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Ministry of Labor and Skills

ANIMAL HEALTH

LEVEL I

BASED ON MARCH 2022, VERSION 4 OCCUPATIONAL STANDARD



Module Title: - Handling and Restraining of Animals

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Introduction to the module

This Module covers knowledge, skills and attitude required to undertake capturing and restraining animals for the purpose of diagnosis, treatment, transportation and use as draft power. It also covers understanding normal behaviour and skill to handle animals following OHS guide lines and procedures.

Cattle handling and restraining skills are essential for managing cattle. Animal restraint or handling is one of the most important skills a technician and assistant should possess. Good cattle handlers or restrainer learn these skills through observation and trial and error. Good cattle handling saves time and effort, and reduces stress for people and animals. Inefficient and rough handling causes financial losses because of bruising, poorer meat quality and lower milk production. Working with cattle may be dangerous, especially in yards, races and dairy sheds where people and cattle are close together. High risk activities include working with bulls and with cows and newborn calves. Many farmers sustain minor injuries while working with cattle. Common injuries include cuts, bruises, fractures, sprains and strains. Serious injuries cost farmers in lost time, additional help and many other ways. Financial costs alone are large. Being a master at restraint is a trait that will be valued in a veterinary clinic. Practice makes perfect! Animal health providers and animal owners are also faced with everyday animal handling related problems like physical injuries, death and zoonosis. Proper restraint and handling techniques reduce stress to the animals and to the handler. Also calm, quiet handling of animals makes the handler safer. Restraining can be effected by using various devices such as halters, head-collars, twitches, muzzles, gags, side lines, hobbles, etc.

LG #14	LO #1- Develop understanding of animal behavior

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Normal behavioral expression of different animal species
- Comparing normal and abnormal animal traits
- Defensive reaction of animals in response to capture and restraining
- Hazards associated with restraining of animals

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- observe and interpret Behavioral expression of different animal species are observe and interpreted.
- Normal and abnormal animal traits are compared.
- Understand Defensive reaction of animals in response to capture and restraining is.
- Identify Risks associated with handling and restraining of animal and follow safety procedures.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the information Sheets
4. Accomplish the Self-checks

Information Sheet 1

1.1. Normal behavioral expression of different animal species

1.1.1. Introduction to Animal Behavior

Animal behavior is the scientific study of everything animals do. It involves investigating the relationship of animals to their physical environment as well as to other organisms, and includes such topics as how animals find and defend resources, avoid predators, choose mates and reproduce, and care for their young.

People who study animal behavior are concerned with understanding the causes, functions, development, and evolution of behavior. The causes of behavior include both the external stimuli that affect behavior, and the internal hormonal and neural mechanisms that control behavior. The functions of behavior include its immediate effects on animals and its adaptive value in helping animals to survive or reproduce successfully in a particular environment. The development of behavior pertains to the ways in which behavior changes over the lifetime of an animal, and how these changes are affected by both genes and experience. The evolution of behavior relates to the origins of behavior patterns and how these change over generations.

Definition terminologies

- **Restraint:** is the use of manual, physical, or chemical means to limit some or all of an animal's normal movement.
- **Restraint:** is the restriction of movement of any animal and may vary from simply confining the animal in an enclosure, small space, box, or crate, to completely restricting its muscular activity (immobilization).
- **Capture:** The means of catching animals for different purposes.
- **Handling:** refers to how agricultural animals are touched, moved, and interacted with during husbandry procedures.

1.1.2. Behavioral expression of different animal species

A. Ruminant

Cattle posture indicates alertness, aggression, and submission. A subtle sign, the showing of the whites of the eyes, (>15% of the eye) can be elicited even by mild frustration such as visible but unreachable food or by social frustration such as removal of the cow's calf or anticipation of food. Treatment with diazepam several hours before the frustrated experience decreases the percent of visible of eye white.

- ***Vocalizations***

Despite the intimate association of humans and ruminants for thousands of years, very little is known about communication in these species. Kiley1013 has analyzed cattle vocalization phonetically and according to the motivation of the animal.

The “moo” is low pitched. The other common vocalization—the call, hoot, or roar—is higher pitched and consists of repeated brief calls, usually by a distressed cow. A threatening bull gives a roar of high amplitude. A very hungry calf will give a high-intensity “menh” call. During copulation, grunting sounds are heard. Some humans can recognize cows by voice, so it would not be surprising if cattle were able to recognize one another.

Cattle appear to respond to a vocalization with a vocalization of similar intensity. An excited call is answered by excited calls. Calves have a special moo, almost a baa, or play call.

Vocal communication in a prey species such as cattle may be most important in transmitting information about general safety or danger. It may have been more important for cattle (and horses) to be alert and ready to flee than to communicate more precise information in their calls. If domestic animal communication is studied in as great a depth and with the same ingenuity as bird communication has been studied, vocal communication may be found to be more precise in domestic animals. Careful analysis of the situation in which as all is given, recording of the call, and playback of the call to conspecifics in a naturalistic setting may help to break the code of domestic animal languages.

Vocal communication in sheep consists of bleating in distress or to initiate contact. Ewes rumble to their newborn lambs (see Chapter 5) and rams make a similar call while courting. The snort is an aggressive communication in sheep.

