



BIOSAFETY MANUAL

VTH - Veterinary Teaching Hospital of the University of Zaragoza

Veterinary Faculty



TABLE OF CONTENTS

1. Purpose, scope and principles
2. Functional description of the VTH
3. Governance, responsibilities and oversight
4. Operational risk assessment and classification
5. General biosafety rules
6. Hand hygiene, work clothing and personal protective equipment
7. General circulation pathways and access control
8. Biosafety in the small animals area
9. Biosafety in the large animal area
10. Surgery, anaesthesia and recovery
11. Diagnostic imaging and endoscopy
12. Cleaning, disinfection and sterilization
13. Laundry and textile management
17. Cadavers and relationship with necropsies
18. Occupational risks, accidents, spills and exposures
19. Training, records, audit and improvement
21. Contingency planning and continuity of care
22. Appendices

1. PURPOSE, SCOPE AND PRINCIPLES

1.1 Purpose

This manual establishes the biosafety management system specific to the Veterinary Teaching Hospital of the University of Zaragoza (VTH). Its purpose is to reduce the risk of transmission of biological agents among animals, people, facilities and the environment, while ensuring the continuity of the Hospital's clinical, teaching and healthcare activities.

1.2 Scope

This manual applies to all individuals carrying out activities at the VTH, including academic and research staff (PDI), technical, management, administrative and support staff (PTGAS), postgraduate residents, students, external contactors, animal owners and any other authorized persons. It covers the Small Animal, Large Animal, and Shared Services Areas.

1.3 Relationship with other manuals

This manual does not replace the Faculty's General Biosafety System. It governs activities specific to the VTH and defines the interfaces with the necropsies, laboratories, occupational health and safety service, waste management, and other services. Whenever an activity extends beyond the physical and organizational scope of the hospital, the specific procedures of the receiving unit shall apply.

1.4 Principles

- Risk assessment prior to initiating patient care.
- Universal application of standard precautions.
- Implementation of enhanced control measures when there is clinical or epidemiological suspicion.
- Functional separation of public, staff, and patient circulation pathways.
- Cleaning prior to disinfection.
- Traceability of patients, specimens, waste, textiles, and cadavers.
- Rational and documented use of biocides and chemical products.
- Training and supervision of students and newly appointed personnel.
- Prompt reporting of incidents, exposures, and system failures

2. FUNCTIONAL DESCRIPTION OF THE VTH

2.1 Physical organization

The VTH is located on the Faculty of Veterinary Medicine campus and operates primarily on the ground floor. It comprises two main clinical areas: the small animal area and the large animal area.

These areas share a common reception, central pharmacy, laboratory, laundry, cleaning and sterilization services, and clean supply and changing room facilities.

Staff and students use a common entrance; however, separate changing rooms are provided for the small animals and large animals areas. Clinical personnel shall wear area-specific work clothing and shall not move freely between the two clinical areas without changing clothing and footwear in accordance with the established procedures.

2.2 Main areas of the small animals

- Shared reception area and separate waiting rooms for dogs and cats.
- Nine consultation rooms: two for general practice/internal medicine and seven for specialties.
- Canine and feline hospitalization wards, each with eight cages.
- Separate canine and feline intensive care areas, although no formal Intensive Care Unit (ICU) is available.
- Three operating theatres, a pre-operative preparation area, and a post-anaesthetic recovery room.
- Two radiology rooms, an image interpretation room, computed ultrasonography and tomography.
- Diagnostic and therapeutic endoscopy facilities.
- Three isolation rooms connected by a shared restricted-access corridor.

2.3 Main Areas of large animals

- Dedicated entrance for animals and enter/exit circulation pathway for large animals.
- Eight general hospitalization stalls.
- Two enlarged stalls suitable for a mare and foal, equipped with oxygen supply and therapeutic support.
- An independent quarantine stall located more than 200 metres from the main area.
- Examination room, fixed and portable radiography facilities, ultrasonography, and an equine surgical suite.
- A single induction and anaesthetic recovery stall.
- Large Animal operating theatre and pre-operative area equipped with ventilation, heating, and climate control systems.
- Stall partitions fitted with washable and disinfectable methacrylate panels to limit direct physical contact between adjacent animals.

3. GOVERNANCE, RESPONSABILITIES AND OVERSIGHT

3.1 Overall responsibility

Overall responsibility for biosafety at the VTH lies with the Hospital Management, represented by Ms Alicia Laborda. Formal approval of this manual and any subsequent revisions is the responsibility of the VTH Management.

3.2 Operational responsibilities

Role	Responsibilities
VTH Management	Approval of the manual; assignment of responsibilities; decision-making in the event of outbreaks, closures, or contingency situations.
Deputy Management responsible for circulation pathways and disinfection	Operational coordination of staff and student circulation pathways; supervision of enhanced disinfection measures.
Hospital Administration	Coordination of the routine contracted cleaning programme, monitoring of incidents, and documentation of services.
On-call PTGAS Veterinarian	Control of circulation pathways, isolation measures, and disinfection procedures during emergencies, nights, weekends, and holiday periods.
Clinical leads	Assessment of patient-related risks; authorization of isolation measures; prescription of PPE; approval of exceptional access.
Staff and residents	Compliance with measures; supervision of students; reporting of incidents.
Students	Compliance with instructions, correct use of work clothing and PPE, and immediate reporting of accidents.
Occupational Health and Safety Unit	Monitoring of environmental risks, exposure control, provision of PPE to staff, and recording of occupational incidents.

3.3 External contractors

External contractors shall receive instructions regarding authorized areas, PPE, risks, products, waste management, and activity records. The service contract or contractor coordination procedure shall ensure that there is documented evidence of which areas are cleaned, the frequency of cleaning activities, and the personnel authorized to grant access to restricted areas.

4. OPERATIONAL RISK ASSESSMENT AND CLASSIFICATION

4.1 Initial assessment

All patients shall be assessed from the first point of contact in order to identify signs compatible with a transmissible disease, epidemiological background, vaccination status, presence of diarrhoea, vomiting, fever, coughing, discharges, skin lesions, neurological signs, abortions, associated mortality, or contact with high-risk groups.

4.2 Small animals classification

Category	Operational Definition	Location and Measures
PA-1	Patient with no relevant clinical or epidemiological suspicion of a transmissible disease.	Standard clinical pathway; Standard Precautions; cleaning between patients and terminal cleaning according to activity requirements.
PA-2	Preventive isolation due to epidemiological origin or unknown health status, including certain animals from shelters, feral animals, or animals without reliable medical history.	Preventive isolation; restricted access; dedicated equipment; PPE according to risk assessment.
PA-3	Suspected or confirmed infectious disease.	Infectious isolation; enhanced PPE; signage; dedicated equipment; documented cleaning and terminal disinfection.

4.3 Large animal classification

Category	Operational Definition	Location and Measures
GA-1	Animal with no significant clinical signs or epidemiological suspicion.	Standard stall; standard precautions; daily manure removal; cleaning and disinfection after animal discharge.
GA-2	Animal with suspected or confirmed infectious disease, or with a history requiring preventive isolation.	Quarantine stall; restricted access; disease-specific PPE; dedicated equipment and materials; enhanced manure, waste, and disinfection management.
Special Health Alert	Additional status applied to GA-2 in cases of serious zoonotic notifiable disease, or other exceptional risks.	Activation of directorate, PRL and the competent authorities where required; implementation of extraordinary restrictions and activation of the contingency plan.

5. GENERAL BIOSAFETY RULES

- Access to restricted areas shall not be permitted without authorization and appropriate protective clothing.
- Hand hygiene shall be performed before and after contact with each patient, after glove removal, and upon leaving contaminated areas.
- Gloves do not replace hand hygiene.
- Reusable equipment shall be cleaned and disinfected between patients or assigned exclusively to isolation cases.
- Eating, drinking, smoking, applying cosmetics, or storing food is not permitted in clinical or technical areas.
- Personal phones and devices shall be kept outside high-risk areas or shall be protected and disinfected in accordance with the procedure.
- Skin wounds shall be covered before commencing work activities.
- Any splash, bite, needlestick injury, fall, spill, or non-compliance with procedures shall be reported without delay.

5.1 Owners and visitors

Owners shall follow the public circulation pathway. In exceptional circumstances, the veterinarian may authorize accompanied access to intensive care hospitalization areas. Owners shall not be permitted access to operating theatres, isolation areas, or restricted technical areas.

5.2 Emergency service

The Emergency Service operates 24 hours a day, 365 days a year. Infectious triage, isolation, and notification criteria shall be maintained during nights, weekends, and public holidays, under the coordination of the on-call PTGAS veterinarian and the responsible clinician.

6. HAND HYGIENE, WORK CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT

6.1 Area-specific work clothing

Staff and students shall wear dedicated clinical clothing differentiated for the small animal and large animal areas. Changing shall be carried out in the designated changing rooms. Personnel required to move between areas shall change clothing and footwear and perform hand hygiene before entering

the new circulation pathway.

6.2 PPE selection

Situation	Minimum recommended PPE
Routine care	Area-specific clinical clothing, closed footwear, and gloves when there is a risk of contact with body fluids.
Preventive isolation PA-2	Gown or coveralls according to risk assessment, dedicated gloves and footwear/overshoes; mask or eye protection when there is a risk of splashes or aerosols.
Infectious isolation PA-3	Impermeable gown or coveralls according to the procedure, gloves, footwear protection, mask, and eye protection according to the route of transmission.
GA-2 quarantine	Dedicated biosafety coveralls, overshoes, safety boots, gloves, and a second pair of gloves when required; mask, head covering, and eye protection according to risk assessment.
Pressure washing	Eye/face protection, gloves, waterproof clothing, and respiratory protection when there is a risk of aerosol.

6.3 Donning and Doffing

The donning and doffing of PPE shall be carried out in accordance with the signage approved by the HVUZ, with clear separation between clean, transition, and contaminated areas. The doffing procedure shall be designed to prevent the external surfaces of PPE from coming into contact with clothing, skin, or clean environments.

7. GENERAL CIRCULATION PATHWAYS AND ACCESS CONTROL

7.1 Types of circulation pathways

Circulation pathway	Description
Public patient and owner pathway	Reception, waiting areas, and authorized access. Prevents transit through internal clinical corridors.
Internal clinical corridor	Access for PDI, PTGAS, residents, and authorized students to consultation rooms, hospitalization areas, and services.
Restricted professional pathway	Operating theatres, isolation areas, diagnostic imaging facilities, technical areas, pharmacy, and storage areas.

7.2 Large animal samples

Large animal samples shall be deposited at the designated intermediate collection point in the corridor. Laboratory personnel shall perform the collection, preventing large animal clinical staff from accessing the shared small animal laboratory area with potentially contaminated clothing or footwear.

7.3 Signage

Restricted areas shall be identified with signage indicating the access level, required PPE, responsible person, and contact telephone number where applicable. Signage shall be updated whenever the patient's classification changes or when an area is temporarily closed.

Layout plans

The layout plans showing the circulation pathways for staff, students, owners, patients, samples, waste, and cadavers shall be included as appendices.

8. BIOSAFETY IN THE SMALL ANIMAL AREA

8.1 Reception and triage

The reception area includes separate waiting rooms for dogs and cats. Animals showing signs compatible with a transmissible disease shall not remain in the standard waiting areas. Reception staff shall notify the clinical team and initiate the direct access pathway to the consultation room or isolation area.

Suspected canine parvovirus infection

Dogs with suspected canine parvovirus infection shall avoid the waiting area and access a consultation room directly. Following clinical assessment and diagnostic testing, positive cases or cases with a high level of suspicion shall be transferred to the infectious isolation area using appropriate protective measures, including covering and wearing gloves. The consultation room shall be taken out of service until cleaning and disinfection have been completed.

8.2 Consultation rooms

Each consultation room has a public entrance for owners and patients and an entrance from the internal clinical corridor. The clinical team shall organize patient flow to prevent unnecessary cross-traffic. Contact surfaces and equipment shall be cleaned between patients, with enhanced disinfection measures implemented in the presence of body fluids or suspected infectious disease.

8.3 Hospitalization

Canine and feline hospitalization areas are physically separated. Each ward contains eight cages. Separate canine and feline intensive care areas are available, equipped with oxygen supply, infusion pumps, multiparameter monitoring, and temperature control systems; however, the hospital does not have a formally designated Intensive Care Unit (ICU).

Owners shall not normally be granted access. In exceptional circumstances, the veterinarian may authorize accompanied access to the intensive care area through the restricted professional pathway.

8.4 Isolation

The isolation area consists of three rooms connected by a shared restricted-access corridor. Ventilation is independent from the hospital's general ventilation system. Entry and exit are through the same corridor; therefore, the donning and doffing sequence for PPE shall be clearly zoned.

Room	Capacity and purpose
Canine preventive isolation	Two cages for animals from shelters, feral animals, or animals with unknown health status.
Canine infectious isolation	Six cages for dogs with suspected or confirmed transmissible disease
Feline infectious isolation	Eight cages for cats with suspected or confirmed transmissible disease.

The corridor is equipped with dedicated supplies, PPE, and footbaths. The routine cleaning contractor does not normally enter the isolation rooms; cleaning and disinfection are performed by hospital staff. Reopening following terminal disinfection shall be authorized and documented by the

veterinarian responsible for intensive care hospitalization or by the corresponding PTGAS veterinarian.

8.5 Isolation textiles

Textiles are not necessarily disposable. They shall be placed in closed bags with specific identification coding and sent to the general laundry service through the established pathway, avoiding intermediate opening and contamination of the environment.

9. BIOSAFETY IN THE LARGE ANIMAL AREA

9.1 Admission and placement

Horses enter and leave through the main large animal access route. Depending on their clinical status, they may be directed to the examination area, radiology, hospitalization, or quarantine. Animals with suspected transmissible disease shall be transferred directly to the quarantine stall, avoiding the standard circulation pathway.

9.2 General hospitalization

The area contains eight stalls. Floors are made of impermeable, washable, and disinfectable materials. Two larger stalls are available for housing a mare and foal and are equipped with oxygen supply and therapeutic support.

Manure and bedding shall be removed daily. Following discharge or transfer, all bedding shall be removed, organic matter eliminated, pressure washing shall be performed using appropriate PPE, and the designated disinfectant for standard stalls shall be applied.

9.3 GA-2 quarantine

The VTH large animals quarantine stall is designed as a functionally independent area for the temporary housing of equids with suspected or confirmed infectious and contagious processes. Its design separates animal access, the intermediate PPE donning/doffing area, and the clean support area.

- Clean area: this area has an independent access point, sink and water supply, and is used for storage of materials, preparation of examination equipment, and support of dedicated quarantine supplies.
- Intermediate area: This area connects the clean area with the animal stall and is used for the controlled donning and doffing of PPE.
- Animal stall: The main animal housing area, approximately 7 m² in size, with a dedicated access door for the animal.
- Access is restricted to authorized personnel. Assistance and examination equipment shall remain assigned to the quarantine area and shall not re-enter the general clinical pathway without cleaning, disinfection, and authorization.
- Following use, organic matter shall be removed, terminal cleaning and disinfection shall be performed, and reopening shall be subject to authorization by the designated responsible person.

The manure storage area is located approximately 200 metres from the hospital. Manure and bedding from large animals are removed by Excavaciones ABENOZA, S.L., Tax Identification Number (CIF) B50825991, in accordance with the current VTH management arrangements.

10. SURGERY, ANAESTHESIA AND RECOVERY

10.1 Small animals

The patient is sedated or anaesthetized and prepared in the pre-operative area. Personnel access the restricted corridor wearing surgical clothing and footwear protection. Transfer to the operating theatre is performed using a trolley. Recovery takes place in a quiet room adjacent to the pre-operative area, equipped with oxygen supply and multiparameter monitoring.

10.2 Large animals

Large Animal surgical pathway is as follows: central corridor, induction stall, anaesthetic induction, lifting by hoist, positioning on the surgical table, intubation and maintenance of anaesthesia, preparation in the pre-operative area, operating theatre, return to the pre-operative area, and recovery in the same induction stall before transfer to hospitalization

10.3 Induction and recovery stall

After each animal, organic matter shall be removed, the area shall be pressure-washed, and CR36 Advanced shall be applied in accordance with the manufacturer's current technical data sheet and material compatibility requirements. The use of pressure washing requires PPE appropriate for protection against splashes and aerosols.

10.4 Pre-operative checklist

The pre-operative checklist separates pre-anaesthetic verification, patient preparation, antimicrobial prophylaxis when indicated, final antisepsis, instrument control, and the surgical safety pause.

