



Animal health care service II

Learning Guide 37

Unit of Competence: Assist Animal Surgical Operation

Module Title: Assisting Animal Surgical Operation

LG Code: AGR AHC2 M12 L01 LG37

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LO1: Prepare animal for surgery under direction

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Instruction Sheet	Learning Guide 37
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Follow clinical procedures and OHS
- Maintain pre-admission animal feed intakes
- Preadmission patient history and vital signs
- Pre-operative animal preparation
- Transfer patients to the surgical theatre
- Provide patient records

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, you will be able to –

- Follow clinical procedures and OHS
- Maintain pre-admission animal feed intakes
- Preadmission patient history and vital signs
- Pre-operative animal preparation
- Transfer patients to the surgical theatre
- Provide patient records

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 20.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” in page 6.
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Read the information written in the “Information Sheet 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
9. Accomplish the “Self-check 2” in page 8.

10. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 2).
11. Read the information written in the “Information Sheets 3. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
12. Accomplish the “Self-check 3” in page 11.
13. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 3).
14. If you earned a satisfactory evaluation proceed to “Operation Sheet 1” in page 16. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
15. Read the “Operation Sheet 1” and try to understand the procedures discussed.
16. If you earned a satisfactory evaluation proceed to “Operation Sheet 2” in page 16. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
17. Read the “Operation Sheet 2” and try to understand the procedures discussed.
18. If you earned a satisfactory evaluation proceed to “Operation Sheet 3” in page 16. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
19. Read the “Operation Sheet 3” and try to understand the procedures discussed.
20. If you earned a satisfactory evaluation proceed to “Operation Sheet 4” in page 17. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
21. Do the “LAP test” in page 17 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.

LO1. Prepare animal for surgery under direction

Information Sheet-1	Follow clinical procedures and OHS
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Recognising hazards in the workplace

- Many work places have hazards that place employees at risk of injury or harm to health.
- Managing safety and health of employing, staff is one part of normal procedures at the work place.
- There are many hazards involved in working with animals. These hazards ranges from minor to very serious, and can include things like allergies, bites, Zoonotic diseases, working with hazardous chemicals or radiation, and handling contaminated waste.
- Information follows in this document that describes many of the potential hazards individually. The risks involved with animal work, range from low to high potential of injury or illness from the identified hazards.

Hazard – is the inherent danger involved in working with a particular animal, material, equipment, process, procedure or system.

Risk – is a measure of the likelihood of a consequence from working with a certain hazard.

Types of hazards

Zoonoses

- Zoonoses can be acquired through various routes of infection, including contact with animal products, the animal itself, or a byproduct of the animal.
- The routes of infection include ingestion, inhalation penetration of broken or unbroken skin, wound penetration; and contact with the mucous membranes of the eyes, nose, and mouth via the following exposures:
 - Animal bites and scratches;
 - Contact with animal tissues and cultures, body fluids, and excreta;
 - Inanimate objects that are contaminated by the animal or animal contacts; and
 - Exposure to aerosols produced as a result of activities such as cleaning cages.

Allergens

- Approximately 20% of people who work with animals have animal allergies.
- Animal allergies may be presents before an individual begins formal work with animals, or the allergy may develop during the course of the individuals work with animals.
- Animal hair, fur, skin, dander, urine, saliva, scratches, etc. can cause or aggravate allergies to animals or employers.

Physical hazards

- Physical hazards associated with animal contact can include animal bites, scratches, and kicks; noise; waste; and physical methods of euthanasia.

Infectious agents

- Animal contact can bring personnel in to contact with infectious agents, either from the animal itself or from agents introduced for the research project.

Safety measures to protect work place hazards

- The primary way to avoid problems in work with animals is to know what the hazards are and what precautions (safety measures or protection) to take in order to avoid them.
- When a surgeon is prepared for pre surgical operation must be identify and wear the necessary PPE in order to protect himself and animal from different hazards that arise from the procedure.
- Wearing of personal protective close and equipment may have a great benefit as through protecting from;
 - Physical hazard
 - Chemical hazard
 - Electrical hazard
 - Biohazard
 - Airborne particulate

Note: Personal protective clothing and equipment is used according to best practice standards when completing work tasks.

