



ANIMAL HEALTH CARE SERVICE Level -I

Learning Guide # 28

Unit of Competence: Apply knowledge of animal welfare and behaviours

Module Title: Applying knowledge of animal welfare and behaviours

LG Code: AGR AHC1 M8 LO5 LG28

TTLM Code: AGR AHC1 TTLM 0919V1

LO: LO5: Assess and respond to animal behavior

INSTRUCTION SHEET	Learning Guide #28
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This learning guide is developed to equip you with the necessary information regarding the following content coverage and topics

- Assessing of *risks or hazards* to the public, self, bystanders and the target animal.
- Offering *constructive solutions* about animal behaviour to owner
- Offering owners *referral to specialists*
- Taking statutory response to animal behaviour.
- Seeking of assistance from supervisors and/or peers
- Following organisational policies, procedures and legislative requirements

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:**

- Assess of *risks or hazards* to the public, self, bystanders and the target animal.
- Offer *constructive solutions* about animal behaviour to owner
- Offer owners *Referral to specialists*
- Take statutory response to animal behaviour.
- Seek of assistance from supervisors and/or peers
- Follow organisational policies, procedures and legislative requirements

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, and Sheet 3.
4. Accomplish the “Self-check 1, Self-check t 2, and Self-check 3 **in page -3, 7, and 13** respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, Operation Sheet 2 and Operation Sheet 3 ” **in page -15.**
6. Do the “LAP test” **in page – 16** (if you are ready).

Information Sheet-1	Assessing of <i>risks or hazards</i> to the public, self, bystanders and the target animal.
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1.1 Definition of risks and hazards

- **Risk:** Risk is the significance of the hazard in terms of likelihood and severity of any possible injury. *Include any occurrence which results in personal injury, disease or death, or property damage* It is a measure of the likelihood of a consequence from working with a certain hazard
- **A hazard:** A hazard is anything that has the potential to harm the health or safety of a person and/or an animal. It is the inherent danger involved in working with a particular animal, material, equipment, process, procedure or system
- **Hazardous Substances:** Any substance that has the potential to harm the health of persons in the workplace and includes chemicals scheduled under the Poisons Act, chemicals classified under the Dangerous Goods Act (1975) or Hazardous Wastes.
- **Hazards involved in working with animals and animal projects:** 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.
- **Risks involved in working with animals:** range from a low to high potential of injury or illness from the identified hazards.

Note-The primary way to avoid problems in work with animals is to know what the hazards are and what precautions to take in order to avoid them.

1.2 Types of risks and hazards related to animal behavior

Physical Hazards- Bites, sprains, scratches, sharps, lasers, machinery, slips, falls

Chemical Hazards- Burns, skin irritations, inhalation, ingestion

Allergens-Allergies to rodents, cats, dogs (urine, contaminated litter, dander, hair)

Ergonomics- Heavy lifting, repetitive motion, body mechanics, posture

Infectious Agents Bacteria, fungi, parasites, protozoa, rickettsia, viruses, bloodborne pathogens

Zoonosis- Human diseases acquired from animals or vice versa. **It** diseases communicable from animals to humans are called zoonosis. In many cases the animals show little, if any, sign of

illness. A bacterium in the normal flora of a healthy animal may cause a serious disorder in a person exposed to it. While the animals have developed “resistance” to these microorganisms, humans with no previous exposure to the agent lack this protective immunity. Therefore, one should always be aware of possible consequences when working with each type of animal and then take precautions to minimize the risk of infection. Zoonosis 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, and penetration of broken or unbroken skin, wound penetration, and contact with the mucous membranes of the eyes, nose, and mouth via the following:

- Animal bites and scratches;
- Contact with animal tissues and cultures, body fluids, and excreta;
- Inanimate objects that are contaminated by the animal or animal contact; and
- Exposure to aerosols produced as a result of activities such as cleaning cages.

Individuals whose work involves substantial exposure to or handling of animals and animal tissues, body fluids, and cell cultures should be aware of the possibility of the illnesses that may be transmitted by contact with animals. In the zoonosis training module, at-risk individuals are informed of laboratory-acquired zoonosis, causative microorganisms, animals most commonly in contact with humans, appropriate animal handling procedures, personal hygiene, and protective equipment specific to the animal type and use.