11. DIAGNOSTIC IMAGING AND ENDOSCOPY

11.1 Small animals

The radiology, ultrasonography, computed tomography, and image interpretation areas are located within the restricted professional pathway. Positioning equipment and surfaces shall be cleaned between patients and disinfected whenever contamination with body fluids occurs or when there is suspicion of an infectious disease.

11.2 Large animals

The hospital has high-output fixed radiography equipment, a portable radiography unit, and ultrasonography equipment with multiple probes. The equine computed tomography service is planned or not yet fully operational and shall be described accordingly until commissioning and validation of the associated circulation pathways have been completed.

11.3 Reprocessing of endoscopes and accessories

The reprocessing of HVUZ endoscopes is performed manually and shall be carried out after each patient. Flexible endoscopes that come into contact with mucous membranes are considered semi-critical devices and require, at a minimum, thorough cleaning followed by high-level disinfection. Rigid endoscopes and reusable accessories that enter sterile tissues or sterile body cavities, or that breach mucosal barriers, shall be sterilized using a compatible and validated method. Single-use devices shall not be reprocessed.

11.3.1 Standardized Minimum Sequence

The following sequence constitutes the minimum HVUZ standard. At each stage, the manufacturer's instructions for the endoscope, its accessories, and the reprocessing products shall take precedence.

	Minimum procedure	Critical control
1. Immediate pre-cleaning	At the end of the procedure, before organic matter dries, clean the external surface and aspirate or irrigate all channels using the solution specified by the manufacturer.	Do not delay initiation. Record any delay and apply the manufacturer's procedure for delayed reprocessing.
2. Transport	Transport the equipment and its components in a closed, leak-resistant container identified as contaminated material to the dirty area of the reprocessing zone.	Do not transport the endoscope uncovered or mix it with clean equipment.
3. Leak test	Perform the leak test before immersion and manual cleaning, in accordance with the manufacturer's instructions.	If the test fails, stop the process, identify the equipment as not disinfected, and remove from service for repair
4. Disassembly and manual cleaning	Remove valves, caps, and detachable components. Fully immerse the equipment in a compatible, low-foaming, aldehyde-free detergent solution. Clean surfaces, distal ends, ports, and valves.	Prepare the solution at the concentration, temperature, and contact time specified. Do not reuse detergent between cycles.
5. Brushing and irrigation	Brush all accessible channels using brushes of the correct diameter and length until no visible debris remains. Irrigate all channels, including those not used during the procedure.	Single-use brushes and cleaning materials are preferred. Reusable items shall reprocess between devices.
6. Rinsing and inspection	Rinse to remove detergent and residues. Visually inspect the endoscope, accessible channels, and accessories; repeat cleaning if visible contamination remains.	Disinfection does not compensate for inadequate cleaning. Remove damaged equipment from service.
7. High-level disinfection	Fully immerse the flexible endoscope and perfuse all channels with a compatible high-level disinfectant legally authorized for this purpose.	Follow the concentration, temperature, and time requirements established by the product and equipment manufacturer. Monitor and record the minimum effective concentration when the solution is reusable.
8. Final rinsing	Rinse the surface and all channels with water quality appropriate to the manufacturer's instructions and the device classification.	Use sterile water when required by the equipment or procedure. Prevent disinfectant residue retention.
9. Drying	Completely purge and dry all channels using filtered air or the available validated drying system. Dry the external surface and detachable components	Do not store wet equipment. Alcohol flushing shall not be used as a routine procedure unless specifically indicated and validated by the manufacturer.
10. Storage	Store the endoscope vertically, without forced bending, in a closed and ventilated cabinet or in a dedicated drying cabinet. Keep valves and caps disconnected.	Do not store in the transport case or in closed containers that retain moisture. Define the maximum storage time before repeating the reprocessing cycle.
11. Accessories	Clean reusable accessories immediately; disassemble, brush, irrigate, and perform ultrasonic cleaning when compatible. Sterilize biopsy forceps and other accessories that breach mucosa or enter sterile tissue.	Single-use accessories shall be discarded. Maintain traceability with the endoscope and patient.
12. Release and documentation	Record equipment and patient identification, date, operator, leak test, detergent, disinfectant, batch number, concentration, time, rinsing, drying, incidents, and release authorization.	If any stage fails, remove the equipment from service and repeat the cycle from the appropriate point or refer it for maintenance.

Technical basis: Healthcare Infection Control Practices Advisory Committee (HICPAC)/CDC, Essential Elements of a Reprocessing Program for Flexible Endoscopes; CDC, Guideline for Disinfection and Sterilization in Healthcare Facilities; ESGE–ESGENA, Position Statement on Reprocessing of Flexible Endoscopes and Endoscopic Accessories (2018).

12. CLEANING, DISINFECTION AND STERILIZATION

12.1 Principles

- Cleaning removes organic matter and shall always precede disinfection.
- The product, concentration, contact time, and compatibility shall be documented.
- Chemical products shall not be mixed unless expressly indicated by the manufacturer.
- Treated areas shall be identified with appropriate signage and shall not be reopened until the established time has elapsed and safety has been verified.
- All extraordinary interventions shall be documented.

12.2 Routine Cleaning

Daily cleaning of consultation rooms, hospitalization areas, operating theatres, anaesthetic recovery areas, and diagnostic imaging areas is performed by the company contracted by the University of Zaragoza, under the University's general cleaning contract. The contractual scope, frequencies, and records are managed in accordance with the current contract and the internal organization of the VTH.

The routine cleaning contractor does not normally enter infectious isolation rooms. Large Animal stalls are cleaned daily by university staff.

12.3 Commonly Used Products

Product	Routine use at VTH	Technical reference
CR36 Advanced	Routine surfaces, equine stalls, and induction/recovery stall after cleaning.	Use according to the manufacturer's current technical data sheet/Safety Data Sheet (SDS) and applicable safety measures.
Virkon S 1%	Infectious isolation and quarantine; situations involving risk from non-enveloped viruses.	Use according to the manufacturer's current technical data sheet/SDS and applicable safety measures.
Commercial bleach 3.78%	Floors and other surfaces when indicated.	Use according to the manufacturer's current technical data sheet/SDS and applicable safety measures.
S95	Cleaning product.	Use according to the manufacturer's current technical data sheet/SDS and applicable safety measures.
Total Shock SF / Aerobrumer	Terminal airborne disinfection of Small Animal isolation areas.	Use according to the manufacturer's current technical data sheet/SDS and applicable safety measures.
SANOSIL S010	Specialized periodic disinfection by electrostatic spraying.	Use according to the manufacturer's current technical data sheet/SDS and applicable safety measures.

12.4 Specialized Periodic Disinfection

A specialized company performs comprehensive hospital disinfection approximately every three to four months, on request and whenever an extraordinary intervention is required. Application is performed by electrostatic spraying using SANOSIL S010. Each intervention shall be supported by a certificate correctly identifying the VTH, the areas treated, the product used, quantity, application method, responsible person, and reopening criteria.

12.5 Sterilization

The VTH has a steam autoclave and a low-temperature sterilization system using steam/formaldehyde. The workflow shall ensure separation between contaminated material, preparation, sterilization, release, and clean storage. Cycles shall be monitored through physical parameters and, where applicable, chemical and biological indicators.

12.6 Cleaning and disinfection of equine nasogastric tubes

Equine nasogastric tubes shall be cleaned and disinfected after each use. Immediately after use, the external surface and internal lumen shall be washed with water and a degreasing detergent compatible with the tube material, ensuring complete removal of organic matter.

Following cleaning and initial rinsing, the tube shall be fully immersed in the designated disinfection container containing Instrunet ANIOXYDE 1000, ensuring contact of the solution with the entire external surface and the internal lumen. Contact time, conditions of use, solution replacement, and protective measures shall comply with the current product technical data sheet and Safety Data Sheet.

After completion of the contact time, the tube shall be removed from the container and thoroughly rinsed with potable tap water, both externally and through the internal lumen, until disinfectant residues have been eliminated.

The tubes shall then be allowed to drain and shall be stored hanging in the designated tube storage area within the large animal examination room, promoting complete drying and preventing contact with floors, walls, contaminated equipment, or potentially contaminated surfaces.

Clean and disinfected tubes shall be kept separate from those awaiting reprocessing. The condition of each tube shall be identified through the established recording system, including at least tube identification, reprocessing date, responsible person, and status as disinfected and available for use. Tubes showing cracks, rough surfaces, deformation, surface alterations, or any deterioration that may compromise effective cleaning and disinfection shall be removed from clinical use.

13. LAUNDRY AND TEXTILE MANAGEMENT

The laundry service is shared by small and large animal areas. Coveralls, scrubs, surgical textiles, and clinical clothing are deposited in the dirty area, washed, and, where applicable, sterilized before being transferred to the clean storage area

- Dirty clothing shall not be shaken or sorted in clinical areas.
- Isolation textiles shall be sealed in bags identified with the agreed special coding.
- Bags shall remain closed until reaching the designated treatment area.
- Carts and containers shall be cleaned and disinfected if contamination occurs.
- Clean clothing shall be stored protected from moisture, dust, and contact with contaminated traffic.

14. CLINICAL SAMPLES AND LABORATORY MANAGEMENT

This section regulates the collection, identification, containment, and internal transport of clinical and laboratory samples. Segregation of waste generated during these activities is described in Section 16, Healthcare Waste and Other Waste Generated at VTH.

14.1 General principles for sample collection and identification

- Samples shall be identified before leaving the clinical area, with sufficient information to prevent errors involving patient, species, service, and laboratory request.
- Tubes, containers, or receptacles shall be securely closed, and the absence of leaks or visible external contamination shall be verified before transport.
- When there is suspicion of infection, risk of leakage, or handling of significant volumes of fluids, a resistant secondary containment system shall be used.
- The laboratory request shall include relevant clinical suspicion when required to protect receiving personnel and select appropriate precautions.

14.2 Internal transport and delivery to the laboratory

- Internal transport of samples shall follow routes that minimize contact with owners, uninvolved students, and public areas.
- Samples from large animals shall be deposited at the designated collection point to avoid unnecessary entry of large animal clinical staff into laboratory or small animal areas.
- Samples from PA-3, GA-2, or patients with suspected infectious and contagious disease shall be communicated to the laboratory when the suspicion may affect handling, storage, or processing.
- Samples shall not be transported in pockets, by hand without secondary containment, or in open containers.

14.3 Samples from isolation or quarantine areas

- Samples shall be handled using the PPE specified for the area and patient risk level.
- The external surface of the primary container shall be disinfected when compatible with the material and when this does not compromise the sample.
- An identified secondary container shall be used, and trays or isolation equipment shall not be transferred into the clean pathway without prior cleaning and disinfection.
- The laboratory shall be informed of suspected or confirmed transmissible agents whenever relevant for biosafety.

14.4 Sample spills, breakage, or leakage

- Restrict access to the affected area and apply temporary signage when there is a risk of stepping on contaminated material, splashes, or exposure.
- Wear appropriate PPE before collecting the material.
- Absorb the spill, remove broken or sharps material using mechanical means, and apply the designated disinfectant while respecting the required contact time.
- Document the incident when there is personal exposure, significant volume, equipment contamination, breakage of the primary container, or impact on shared circulation pathways.

15. PHARMACY, MEDICATION STORAGE AREAS AND PHARMACEUTICAL BIOSAFETY

Pharmaceutical biosafety at VTH includes the storage, custody, dispensing, traceability, and safe use of medicines and medical products. Although the pharmacy is not an area involving direct animal contact, medicines, medical products, and distributed materials may act as common vehicles for contamination if they are not properly stored and handled.

15.1 Functional organization at VTH

- VTH has a shared pharmacy storage area.
- Medication storage areas associated with small animal and large animal areas are available.
- These storage areas provide operational access to medicines required for clinical care, anaesthesia, surgery, emergency services, and hospitalization.
- Access to the central pharmacy storage area and storage areas is restricted to authorized personnel according to VTH internal organization.

15.2 Storage of medicines and medical products

- Medicines and medical products shall be maintained in their original packaging whenever possible, respecting the conditions specified by the manufacturer.
- Particular attention shall be paid to temperature, light exposure, package integrity, expiry date, batch number when applicable, and sterility conditions.
- Sterile medical products with packaging that is open, wet, damaged, perforated, stained, or of uncertain integrity shall not be used in patients.
- Thermolabile medicines shall be stored in equipment intended for medication storage. They shall not be stored together with food, beverages, or non-medicinal products.
- Photosensitive medicines shall be protected from light, preferably in their original packaging or in closed cabinets.

15.3 Opened medicines, multidose products and expiry dates

- Opened or multidose medicines shall be stored according to the product information, technical data sheet, or current internal instructions.
- When applicable, the opening date and maximum use date after opening shall be clearly labelled.
- Periodic expiry and stock checks shall be performed in the central storage area and small and large animal medication storage areas.
- Expired, damaged, insufficiently identified medicines, products with uncertain storage conditions, or products exceeding the permitted period after opening shall be removed from clinical use and managed according to Section 16.

15.4 Restricted access medicines and enhanced custody

Special controlled medicines are maintained in each storage area within restricted-access cabinets, boxes, or compartments, according to applicable regulations and VTH internal organization. This category includes, among others, narcotics, psychotropic medicines, opioids, morphine derivatives, and other medicines requiring enhanced custody.

- Controlled medicines shall not be stored in consultation rooms, corridors, carts, or unauthorized areas outside immediate clinical use.
- Use shall be restricted to authorized personnel and the corresponding clinical area.

- Internal control of entries, withdrawals, stock levels, expiry dates, and incidents shall be maintained according to the established system.
- Any stock discrepancy, loss, breakage, unauthorized access, or incident shall be reported to the responsible person and documented.

15.5 Cytotoxic, cytostatic and hazardous medicines

- Cytotoxic/cytostatic medicines shall be stored separately, clearly identified, and with restricted access to authorized personnel.
- Preparation, administration, disposal of residues, and management of contaminated materials shall comply with the specific VTH procedure, occupational risk prevention instructions, and the agreement with an authorized manager.
- Cytotoxic/cytostatic waste and contaminated materials shall be managed as specific hazardous waste through the pathway described in Section 16.

15.6 Antimicrobials and prudent use

- Antimicrobial use shall comply with veterinary prescription, prudent-use criteria, and applicable recording or communication systems.
- Uncontrolled storage of antimicrobials in unauthorized clinical areas shall be avoided.
- Medication storage areas shall facilitate stock and expiry control to reduce unnecessary accumulation and loss of traceability.

15.7 Relationship with pharmaceutical waste

Management of expired medicines, damaged medicines, medication residues, contaminated packaging, cytotoxic/cytostatic, and materials used for administration shall comply with Section 16, Healthcare Waste and Other Waste Generated at VTH, and with the current agreement with an authorized waste manager.

16. MANAGEMENT OF HEALTHCARE WASTE AND OTHER WASTE GENERATED AT VTH

16.1 Reference framework and scope

Healthcare waste management at VTH shall comply with the institutional procedure PoUPRL-GRS, Healthcare Waste Management at the University of Zaragoza, issued by the Occupational Risk Prevention Unit (UPRL), and with specific Faculty and hospital instructions.

This section does not replace the general UPRL procedure but applies it to VTH clinical pathways.

The PoUPRL-GRS procedure specifically regulates the management of Group II and Group III healthcare waste generated in university facilities. Chemical, pharmaceutical, and cytotoxic waste are additionally managed according to the applicable hazardous waste procedures and current agreements with authorized waste manager. Animal cadavers, animal by-products, and specified risk materials (SRM) follow specific pathways described in Section 17.

16.2 Operational principles at the point of generation

- Waste segregation shall be performed at the point of generation before internal transport.
- Different waste groups shall not be mixed. If safe segregation is not possible, the entire

content shall be managed as the highest-risk waste category.

- Containers shall remain intact, closed when required, free of visible external contamination, and without sharps protruding.
- Bags and containers shall not be compressed to increase capacity.
- Closed high-risk waste containers shall not be reopened.
- Personnel handling or transporting waste shall use gloves and clothing or PPE appropriate to the risk.

16.3 Operational classification, containers and initial destination

The following table integrates the operational classification, HVUZ-specific examples, the type of bag or container, and the initial destination. Information regarding bags and containers has been included in the table to avoid duplication with the clinical samples section.

