab furniture which is smooth and readily disinfected, general ventilation and screened windows.

Personal protective equipment (PPE), including: laboratory coat, eye protection, gloves, respiratory protection and additional PPE as needed.

Safety training, including: new worker/student general and lab-specific training, annual refresher training, autoclave safety training, emergency response drills.
Waste treatment, including: safe and effective use of autoclave and disinfectant.
Emergency response, including: spill kit preparation, first aid response and emergency card including telephone numbers.

Research involving the use of elements that may cause harm to the environment, to animals or to plants: Limited amounts (liters) of chemicals including DMSO (dimethylsulfoxide) and other cryoprotectant chemicals, disinfectants (such as 70% ethanol) and other laboratory-scale chemicals including methanol and formulations used in milliliter/microliter volumes for molecular biology such as immunofluorescent and nucleic acid stains, RNA isolation kits, Sybr green, Western blotting and PCR reagents.

Chemical safety classification of The Koret School of Veterinary Medicine: Level 1-2 (out of 4).
University safety procedures for chemical use: Laboratory practices, including: restricted access and signage, central chemical ordering and tracking, access to chemical safety information including Material Safety Sheets, chemical storage facilities including ventilated laboratory cabinets, hand hygiene, and prohibition of food or beverage storage or consumption in the laboratory. Safety equipment, including: certified chemical fume hoods which are inspected annually, eyewash and shower stations, chemical waste containers, fire extinguishers, firefighting stations, fire alarms and sprinklers. Laboratory facilities, including: hand washing sink, lab furniture which is suitable for chemical use, general ventilation and local exhaust ventilation as necessary. PPE, including: laboratory coat, eye protection, gloves, respiratory protection and additional PPE as needed. Safety training, including: new worker/student general and lab-specific training, annual refresher training, emergency response drills. Waste treatment, including: chemical waste segregation and packaging, transfer to central chemical waste collection stations. Emergency response, including: chemical spill kits, first aid response and emergency card including telephone numbers, fire drills and determining escape routes.

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Biosecurity and Biosafety at the Veterinary Teaching Hospital (VTH) & Necropsy Facility. Special focus on the actions made since the 2011 EAEVE's visit

Biosecurity and Biosafety at the Veterinary Teaching Hospital (VTH) & Necropsy Facility. Special focus on the actions made since the 2011 EAEVE's visit:

- **Dr. Dalia Berlin (Large Animal Department) was appointed as a biosecurity officer and a biosecurity committee was created.** Committee members are: Dr. Efrat Kelmer (Small Animal Emergency and Intensive Care unit), Dr. Sigal Yudelevich (Small Animal Surgery Department), Dr. Sharon Kuzi (Small Animal Internal Medicine Department), Mrs. Cegalle Saycell (VTH head technician, Small Animal Internal Medicine Department) and Miss. Lilach Konstantine (technician, Neurology Department). The committee members meet regularly 2-3 times a year to discuss biosecurity issues that require attention. Further discussions are conducted via direct face to face meetings in urgent matters, telephone and email, on a regular basis.

- **Biosecurity and biosafety updates** are regularly conveyed to the staff and students by frontal lectures, and/or emailed to staff members and students by the biosecurity officer.

- **A new biosecurity manual** was written in January 2012 (regularly updated; last update performed on August 2016) and its guiding principles have been implemented in the VTH. An electronic copy has been sent to staff members and students and a printed copy is available in every department. The protocol was written both in Hebrew and in English (Annexes 1 and 2), as to allow Israeli staff members and students as well as foreign students, externs and visitors to follow these guidelines.

- **New biosecurity risk categories have been established at the VTH with new cage and stall markings and restricted areas marked with floor lines and appropriate signs.**
    - Class 1: regular department: no infection or non-contagious infection. Cages and stalls are marked with a green patient card. No special clothing, barrier measures or precautions are needed.
    - Class 2: regular department: infections with low risk of transmission. May include resistant bacteria with low risk of transmission. Cages and stalls are marked with a green patient card. No special clothing, barrier measures or precautions are needed.

- Class 3: partial isolation (within the regular department). Cages and stalls are marked with a yellow patient card. In the small animal departments, disposable gowns, foot covers, head covers and gloves are used. In the large animal department, designated dark blue, reusable, gowns are used together with gloves, foot covers and head covers. Further precautions are specified in the biosecurity manual.
    - Subclass A: multiple drug resistant bacteria.
    - Subclass B: infectious diseases with a moderate risk of transmission or with zoonotic potential.
    - Subclass C: young animals and animals with immunosuppression.
- Class 4: complete isolation: infections with high risk of transmission or zoonotic infections that may cause severe illness in humans. Patients are hospitalized in the isolation wards and the cages/stalls are marked with orange patient cards. The entrance to these wards is marked with a red floor line and signs that announce restricted entry.

- **Area Markings at the Veterinary Teaching Hospital.** Further areas within the VTH have restricted entry instructions and are marked with orange & yellow floor lines and door/wall signs. These areas include: the small animal ICU, small and large animal surgery, radiology, MRI, CT, small animal hospitalization ward and the diagnostic laboratory.

- **Posters** with specific hygiene guidelines (based on the protocol) were placed in each ward.