1.3 Assessing of *risks or hazards*

Risks or hazards must to be assessed include:-

- Assessment of breed/type potential to cause harm or difficulty
- Circumstances prevailing
- Degree of animal restraint and confinement
- Level of own experience, confidence and capability
- Level of owner/handler cooperation, competence and control

Obvious signs of the animal's abnormal health and condition.

This form is completed for the purpose of conducting an occupational health risk assessment for the participant. This form will be used in conjunction with the Health Assessment Questionnaire to evaluate for appropriate medical surveillance.

Completion of this form for each individual involved in our animal care and use program is required by the principal investigator, supervisor, or department chair in order to aid in determining appropriate training courses and necessary health precautions to minimize the potential for animal-related health risks to NDSU employees and students assigned to animal facilities and projects. This form needs to be completed only one time for each individual under their supervision unless one or more of the following has changed: the duration of animal exposure, the type of activity, the type of animal and/or a change in the individuals, health status.

1.4 Assessment **Work-Related Health/Safety Issues**

All Animals to be encountered according to the following designations:

Level 0 No animal contact

Level 1 No direct contact, but enters animal facility

Level 2 Does not conduct procedures on live animals but handles “unfixed” animal tissues and fluids

Level 3 Handles, restrains, collection of specimens or administers substances to live animals.

Level 4 Performs invasive procedures such as surgery, necropsy

_____Amphibian

_____Birds

_____Cat

_____Camelid

_____Cattle

_____Dog

_____Horse

_____Swine

_____Rat

Will work involve direct contact with any of the following?

1. Biological Agents

a. Recombinant DNA Yes _____No_____

- b. Infectious Agents Yes _____ No _____
- 2. Human Blood, Tissues, or Cells Yes _____ No _____
- 3. Physical Agents
 - a. Caustic, Flammables or cryoagents Yes _____ No _____
 - b.Noise Yes _____ No _____
 - c.Radiation Yes _____ No _____
 - d. Radioisotopes Yes _____ No _____
 - e. Extreme environmental conditions Yes _____ No _____
 - f. Lasers Yes _____ No _____

- 4. Chemical Agents
 - a. Anesthetic gases- Yes _____ No _____
 - b. Drugs/Chemotherapeutic agents Yes _____ No _____
 - c. Heavy metals Yes _____ No _____

PI/Supervisor's determination of special preventative measures or actions to be taken for this individual's animal-related work.

- 1. Training courses
 - _____ Baseline Safety Training
 - _____ IACUC Training
 - _____ Occupational Health & Safety Program
 - _____ Chemical/Lab Safety Training
 - _____ Radiation Safety Training
 - _____ Laser Safety Training
 - _____ Exposure Control Plan
 - _____ Chemical Hygiene
 - _____ Other Protocol Specific Procedures
- 2. Health Assessment, immunizations/vaccinations
- 3. Personal protective equipment like gloves, clothing, respirators, etc.
- 4. Avoiding contact with certain species, etc.

- identifies hazardous biological, chemical, or physical agents
- identifies potential hazards that are inherent to animal work, such as animal bites, chemical cleaning agents, allergens, or zoonosis
- Assesses extent and level of participation in occupational health and safety training program on the hazards posed by the animals and materials used; the exposure intensity, duration, or frequency; the susceptibility of the personnel; and the history of occupational illness or injury in the particular workplace
- PI or supervisor completes the Hazard and Risk Assessment for those who have substantial contact with animals, provides a copy to the individuals and sends copy to the Safety Office

1.5 Assessment of risk based on risk ranks

This model animal risk assessment summary is for risk ranks of animal-related activities for immune-competent adult humans. Risk ranks are based on both the likelihood of an incident and the seriousness of the possible abnormal condition. Risk levels for experimental agents are not included in the chart, and use of experimental hazardous agents requires review and approval of the appropriate safety committee.

Risk of	Bite wound (a)	Scratch wound (a)	Microbial flora exposure (b)	Allergy development
Chick embryo	1	1	2	1
Fish	1	1	2	1
Reptiles	3	1	2	1
Amphibians	1	2	2	1
Mouse	2	2	1	3
Rat	3	2	1	3
Hamster	3	2	1	2
Guinea Pig	2	2	1	3
Rabbit	2	3	1	3
Cat	3	3	3	3
Dog	3	2	2	2
Sheep, Goat	1	2	3	2
Pig	2	1	3	2
Wild mammals & birds	4 (if handled)	4 (if handled)	3	2
Cattle	1	1	3	2
Bison	1	1	3	2
Horse	1	1	1	1

Key: 1 = No known risk

2 = Minor risk

3 = Moderate risk

4 = Significant risk

5 = High risk

a = Potential microbial contamination and physical trauma are both included. Tetanus prophylaxis is required for all staff members.

b = Risk of inhalant, ocular, or oral exposure to microbial or parasitic agents from animals acquired through institutionally approved vendors.