Type / pathway	VTH examples	Bag or container	Initial destination	Critical points
Municipal-type waste	Paper, cardboard, clean packaging, and waste without biological contamination.	Black bag or corresponding municipal waste fraction.	Municipal or standard facility waste pathway.	Do not include blood, secretions, contaminated clinical materials, or sharps.
Non-specific healthcare waste	Gauze, bandages, absorbent pads, gloves, masks, and materials contaminated with dried blood or secretions from non-infectious patients.	Green bag, according to UPRL procedure and internal pathway.	Internal management and routine collection according to institutional procedures.	Do not include liquid blood, infectious waste, or sharps.
Liquid blood / small anatomical remains	Tubes or containers containing liquid blood, small surgical remains, materials with large amounts of blood or body fluids.	Red bag or designated container according to volume and risk.	Specific pathway defined by VTH/Faculty.	Close securely, prevent leakage, and identify when required.
Sharps	Needles, scalpel blades, capillary tubes, microscope slides/coverslips, pipettes, or contaminated glass.	Approved rigid yellow container.	Authorized waste area or storage chamber according to UPRL pathway.	Do not recap needles. Do not overfill. Close when the filling limit is reached.
Group III – Laboratory and infectious waste	Laboratory waste or isolation waste from PA-3/GA-2, cultures/reserves of infectious agents, and containers with high-risk fluids.	VTH green container authorized for Group III waste or approved container. Do not confuse with the green bag.	Refrigerated chamber 101 until collection by an authorized waste manager.	Keep closed, identified, and free of external contamination. If mixed with Group II waste, manage the entire content as Group III waste.
Expired or damaged medicines/chemicals	Vials, bottles, containers with residues, expired or damaged non-cytotoxic medicines.	REYSA containers LER 18 02 05 or another container specified by UPRL/waste manager.	Hazardous pharmaceutical/chemical waste pathway.	Do not mix with municipal waste or general healthcare waste.
Cytotoxic/cytostatic waste	Chemotherapy residues, packaging, syringes, or materials contaminated with cytotoxics.	Specific REYSA container LER 18 02 07.	Restricted area and collection by an authorized waste manager.	Separate management pathway. Segregate, label, and prevent personnel exposure.
Small Animal cadavers	Deceased dogs, cats, and exotic animals.	Identified red bag.	Chamber 102.	Identify with patient number and microchip when applicable. Dedicated cadavers' pathway, not healthcare waste pathway.
Large Animal carcasses	Deceased or euthanized horses and other large animals.	Washable stainless-steel platform + disposable plastic.	Chamber 100.	Drain plug closed during transport. Dedicated cadavers' pathway.
Large animal manure and bedding	Bedding, straw, manure, and organic material from large animal stalls.	VTH manure pathway.	Manure storage area and removal by Excavaciones ABENOZA, S.L. (Tax Identification Number B50825991).	In suspected infectious cases, the responsible veterinarian may require segregation, pre-treatment, or specific instructions.

16.4 Critical segregation rules

- The green bag does not correspond to the VTH green container: the green bag is used for non-specific healthcare waste, whereas the VTH green container is locally used for Group III waste.
- If wastes of different risk categories are mixed, the entire content shall be managed according to the highest-risk category.
- Animal cadavers have their own pathway and shall not be mixed with Group III healthcare waste.
- Medicine and cytotoxic/cytostatic waste shall be managed through the hazardous waste/REYSA pathway and not through general healthcare waste or municipal waste pathways.

16.5 Group III waste and refrigerated chamber 101

Refrigerated chamber 101 is intended for temporary storage of Group III healthcare waste generated at VTH, particularly waste originating from laboratory and infectious isolation areas. It shall not be used for animal cadavers or municipal-type waste.

- Only waste that is sealed, identified, and contained in approved containers appropriate for the corresponding waste category shall be placed.
- The chamber shall remain closed and access restricted to authorized personnel.
- Loose bags, open containers, or containers with visible external contamination shall not be deposited.
- In the event of leakage, spill, or breakage, access shall be restricted, appropriate PPE shall be used, containment measures shall be applied, and the spill procedure shall be followed.

16.6 Functional map of refrigerated chambers

Chamber	Exclusive Use	Permitted Contents	Not Permitted
100	Large Animal cadavers	Horses or other large animals awaiting necropsy or authorized removal.	Group III waste, pharmaceutical waste, small animal.
101	Group III healthcare waste	Closed and identified laboratory and infectious waste.	Cadavers, municipal waste, medicines outside the authorized pathway.
102	Small animal cadavers	Dogs, cats, and exotic animals in identified red bags.	Group III waste, manure, large animals.

16.7 Internal transport, collection and responsibilities

Internal waste transport shall be performed using closed containers and routes that minimize contact with owners, students, and public areas. Transport systems shall be cleaned and disinfected if they have contained high-risk waste or show visible contamination.

- Initial identification, segregation, and closure of waste are the responsibility of the personnel generating the waste or the operational manager of the area.
- The UPRL coordinates institutional healthcare waste management and relations with authorized waste management companies.
- Pharmaceutical, chemical, and cytotoxic/cytostatic waste shall be managed according to the REYSA

agreement and UPRL instructions.

- Large animal manure and bedding are removed by Excavaciones ABENOZA, S.L., Tax Identification Number (CIF) B50825991, according to current VTH organization. No contract is currently attached to the documentation available for this manual.

17. CADAVERS AND RELATIONSHIP WITH NECROPSIES

17.1 Principles

Cadavers shall be transported through pathways that avoid reception areas and public circulation zones. Identification, fluid containment, and traceability shall be maintained until arrival at the refrigerated chamber and final disposition. Internal necropsy activities are governed by the corresponding VTH necropsy manual.

17.2 Small animals

Cadavers of dogs and cats shall be placed in one or more red bags designated for biological contents. The bags shall remain sealed and identified with the patient number or internal identifier and the microchip number.

Transport shall be carried out through the corridor leading directly to the exterior, located at the opposite end of the reception area, to refrigerated chamber 102, which is designated exclusively for Small animal cadavers.

Subsequent destination	Description
Necropsy room	When a post-mortem examination has been requested. From reception by the necropsy unit, the specific necropsy procedure shall apply.
Authorized incineration company	When no necropsy is performed or cremation/incineration has been requested. Traceability of collection and disposal shall be maintained.

If a bag is torn, leaking, or externally contaminated, it shall be placed inside a second bag before leaving the clinical area.

17.3 Large animals

Deceased or euthanized horses shall be lifted using the overhead hoist and placed on a washable and disinfectable stainless-steel mobile platform. The platform is fitted with a drainage outlet and stopper, which shall remain closed throughout transport to prevent fluid leakage.

Once positioned on the platform, the cadaver shall be completely covered with a single-use plastic sheet. The platform shall then be transported by forklift to refrigerated chamber 100, designated exclusively for large animal cadavers.

The pathway is as follows: area of death or euthanasia → lifting by overhead hoist → platform with drain stopper closed → complete covering with disposable plastic → transport by forklift → refrigerated chamber 100.

The cadaver may subsequently be transferred to the necropsy room and returned to chamber 100 until final removal. Final disposal is carried out through the faculty's established system, managed by SARGA, the public company of the Autonomous Community of Aragón.

17.4 Cleaning of platforms and refrigerated chambers

- After each use, the disposable plastic covering shall be discarded through the appropriate waste pathway.

- Retained fluids shall be drained in a controlled manner only at the designated disposal point.
- The platform, including the drainage system and stopper, shall be cleaned and disinfected.
- The forklift and transport route shall be decontaminated whenever visible contamination or spillage occurs.
- Following cadavers' removal, refrigerated chambers 100 and 102 shall be cleaned and disinfected by a specialized contractor upon request. Chamber 101 shall be cleaned and disinfected following removal of Group III waste whenever required, and always in the event of spills, visible contamination, or upon instruction from the Occupational Risk Prevention Unit (UPRL) or the VTH Directorate.

Each cleaning and disinfection service performed in chambers 100, 101, or 102 should be documented, including the date, chamber treated, product used, method, contact time, contractor responsible, and any incidents identified.

18. OCCUPATIONAL RISKS, ACCIDENTS, SPILLS AND EXPOSURES

18.1 Occupational Health and Safety

The University of Zaragoza Occupational Risk Prevention Unit (UPRL) monitors occupational hazards, including surveillance for potential isoflurane leaks in operating theatres, exposure monitoring, provision of PPE to employees, and incident recording.

18.2 Immediate response

1. Stop the activity and secure the area.
2. Apply first aid and immediate decontamination.
3. Notify the responsible clinician and the clinician on duty.
4. Identify the affected group: student, resident, academic staff (PDI), technical and administrative staff (PTGAS), or external personnel.
5. Follow the corresponding clinical and administrative pathway.
6. Record the incident and implement corrective actions.

18.3 Serious accidents

In the event of a life-threatening emergency, the affected person shall be transferred to the nearest healthcare facility. Institutional accident procedures are described in the corresponding operational annex, including the pathways applicable to students, staff, residents, and external personnel.

18.4 Biological or chemical spills

The spill response procedure shall distinguish between biological spills, cytotoxic spills, medicines, disinfectants, and anaesthetic agents. Spill kits shall be clearly identified, fully equipped, and subject to periodic inspection.

19. TRAINING, RECORDS, AUDIT AND IMPROVEMENT

19.1 Training

All personnel and students shall receive initial training before accessing clinical areas. Training shall include clinical pathways, hand hygiene, PPE, patient classification, waste management, accidents, and isolation procedures.

Training shall be documented by means of attendance records, assessments, or practical competency verification. Residents and supervising clinicians shall monitor compliance during clinical activities.

19.2 Minimum Records

Record	Minimum content
Isolation/quarantine admission	Patient, category, reason, date, responsible person, and measures implemented.
Terminal cleaning and disinfection	Area, date, product, concentration, contact, responsible person, and authorization for reopening.
Specialized disinfection	Contractor, areas treated, product, method, quantity, date, and certificate.
Autoclaves/sterilization	Load, cycle, parameters, indicators, incidents, and release.
Accidents and exposures	Person involved, type of accident, assistance provided, notification, and corrective actions.
Cadavers transfer	Identification, chamber, final destination, date, and responsible person.
Training	Content, date, attendees, and instructor.
Cleaning and disinfection of equine nasogastric tubes	Tube identification, date and time, washing, disinfection, rinsing, drying, responsible person, incidents, and confirmation that the tube is available for use.

19.3 Internal Audit

Periodic compliance reviews shall be conducted, including observation of hand hygiene practices, availability of PPE, signage, cleaning records, isolation status, and waste traceability. The frequency of audits and responsible personnel shall be determined by the VTH Directorate within the continuous improvement system.

20. CONTINGENCY PLANNING AND CONTINUITY OF CARE

Contingency measures shall be implemented whenever incidents may compromise biosafety, personal safety, continuity of clinical care, or the traceability of patients, samples, waste, or cadavers. Such measures shall be adapted to the actual risk, the species involved, the affected area, and the availability of facilities.

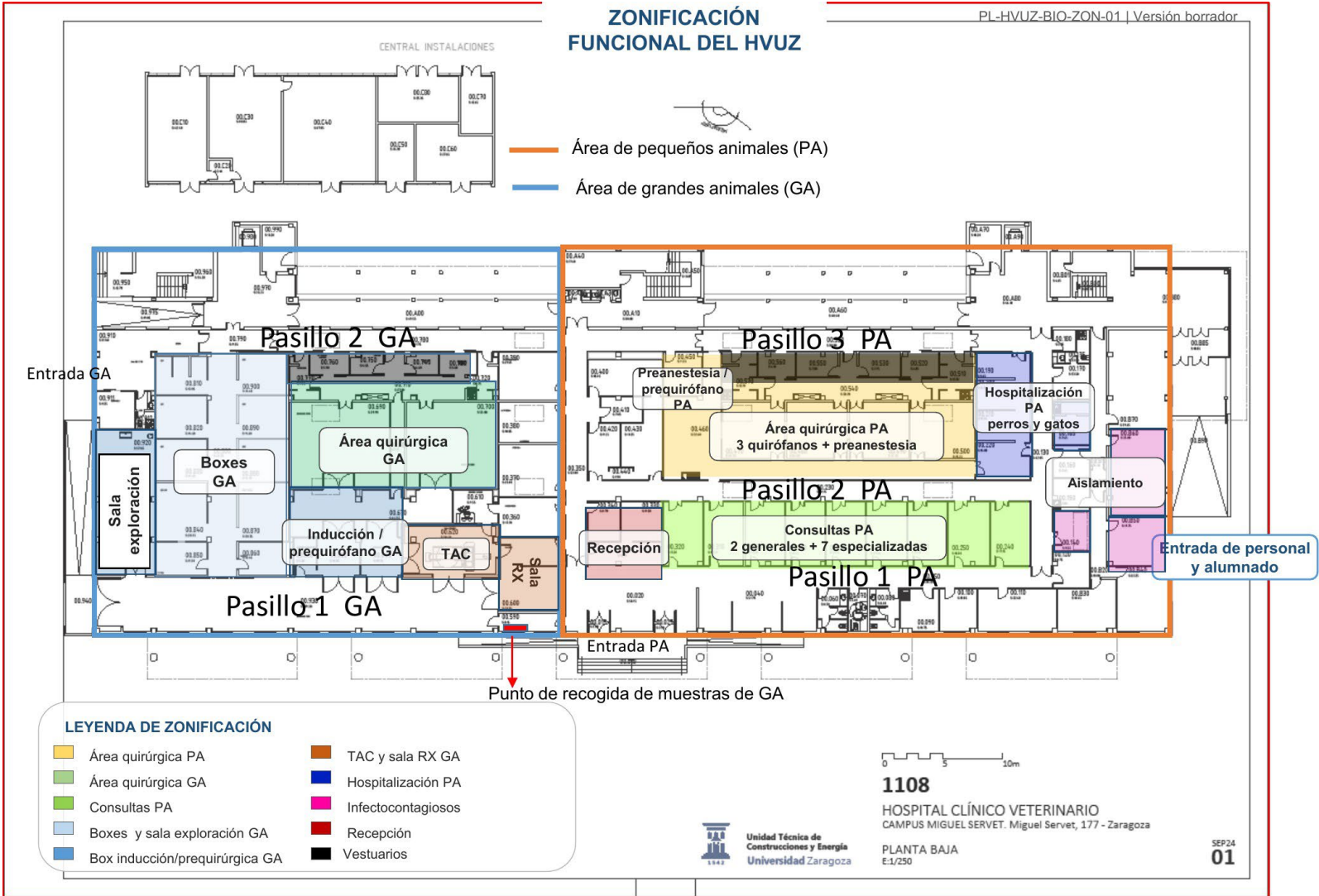
20.1 Contingency measures for biosafety incidents table

No.	Situation	Immediate measures	Responsible person / decision	Closure and records
1	Suspected infectious disease in a large animal	Restrict movements. Notify the responsible veterinarian. Use PPE. Transfer the animal to quarantine if indicated. Restrict access and use dedicated equipment.	Responsible veterinarian / Head of the large animals.	Terminal cleaning and disinfection. Record personnel involved, affected areas, and measures implemented. Reopened only after authorization.
2	Large animal quarantine stall unavailable	Temporarily designate another available stall within the large animal area or teaching barn. Restricted-access signage. Install footbaths at entry and exit. Assign a dedicated table/cabinet with a stethoscope and exclusive equipment.	Responsible veterinarian / Head of the large animals.	Remove or decontaminate dedicated equipment. Terminal cleaning and disinfection. Record the contingency measures.
3	Infectious and contagious animal identified after circulating through the hospital	Stop all non-essential movements. Identify all areas visited. Remove or isolate equipment used. Clean and disinfect affected surfaces. Consider temporary restriction of the affected area.	Responsible veterinarian / Area biosafety coordinator.	Record the incident, affected areas, exposed personnel, and corrective actions.
4	Biological fluid spill	Isolate the area. Don PPE. Remove organic material. Clean the area. Disinfect using the designated product. Dispose of waste according to the established procedure.	Responsible area personnel / Responsible veterinarian when the risk is significant.	Record the incident if the spill affects a critical area, involves exposure, or requires restriction of use.
5	Failure of PPE or breach of protective barrier	Stop the task if safe to do so. Replace the PPE. Hand hygiene. Assess exposure. Notify the responsible person.	Affected individual and area supervisor.	Activate the occupational exposure procedure when significant exposure has occurred. Record the incident when applicable.
6	Biological accident or animal-related injury	Provide first aid. Wash the affected area when appropriate. Notify the responsible person. Identify the affected individual (student, resident, academic staff, technical and administrative staff, or external personnel).	Clinical/ teaching area responsible. Referral according to the institutional accident procedure.	Follow the accident management procedure included in the annexes. Record the incident.
7	Failure of terminal cleaning or disinfection	Do not reopen the area. Repeat cleaning and disinfection. Review documentation. Verify the product, concentration, and contact time.	Area supervisor / Authorized person responsible for reopening.	Reopen only after successful completion and verification of the procedure. Update the records.
8	Failure of critical facilities	Report the failure through the maintenance system. Restrict use of the affected area or equipment. Apply signage or access restrictions as required. VTH is equipped with an emergency generator and a water storage tank supplying non-potable water.	Area supervisor / Maintenance / VTH Directorate, according to severity.	Normal operation shall not resume until the fault has been fully corrected. Record the report and corrective actions.
9	Failure of refrigerated chambers 100, 101, or 102	Report the failure through the maintenance system. Request urgent repair. Maintain identification and traceability. Do not mix contents unless expressly authorized.	Technical personnel responsible / Area supervisor.	If necessary, temporarily use another available refrigerated chamber within the necropsy facilities. Record transfers, chamber used, and resolution.