Goats are frequently kept as pets and, like dogs, can annoy neighbors with their separation vocalizations. Analyzing the problem, as one would for a barking problem, may prevent de-bleating. Providing a companion goat often helps, as does ignoring the vocalization.

- ***Visual signals***

Submissive postures are the lowered neck and the head shake given mostly by small sheep in the presence of larger ones. Sheep have a visual signal for defensive aggression: they stamp. Threats in sheep are the foreleg kick, often repeated several times and sometimes actually contacting the opponent. The horn threat is movement of the head sharply downward. The twist and low stretch involves stretching the neck and twisting the head with accompanying tongue flicks. Some rams threaten by standing stiffly with their heads up, which causes their necks to bulge. Rams rub their horns on one another's face, probably spreading pre-orbital secretions.. Sheep rarely will huddle facing one another; head-to-head orientation is aggressive behavior in this species.

Adult sheep continue to use vocalizations as contact calls. Sheep also are able to distinguish conspecifics by means of olfaction. Sheep can recognize photographs of familiar sheep and people, but a photograph of a familiar stock person is not as effective as the stock person himself in calming an isolated lamb.

Cattle can discriminate a photo of a cow from that of other ruminant species. They are also capable of depth perception and have a fear of heights that can be demonstrated when they are first exposed to a milking pit.

Goats have pedal glands on only two feet and a tail gland. Aspiration of Nonvolatile material into the vomeronasal organ has been demonstrated in goats. They stamp and produce high-pitched sneeze when threatened. Kids have a distress call and an isolation bleat.

- ***Olfactory signals***

Olfactory communication is very important for sexual activity in ruminants. Goats and cattle can distinguish conspecifics by means of urine. Male urine is more easily distinguished than is female urine. The flehmen response is shown by all male ruminants in response to female urine.

- ***Communication with humans***

Sheep are aware of human visual activity. They look at a staring human more than a non-staring human and they are more active and urinate more often.

B. Equines

- **Vocalizations**

✓ **Neigh:** The neigh (or whinny) is a greeting or separation call that appears to be important in maintaining herd cohesion. It is most often heard when adult horses or a mare and foal are separated. A separated mare and foal will neigh repeatedly. These appear to be nonspecific distress calls, which the mare, but not the foal, may recognize individually. Some horses will call to their owners, but usually only when they are in their line of sight.

✓ **Nicker:** The soft nicker is a care-giving (epimeletic) or care-soliciting (et-epimeletic) call. It is given by a mare to her foal upon reunion and probably is recognized specifically by each. A horse may also nicker to its caretaker and a stallion to a mare in estrus.

✓ **Snorts, squeals, and roars:** The roar is a high-amplitude vocalization of a stallion and is usually directed to a mare. A sharp snort is an alarm call. More prolonged snorting or sneezing snorts appear to be a frustration call given when horses are restrained from galloping or forced to work. Snorts and nickers are sounds from the nostrils. The mouth is closed. Other calls are given with the mouth open.

When two strange horses meet, or when horses have been separated for some time, they greet each other by putting their muzzles together nostril to nostril (Fig. 1.1). The nostrils are flared,

but if any vocal signals are given, they are inaudible to humans. Usually one, the other, or occasionally both of the horses will squeal and strike or jump back although neither has been bitten or threatened. The squeal is, therefore, a defensive greeting. It is heard frequently when horses are forming a dominance hierarchy and many bites are being exchanged. Mares that are not in estrus squeal and strike when a stallion approaches too closely. A squeal may also be a response to pain.



Fig.1.1: Greeting

Nostril-to-nostril investigation, in this case by a horse and a pony.

(*Houpt, Katherine A. 2021*)

- **Visual signals Expression**

  The horse's ears are probably the best indicator of its emotions. The alert horse looks directly at the object of interest and holds its ears forward. Ears pointed back indicate aggression, and the flatter the ears are against the head, the more aggressive the horse1902 (Fig. 1.2).

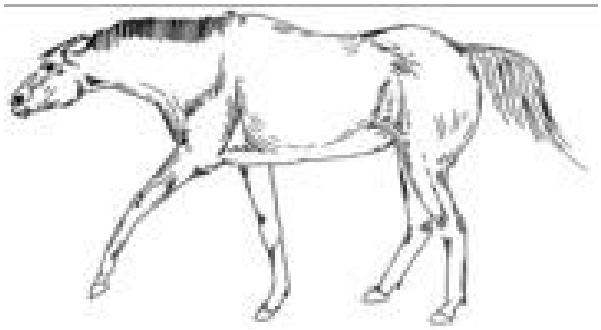


Fig. 1.2: The aggressive posture of a horse

The ears are back, and the horse is striking out with its front leg and lashing its tail. (*Houpt, Katherine A. 2021*).

A submissive horse turns its ears outward. Young horses (less than 3 years old) have a more dramatic display, snapping, and also called champing or tooth-clapping, in which the lips are retracted, exposing the teeth that are sometimes clicked together (Fig. 1.1c). This expression is shown by a yearling colt to an approaching stallion or toward an adult who is threatening him.

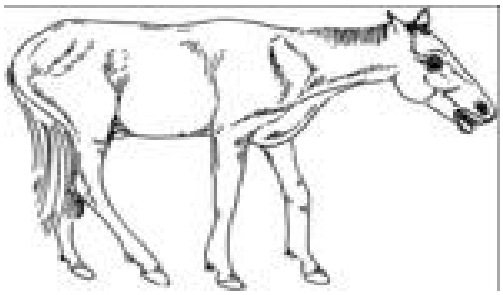


Figure1.3: The submissive posture of a horse. (Opening and closing its mouth while retracting the lips) (*Houpt, Katherine A. 2021*).