- **The large animal isolation ward was renovated** and new barriers and guidelines were implemented. Improvements include:
    - The isolation ward is located in a separate building, distant from the rest of the hospitalization areas.
    - The isolation ward is equipped with all the necessary daily and routine equipment.
    - Entry to the isolation ward is through a clean dressing room designed for changing from “everyday VTH clothing” to “clothing assigned for use in the isolation ward only”.
    - Entry to the hospitalization area is through a "dirty" dressing room designed for wearing the isolation coveralls, boots, head

covers and gloves. A florescent floor line and footbath separate the two dressing rooms.
    - The walls were sealed in a manner that does not allow entry of birds, rodents and unwanted pests and were painted with an antibacterial paint.
    - Two entrances were created: one for people into the clean dressing room and one for the isolated patients. Signs on both entrance doors clearly indicate restricted entrance in 4 languages (Hebrew, English, Arabic and Russian) and are marked with red door and floor lines. Owners, clients and visitors are not allowed in the isolation ward.
    - A new treatment room, equipped with examination stocks, was built with special anti-slip and antibacterial material covering the floor.
    - Boot-baths are placed at the door of each occupied stall and at the passage from the dirty to the clean dressing rooms.
    - A poster with the specific isolation working guidelines was placed in the dressing room and inside the ward.
    - All staff members are familiar with the guidelines.
    - Students entering the ward are guided by the attending clinician on the proper conduct.

- **A new Small Animal Isolation Ward was built.** Improvements include:
    - The ward is equipped with all the necessary daily and routine equipment.
    - The entrances to the ward are marked with red floor/door lines.
    - A clean outer room for hanging the regular gowns and putting on foot covers, head covers and gloves was built.
    - A footbath is placed at the entrance to the inner room which contains the cages and treatment facilities. Designated red gowns are worn in this area.
    - A poster with the specific isolation working guidelines was placed in the outer and inner rooms.
    - All staff members are familiar with the guidelines.
    - Students entering the ward are guided by the attending clinician or technician on the proper conduct.
    - An additional door which connects the inner room and the outside of the hospital's building was added. This door is designed for entry and exit of suspected ill patients directly to

and from the isolation unit thus minimizing the risk of contaminating the other areas/departments of the VTH.

- **Based on the recommendations of EAEVE's expert team, the necropsy room and related facilities were renovated.** The renovation was performed to overcome major biosecurity and basic hygiene problems that were pointed out by EAEVE. The following improvements were performed at the post-mortem facility:
    - The entrance of staff and students was separated from the gate through which cadavers and other biologic materials such as biopsies are submitted and entered into the facility. The student and staff entrance is now located on the other side of the facility, in a different direction from the entrance for cadavers, and thus they do not step over areas where cadavers are transferred.
    - Students and staff enter through a room where they change their clothes and shoes before entering the pathology room.
    - On their way out, they take off their overalls and boots, and leave them at the changing room before they exit the facility .
    - Dirty overalls are placed in a laundry basket in the changing room, from where they are taken regularly by VTH personnel to be washed in a dedicated separate washing machine at the VTH.
    - A shower and toilet were built for the use of students and staff during their work in the pathology room and on the way out of the facility.
    - An automated water tap and disinfecting devices were placed in the changing room and the students are informed that it is mandatory to use those when they intend to exit the building.
    - The entire floor of the pathology room was remade and paved with a synthetic resin customized for such floors in a way that it can be easily and meticulously cleaned. All cracks and breaks of the old floor were fixed before the new floor was molded, and all walls are covered with cleanable tiles .
    - Students are allowed to be present only in the main pathology room. Signs on the doors and floor indicate areas and rooms where students are not allowed. The room where rabies is tested and another room where stillbirth material is being handled are off-limits for students.
    - After each post-mortem examination, the remnants of the cadavers are discarded through a wide door on the south end of the facility and placed in bags in a plastic container outside the

necropsy room, in a closed space, sealed from the institute's premises.

- **A new Small Animal Emergency and Intensive Care unit (ICU) has been built.** The new unit contains modern facilities and equipment that allow better care for patients. Improvements in regards to biosecurity include:
    - The larger working space, increased number of cages and spacious design of the room allow implementation of barrier measures when needed and separation between patients in different risk categories (see below).
    - The walls were painted with antibacterial paint and the floors were covered with smooth tiles that allow for better cleaning and disinfection.

- **Hand sanitizers** were placed in all the examination and treatment rooms and in the hospitalization wards, in order to improve hand hygiene.

- **Periodical lectures regarding biosecurity topics are given by the biosecurity officer to staff members (clinicians, technicians and front desk personnel). Topics that were addressed thus far include:**
    - Biosecurity in the VTH - beginning of a new era (June 2012)
    - Resistant bacteria - the battle of the 21st century (June 2014).
    - Updates on biosecurity in the VTH (August 2016).

- **Lectures on basic biosecurity topics and guidelines were introduced into the curriculum of the school of veterinary medicine.**
    - For 1st year students, a lecture on the basic biosecurity principles includes: definitions, routes of transmission, breaking cycles of transmission, barrier measures, risk categories in the VTH, disinfection principles and general proper conduct guidelines in the VTH and other facilities visited during their studies.
    - For 2nd year students, prior to entering the necropsy facility for the first time, a lecture on biohazards and public health risks related to working in the necropsy facility is given. Means of assuring biosafety are introduced to the students.

- For 4th year students, a lecture is given during their orientation meeting just prior to the beginning of the clinical final year. The lecture is basically a repeat of the above topics with an emphasis of practical implementations.

CONCLUDING REMARKS

In response to EAEVE's expert team report (2011), the Koret School of Veterinary Medicine of the Hebrew University of Jerusalem has made significant improvements, and considerable efforts were invested to waive and rectify the major deficiency identified at the KSVM in 2011, namely "*Insufficiency in bio-security, bio-safety and general hygiene in different areas and facilities, among them, in specific, necropsy rooms and the large animal isolation ward*". We believe that the actions performed by the school administration and staff have proven to rectify this deficiency. We hope that the Re-Visit team of experts will appreciate and approve the tremendous efforts and the major actions performed to improve the hygiene status, as well as the biosecurity and biosafety status of all related facilities of the KSVM, including the VTH.