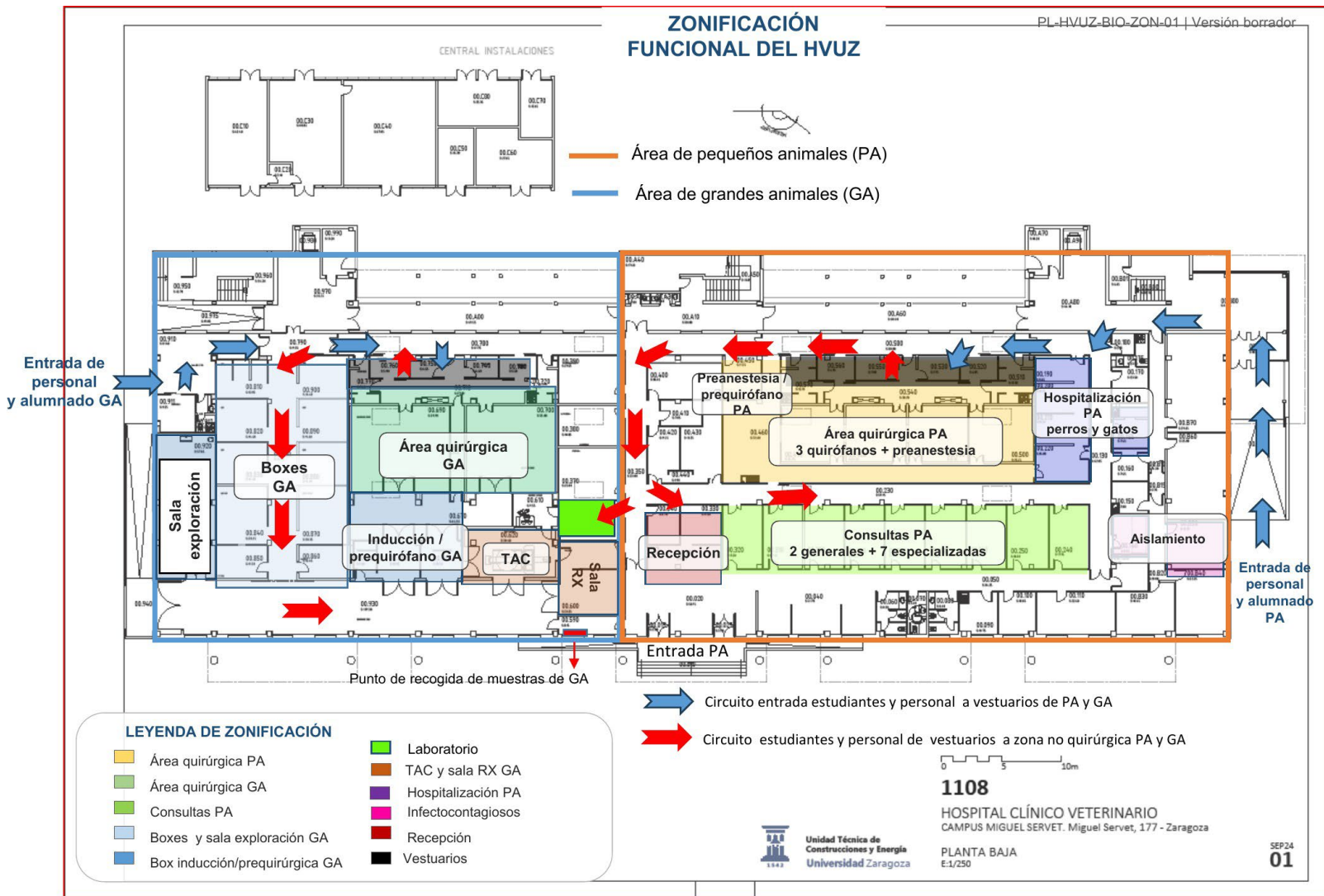
General rules: When in doubt, restrict movements and notify the responsible person. All significant contingency events shall be documented. In cases involving notifiable diseases or serious zoonoses, the instructions of the competent authority shall prevail.

21. APPENDICES

The following appendices form an integral part of the VTH Biosafety Manual. Floor plans and pathway diagrams are incorporated as validated by VTH, without modification of routes, directional arrows, or layout.



APPENDIX B. VTH FUNCTIONAL ZONING – ENTRY AND EXIT ROUTE TO CHANGING ROOMS AND NON-SURGICAL AREAS



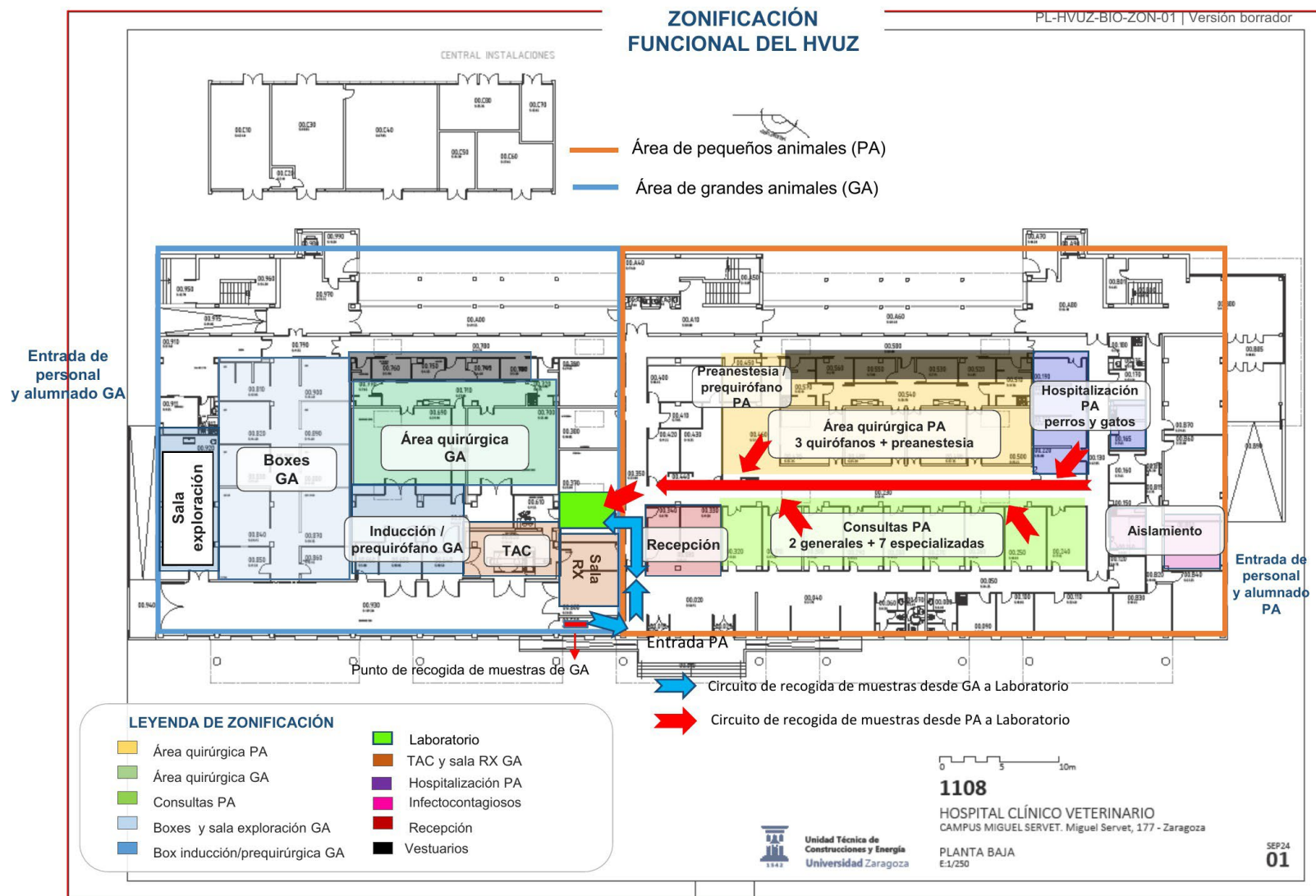
APPENDIX C. STAFF ROUTES TO RESTRICTED ACCESS AREAS

CIRCULACIÓN DE PERSONAL A ACCESOS RESTRINGIDOS

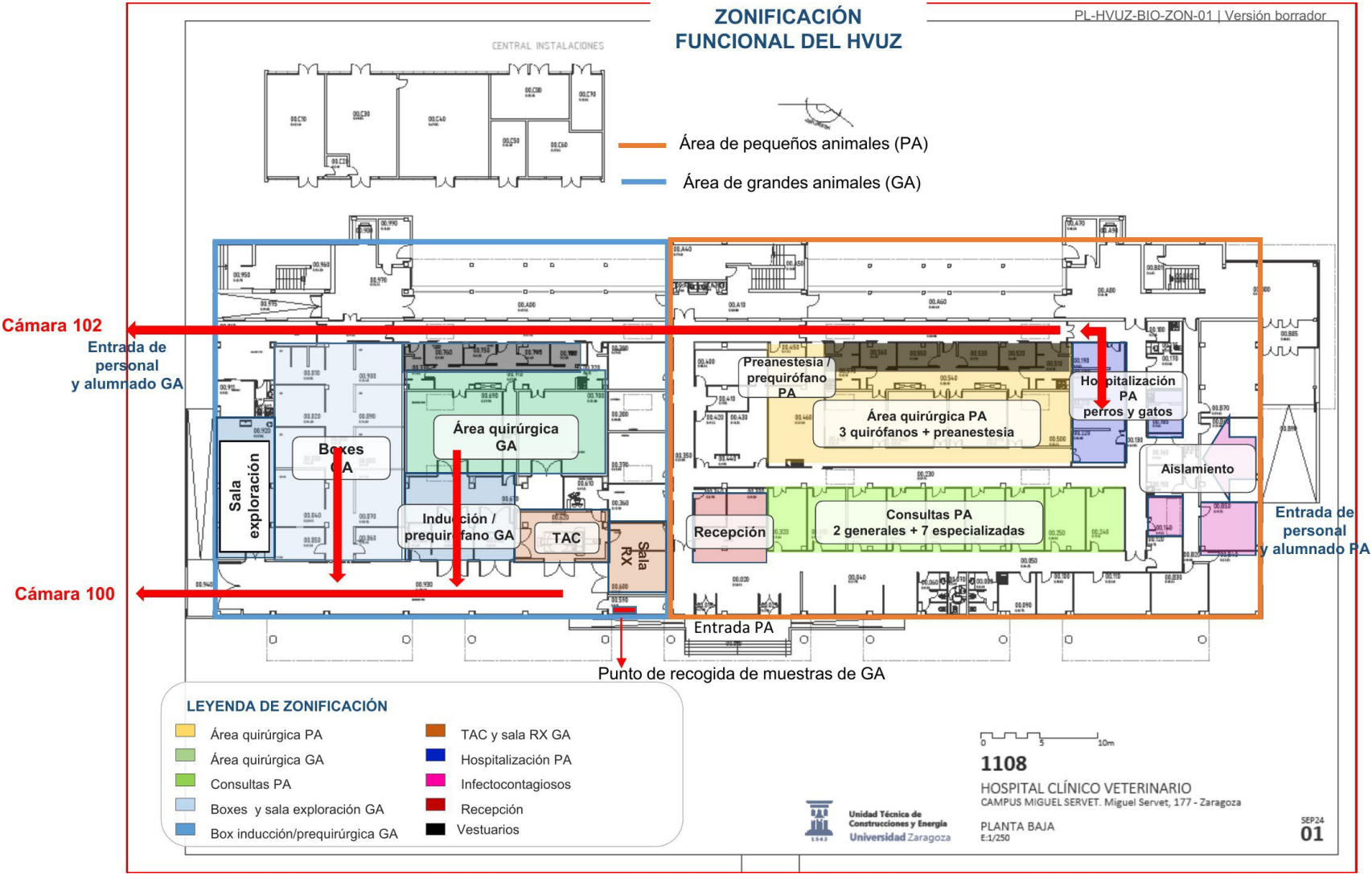
PL-HVUZ-BIO-ZON-01 |



APPENDIX D. VTH FUNCTIONAL ZONING – SAMPLE COLLECTION ROUTE TO THE LABORATORY



APPENDIX E. VTH FUNCTIONAL ZONING – CADAVERS MANAGEMENT ROUTE



APPENDIX F. PHOTOGRAPHIC RECORD OF CRITICAL AREAS AND ROUTES

The photographs are included as visual support for routes, restricted access areas, surgical areas, and quarantine facilities. They do not replace plans, records, or written procedures.



Figure F.1. Reception area and owner access corridor to small animal consultation rooms.

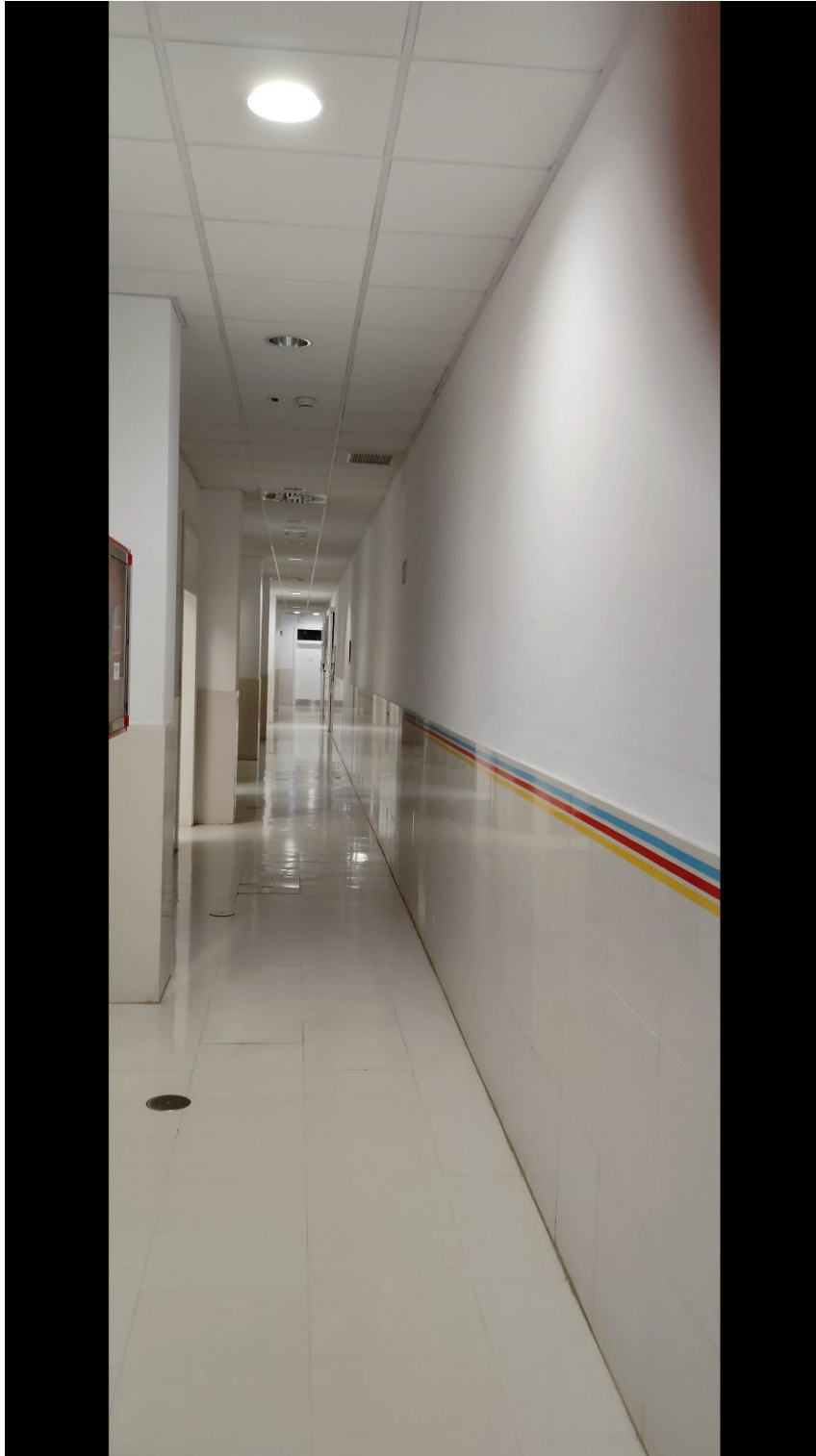


Figure F.2. Internal staff corridor towards small animal consultation rooms.