The sexually receptive mare shows a unique expression, the mating face, in which her ears are swiveled back and her lips hang loose. She may also exhibit snapping.



Figure 1.4, the mating expression of the mare (Houpt, Katherine A. 2021).

A horse that sees but cannot reach food, or is anticipating food, makes chewing movements and sticks out its tongue.



Figure. 1.5 the food-anticipating expression of the horse. *(Houpt, Katherine A. 2021).*

- **Posture**

The posture and bodily actions of the horse are also useful in interpreting its moods. The relaxed horse stands quietly, whereas its nervous counterpart prances and chafes at the least restraint. The aggressive horse, when threatening to kick, lashes its tail and may even lift one of its hind legs. The frightened horse tucks its tail tightly against its rump and stands with its feet close together. The stallion moving his mares assumes a unique posture, called herding, driving, or snaking, with head down, nearly touching the ground, and ears flattened (Fig. 1.6.).

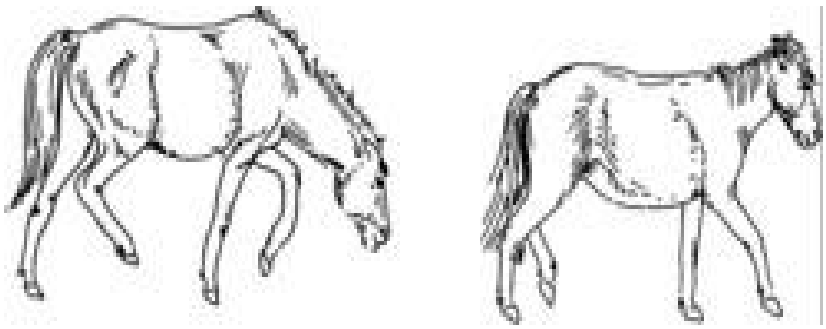


Figure . 1.6. Driving posture of the horse.

The stallion, left, drives a mare. This behavior is also called snaking, herding, or driving (rounding). (Houpt, Katherine A. 2021).

Horses paw the ground not in aggression but rather in frustration when they are eager to gallop or, more commonly, when they want to graze and are restrained by rope or reins.

Pawing to eat may be a behavior derived from pawing through snow for grass and might be considered a form of displacement behavior. Tail lashing and pawing can be signs of discomfort.

- **Tactile sense**

Horses can detect a fly on their skin and respond either by moving their skin or swishing their tails. Riders make use of the horse's ability to perceive a slight pressure on his flank in order to signal dressage movements. Very light pressure on the skin is used to calm a horse. Another use of the horse's tactile sense or more likely pain receptors is the twitch. When the horse's upper lip is twisted with a chain or rope, endorphins are released and analgesia is produced.

- **Olfactory signals**

Scent marking: Olfactory communication plays an important part in the sexual behavior of horses. Stallions curl their upper lip in the flehmen position or “horse laugh” when they smell the urine of a mare (Fig. 1.9). Estrous urine alone does not stimulate more episodes of flehmen by stallions than does non estrous urine,[98,155] but the frequency of flehmen by a stallion toward a particular mare in his herd increases as she approaches estrus, perhaps because the mare urinates more frequently.



Figure.1.7. The flehmen response or lip curl. The location of the vomeronasal organ is indicated by the arrow. *(Houpt, Katherine A. 2021).*

Horses also use olfactory cues, especially from their own or other horses' manure, to find their way home. Wild stallions use manure piles, or stud piles, along well-used pathways, possibly to scent mark.

Horses respond to predator odor by increased sniffing, but only seem frightened. Refuse to eat and increase heart rate) when the odor is combined with the sound of a plastic bag being dragged over the ground

Horses have individual sensitivities. Some are more reactive to odors, others to tactile or auditory stimuli, but there is no general sensitivity.

- **Artificial pheromones**

The equine appeasing pheromone, from the intra mammary sulcus of the lactating mare can reduce the signs of fear and the elevation of heart rate in response to a novel stimulus—a bridge.

C. Camels

- **Behavior notes**
  - ✓ Domestic camels are maintained in a semi-wild state. Obtain food from wild vegetation, water from humans. Unguarded camels will return to a familiar well.
  - ✓ Wild camels' extremely shy acute eyesight allows them to spot danger 2-3 miles away and flee.
- **Activity Cycle**
  - ✓ Browse or graze 6-8 hours and chew cud another 6-8 hours each day.
    - Constant work required to maintain health on low-nutrient desert plant life.
  - ✓ Previously, migrated seasonally to green pastures.
    - Movements now curtailed by human settlements.
- **Social Behavior**
  - ✓ Social groups

- Form small groups of ~6 (2-15 animals).
- Gather at oases and small springs.

