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1. Introduction

In most cases, patients of the Veterinary Teaching Hospital – irrespective of whether they are companion or farm animals, large or small, brought in for clinical examinations or hospitalised – require drug treatments that can be administered in laboratories, general wards, operating theatres, emergency rooms, and stables.

Medication treatments may be administered by veterinarians or veterinary students, trainees or graduate candidates, provided that they are supervised by a professor acting as a tutor of the subject-matter covered.

In order for medications to be administered, it is necessary to ensure that both medical devices and medications are accessible, and that adequate basic knowledge to use them has been acquired.

The conditions of use of the materials that are covered by these SOPs must comply with specific indications to safeguard the safety of operators and the well-being of patients, in addition to maximising the effectiveness of treatments.

2. General precautions

Students responsible for administering treatments are recommended to approach animals with caution, and only after verifying what the potential risks are (e.g. aggressive animals, traumatized animals and any other situation that could harm both the operator and the animal).

Please read the information recorded in the patient record. In case of doubts on medication treatments, consult your tutor.

The handling of syringes, needles and phials, as well as of medications, involves risks of injuries and toxicity, respectively. Please avoid accidental ingestions and any other type of contamination.

3. Procedures for the preparation of medications used in treatments

Some medications must be prepared before being administered.

The following are just some examples of the steps to be followed for the preparation of medications:

- Reconstitution or dilution of powder products
- Use of syringes to withdraw medications from multi-dose vials
- Preparation of an infusion line for fluid treatments
- Preparation of products for oral administration

In order for the abovementioned steps to be taken, tutors shall be provided with both adequate training and basic knowledge.

At all times and in all circumstances it is necessary to control the shelf life of the product in use and its date of expiry.

The staff responsible for maintaining the stock of medications must be notified in case of any expired medication.

As many injectable medications for veterinary use come in multi-dose phial, unnecessary contamination of the product through its repeated withdrawal from the pierceable cap shall be avoided.

After opening any bottle for the first time, it is necessary to indicate its date of opening. This will help determine whether the product can still be used later on, taking into account the timing established by the existing legislations. It is also important to keep it refrigerated after use.

The recommended storage temperature for most medications (sealed packages) shall not exceed 25 Celsius degrees; the temperature for medications that have already been used, vaccines and some thermolabile medications shall be between 2 and 8 Celsius degrees.

Treatments to be administered, their frequency of use, routes of administration and dosage are indicated in the patient record. Students responsible for the administration of medications must follow precise instructions and, in case of any difficulty, contact promptly their tutor.

4. Routes of medication administration

Medications for hospitalised animals can be administered by intravenous, intramuscular or subcutaneous injection, using disposable syringes.

Usually, a venous catheter connected to a pierceable cap is applied to hospitalised patients requiring intravenous medications.

If the hospitalised animal needs to be treated with either fluid or long-term treatments, a syringe pump or a displacement pump may be used.

Medications may also be administered orally (e.g. tablets, oral suspensions, liquids, etc.) or through the application of creams, ointments, etc.

With regard to administration routes specifically, students shall consult their tutor and strictly respect the procedures concerning medication dosage, route of administration and frequency of use.

All relevant information regarding medications to be administered is contained in the patient record. The patient record must be updated every time a medication is administered. In the event of difficulties, doubts or lack of information in the patient record, students shall consult their tutor.

5. Stockpiling of and access to medical and surgical devices

Devices for medication administration shall at all times be available in clinics, emergency rooms and horse stables. Where specific materials are unavailable, students shall inform the staff, who will source and supply them from the existing stockpile.

List of medical and surgical devices available:

- Cannula needles
- Sterile needles
- Butterfly needles
- Biopsy needles
- Denatured ethyl alcohol
- Gauze bandages
- Self-adhesive bandages
- Boot and shoe covers
- Disposable coats
- Foley catheters
- Rigid urethral catheters
- Silk adhesive plasters
- Non-woven fabric plasters
- Elizabethan collars
- Containers for histology specimens
- Cotton and cotton fabrics
- Disinfectants for environmental surfaces
- Specific disinfectants
- Drip chambers and extension lines
- Active and passive abdominal drains

- Chest drains
- Staple removers
- Surgical thread
- Formalin
- Sterile and non-sterile gauzes
- Ultrasound gel
- Sterile and non-sterile disposable gloves
- Artificial insemination kit
- Scalpel blades
- Surgical masks, boot and shoe covers, and disposable caps
- Three-way cocks
- Urine collection bags
- Transfusion bags
- Syringes
- Splints
- Swabs with transport medium
- Clippers and detachable blades
- Absorbent pads
- Vetrap bandaging tape
- Microscope slides with cover glass

6. Stockpiling of and access to medications and medication management

Medications intended for administration are generally included within the resources made available to staff; any shortage of products shall be reported to the staff responsible for the stockpile management, who will source and supply them from the stockpile and update the computerized archive.

In case products are not available due to the trade flows of medications or delivery delays by the suppliers, students shall inform their tutor on the possibility of modifying the treatment.

Only authorized personnel can access pharmaceutical stockpiles.

7. Stockpiling of and access to narcotic medications

Access to narcotic medications is allowed exclusively to the veterinarians designated by the Director of OVUD, who are also responsible for maintaining the register by paper means, according to the existing legislation.

Narcotic medications can only be taken from the locked cabinet by the designated staff or under their supervision.

8. Monitoring of patients receiving treatments

Students responsible for the administration of treatments are also required to monitor patients receiving treatments and report any anomaly or variation in the patient's state of health to their tutor.