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. Risks and hazards (5 points)
- 2.
3. What do we mean by zoonotic diseases?(4 points)
4. What are criteria must involved in assessing risks and hazards?((5 points)

Note: Satisfactory rating – 7 points

Unsatisfactory - below 7 points

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Information sheet-2	Offering <i>constructive solutions</i> about animal behaviour to owner
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2.1 Providing **information related to behavioral change of animals for owner** Constructive solutions needed to be offered include;-

- Looking at the owner-animal-environment triangle of effect in the expression of problem animal behaviour and offering remedial advice
- Considering different methods of handling and dealing with animals displaying specific behavioral traits (e.g. Nervous or timid)
- Endeavoring to remedy the causes as well as the problem animal behaviour for wandering animals the constructive solution May include, but not limited to:
 - restoring animal to correct owner property
 - capture and impoundment
 - offering advice regarding more adequate fencing
 - providing advice regarding: a more enriched environment
 - Improving obedience and responsiveness using positive and negative reinforcement training.
 - Further information follows regarding physical hazards and ways to minimize the risk of injury from physical hazards should be provided.

2.2 Handling different species of animals by restraining

Purposes:

- To understand the normal behaviour of the various animal species
- To determine which restraint technique to use
- To recognize behavioral differences among species for restraint
- To work safely with animals through understanding behavioral aspects of various spp.

Positional terminology:

- i. Recumbent: refers to lying down or back
- ii. Lateral: refers to the side
- iii. Dorsal: refers to the back (spine side)
- iv. Sternal: refers to the underside (sternum or abdomen)

Basic Animal Species Behaviour Related to Handling and Manipulations

The flight zone is an animal's "personal space".

The size of the flight zone varies with the tameness of the animal, and other animal-related factors. Completely tame animals have little or no flight zone and a person can touch them.

An animal will begin to move away when the person enters the edge of the flight zone.

When the person is outside the flight zone, an animal (or group of animals in a herd) will turn and face the person while maintaining a safe distance.

When an animal is:

- apprehensive (e.g., about being picked up),
- aggressive (e.g., about to attack), or
- defensive (e.g., protecting itself, or its young in the case of a mother), its posture and other behavioral signs can give clues about its state and possible intentions.

In many mammalian species the "*warning*" postures includes

- *lowered head, ears down or back*, and
- in the smaller animals, *mouth opens* in a snarl.

By carefully observing the animal's behaviour while approaching it, injuries such as bites and scratches can be avoided.

Your voice, your touch, your smell, are all part of an animal's knowledge about you. To establish a two-way familiarity before a project starts, the people who will be handling or restraining the animals should talk to, touch, and regularly handle each animal.

Consistency in handling each animal is important. Most animals handled very quickly by those who are their regular handlers or caretakers and accept the handling without undue stress.

Different species defend themselves in different ways: For example,

- a mouse, rat, hamster or dog may bite,
- a rabbit may struggle furiously and kick or sometimes bite to try and escape,
- a cat may scratch (with intent!) or bite;
- a camel or horse may kick or bite;
- a cattle may kick or hit.

The approach to restraining the animal, including any equipment used for restraint,

- is to prevent the animal from taking such action while ensuring it is safely and humanely held.

Although the correct approach to handling and restraint can be understood from printed and audio-visual materials, practice is essential.

Appropriate handling and restraint methods have been developed for most animal species.

Skills in the appropriate handling and restraint methods should be attained BEFORE procedure starts.

In most cases, injuries to humans occur because someone did something unwise, became complacent while working on the animal, or did not know how to read the animal's body language.

Safe and effective animal handling requires a thorough understanding of the normal behavior and responses of each species.

Below are some general information on species-specific animal behavior and handling techniques.

There is no substitute, however, for careful observation and experience.