- **Communication**
  - ✓ Displays
    - Rutting male stretches to hold head higher than a rival.
  - ✓ Vocalizations
    - Rutting cry: “blo-blo-blo"
  - ✓ Smell and scent marking
    - Male rubs back of head against shoulders (occipital gland).
    - Secretions tend to excite males.
- **Agonistic Behavior and Defense**
  - ✓ Aggression
    - Dromedaries may blow out (spit) cud when excited.
    - Bactrian camels do not deliberately spit (may if abused).
    - Little aggressive behavior except among males during breeding season.
    - Adults may push with lowered head and neck.
    - Canine teeth used as weapons.
    - Extreme fights can result in death of both combatants.
- **Interspecies Interactions**
  - ✓ With domestic species
    - Integral part of nomad culture
      - Domesticated by nomads 3,000-4,000 years ago
      - Still important part of nomad life in the Sahara
      - Provide meat, milk, hides, wool
      - Males used for transport and riding
  - ✓ Used in combat

D. Swine

- Vocalizations

Vocal signals are probably the most important means of communication in pigs.Grunt, bark, and squeal: The common grunt is given in response to familiar sounds or while a pig is rooting. The staccato grunt or short grunt and is given by an excited or investigating pig and may precede a squeal. A crescendo of staccato grunts is given, for example, by a threatening sow and may precede an attack on anyone who disturbs her litter. Isolation in a strange place causes pigs to vocalize. Short grunts are followed by screams.

- **Visual signals**

Posture: visual signals do not appear to be as important. One can learn something about pig thermoregulatory problems, if not about their moods, by observing their posture. Pigs have compensated for their poor physiological abilities with several behavioral strategies to reduce heat loss. A warm piglet lies sprawled out, but a cold one crouches with its legs folded against the body.

- **Tail position**

The tail, particularly in piglets, is a good index of general well-being in most breeds. Although Vietnamese mini pigs do not curl their tails, a tightly curled tail indicates a healthy pig in most breeds, and a straight one indicates some sort of distress. The pig's tail is elevated and curled when greeting, when competing for food or chasing other pigs, and during courting, mounting, and intromission. The tail straightens when the pig is asleep or dozing, but curls again when the pig rouses unless the animal is isolated, ill, or frightened. The tail will twitch when the skin is being irritated.

- ***Group behavior***

Group behavior is even more important. Pigs, especially newborn pigs, huddle when they are cold. They thereby convert several small bodies into one large one, both decreasing their surface area and using one another for insulation. Pigs can select an optimal temperature when a gradient is present, both in the laboratory and on the farm.

- ***Olfactory signals***

Boars may use behavioral signs more than pheromones to determine the sexual receptivity of the sow. Boars are the only male ungulates that do not exhibit flehmen. Instead, they gape as a cat does when they encounter sow urine. Females can identify intact males, probably by the strong boar odor produced by the androgen metabolites present in both the saliva and preputial secretions of boars. Olfactory stimuli serve to identify pigs individually, for pigs can distinguish conspecifics by means of odor including urine odor. Olfaction appeared to be the most important sense in individual recognition. Pigs investigate any newcomer or any pig that has been temporarily removed by nosing it.

E. Pet animals

i. Dog

- ***Vocalizations:*** The common vocal communications of dogs are the bark, whine, howl, and growl.
    - ✓ Bark: Barking is a territorial call of dogs. It is used to defend a territory and to demarcate its boundaries. Barking occurs in wild canids; a wolf in a semi-naturalistic pen will bark at an intruder, but barking has been a trait selected for in domesticated dogs.
    - ✓ Whine and howl: Whining is an et-epimeletic or care-soliciting call of the dog. It is first used by puppies to communicate with the mother, who provides warmth and nourishment. Howling is a canine call that has not been deciphered well. It occurs more frequently in wild canids, coyotes, and wolves and in some breeds of dogs, such as huskies, malamutes, and to a lesser extent hounds.
    - ✓ Growl: Growling is an aggressive or distance-increasing call in dogs.

- **Visual signals**

- ✓ A dog's emotional state can be determined by observation of its ears, mouth, facial expression, tail, hair on its shoulders and rump, and overall body position and posture (Fig. 1.1h).