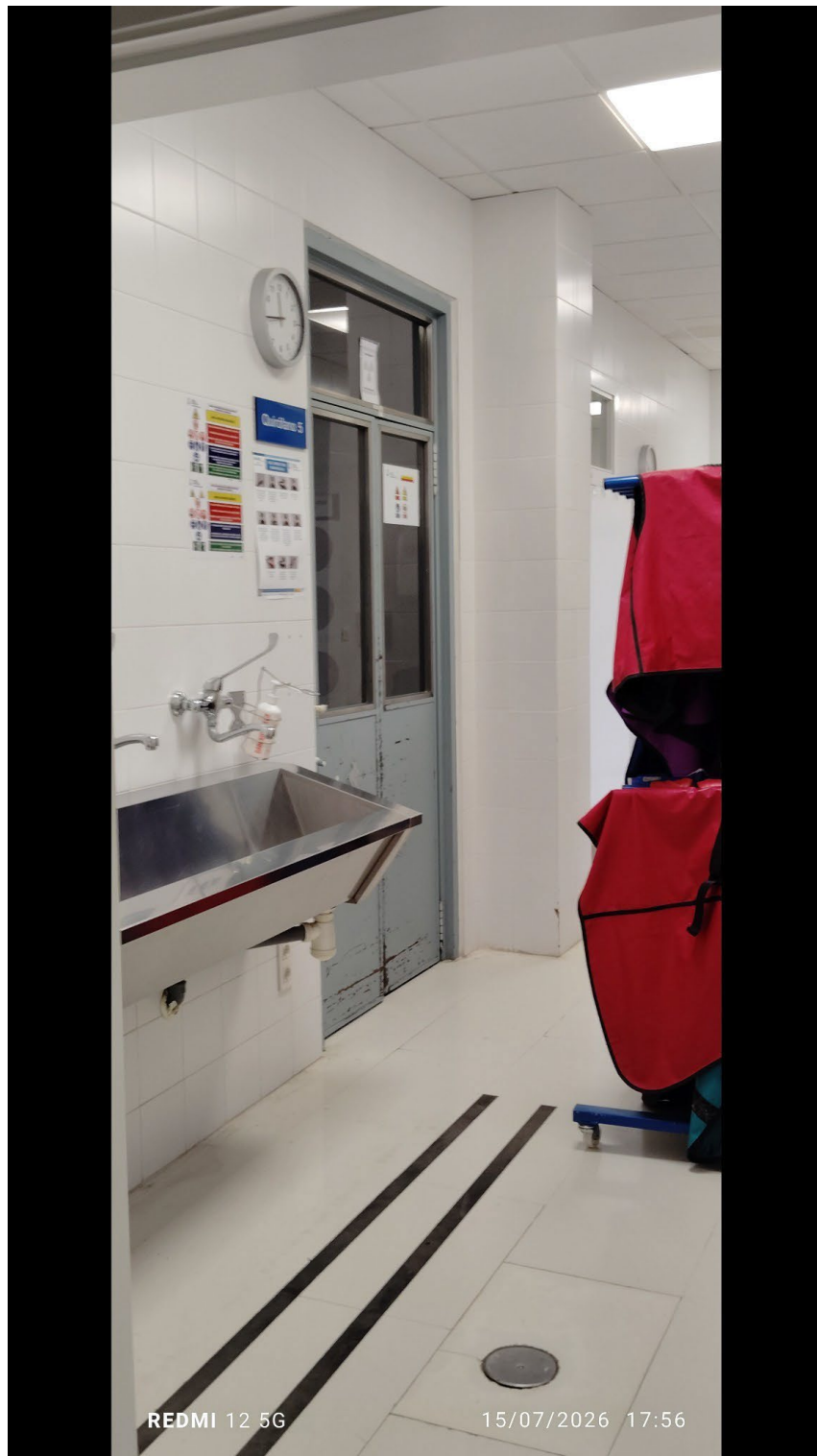


Figure F.3. Clean access to the small animal surgical area.



Figure F.4. Restricted access door to the small animal infectious area.

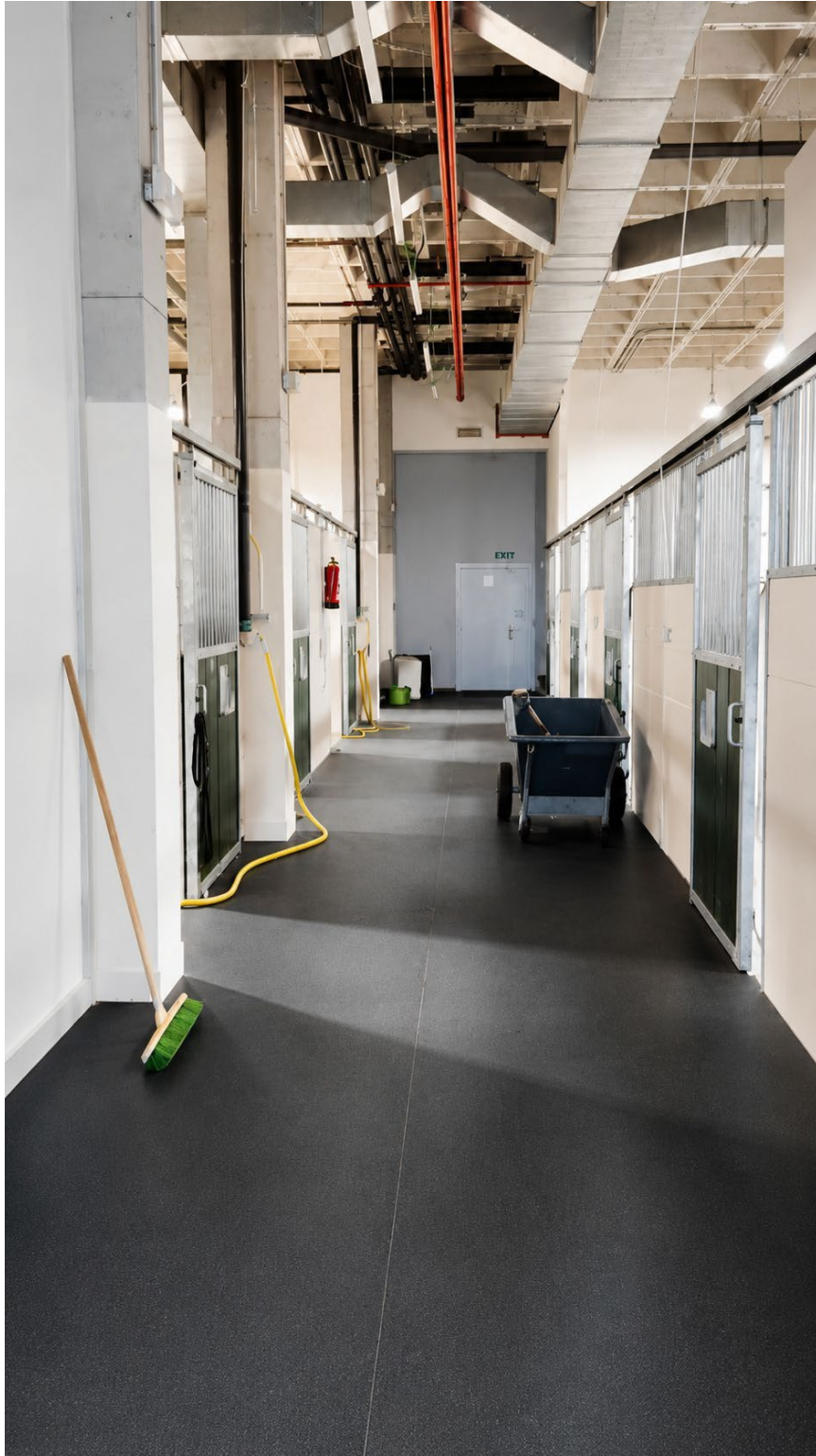


Figure F.5. Access from the corridor to the large animal stalls.

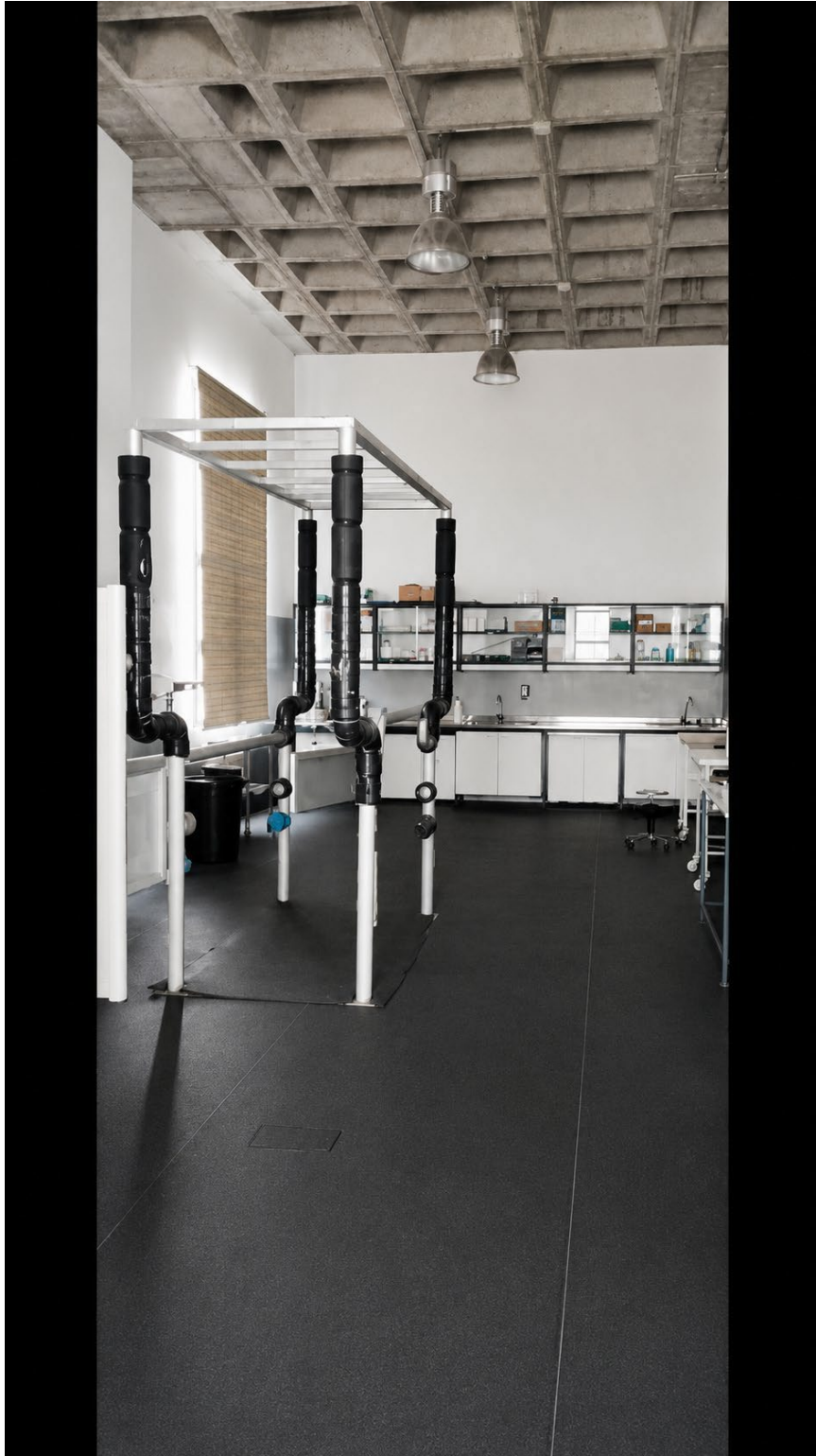


Figure F.6. Access from the corridor to the large animal examination room.



Figure F.7. Connection from the induction stall to the large animal preparation room and operating theatre.



Figure F.8. Clean access to the large animal operating theatre.

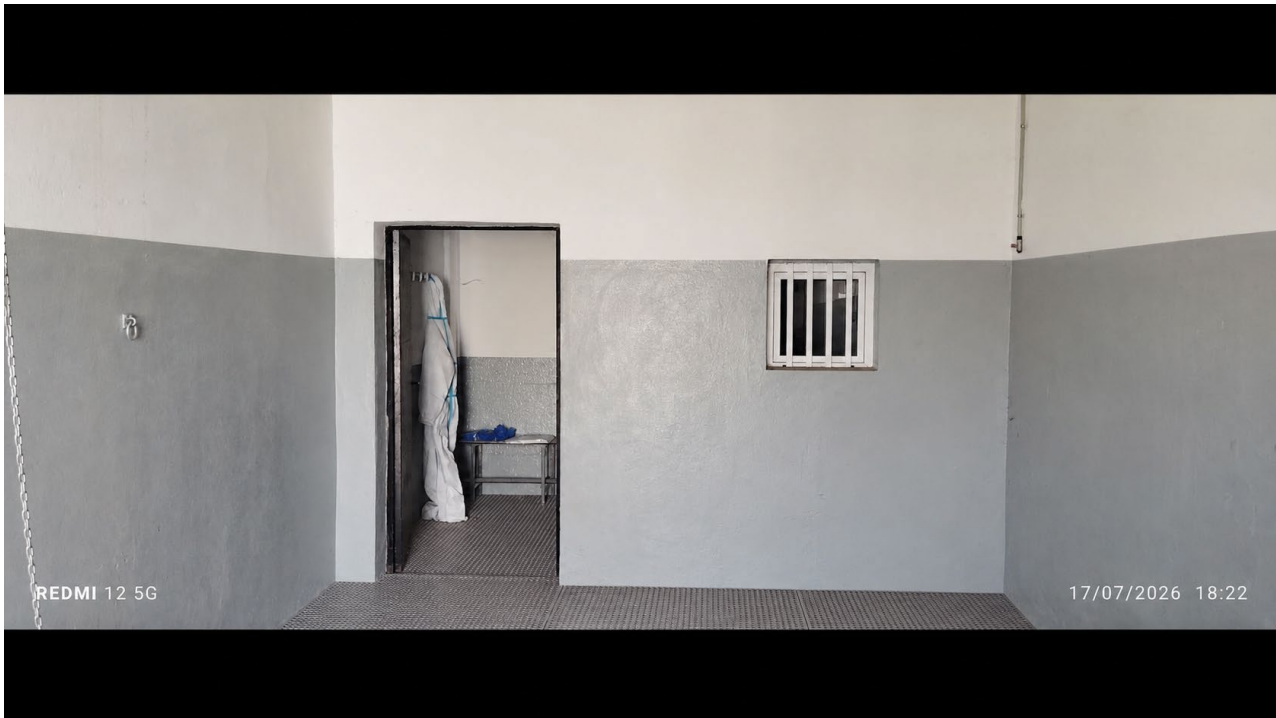


Figure F.9. View from the large animal quarantine stall towards the PPE donning area.



Figure F.10. Animal access door to the large animal quarantine stall



Figure F.11. Clean area of the quarantine stall, with independent access, sink, and auxiliary equipment.



ENTRADA A CUARENTENA

Grandes animales · Precauciones reforzadas GA-2

Acceso restringido: solo personal autorizado

- 1

ANTES DE ENTRAR
Confirma que la entrada es imprescindible y prepara todo el material antes de acceder.
- 2

COLOCA EL EPI
Mono o bata de bioseguridad, calzas/calzado exclusivo, guantes y protección facial si procede.
- 3

TRABAJA DENTRO
Usa solo material exclusivo de cuarentena y minimiza movimientos, salpicaduras y contactos.
- 4

NO SACAR MATERIAL
No sacar material clínico al circuito general del HVUZ.
- 5

AL SALIR
Retira el EPI según secuencia, elimina residuos y realiza higiene de manos.
- 6

INCIDENCIAS
Derrame, exposición o accidente: avisar al veterinario responsable y aplicar el protocolo biológico.