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. What are constructive solutions required to solve animal behaviour related risks and hazards?(5 points)
2. What are importance of restraining?((5 points)

Note: Satisfactory rating – 5 points

Unsatisfactory - below 5 points

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Information sheet-3	Offering owners <i>Referral to specialists</i>
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All known human exposure to a zoonotic disease is considered an incident and must be immediately reported by the individual to their supervisor or principal investigator for appropriate medical treatment and investigation.

If a zoonotic disease is suspected in an animal, the principal investigator or supervisor and the NDSU Attending Veterinarian shall be notified immediately for appropriate action. **Allergens.** Approximately 20% of people who work with animals have animal allergies. Animal allergies may be present before an individual begins formal work with animals, or the allergy may develop during the course of the individual's work with animals. Animal hair, fur, skin, dander, urine, saliva, scratches, etc., can cause or aggravate allergies to animals. Animal contact can bring personnel into contact with infectious agents, either from the animal itself or from agents introduced for the research project. Physical hazards associated with animal contact including animal bites, scratches, and kicks; noise; waste; and physical methods of euthanasia.

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. What is your solution if you observe some one exposed to hazard related to animal behaviour? (5 points)

Note: Satisfactory rating – 5 points

Unsatisfactory - below 5 points

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Information sheet-4	Taking statutory response to animal behaviour
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Statutory response in animal welfare include:- detail procedural requirements and explain timelines for outcomes; issue caution or infringement notice; recommend action plan ; and seize animal.

The following elements and examples are essential components of statutory responses and action plans to reduce animal behavior related behaviour:

Personnel Training

- Training will provide personnel with clear definitions and descriptions of their duties and the hazards associated with those duties (such as zoonosis, chemical hazards, physical hazards like radiation and allergies, handling waste materials)
- Training will provide personnel with information about levels of risk associated with working with animals and personal health conditions (**e.g., special precautions to avoid hazards for pregnant women or persons with chronic diseases, etc.**)

- Make certain that personnel are proficient in implementing safety precautions
- Departments are responsible for maintaining their department specific training records

Hazard and Risk Assessment

- identifies hazardous biological, chemical, or physical agents
- identifies potential hazards that are inherent to animal work, such as animal bites, chemical cleaning agents, allergens, or zoonosis
- Assesses extent and level of participation in occupational health and safety training program on the hazards posed by the animals and materials used; the exposure intensity, duration, or frequency; the susceptibility of the personnel; and the history of occupational illness or injury in the particular workplace
- PI or supervisor completes the Hazard and Risk Assessment for those who have substantial contact with animals, provides a copy to the individuals and sends copy to the Safety Office

Personal Hygiene

- Set high standards for personnel cleanliness and hygiene
- Require suitable clothing, gloves, masks, head covers, coats, coveralls, shoe covers, etc.
- Require hand-washing and changing clothes where necessary
- Make certain that all laboratory personnel, including service and custodial staff and visitors, understand the chemical and biological dangers associated with the lab or facility
- Affix biohazard signs on doors outside laboratories where biohazardous material is handled or stored (available from the University Police and Safety Office). The protocol to be followed in case of a spill of the biohazardous materials should be posted in a visible location in the laboratory or facility
- Restrict laboratory or facility access and keep doors locked when unattended**
- Keep the facility clean and free of clutter. Make certain that emergency safety devices (fire extinguishers, eye washes, etc.) are easily accessible and in working order
- Make certain that all personnel, students and visitors wear protective clothing such as lab coats, gloves and safety glasses. Remove lab coats or gowns before leaving the laboratory or facility
- Do not eat, drink, smoke, store food and food utensils, apply cosmetics or lip balm, or insert or remove contact lenses while in the facility or laboratory

- Restrain long hair. Avoid wearing loose clothing or jewelry, shorts, open-toed shoes or sandals.
- Carry out procedures so as to minimize risks of splashes, spills, and generation of aerosols
- Pipetting by mouth is not allowed
- Use hypodermic needles only when absolutely necessary. Do not bend, break, shear or recap used needles. Use the appropriate sharps containers
- Use a two-person team to inoculate animals when appropriate
- Wash hands after handling infectious material and before leaving the laboratory
- Decontaminate all contaminated materials before disposal or reuse
- Decontaminate laboratory surfaces following any spill of biohazardous materials and at the end of each workday.
- Report all spills, accidents, and incidents immediately (as required by the NDSU Safety and Risk Management Program 24 hour reporting requirement)

Facilities, Procedures, and Monitoring

- Maintain cleanliness of facilities and supplies
- Consider ergonomics and request for assessments
- Inspect, maintain, and repair equipment
- Dispose of contaminated bedding properly