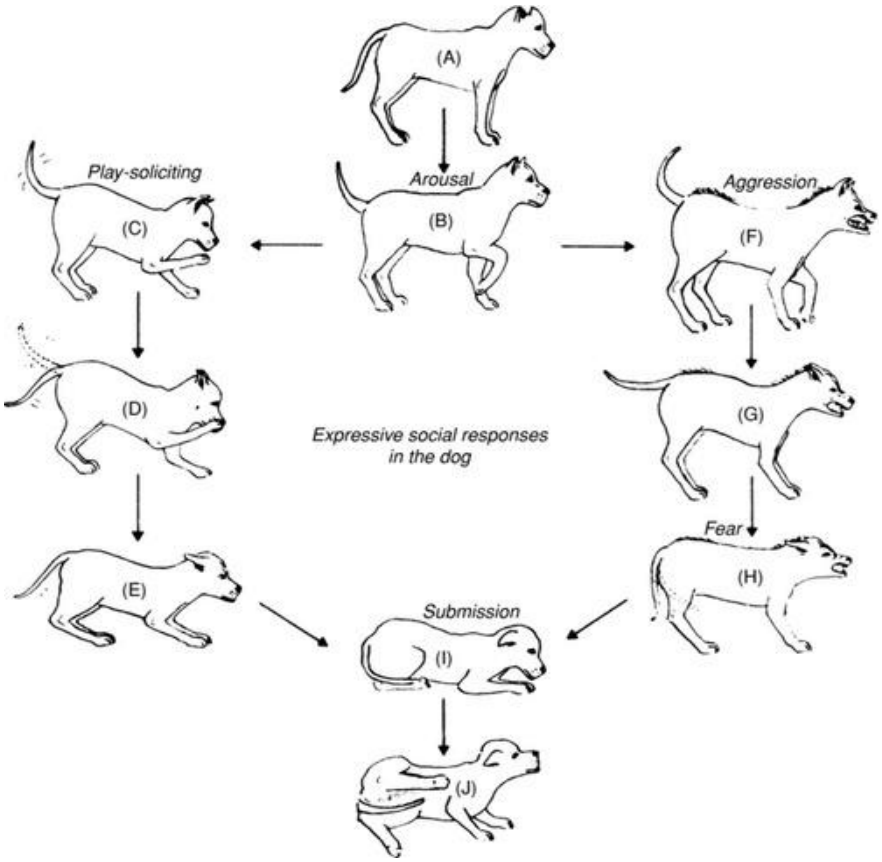


Figure.1.8. Body postures of the dog. (A, B) Neutral to alert attentive positions; (C) play bow; (D, E) active and passive submissive greeting—note tail wag and shift in ear position and in distribution of weight on fore and hind limbs; (F–H) gradual shift from aggressive display to ambivalent fear-defensive aggressive posture; (I) passive submission; and (J) rolling over and presentation of inguinal-genital region.

- **Posture**
  - ✓ The posture of the fear-biting dog is that of the frightened dog with tail and ears down and the body leaning away from the source of fear.

- ✓ General posture is also a good indication of the dog's mood. A lowered body posture with depressed tail is associated with fear and fear-based aggression and a tall, especially a rigid; posture with tail raised and stiff is associated with offensive aggression. Dogs wag their tails to the right of center when encountering their owner or a stranger, but to left when encountering a strange dominant dog.

- ✓ During a submissive approach, dogs curve their bodies, wiggling toward the superior, whereas a dominant dog stands straight and walks stiffly with tail and ears erect.
- ✓ Dogs greet their owners as they did their mothers: by licking their faces. As puppies, dogs lick their mothers' faces to beg for regurgitated feed.
- ✓ Dogs have a play signal; it is necessary to signal that the action that follows is play because, otherwise, the recipient of the playful act will consider it genuine aggression or sexual activity and respond in kind.

- **Genetic and surgical alteration**
  - ✓ Ears, tail, and hair position are all important in visual communication between dogs, but communication tends to break down in breeds that have been modified either genetically or surgically.

- **Olfactory signals**
  - ✓ The legendary olfactory acuity of dogs has already been known. Because dogs can smell so well, it is not surprising that dogs use odors as a means of communication.
  - ✓ Dogs are believed to be capable of identifying species, sex, and even individuals from the odor of the urine.
  - ✓ Dogs scent mark much more frequently in areas where other dogs have marked.

ii. Cat

- ***Vocalizations and audition***

- ✓ Murmur: Murmurs are the request, or greeting call, which can vary from a coax to a command, and the acknowledgment, or confirmation call, which is a short, single murmur with a rapidly falling intonation.
- ✓ Purr: A soft, buzzing vocalization that is easy to recognize. It occurs only in social situations and may indicate submission or a kitten-like state.
- ✓ Growl: A harsh, low-pitched vocalization, usually of long duration and given in agonistic encounters.
- ✓ Squeak: A high-pitched, raspy cry given in play, in anticipation of feeding, and by the female after copulation.
- ✓ Shriek: A loud, harsh, high-pitched vocalization given in intensely aggressive situations or during painful procedures.
- ✓ Meow: This characteristic feline call, "ee-ah-oo," is given in a variety of greeting or epimeletic situations.

- ***Visual signals***
  - ✓ Posture : The postures and facial expressions of the cat are shown in Figs. 1.1i and 1.1j

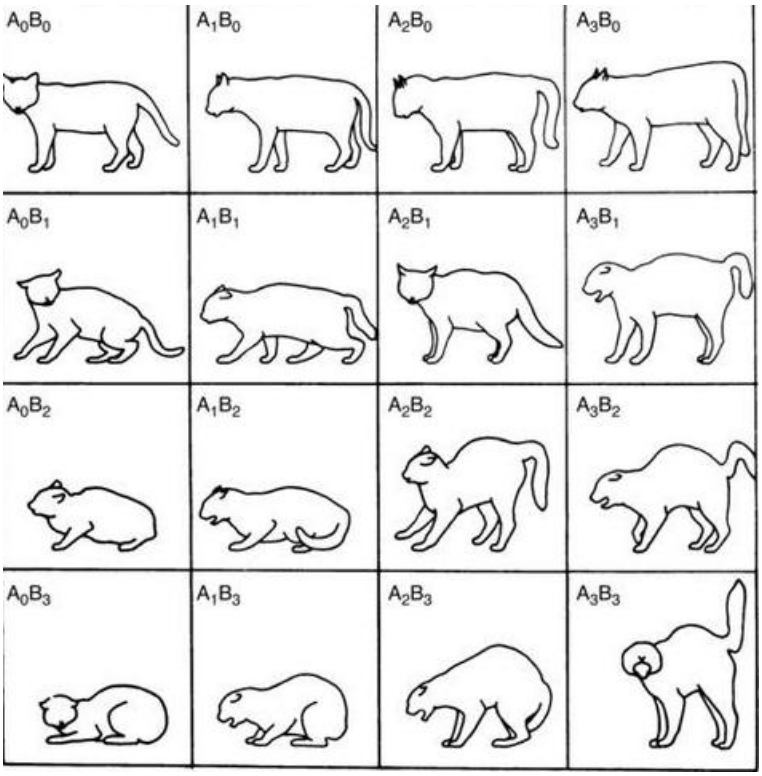


Figure 1.9. Body postures of the cat. Aggressiveness is increasing from A0 to A3, fearfulness from B0 to B3. A3B0 is the most aggressive cat, A0B3 the most fearful, and A3B3 the defensively aggressive cat.