Reapertura tras desinfección terminal: autorización de la Subdirección de Grandes Animales.



ENTRADA A INFECCIOSOS

Pequeños animales · Área de aislamiento

Prohibida la entrada de propietarios

1



ACCESO LIMITADO

Entrar solo cuando sea necesario. Mantener puertas cerradas y preparar el material.

2



EPI OBLIGATORIO

Guantes, bata/pijama de protección, calzas o calzado exclusivo según riesgo.

3



PACIENTE SOSPECHOSO

Aislamiento inmediato y desinfección de la consulta o sala utilizada.

4



MATERIAL DEL ÁREA

Usar material exclusivo o correctamente reprocesado. Evitar circulación de equipos.

5



RESIDUOS

Segregar en el contenedor adecuado. Punzantes siempre en rígido.

6



SALIDA SEGURA

Retirar EPI, cerrar el circuito y realizar higiene de manos antes de pasar a otra zona.

Reapertura tras desinfección terminal: PTGAS veterinario responsable de hospitalización.



GESTIÓN DE RESIDUOS

Segregación rápida en el HVUZ

Ante la duda: consultar al personal técnico responsable de residuos o a la UPRL.

1



BOLSA NEGRA

Urbano/asimilable: envoltorios y residuos sin riesgo biológico.

2



BOLSA VERDE

Gasas, vendas y EPI con sangre seca o secreciones no contagiosas.

3



BOLSA ROJA

Sangre líquida, restos anatómicos pequeños y cadáveres de pequeños animales.

4



CONT. AMARILLO

Punzantes, cortantes, portaobjetos, capilares y cristal contaminado.

5



CONT. VERDE HVUZ

Grupo III de laboratorio e infecciosos. No confundir con bolsa verde.

6



REYSA

Citotóxicos/citostáticos y residuos medicamentosos/químicos.

7



CÁMARA 100

Cadáveres de grandes animales.

8



CÁMARA 101

Residuos sanitarios Grupo III en refrigeración.

9



CÁMARA 102

Cadáveres de pequeños animales: necropsia o incineración.

Si se mezclan residuos de distinto grupo, todo se gestiona como el de mayor riesgo.

No mezclar circuito de cadáveres con circuito de residuos sanitarios.



MATERIAL EXCLUSIVO DE CUARENTENA

Grandes animales · Uso restringido

Este material no vuelve al circuito general del hospital

1



MATERIAL PROPIO

Fonendoscopios, termómetros, material de exploración y curas.

2



SONDAS

Sondas nasogástricas y de lavado asignadas al área de cuarentena.

3



TRAS CADA USO

Limpieza, desinfección, secado y almacenamiento dentro de cuarentena.

4



NO TRASLADAR

No llevar a boxes generales, salas de exploración ni almacenes comunes.

5



IDENTIFICAR

Mantener marcado como "Uso exclusivo en cuarentena".

6



EXCEPCIÓN

La torre de endoscopia no es exclusiva: se usa en sala de exploración con potro de contención.

Reparación, baja o traslado excepcional: autorización y descontaminación previa.



HIGIENE DE MANOS

La medida más sencilla y crítica de bioseguridad

Los guantes no sustituyen la higiene de manos

1



ANTES DEL PACIENTE

Antes de tocar al animal o preparar una exploración.

2



ANTES DE TÉCNICA LIMPIA

Antes de procedimientos limpios, invasivos o asépticos.

3



TRAS FLUIDOS

Después de sangre, secreciones, orina, heces o material contaminado.

4



DESPUÉS DEL PACIENTE

Al terminar la exploración, cura o manipulación.

5



DESPUÉS DEL ENTORNO

Después de tocar jaulas, mesas, equipos, boxes o material próximo.

6



CÓMO HACERLO

Solución hidroalcohólica si no hay suciedad; agua y jabón si hay materia orgánica.

Siempre al entrar y salir de cuarentena, aislamiento e infecciosos.



Hospital
Veterinario
Universidad Zaragoza

SECUENCIA DE COLOCACIÓN DEL EPI

BOX DE CUARENTENA – INFECCIOSOS GA



ZONA LIMPIA
VESTUARIO



ZONA DE TRANSICIÓN
ACCESO A ZONA DE INFECTADOS



ZONA CONTAMINADA
BOX DE CUARENTENA

1

Higiene de
manos



Realizar higiene
de manos con
solución
hidroalcohólica.



2

Mono o bata
desechable



Colocarse el mono
o bata desechable
y cerrar
completamente.



3

Mascarilla



Colocar la
mascarilla
cubriendo nariz,
boca y mentón.



4

Gorro



Colocar el gorro
cubriendo todo
el cabello.



5

Primer par
de guantes



Colocar guantes
hasta cubrir el
puño del mono
o bata.



6

Calzas/zuecos
de acceso



Colocar calzas
o zuecos para el
acceso a la zona
de infecciosos.



7

Botas de
seguridad



Colocar botas
de seguridad
exclusivas de
la zona.



8

Calzas del box
y 2º par de
guantes



Colocar calzas
específicas del box
y ponerse un
segundo par
de guantes.



RECUERDA



El EPI es de uso exclusivo
dentro de la zona.



Evita tocar superficies
innecesarias.



Si detectas un daño en el EPI,
cámbialo inmediatamente.



SECUENCIA DE RETIRADA DEL EPI

BOX DE CUARENTENA – INFECCIOSOS GA



⚠ RETIRAR SIEMPRE EN EL ORDEN INDICADO PARA EVITAR CONTAMINACIÓN ⚠

1 Retirar 2º par de guantes



Pelar el guante sin tocar la parte externa y desechar en contenedor de residuos.



2 Retirar calzas del box



Quitar las calzas del box sin tocar el exterior y desechar.



3 Higiene / desinfección de guantes internos



Desinfectar el primer par de guantes con solución hidroalcohólica.



4 Retirar protección ocular (si se usa)



Quitar gafas o pantalla sin tocar la parte frontal y desechar.



5 Retirar mono o bata desechable



Abrir y retirar sin tocar el exterior. Enrollar y desechar.



6 Retirar 1er par de guantes



Retirar sin tocar la parte externa y desechar en contenedor.



7 Higiene de manos



Higiene de manos con solución hidroalcohólica.



8 Retirar gorro



Retirar desde atrás sin tocar el cabello y desechar.



9 Retirar mascarilla



Quitar desde las bandas sin tocar la parte frontal y desechar.



10 Higiene de manos



Higiene de manos con solución hidroalcohólica.



11 Salir y cerrar la puerta



Salir de la zona y cerrar la puerta.



12 Higiene final de manos



Higiene final de manos con solución hidroalcohólica.



**TODO EL MATERIAL DESECHABLE
DEBE IR AL CONTENEDOR DE
RESIDUOS BIOSANITARIOS (GRUPO III)**



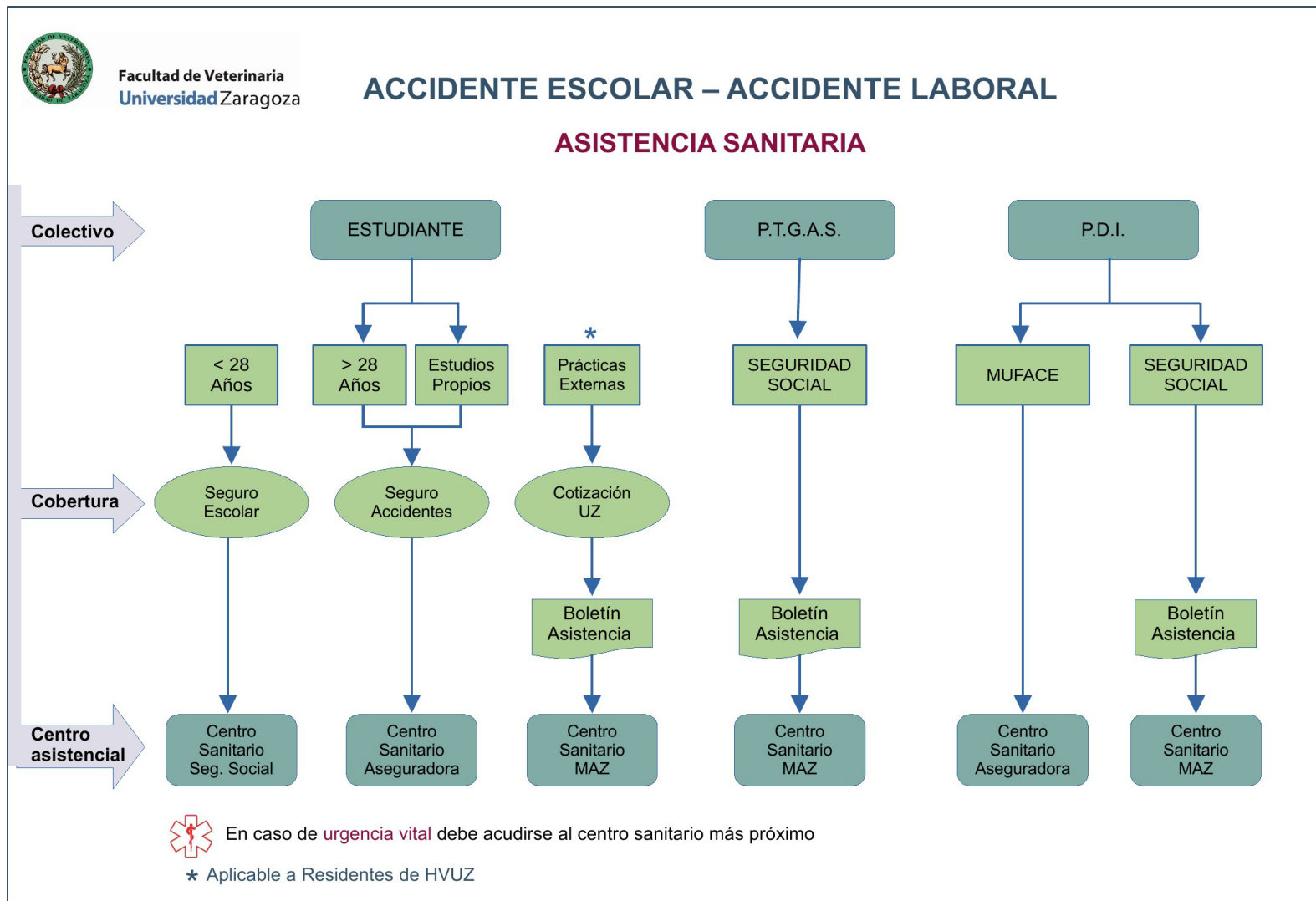
RECUERDA

- ✓ No tocar la cara durante el proceso.
- ✓ Mantener la calma y seguir la secuencia.
- ✓ Ante cualquier duda, consulta al personal veterinario.

**TU SEGURIDAD PROTEGE
TU SALUD Y LA DE LOS ANIMALES**



APPENDIX I. ACCIDENT RESPONSE ACTION PLAN



APPENDIX J. ENDOSCOPIC EQUIPMENT CLEANING AND DISINFECTION



Hospital
Veterinario
Universidad Zaragoza

Hospital Veterinario de la Universidad
de Zaragoza

ANEXO. SECUENCIA RESUMIDA DE LIMPIEZA Y DESINFECCIÓN MANUAL DE MATERIAL ENDOSCÓPICO

Pequeños animales

Reprocesamiento en la consulta o sala
donde se realiza la endoscopia.

Grandes animales

Reprocesamiento en la sala de
exploración

1

PRELIMPIEZA INMEDIATA

Retirar secreciones y materia orgánica antes de que se sequen. Irrigar/aspirar los canales si procede.

2

LIMPIEZA ENZIMÁTICA

Limpiar superficie externa, piezas desmontables y canales internos con Instrunet Enzimático GLP.

3

ENJUAGUE

Aclarar con agua limpia hasta eliminar restos de detergente y suciedad visible.

4

SECADO PREVIO

Secar exterior y canales para evitar que el agua residual diluya el desinfectante.

5

DESINFECCIÓN DE ALTO NIVEL

Aplicar un desinfectante compatible con KARL STORZ. Respetar concentración y tiempo de contacto. Producto: pendiente de confirmar.

6

ENJUAGUE FINAL

Aclarar de nuevo exterior y canales internos según la ficha técnica del desinfectante.

7

SECADO COMPLETO

Secar totalmente la superficie externa y todos los canales antes de guardar el equipo.

8

ALMACENAMIENTO

Guardar el endoscopio completamente seco en su maletín específico. No almacenar el equipo húmedo.

Puntos críticos: si existe duda sobre la realización completa del ciclo, se repetirá. Todos los canales deben limpiarse y secarse. El equipo nunca debe guardarse húmedo.

HOSPITAL VETERINARIO DE LA UNIVERSIDAD DE ZARAGOZA
HVUZ

ANEXO. MODELOS DE REGISTRO DE BIOSEGURIDAD

Modelos en blanco para limpieza, desinfección, residuos, cadáveres, accidentes y formación.
Versión de trabajo v0.1

Nota: estos modelos deben adaptarse a los responsables y firmas definitivas del HVUZ antes de su aprobación formal.

R-1 Operating theatre cleaning and disinfection record

R-01. Registro de limpieza y desinfección de quirófanos

Objetivo: Documentar la limpieza diaria, entre procedimientos y terminal de los quirófanos y áreas anestésicas asociadas.

Notas de uso: Registrar también prequirófano, recuperación anestésica o box de inducción/recuperación cuando aplique.

Fecha	Hora	Área / quirófano	Tipo de limpieza	Producto y dilución	Tiempo contacto	Responsable	Verificación / firma	Incidencias

R-02. Large animal stall cleaning record

R-02. Registro de limpieza de boxes de grandes animales

Objetivo: Controlar la retirada de cama y estiércol, limpieza y desinfección de boxes ordinarios de grandes animales.

Notas de uso: En boxes ordinarios, anotar la desinfección tras el alta o cuando exista contaminación visible.

Fecha	Box	Actuación diaria / alta	Cama retirada	Lavado / presión	Producto	Responsable	Firma	Incidencias

R-03. Small animal isolation/infectious area cleaning record

R-03. Registro de limpieza de aislamiento/infecciosos de pequeños animales

Objetivo: Documentar la limpieza rutinaria y terminal de salas/cages de aislamiento de pequeños animales.

Notas de uso: La reapertura tras limpieza terminal debe quedar autorizada por el responsable designado.

Fecha	Sala / jaula	Paciente / HC	Tipo limpieza	EPI utilizado	Producto	Textiles/residuos	Responsable	Reapertura / firma	Incidencias

R-04. Large animal quarantine terminal cleaning record

R-04. Registro de limpieza terminal de cuarentena de grandes animales

Objetivo: Registrar la descontaminación terminal del box de cuarentena y su autorización de reapertura.

Notas de uso: El material asignado a cuarentena permanece en la zona y no vuelve al circuito general del hospital.

Fecha	Animal / HC	Motivo GA-2	Cama/estércol retirado	Lavado presión	Desinfectante	Tiempo contacto	Material exclusivo	Responsable	Reapertura	Incidencias

R-05. Endoscope reprocessing record

R-05. Registro de reprocesamiento de endoscopios

Objetivo: Asegurar la trazabilidad de limpieza, desinfección y almacenamiento de endoscopios flexibles KARL STORZ.

Notas de uso: Si existe duda sobre el ciclo completo, repetir el reprocesamiento antes de guardar o reutilizar el equipo.

Fecha	Especie / paciente	Equipo / ID	Estanqueidad	Instrunet GLP	Canales limpiados	Desinfectante	Tiempo contacto	Enjuague/secado	Responsable	Incidentes

R-06. Equine nasogastric tube cleaning and disinfection record

R-06. Registro de limpieza y desinfección de sondas nasogástricas equinas

Objetivo: Documentar la limpieza interna/externa, inmersión desinfectante, aclarado y secado de sondas nasogástricas reutilizables.

Notas de uso: La luz interna debe quedar expuesta al desinfectante y secarse antes del almacenamiento.

Fecha	Animal / HC	Sonda / ID	Retirada materia orgánica	Lavado luz interna	Desinfectante	Tiempo inmersión	Aclarado	Secado	Responsable	Incidencias

R-07. Autoclave and sterilization record

R-07. Registro de autoclaves y esterilización

Objetivo: Controlar los ciclos de esterilización por vapor y baja temperatura, con trazabilidad de carga y resultados.

Notas de uso: Anotar incidencias, ciclos fallidos y retirada/repetición de cargas cuando proceda.