Animal Experimentation involving Hazards

- PI's, departments and supervisors must maintain up-to-date written policies governing experimentation with hazardous biological, chemical, physical agents
- Individuals must use recommended practices and procedures, and facility requirements for working with hazardous biological agents and materials
- Individuals must use special facilities and safety equipment as recommended
- Individuals must dispose of hazardous or contaminated waste properly
- Obtain required clothing, shoes, shoe covers, gloves, arm protectors, masks, face shields, hearing protection, respirators, etc. from your supervisors

Medical Evaluation and Preventive Medicine for Personnel:

- Comply with required medical evaluations for high risk positions and those with substantial contact with animals
- Comply with required immunizations, and vaccinations for particular individuals

- Inform personnel how to report accidents, injuries, illnesses, exposures and property damage

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. What are statutory responses to reduce animal behavior related risks? (5points)

Note: Satisfactory rating - 5 points Unsatisfactory - below 5 points

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Information Sheet-5	seek of assistance from supervisors and/or peers
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Assist with work demands, including clear work goals, Provide all workers with adequate information, Provide workers with training and development opportunities, Conduct performance reviews and include constructive feedback, Provide additional assistance when workers are undertaking challenging tasks, such as new duties or roles, Where possible, ensure adequate backfilling of roles or redistribution of work when workers are out of the office or away on leave.

Provide and promote an employee assistance service that responds to individual issues or concerns, both work and non-work related. Assist workers to come up with practical solutions for any task-related issues that arise.

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. What is the objective of seeking assistance supervisor? (5points)

Note: Satisfactory rating - 5 points Unsatisfactory - below 5 points

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

Information Sheet-6

Follow organizational policies, procedures and legislative requirements.

A policy is a course of action or guidelines to be followed whereas a procedure is the ‘nitty gritty’ of the policy, outlining what has to be done to implement the policy.

All organizations should have written policy and procedures, and staff training in the following areas:

- a confidentiality policy
- a clearly defined process for identifying and regularly updating a Community Resource Index so that all workers are aware of what other services are available to refer to (the index contains basic contact details and information about what each service provides)
- processes for networking with other agencies, including attending relevant interagencies (meetings of local service providers)
- guidelines for case conferencing (this will be discussed in more detail a bit later)
- referral protocols, including how referrals should be made, the kind of information that can be shared with other services and any ongoing roles and responsibilities of each service with regard to the client
- A policy for how long client information is kept after clients are no longer involved with the service. For example, different government departments produce documents that outline legal requirements for their staff in relation to storing and maintaining information.

Policies and procedures are an essential part of any organization. Together, policies and procedures provide a roadmap for day-to-day operations. They ensure compliance with laws and regulations, give guidance for decision-making, and streamline internal processes. Following policies and procedures is good for employees and your organization as a whole.

The Importance of Following Policies and Procedures:

As your organization's leaders create and enforce policies, it's important to make sure your staff understands why following policies and procedures is critical.

Here are just a few of the positive outcomes of following policies and procedures:

Consistent processes and structures

Policies and procedures keep operations from devolving into complete chaos.

When everyone is following policies and procedures, your organization can run smoothly. Management structures and teams operate as they're meant to. And mistakes and hiccups in processes can be quickly identified and addressed.

When your staff is following policies and procedures, your organization will use time and resources more efficiently. You'll be able to grow and achieve your goals as an organization.

Consistency in practices is also right for employees individually. They know what they're responsible for, what's expected of them, and what they can expect from their supervisors and co-workers. This frees them up to do their jobs with confidence and excellence.

Better quality service

When employees follow procedures, they perform tasks correctly and provide consistent customer service.

A safer workplace

When your staff is following policies and procedures, workplace accidents and incidents are less likely to occur

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:

2. What are The Importance of Following Policies and Procedures? (5points)

Note: Satisfactory rating - 5 points Unsatisfactory - below 5 points

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____
Rating: _____

Name: _____

Date: _____

REFERENCE:

Www, medical-tools.com

Regina, Brown. (2015). Facilities & Equipment: CGMP Requirements, Regulatory Education for Industry (REdI): Sheraton

NDSU *Guidelines for OHS in the Care & Use of Animals* 12 (1997; rev. 2001, 2005 2006, 2007, 2011, 2013, 2014, 2015)