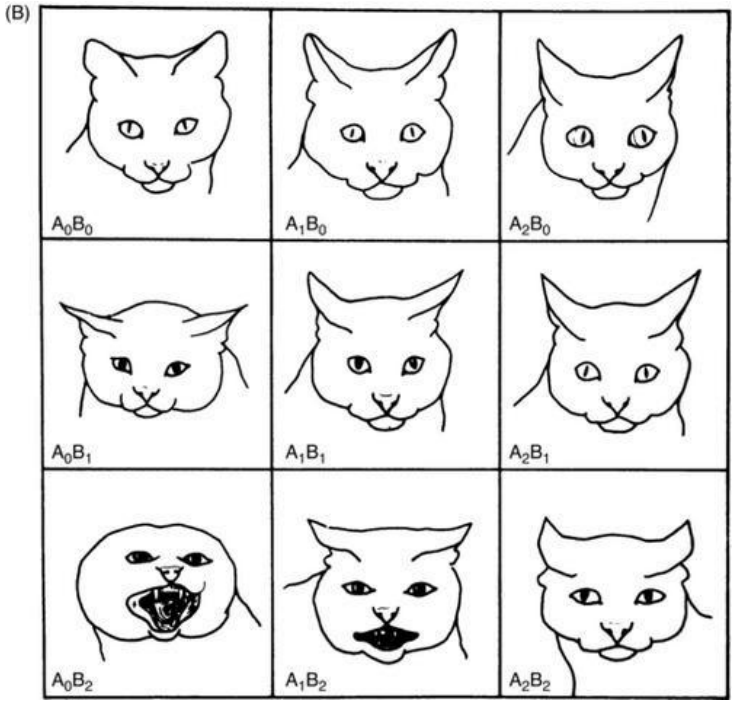


Figure 1.10. Facial expressions of the cat.

A2B0 is offensively aggressive; A0B2 is defensively aggressive.

- ***Olfactory signals***
  - ✓ Scent marking: Male cats scent mark, that is, spray urine, more than females, but both sexes do it. They spray trees along their most frequently traveled path
  - ✓ Anal secretions: Cats are well known for their fastidious covering of their feces, but in some situations, such as outside their core living area, cats may leave their feces uncovered.
  - ✓ Rubbing: Cheek rubbing (bunting) behavior may also be a form of olfactory communication in that glandular secretion from the cat's face is deposited on the object bunted.
- **Inter-specious communication**

- ✓ Dogs and cats appear to interpret each other signals correctly even when the behaviors have opposite meanings in the two species, for example tail wagging which signals annoyance in cats and pleasure in dogs.

F. Wild animals

- **Animal Language**

Animal communication is the area where some of the most dramatic findings have been made in the field of animal research. Communication patterns that were previously unknown have been discovered due to the advance in research technology**.**



Fig.1.11: Animal Language

(https://www.botswana.co.za/Botswana_Wildlife_Behaviour-travel/senses-hearing.html) 1/9/2022

- **Animal Senses**

Mammals are the only animals with external ears or pinnae. To call them ears is a little misleading as the main part of the ear is internal and the pinnae are merely a receptor to pick up the sounds that are then sent to the inner ear for processing.



Figure 1. 12. Animal sensing

- **Animal Survival Techniques to Avoiding Danger**

The African wilderness is a dangerous place for those with limited survival skills, and as such the animals that live there have all developed their own survival techniques for avoiding danger.



Figure 1.13: animal survival technique

- **Do Animals Talk?**

All species have methods of communicating with their own species either by vocal or non-vocal means but the debate sometimes occurs as to whether species can communicate with other species.



Figure 1.14: animal tal

- **Do Wild Animals Have Emotions**

Many people like to attach a romantic element to animal behavior. Elephants are said to mourn over a dead member of their species. It is true that they will touch and scent a carcass - and even old bones.



Figure 1.15: animal emotion

1.2. Comparing normal and abnormal animal traits

1.2.1. Introduction

Traits are; defined distinguishing feature of animal in nature. In the first information sheet we have discussed that all the general and special character of animal behavior. Based on this information a brief understanding of what animals do in different situation and stimulation is already discussed. So, Normal behaviors are actions we expect to see from animals in good welfare, such as playing or grooming. Normal behaviors tell us that an animal is happy, healthy, and relaxed in its environment. When animals become stressed, bored, or sick, they may perform 'abnormal behaviors' such as biting, hiding, or pacing. Therefor the following stimulus response of animal behavior will discuss the normal and abnormal animal traits in comparison.