Fecha	Autoclave	Carga / lote	Programa	Temperatura	Presión	Tiempo	Indicador químico	Indicador biológico	Resultado	Responsable	Incidencias

R-08. Healthcare waste collection and storage record

R-08. Registro de retirada y almacenamiento de residuos sanitarios

Objetivo: Registrar la generación, traslado interno, almacenamiento y retirada de residuos sanitarios del HVUZ.

Notas de uso: Distinguir contenedor verde HVUZ para Grupo III de bolsa verde del circuito general. Los residuos Grupo III se almacenan en cámara 101 cuando corresponda.

Fecha	Tipo / grupo / LER	Origen	Envase / contenedor	Cámara / almacén	Cantidad	Gestor / destino	Albarán / documento	Responsable	Incidencias

R-09. Small animal cadavers record

R-09. Registro de cadáveres de pequeños animales

Objetivo: Garantizar la trazabilidad de cadáveres de perros y gatos embolsados en bolsa roja e identificados.

Notas de uso: Destino final: necropsia o empresa autorizada para incineración.

Fecha	N.º mascota / HC	Microchip	Especie	Bolsa roja cerrada	Cámara 102	Destino final	Fecha retirada	Responsable	Incidencias

R-10. Large animal cadavers record

R-10. Registro de cadáveres de grandes animales

Objetivo: Documentar la manipulación, traslado, almacenamiento y retirada de cadáveres de grandes animales.

Notas de uso: El traslado se realiza cubierto con plástico desechable y con el desagüe de la plataforma cerrado.

Fecha	Animal / HC	Lugar	Polipasto	Plataforma con tapón cerrado	Plástico desechable	Cámara 100	Destino	Limpieza plataforma	Responsable	Incidencias

R-11. Cleaning and disinfection record for chambers 100, 101, and 102

R-11. Registro de limpieza/desinfección de cámaras 100, 101 y 102

Objetivo: Controlar la limpieza y desinfección de cámaras refrigeradas destinadas a cadáveres y residuos Grupo III.

Notas de uso: Cámara 100: grandes animales. Cámara 101: residuos sanitarios Grupo III. Cámara 102: pequeños animales.

Fecha	Cámara	Motivo	Contenido retirado	Empresa/persona	Producto	Tiempo contacto	Apta reapertura	Firma	Incidencias

R-12. Accidents, spills, exposures, and biological incidents record

R-12. Registro de accidentes, derrames, exposiciones e incidencias biológicas

Objetivo: Registrar eventos que puedan implicar exposición biológica, lesión o contaminación ambiental.

Notas de uso: Registrar pinchazos, mordeduras, arañazos, salpicaduras, derrames, exposición a fluidos y fallos de contención.

Fecha/hora	Persona / colectivo	Área	Tipo de incidente	Descripción	Primeras medidas	Notificación	Centro/itinerario	Seguimiento	Cierre / firma

R-13. Student training record

R-13. Registro de formación de estudiantes

Objetivo: Acreditar la formación inicial o periódica de estudiantes en bioseguridad, circuitos, EPI y residuos.

Notas de uso: Conservar listado de asistentes o firma digital asociada al registro.

Fecha	Titulación / curso	Actividad	Contenido impartido	Formador	Duración	N.º asistentes	Listado firmas	Material entregado	Observaciones

R-14. Staff and residents training record template

R-14. Registro de formación de personal y residentes

Objetivo: Acreditar la formación de PDI, PTGAS, residentes e internos en procedimientos de bioseguridad del HVUZ.

Notas de uso: Registrar formación inicial, reciclajes, formación ante cambios de procedimiento y simulacros.

Fecha	Colectivo	Actividad	Contenido impartido	Formador	Duración	N.º asistentes	Listado firmas	Evaluación / reciclaje	Observaciones

R-15. Equine nasogastric tube cleaning and disinfection record template

Objective: To document the cleaning, disinfection, rinsing, drying, and release for use of equine nasogastric tubes.

Usage Notes: Complete one row for each reprocessing cycle. The contact time with Instrunet ANIOXYDE 1000 shall be adjusted according to the product’s current technical data sheet.

Fecha	Identificación de la sonda	Lavado externo e interno con detergente	Inicio de inmersión	Fin de inmersión	Aclarado con agua de red	Colgado / secado	Estado final (desinfectada y disponible / pendiente)	Responsable / incidencias

APPENDIX L. EXTERNAL DOCUMENTATION AND RELATED TECHNICAL DATA SHEETS

External documentation is retained as documentary evidence associated with the manual. Dilutions, contact times, material compatibility, and safety measures shall be applied in accordance with the manufacturer's current technical data sheet/Safety Data Sheet (SDS) and the instructions provided by the authorized supplier.

Document / Supplier	Available Evidence	Use in the Manual
Sanosil S010	SDS, technical data sheet, and health registration/authorization	Periodic specialized disinfection carried out by TecnoBio/Euro Denker
TecnoBio / Euro Denker	Operating protocol, ROESB and application certificates	External specialized disinfection service
Virkon S	Manufacturer's technical data sheet	GA quarantine and isolation/infectious according to the procedure
Instrunet ANIOXYDE 1000	Instrunet ANIOXYDE 1000	Instrunet ANIOXYDE 1000
CR36 / CR-36	AEMPS documentation provided and current manufacturer's technical data sheet	Surface disinfection in hospitalization areas and standard areas
SENA 25 / Total Shock and other products	Current manufacturer's technical data sheet	Use according to procedure and material compatibility requirements
REYSA	Contract for the treatment of medicinal, chemical, and cytotoxic/cytostatic waste	External management of medicinal and cytotoxic waste
Excavaciones ABENOZA, S.L.	Company name and tax identification number (CIF B50825991); no contract attached	External manure removal according to current organizational arrangements

APPENDIX L.1 Documentation from Biocidal Service and Managers

The main documentation pages relating to REYSA and the biocidal services provided by TecnoBio/Euro Denker are included as documentary evidence. Complete technical data sheets and authorization documents shall be maintained within the VTH document control system.

Waste treatment contract with REYSA



Aut. Logroño km. 6 - Pol "El Portazgo", 23 - 50011 Zaragoza / Tfno. 976460722 / www.reysa.es

CONTRATO DE TRATAMIENTO DE RESIDUOS

(R.D. 553/2020, de 2 de junio, por el que se regula el traslado de residuos en el interior del territorio del Estado. B.O.E. nº 171 del 19/06/2020)

CLIENTE

NIF: Q5018001G Razón Social: **UNIVERSIDAD DE ZARAGOZA, HOSPITAL VETERI**

Domicilio: C/ PEDRO CERBUNA, 12

Población: 50009 ZARAGOZA

Provincia: ZARAGOZA

INSTALACION ORIGEN DEL RESIDUO

Nombre: **UNIVERSIDAD DE ZARAGOZA, HOSPITAL VETERI**

Domicilio del Centro: C/ MIGUEL SERVET, 177.

Población: ZARAGOZA

Provincia: ZARAGOZA

Teléfono: 976 76 11 10

Nº:

Responsable de residuos: DAVID CAMBRA CAMPILLO

D.N.I.: 16547542P

INFORMACION RELATIVA AL OPERADOR DE TRASLADO

NIF: B50882364-Autorización: AR/GRP-226;AR/GRPO-135;AR/RGP-208;AR/GNPA-457;AR/GNPO-385;AR/RGNP-375

Razón Social: **RESIDUOS Y SANIDAD AGROPECUARIA, S.L. (REYSA)**

Domicilio: AUTOVÍA LOGROÑO, KM.6, POLÍGONO EL PORTAZGO, N.23-47

Población: ZARAGOZA

CP: 50.011

Provincia: ZARAGOZA

Teléfono: 976 460 722

E-mail: reysa@reysa.es

Responsable: Diego Calvo Arceiz

D.N.I.: 29115206N

Condiciones de aceptación del residuo:

Residuo correctamente segregado, envasado, sin pérdidas, y conforme a condiciones del LER correspondiente.

Obligaciones de las partes en caso de rechazo de los residuos por parte del destinatario:

En caso de no aceptación de los residuos entregados por el cliente, se procederá a la devolución de los mismos hasta la subsanación del problema detectado.

En Zaragoza, a 24/06/2026 (Validez 1 año)

Firma **PRODUCTOR/CLIENTE**

Firma **OPERADOR**



Relación de residuos objeto de este contrato

N: 31599

LER	Descripción residuos	Periodicidad	Tratamiento	Destino	Cantidad
180207	MEDICAMENTOS CITOTÓXICOS Y CITOSTÁTICOS	semestral	D1501/D1001	REYSA, AR/GRP226	100
180205	RESIDUOS MEDICAMENTOS/QUÍMICOS CADUCAD	semestral	D1501/D0503	REYSA, AR/GRP226	1000
180205	RESIDUOS MEDICAMENTOS/QUÍMICOS	semestral	D1501/D0503	REYSA, AR/GRP226	1000



Dirección General de Salud Pública
Edificio Universitat
Vía Universitat 36- 5ª planta
50017 ZARAGOZA

RESOLUCIÓN QUE MODIFICA EL ANEXO DE LA RESOLUCIÓN DE INSCRIPCIÓN EN EL REGISTRO OFICIAL DE ESTABLECIMIENTOS Y SERVICIOS BIOCIDAS DE LA COMUNIDAD AUTÓNOMA DE ARAGÓN

La empresa **TECNOBIO**, inscrita en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón por medio de la Resolución de inscripción **R-302/2019**, ha solicitado con fecha 30 de diciembre de 2020 la modificación de los tipos de biocidas.

Tras la comprobación del cumplimiento de los requisitos exigidos en la normativa vigente y de acuerdo con el Decreto 75/2018, de 24 de abril, se modifica el anexo de la Resolución **R-302/2019** quedando de la siguiente manera:

ANEXO A LA RESOLUCIÓN R-302/2019 DE INSCRIPCIÓN EN EL REGISTRO OFICIAL DE ESTABLECIMIENTOS Y SERVICIOS BIOCIDAS DE LA COMUNIDAD AUTÓNOMA DE ARAGÓN

DATOS DEL TITULAR

NOMBRE Y APELLIDOS/ RAZÓN SOCIAL: EURO DENKER, S.L.		
NIF: B99360398	DIRECCIÓN: World Trade Center - Torre Oeste, planta 15. C/ María Zambrano, nº 31	
LOCALIDAD: Zaragoza	CÓDIGO POSTAL: 50018	PROVINCIA: Zaragoza

DATOS DE LA EMPRESA

DENOMINACIÓN: TECNOBIO	DIRECCIÓN: C/ Mariana Pineda nº 4	
LOCALIDAD: Zaragoza	CÓDIGO POSTAL: 50018	PROVINCIA: Zaragoza

ACTIVIDADES A DESARROLLAR

- Comercialización.....	Código: 0302A50-4CO
- Servicios biocidas corporativos o a terceros de aplicación ambiental y en la industria alimentaria.....	0302A50-5AA

BIOCIDAS

CLASIFICACIÓN DE PELIGROSIDAD PARA LA SALUD HUMANA:	
Clase de peligro:	Categorías:
Toxicidad aguda.....	4
Corrosión o irritación cutánea.....	1 y 2
Lesiones oculares graves o irritación ocular.....	1 y 2
Toxicidad específica para determinados órganos (stot)-exposición única...	2 y 3
Toxicidad específica para determinados órganos (stot)-exposición repetida	2
Carcinogenicidad.....	2
Mutagenicidad en células germinales.....	2
Toxicidad para la reproducción.....	2
Sensibilización cutánea.....	1 y subcategorías 1A y 1B
Peligro por aspiración.....	1
TIPO DE BIOCIDAS: De acuerdo con el Anexo V del Reglamento (UE) Nº 528/2012.	
Grupo principal 1: Tipo 2 y 4	
Grupo principal 3: Tipo 14, 18 y 19	



Este documento deberá acompañar a la resolución de inscripción R-302/2019 emitida el 14 de agosto de 2019 y modificada el 3 de abril de 2020.

De acuerdo con el artículo 10 del Decreto 75/2018, de 24 de abril, la inscripción en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón tendrá una validez indefinida, salvo que por motivos de salud pública o a solicitud del titular proceda su modificación o cancelación.

Contra la presente Resolución, que no pone fin a la vía administrativa, podrá interponer Recurso de Alzada ante la Consejera de Sanidad, en el plazo de UN MES contado a partir del día siguiente al de su notificación, de conformidad con los artículos 121 y 122 de la Ley 39/2015, de 1 de octubre, del Procedimiento Administrativo Común de las Administraciones Públicas.

Zaragoza, a fecha de firma electrónica

**EL DIRECTOR GENERAL
DE SALUD PÚBLICA**

Fdo.: Francisco Javier Falo Forniés



ÁREAS CUBIERTAS POR EL PROGRAMA DE DESINFECCIÓN

Las actuaciones de desinfección realizadas por TecnoBio en el Hospital Veterinario de la Universidad de Zaragoza comprenden las siguientes áreas y dependencias, de acuerdo con la planificación establecida y las necesidades operativas del centro:

- Recepción y zonas de atención al público.
- Salas de espera.
- Consultas veterinarias.
- Salas de diagnóstico por imagen (radiología y otras áreas de diagnóstico).
- Quirófanos.
- Salas de preparación quirúrgica.
- Unidad de Cuidados Intensivos (UCI).
- Áreas de hospitalización animal.
- Salas de aislamiento.
- Laboratorios y salas técnicas asociadas.
- Baños, aseos y servicios higiénicos.
- Vestuarios y dependencias del personal.
- Pasillos y zonas de circulación.
- Zonas comunes de uso interno.
- Áreas administrativas y despachos.
- Almacenes y cuartos de limpieza.
- Otras dependencias incluidas dentro del programa preventivo de control microbiológico.

Las actuaciones se realizan mediante pulverización electrostática utilizando el biocida SANOSIL S010, inscrito en el Registro Oficial de Biocidas para uso profesional, garantizando una distribución homogénea del producto sobre las superficies tratadas y facilitando el acceso a zonas de difícil alcance.



TecnoBio www.tecnobio.com
contacto@tecnobio.com
Tfno. +34 876 771 405





1. Frecuencias por área y tras derrames/incidentes

FRECUENCIA DE LAS ACTUACIONES

Las actuaciones de desinfección se realizan a demanda del Hospital Veterinario de la Universidad de Zaragoza, en función de sus necesidades operativas y requisitos higiénico-sanitarios. Como referencia, se efectúa una intervención aproximadamente cada 3-4 meses.

Adicionalmente, podrán realizarse actuaciones extraordinarias cuando el centro lo solicite como consecuencia de incidencias específicas, derrames biológicos, situaciones de riesgo sanitario o necesidades operativas excepcionales.

2. Productos y concentraciones de trabajo

PRODUCTOS UTILIZADOS

Biocida utilizado: SANOSIL S010.

Nº Registro Ministerio de Sanidad: 18-20/40/90-09514-HA

Principios activos:

- Peróxido de hidrógeno: 5 %
- Plata: 0,005 %

Las aplicaciones se realizan siguiendo las instrucciones establecidas por el fabricante y las condiciones de uso autorizadas en su registro oficial.

El producto presenta actividad bactericida, fungicida, virucida y esporicida, siendo apto para programas de desinfección profesional en instalaciones sanitarias y veterinarias.

Los tiempos de contacto, compatibilidades y condiciones de aplicación son los indicados en la ficha técnica y ficha de datos de seguridad del producto suministradas por el fabricante.

3. Métodos de aplicación

MÉTODO DE APLICACIÓN

Las actuaciones de desinfección se realizan mediante pulverización electrostática, técnica que permite una distribución uniforme del producto desinfectante sobre las superficies tratadas.

La aplicación se efectúa mediante equipos específicos de pulverización electrostática, garantizando una cobertura homogénea incluso en zonas de difícil acceso.

No se utilizan sistemas de nebulización, bandejas desinfectantes ni alfombras desinfectantes dentro del alcance habitual de los trabajos realizados por TecnoBio en estas instalaciones.