Self-Check -1	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Define the following terminologies.(2pts)

1.1.Hazard_____

1.2.Risk_____

2. How to protect work place hazards?(4pts)

3. Write at least three hazards in detail.(3pts)

Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1.1. _____

1.2. _____

2. _____

3. _____

Information Sheet-2	Maintain pre-admission animal feed intakes
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Take the animal off feed and water for 24-hrs prior to operation time, if the procedures is necessitate general anesthesia.

It is very important for every patient to have an empty stomach before any surgery or procedures for two reasons

1. To prevent nausea
2. To keep any food or liquid from getting in to lung

NB: if we provide feed for the animals immediately before operation the animal may suffer with aspiration pneumonia and stomach problems.

Self-Check -2	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Why we make animals off feed prior to surgical operation?(5)
2. What will happen if we provide feed for the animals immediately before operation?(5pts)

Note: Satisfactory rating - 10 points

Unsatisfactory - below 10 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____

Information Sheet-3	Preadmission patient history and vital signs
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Preadmission patient history

During the admission appointment, a review of the clinical history should be performed, to ensure that:

- Any previous anaesthetic problems or drug reactions are noted
- Relevant blood or lab tests are rechecked
- Any change in the clinical condition can be noted (for example, increase or decrease in size of lymph node, change in position, and increase in number).
- Any concurrent illness is considered (for example TB)
- Any prescribed current medication is noted
- ✚ The owner should be questioned as to the animals' current health: (any recent diarrhea or vomiting, lethargy or inappetance, increased or decreased thirst?).
- ✚ Any concerns which may lead to postponement of surgery are obviously best addressed before admission.
 - Admission of the patient is taken as the effective start of any surgical procedure, since it consists of some very important aspects that could affect the subsequent management of the patient.
 - Careful collection the patient history may have the following benefits:
 - ✓ Identify the animal with infection and provide necessary medication
 - ✓ To know the exact problem of the animal
 - ✓ To perform the procedure with the necessary care
 - ✓ Traceability

Owner communication

- Effective owner communication is the best way of avoiding misunderstandings that lead to complaints.
- Assuring that the owner understands the animals' problem and detailed plan of the procedure and also understanding of the likely costs are important.
- The owner must sign a consent form which is a written permission to perform the procedures and deal with any emergency that may arise.

Record vital signs

- The clinical history of the patient at the time of pre admission should be revised for presence of any change in the condition which is very necessary to mitigate with concurrent infection and to provide the appropriate medication.

- A full clinical examination should be performed, which may include:
 - ✓ Examination of mucous membranes and evaluation of capillary refill time
 - ✓ Temperature, pulse and respiration
 - ✓ Any sign of dehydration
 - ✓ Any sign of clotting disorder (petechiae, ecchymoses)
 - ✓ Any concurrent disease (dental disease, skin infections, etc.)
 - ✓ Any sign of cardiopulmonary disorder (heart murmur, cough, etc.)
 - ✓ The position of skin masses or wounds should be noted on the consent form

Self-Check -3	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Why we communicate with the owner, prior to operation?(3pts)
2. Point out at least three vital sign that we record before operation. (3pts)
3. What are benefits of collecting the history of patient? (4pts)

Note: Satisfactory rating - 10 points

Unsatisfactory - below 10 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____

3. _____

Information Sheet-4	Pre-operative animal preparation
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- Pre surgical patient preparation is the core and very critical point in order to performing any minor surgery in a given circumstances.
- Every pre-surgery procedure must be done with a great care because a given mistake may affect the procedure.