- **Fight or flight**

When stranger approaches an animal, the same basic principles apply whether it is domestic or wild animal. Each animal has a fight or flight distance. When a space is invaded the animal goes into a state of alert. Further encroachment into animal's space will lead to action that may take the form of avoidance (the cow or horse crash through fence, the dog runs off down the road) or aggression (the dog bites, the cow runs over the stranger). This action is aptly termed as fight or flight response. When this happens it is very difficult to come up with a good restraint plan.

- **Aggressive behavior**

Aggressive behavior is a form of agonistic or conflict behavior that lead to and induces fighting. Aggression is not the result of a single cause. The different forms of aggression are classified according to the stimuli or circumstances giving rise to the ferocity.

- **Irritable or pain induced aggression**

Injections and certain manipulations, such as treatment of wounds, cause pain and discomfort that the animal may resent. If the animal is initially apprehensive and nervous, the probability of aggression is very high.

- **Maternal aggression**

All female domestic animals that are suckling their young are sensitized to interference with their offspring by strangers. The calmest, old brood mare in the herd may be extremely protective of her new foal. The bitch can be aggressive with strangers and even family members she perceives a threat to her pups. A sow within earshot of her piglets when they are being restrained can become one of the most dangerous animals encountered.

- **Predatory aggression**

Aggressive activity displayed by chasing and killing prey is observed in predatory domestic animals. Such as the dog and cat, is called predatory aggression. This from of aggression does not pose a threat to the animal handler, although large dogs may pull the handler down if they fill the urge to chase a cat while on leash.

- **Territorial aggression**

All domestic animals have a degree of territorial domain. They will protect the area over which the range from intruders, and they may, in fact, exhibit territorial aggression. Separate groups of horses may share feeding sites and watering holes, but they remain apart from one another and retain control of their own separate home range. The domestic dog regards the yard as its territory or the territory of its pack (the dog's human family). Strangers are treated with suspicion, and this suspicion may lead to barking or attack. Dogs that harass the mail carrier or meter reader are behaving within the norm of canine behavior.

- **Inter male aggression**

Aggression occurring between males can be a problem, particularly when stud animals are being kept. Boars can be extremely vicious when confronting each other, and great care should be taken when handling them. Stallions can become extremely agitated when mixed with another stallion. Bulls spend a great deal of time head butting and pushing one another around to establish the dominance order when they are turned out together.

- **Dominance aggression**

Certain dogs will establish their authority over a human family, other animals, and strangers because of their heritage as pack animals. Alternatively, a dog may accede to dominance from one family member but attempt to assert itself aggressively with other family members. Such animals are a menace in the clinic, since they will not only fear bite but also attack. Persuasion is of little value in handling these dogs. This type of animal is dangerous, and reliable restraint must be used at all times when handling it.

1.3. Defensive reaction of animals in response to capture and restraining

1.3.1. Introduction

Hazards will be more commonly experienced by workers who are working directly with displaced domestic animals; any emergency responder who has contact with domestic animals is at risk for exposure to these hazards. Most bite, scratch, kick, and crush injuries from animals can be prevented by using appropriate restraint and following established procedures. However, significant injuries and medical emergencies might result if proper procedures are not followed or precautions are not taken**.** The most commonly encountered defensive reaction of animals in response to capture and restraint will be discussed in the following way.

1.3.2. Defensive reactions

a. Animal bites and scratch

Animal bites and scratches can result in significant worker injury. Bite and scratch wounds should receive immediate medical evaluation and care due to risks of infection and rabies exposure. Serious bite wounds may require surgical repair. Secondary infections are a significant hazard from bite wounds; they can result in serious joint or systemic infection. Even minor skin damage can result in infections and illnesses. Scratches and injuries from contaminated equipment are also of concern. Bites from dogs, cats, ferrets, and other mammals may present a risk for rabies.

b. **Kicking habit:**

Horses and mules commonly kick out their hind-legs, while cows kick-in forward and then kick-out outwards. Cows also have a tendency to kick sideways in case of pain, inflammation or injuries. For example, if a cow is suffering from Mastitis in one quarter of the udder, it should be approached from the side of the non-affected udder.

c. Rabies and other zoonosis

Zoonosis is infectious diseases that are transmitted from animals to humans. Rabies is the primary zoonosis of concern. It is a potentially fatal viral disease; once a person begins to exhibit

signs of the disease, survival is rare. The virus is contained in saliva and is most often transmitted by the bite of an infected mammal. Rabies is preventable by vaccination.

Domestic animals may transmit other zoonoses to workers. Animal feces, and contaminated skin, fur, surfaces, equipment, bedding, and cages present a risk of infection. Dogs and especially cats may pose a risk for ringworm which is a skin infection caused by a fungus. Cat feces pose a risk of transmission of toxoplasmosis, a parasitic infection. Some pet rodents (such as mice, hamsters, gerbils, and guinea pigs) can transmit lymphocytic choriomeningitis virus (LCMV). LCMV may be transmitted from exposure to urine, droppings, saliva, or nesting material of infected rodents.

d. Noise

Excessive noise levels that damage hearing may be generated by large numbers of crated, barking animals in enclosed spaces or loud equipment.

e. Venomous Snakes: A Neglected Hazard for Outdoor Workers

Outdoor workers can experience a number of hazards. One often unexpected hazard is a venomous snakebite. Venomous snakes may be encountered in workplaces. The risk of worker encounters with venomous snakes outside these areas may increase as changes in local climate allow venomous snake species to expand into ever more favorable habitats.