TecnoBio www.tecnobio.com
contacto@tecnobio.com
Tfno. +34 876 771 405



 CERTIFICADO DE APLICACIÓN DE BIOCIDAS					
Datos de la empresa de servicios Biocidas Denominación: Euro Denker, S.L (TecnoBio) Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA Domicilio: María Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es Responsable técnico: Guillermo Hernández Groth DNI: 25710688T CIF: B99360398					
DATOS CONTRATANTE					
NOMBRE:	UNIVERSIDAD DE ZARAGOZA				
DIRECCIÓN:	C/ PEDRO CERBUNA Nº 12				
POBLACIÓN:	ZARAGOZA				
TELÉFONOS:	EMAIL:				
CONTACTO:					
INSTALACIÓN TRATADA					
DENOMINACIÓN:	HOSPITAL VETERINARIO DE ANIMALES				
DIRECCIÓN:	AVDA. MIGUEL SERVET Nº 177				
POBLACIÓN:	C.P:				
TELÉFONOS:	EMAIL:				
CONTACTO:					
TIPO DE INSTALACIÓN:					
Tipo de Servicio Realizado:					
DE ZONA : LOCAL RESTAURACION (BAR)					
Plaga a controlar:	MICROORGANISMOS				
Descripción del servicio:					
PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazp Seg.	Dosis
SANOSIL S010	18-20/40/90-D-09514 HA	Control	Pulverizacion	20 MINUTOS	2,0 L
DE ZONA : LOCAL					
Plaga a controlar:	CUCARACHA ALEMANA				
Descripción del servicio:	RASTREROS				
PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazp Seg.	Dosis
FECHA:	21 Y 22/02/2025				
APLICADOR:	Guillermo Hernandez Groth DNI: 25710688-T				
HORA INC. Op.:	19:45	HORA FIN. Op:	21:35		
MEDIDAS RECOMENDADAS:					
OBSERVACIONES:					
Servicio de información toxicológica de INTCF : teléfono 915620420					
CONFORME CONTRATANTE CLIENTE NOMBRE: _____ FECHA: _____ LUGAR: _____ FIRMA: _____ Visto Bueno Responsable Tecnico: Guillermo Hernández Groth D.N.I 25710688T Firmado Servicio realizado por: 					

	
Datos de la empresa de servicios Biocidas Denominación: Euro Denker. S.L (TecnoBio) Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA Domicilio: Maria Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es Responsable técnico: Guillermo Hernández Groth DNI: 25710688T CIF: B99360398	
DIAGNOSIS	
1-DIAGNOSTICO DE SITUACIÓN	
ACTIVIDAD:	HOSPITAL VETERINARIO
DISEÑO Y CARACTERÍSTICAS:	TODO EL HOSPITAL
CONTROL:	Microorganismos
FACTORES DE RIESGO:	COVID, VIRUS, BACTERIAS, HONGOS,ETC
A) DE MAYOR RELEVANCIA:	Zona de entrada de personas, zonas de vestuarios, zonas de quirófanos etc.
B) RIESGO DE INFECCIÓN:	No seguir las normas
C) IDENTIFICACIÓN DE GERMENES Y PLAGAS A CONTROLAR:	Microorganismos
D) ORIGEN Y UBICACIÓN:	Transito de animales y personas
E) EXTENSIÓN Y DISTRIBUCIÓN:	Infecciosos, quirófanos, rayo, etc
F) ESTIMACIÓN DE TASA:	Media, modo preventivo
G) FACTORES QUE PUEDAN FAVORECER:	No realizar limpiezas, tránsito de personas, y zonas exteriores, etc
H): NECESIDAD DE ASISTENCIA:	NO
2 -ANÁLISIS DE SITUACIÓN	
PROGRAMA DE ACTUACIÓN	
A) TIPO DE MEDIDAS:	Pulverización electroestática en todo el hospital
B) ESTRATEGIA DE CONTROL:	Se repetirá controles de seguimiento bajo demanda
3 - EVALUACIÓN:	
Se ha realizado una desinsectación, mediante (pulverización electroestática) con Sanosil S010, en las zonas comunes, recepción, quirófanos, etc del hospital, modo preventivo. Se recomienda que mantengan un programa de limpieza diario repetitivos durante el día, distancias de seguridad entre los usuarios y trabajadores respetando el aforo de personas en las instalaciones. Se realizarán seguimientos para evitar cualquier tipo de contaminación.	

 CERTIFICADO DE APLICACIÓN DE BIOCIDAS					
Datos de la empresa de servicios Biocidas					
Denominación: Euro Denker. S.L (TecnoBio)					
Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA					
Domicilio: María Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza					
Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es					
Responsable técnico: Guillermo Hernández Groth DNI: 25710688T					
CIF: B99360398					
DATOS CONTRATANTE					
NOMBRE:	UNIVESIDAD DE ZARAGOZA			CIF:	Q-5018001-G
DIRECCIÓN:	C/ PEDRO CERBUNA Nº 12				
POBLACIÓN:	ZARAGOZA	C.P: 50018	PROVINCIA:	ZARAGOZA	
TELÉFONOS:	EMAIL:				
CONTACTO:					
INSTALACION TRATADA					
DENOMINACIÓN:	HOSPITAL VETERINARIO DE ANIMALES			CIF:	
DIRECCIÓN:	AVDA. MIGUEL SERVET Nº 177				
POBLACIÓN:		C.P:		PROVINCIA:	
TELÉFONOS:	EMAIL:				
CONTACTO:					
TIPO DE INSTALACIÓN:					
Tipo de Servicio Realizado:					
DE ZONA : LOCAL RESTAURACION (BAR)					
Plaga a controlar:	MICROORGANISMOS				
Descripción del servicio:					
PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazp Seg.	Dosis
SANOSIL S010	18-20/40/90-D-09514 HA	Control	Pulverizacion	20 MINUTOS	2,0 L
DE ZONA : LOCAL					
Plaga a controlar:	CUCARACHA ALEMANA				
Descripción del servicio:	RASTREROS				
PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazp Seg.	Dosis
FECHA:	20 Y 21/06/2025				
APLICADOR:	Guillermo Hernandez Groth DNI: 25710688-T				
HORA INC. Op.:	19:45	HORA FIN. Op:	21:35		
MEDIDAS RECOMENDADAS:					
OBSERVACIONES:					
Servicio de información toxicológica de INTCF : teléfono 915620420					
CONFORME CONTRATANTE CLIENTE			Visto Bueno Responsable Tecnico: Guillermo Hernández Groth D.N.I 25710688T Firmado		
NOMBRE:			Servicio realizado por: 		
FECHA:					
LUGAR:					
FIRMA:					

	
Datos de la empresa de servicios Biocidas Denominación: Euro Denker. S.L (TecnoBio) Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA Domicilio: Maria Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es Responsable técnico: Guillermo Hernández Groth DNI: 25710688T CIF: B99360398	
DIAGNOSIS	
1-DIAGNOSTICO DE SITUACIÓN	
ACTIVIDAD:	HOSPITAL VETERINARIO
DISEÑO Y CARACTERÍSTICAS:	TODO EL HOSPITAL
CONTROL:	Microorganismos
FACTORES DE RIESGO:	COVID, VIRUS, BACTERIAS, HONGOS, ETC
A) DE MAYOR RELEVANCIA:	Zona de entrada de personas, zonas de vestuarios, zonas de quirófanos etc.
B) RIESGO DE INFECCIÓN:	No seguir las normas
C) IDENTIFICACIÓN DE GERMENES Y PLAGAS A CONTROLAR:	Microorganismos
D) ORIGEN Y UBICACIÓN:	Transito de animales y personas
E) EXTENSIÓN Y DISTRIBUCIÓN:	Infecciosos, quirófanos, rayo, etc
F) ESTIMACIÓN DE TASA:	Media, modo preventivo
G) FACTORES QUE PUEDAN FAVORECER:	No realizar limpiezas, tránsito de personas, y zonas exteriores, etc
H) NECESIDAD DE ASISTENCIA:	NO
2 -ANÁLISIS DE SITUACIÓN	
PROGRAMA DE ACTUACIÓN	
A) TIPO DE MEDIDAS:	Pulverización electroestática en todo el hospital
B) ESTRATEGIA DE CONTROL:	Se repetirá controles de seguimiento bajo demanda
3 - EVALUACIÓN:	
Se ha realizado una desinsectación, mediante (pulverización electroestática) con Sanosil S010, en las zonas comunes, recepción, quirófanos, etc del hospital, modo preventivo. Se recomienda que mantengan un programa de limpieza diario repetitivos durante el día, distancias de seguridad entre los usuarios y trabajadores respetando el aforo de personas en las instalaciones. Se realizarán seguimientos para evitar cualquier tipo de contaminación.	



CERTIFICADO DE APLICACIÓN DE BIOCIDAS

Datos de la empresa de servicios Biocidas

Denominación: Euro Denker. S.L (TecnoBio)

Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA

Domicilio: María Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza

Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es

Responsable técnico: Guillermo Hernández Groth DNI: 25710688T

CIF: B99360398

DATOS CONTRATANTE

NOMBRE:

UNIVESIDAD DE ZARAGOZA

CIF:

Q-5018001-G

DIRECCIÓN:

C/ PEDRO CERBUNA Nº 12

POBLACIÓN:

ZARAGOZA

C.P: 50018

PROVINCIA:

ZARAGOZA

TELÉFONOS:

EMAIL:

CONTACTO:

INSTALACION TRATADA

DENOMINACIÓN:

HOSPITAL VETERINARIO DE ANIMALES

CIF:

DIRECCIÓN:

AVDA. MIGUEL SERVET Nº 177

POBLACIÓN:

C.P:

PROVINCIA:

TELÉFONOS:

EMAIL:

CONTACTO:

TIPO DE INSTALACIÓN:

Tipo de Servicio Realizado:

DE ZONA : HOSPITAL VETERINARIO

Plaga a controlar: MICROORGANISMOS

Descripción del servicio:

PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazo Seg.	Dosis
SANOSIL S010	18-20/40/90-D-09514 HA	Control	Pulverizacion	20 MINUTOS	2,0 L

DE ZONA :

Plaga a controlar:

Descripción del servicio:

PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazo Seg.	Dosis

FECHA:

17 Y 18/10/2025

APLICADOR:

Gullermo Hernandez Groth DNI: 25710688-T

HORA INC. Op.:

19:45

HORA FIN. Op:

21:35

MEDIDAS RECOMENDADAS:

OBSERVACIONES:

Servicio de información toxicológica de INTCF : teléfono 915620420

CONFORME CONTRATANTE CLIENTE

NOMBRE:

FECHA:

LUGAR:

FIRMA:

Visto Bueno Responsable Tecnico:

Guillermo Hernández Groth

D.N.I 25710688T

Firmado

Servicio realizado por:



	
Datos de la empresa de servicios Biocidas Denominación: Euro Denker. S.L (TecnoBio) Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA Domicilio: Maria Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es Responsable técnico: Guillermo Hernández Groth DNI: 25710688T CIF: B99360398	
DIAGNOSIS	
1-DIAGNOSTICO DE SITUACIÓN	
ACTIVIDAD:	HOSPITAL VETERINARIO
DISEÑO Y CARACTERÍSTICAS:	TODO EL HOSPITAL
CONTROL:	Microorganismos
FACTORES DE RIESGO:	COVID, VIRUS, BACTERIAS, HONGOS,ETC
A) DE MAYOR RELEVANCIA:	Zona de entrada de personas, zonas de vestuarios, zonas de quirófanos etc.
B) RIESGO DE INFECCIÓN:	No seguir las normas
C) IDENTIFICACIÓN DE GERMENES Y PLAGAS A CONTROLAR:	Microorganismos
D) ORIGEN Y UBICACIÓN:	Transito de animales y personas
E) EXTENSIÓN Y DISTRIBUCIÓN:	Infecciosos, quirófanos, rayo, etc
F) ESTIMACIÓN DE TASA:	Media, modo preventivo
G) FACTORES QUE PUEDAN FAVORECER:	No realizar limpiezas, tránsito de personas, y zonas exteriores, etc
H) NECESIDAD DE ASISTENCIA:	NO
2 -ANÁLISIS DE SITUACIÓN	
PROGRAMA DE ACTUACIÓN	
A) TIPO DE MEDIDAS:	Pulverización electroestática en todo el hospital
B) ESTRATEGIA DE CONTROL:	Se repetirá controles de seguimiento bajo demanda
3 - EVALUACIÓN:	
Se ha realizado una desinsectación, mediante (pulverización electroestática) con Sanosil S010, en las zonas comunes, recepción, quirófanos, etc del hospital, modo preventivo. Se recomienda que mantengan un programa de limpieza diario repetitivos durante el día, distancias de seguridad entre los usuarios y trabajadores respetando el aforo de personas en las instalaciones. Se realizarán seguimientos para evitar cualquier tipo de contaminación.	



CERTIFICADO DE APLICACIÓN DE BIOCIDAS

Datos de la empresa de servicios Biocidas

Denominación: Euro Denker. S.L (TecnoBio)

Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA

Domicilio: María Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza

Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es

Responsable técnico: Guillermo Hernández Groth DNI: 25710688T

CIF: B99360398

DATOS CONTRATANTE

NOMBRE:

DIRECCIÓN:

POBLACIÓN:

TELÉFONOS:

CONTACTO:

UNIVESIDAD DE ZARAGOZA

C/ PEDRO CERBUNA Nº 12

ZARAGOZA

EMAIL:

CIF:

Q-5018001-G

PROVINCIA:

ZARAGOZA

INSTALACION TRATADA

DENOMINACIÓN:

DIRECCIÓN:

POBLACIÓN:

TELÉFONOS:

CONTACTO:

TIPO DE INSTALACIÓN:

HOSPITAL VETERINARIO DE ANIMALES

AVDA. MIGUEL SERVET Nº 177

C.P:

EMAIL:

CIF:

PROVINCIA:

Tipo de Servicio Realizado:

DE ZONA : Quirófanos, salas, etc

Plaga a controlar: MICROORGANISMOS

Descripción del servicio:

PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazp Seg.	Dosis
SANOSIL S010	18-20/40/90-D-09514 HA	Control	Pulverizacion	20 MINUTOS	2,0 L

DE ZONA : LOCAL

Plaga a controlar:

Descripción del servicio:

PRODUCTO APLICADO	Nº de Registro	FINALIDAD	Metodo	Plazp Seg.	Dosis

FECHA:

APLICADOR:

HORA INC. Op.:

MEDIDAS RECOMENDADAS:

OBSERVACIONES:

01 y 02/04/2026

Gullermo Hernandez Groth DNI: 25710688-T

11:00

HORA FIN. Op:

12:30

Servicio de información toxicológica de INTCF : teléfono 915620420

CONFORME CONTRATANTE CLIENTE

NOMBRE:

FECHA:

LUGAR:

FIRMA:

Visto Bueno Responsable Tecnico:

Guillermo Hernández Groth

D.N.I 25710688T

Firmado

Servicio realizado por:



	
Datos de la empresa de servicios Biocidas Denominación: Euro Denker. S.L (TecnoBio) Numero en el Registro Oficial de Establecimientos y Servicios Biocidas de la Comunidad Autónoma de Aragón: 0302A50-5AA Domicilio: Maria Zambrano 31, WTCZ Torre Oeste Planta 15, 50018 Zaragoza Telefono de la empresa: 876771405 Correo: contacto@tecnobio.es Responsable técnico: Guillermo Hernández Groth DNI: 25710688T CIF: B99360398	
DIAGNOSIS	
1-DIAGNOSTICO DE SITUACIÓN	
ACTIVIDAD:	HOSPITAL VETERINARIO
DISEÑO Y CARACTERÍSTICAS:	TODO EL HOSPITAL
CONTROL:	Microorganismos
FACTORES DE RIESGO:	COVID, VIRUS, BACTERIAS, HONGOS,ETC
A) DE MAYOR RELEVANCIA:	Zona de entrada de personas, zonas de vestuarios, zonas de quirófanos etc.
B) RIESGO DE INFECCIÓN:	No seguir las normas
C) IDENTIFICACIÓN DE GERMENES Y PLAGAS A CONTROLAR:	Microorganismos
D) ORIGEN Y UBICACIÓN:	Transito de animales y personas
E) EXTENSIÓN Y DISTRIBUCIÓN:	Infecciosos, quirófanos, rayo, etc
F) ESTIMACIÓN DE TASA:	Media, modo preventivo
G) FACTORES QUE PUEDAN FAVORECER:	No realizar limpiezas, tránsito de personas, y zonas exteriores, etc
H): NECESIDAD DE ASISTENCIA:	NO
2 -ANÁLISIS DE SITUACIÓN	
PROGRAMA DE ACTUACIÓN	
A) TIPO DE MEDIDAS:	Pulverización electroestática en todo el hospital
B) ESTRATEGIA DE CONTROL:	Se repetirá controles de seguimiento bajo demanda
3 - EVALUACIÓN:	
Se ha realizado una desinsectación, mediante (pulverización electroestática) con Sanosil S010, en las zonas comunes, recepción, quirófanos, etc del hospital, modo preventivo. Se recomienda que mantengan un programa de limpieza diario repetitivos durante el día, distancias de seguridad entre los usuarios y trabajadores respetando el aforo de personas en las instalaciones. Se realizarán seguimientos para evitar cualquier tipo de contaminación.	