Points to be considered and procedures to be followed in animal preparations are:

- Apply necessary physical restraining techniques which is suited with the surgical procedures undertaken
- The animal is cleaned, bathed and matted hairs, if any, are removed before bringing it to the preparation area.
- If the animal is uncontrollable or vicious, it is administered a tranquilizer or sedative.
- The animal is anaesthetized by a suitable agent and technique depending upon the species and nature of the operation to be performed.
- The anaesthetized animal is intubated. It is not only maintains patient air way but protects against aspiration of saliva or gastric contents that may be regurgitated during anesthesia.
- The surgical site is prepared by removing the hairs either by clipping or shaving
- The surgical site is washed preferably three or four times with soap and water until all visible dirt is removed.
- The site is cleaned with sterile cotton or gauze after each scrubbing, starting at the site of incision and moving to the periphery. After the periphery is cleaned, the gauze is discarded and should not come in contact with the central area where the incision is to be made.
- After scrubbing with soap, disinfect with 70% alcohol then it is advisable to paint the entire surgical site with 2% tincture of iodine, which should be allowed to dry.
- Place a small amount of plain, sterile ophthalmic ointment in each of the animal's eyes to prevent corneal drying.
- Following skin preparation, the patient should be taken to the operation room.
- IV administration of fluids, if necessary, should be started prior to surgical procedure

Self-Check -4	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write at least two restraining methods used for animal preparation?(4pts)
2. After scrubbing the surgical site, which chemicals we will use for
 - 2.1. Disinfection (preferable)?(3pts)
 - 2.2. Painting?(3pts)

Note: Satisfactory rating - 10 points

Unsatisfactory - below 10 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____
 - 2.1. _____
 - 2.2. _____

Information Sheet-5	Transfer patients to the surgical theatre
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Always transport anaesthetized animals with care, maintaining their bodies in a horizontal position so as to maintain adequate blood to the brain.

- Be care full not to contaminate the surgical site.
- Be aware of your back when carrying heavy animals
- For heavy animals, for example those over 20 kilograms, enlist the help of another person
- Some practices have stretchers or trolleys to transport animals to and from the operating theatre
- Horses are sometimes moved in to the operating theatre with hydraulic winches.

In the theatre

When in the theatre, you should follow these steps

1. Wear appropriate theatre clothing.
 2. The animal now needs to be positioned on the operating table and its legs secured
 3. The final application of antiseptics are now made to the skin
- ✚ For this final scrub, use gauze instead of cotton wool to apply and remove the solution because cotton tends to leave tags behind on the skin.
 - ✚ The first solution to be applied is usually an alcohol based antiseptic which is strongly bactericidal but evaporate quickly once applied.
 - ✚ The final antiseptic to be applied usually an iodophor orchlorhexidine solution which is water based. This is not usually removed but left to dry on the skin to give residual bactericidal activity during the surgery

Self-Check -5	Written Test
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Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Why we transport and maintain anesthetized animal in a horizontal position?(3pts)
2. Point out the steps should follow in the theatre room.(3pts)

Note: Satisfactory rating - 10 points Unsatisfactory - below 10 points

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Short Answer Questions

1. _____

2. _____

Operation sheet-1	Collecting preadmission patient history
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Procedures

- Step 1:** Accept the owner with warm greeting
- Step 2:** Ask the owner about current problem
- Step 3:** Ask the owner about previous experience of the problem
- Step 4:** Ask the owner about the environment
- Step 5:** Record all the information appropriately

Operation sheet-2	Collecting vital signs
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Procedures

- Step 1:** Prepare the instruments used for collecting vital signs
- Step 2:** Wear appropriate PPE
- Step 3:** Restrain the animal
- Step 4:** Collect vital signs
- Step 5:** Record accordingly

Operation sheet-3	Pre-operative animal preparation
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Procedures

- Step 1:** Wear PPE
- Step 2:** Restrain the animal, by physically restraining techniques
- Step 3:** Provide local anesthesia
- Step 4:** Remove the hairs either by clipping or shaving
- Step 5:** Wash the surgical site three or four times with soap and water
- Step 6:** Clean the site with sterile cotton or gauze
- Step 7:** Disinfect the site with 70% alcohol
- Step 8:** Paint the entire surgical site with 2% tincture of iodine

Operation sheet-4	Transfer patients to the surgical theatre
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Procedures the patient into surgical theatre

- Step 1: Wear PPE
- Step 2: Secure the animal on transporting equipment
- Step 3: Transfer the patient carefully

LAP Test	Practical Demonstration
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Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

- Task 1.** Collecting preadmission patient history
- Task 2.** Examine animal for vital signs
- Task 3** Pre-operative animal preparation
- Task 4.** Transfer patients to the surgical theatre