Outdoor occupations most likely to encounter venomous snakes include: park rangers, landscapers, farmers, groundskeepers, zoo workers, foresters, gardeners, laborers, construction workers, painters, etc..

1.4.Hazards associated with restraining of animals

1.4.1. Introduction

An animal's response to restraint varies with the stage of life. A tiger cub grasped by the loose skin at the back of the neck will curl up just as a domestic kitten does. Such a reaction is not forthcoming with adults.

A female in estrus or with offspring at her side reacts differently than at other times. Males near conspecific estrus females may be aggressive.

- ***Hazards relating to animal restraint and handling***

All persons working with animals should be receiving training regarding procedures and equipment to ensure the safety handlers and that of the animals. Training should be occurring prior to the handling of animals. The following are some examples of risks will occur while working with animals:

- ✓ **Physical injuries**
  - Injuries during escape of animal
  - Moving heavy equipment's (strains) – Ergonomics
  - Slippery floors
  - Electrical hazards
  - Noise
  - Injury related to animals and people during the capture process
  - Aggressive animal behaviour (e.g. about to attack)
  - Stress and injury to the target animal and other animals in close proximity
  - Apprehensive (e.g. about being picked up)
  - Defensive (e.g. protecting itself, or its young)
  - Bites (Dog)
  - Kick (Horse, Donkey, cattle)
  - Paw (Donkey, Horse)
  - Thrust (Horn thrust, Bovine)

- Sprains
- Scratches (Dog, Cat)
- Sharps
- Lasers
- Machinery
- Slips
- Falls

✓ **Biological hazards**

- **Zoonosis** is a disease of animals that may under natural conditions be transmitted to humans.
- The list of potential zoonoses related to working with animals in research, teaching or testing is quite long, and numerous books have been written on the subject.
- Rabies, Anthrax, Tuberculosis, Brucellosis, Ringworm are some examples of biological hazards while working with animals.
- Live animal vaccines

✓ **Chemical Hazards:**

- Burns
- Skin irritations
- Inhalation
- Ingestion

✓ **Allergies to laboratory and other animals**

- The most prevalent occupational hazard facing people working in experimental animal facilities.
- Surveys have revealed that up to 44% of people working with laboratory animals develop allergies to one or more species, and they usually become allergic within 3 years of first exposure.
- Almost all species of common laboratory animals can trigger an allergic reaction.
- Allergies to the rat, rabbit, mouse, guinea pig, cat and dog are the most common.
- The animal allergens are mostly small molecular weight proteins such as albumen.
- When animals groom themselves, the salivary proteins also end up on the skin, and on the dander particles that flake off and become aerosolized.

- Urine, contaminated litter, dander, hair
- Allergic reactions can be classified according to the site of the reaction: upper respiratory; lower respiratory; skin; generalized; anaphylactic.

- **Safety guidelines for working with animals**

Working with animals is certainly an attractive prospect, but there are always risks related to any job that involves hands-on interaction with animals (whether you are working with pets, livestock, or wildlife). Animals can be somewhat unpredictable when they are under stress or in an unfamiliar environment, like when they visit the veterinary office or the grooming salon, so it is important to be attentive and stay aware of the animal you are handling at all times. Animal related risks of injury and others can be minimized by apply following animal handling safety guidelines:

✓ **Approach all animals with caution**

Take care to avoid blind spots and approach animals slowly so that they are always aware of your presence. Talk softly as you approach an animal so it hears you coming. Sudden movements are never a good idea, regardless of the species or breed involved.

✓ **Stay alert at all times**

Bites, kicks, and scratches are often delivered when a handler is distracted. Working with animals need complete attention at all times. A moment of carelessness is all it takes to sustain a potentially serious injury. Don't let be distracted by a cell phone or idle chatter with other handlers.

✓ **Study the behavior of the species**

Handlers must pay close attention to the behavioral signals that an animal displays. It is very important to recognize negative body language especially the signs of agitation. Horses pin their ears, strike with their teeth, and kick when upset. Dogs' growl, crouches, and bares their teeth when they feel threatened. Be sure to learn the warning signs when you start to work with a new species.

- ✓ **Take precautions against zoonotic diseases**

Zoonotic diseases are those that can be transmitted directly from animals to humans. Examples of zoonotic diseases include ringworm, salmonella, herpes B, rabies, hepatitis, and tuberculosis. Be familiar with the basic signs of an infected animal and be aware of how transmission can occur and take the proper precautions to avoid infection. Be sure to seek immediate medical attention after any potential exposure.

- ✓ **Minimize allergic reactions**

Allergens such as animal dander can potentially cause sneezing, wheezing, eye irritation, or hives. Some individuals have severe breathing emergencies which require the use of an inhaler or even hospitalization. Allergy shots may be necessary to minimize your reaction so that you can safely work with animals in a hands-on capacity. Avoid certain types of animals which are severely allergic handlers.

- ✓ **Inspect handling facilities for safety**

Sharp edges, slippery floors, improper lighting, and other structural hazards are responsible for many accidents and injuries. It is important to maintain a safe work environment and to keep all animal handling equipment in good working order.

- ✓ **Wear personal protective equipment**

Items of personal protective equipment can include a variety of options such as safety glasses, latex gloves, masks, steel toed footwear, helmets, coveralls, and lead aprons. If there is a product available and it is appropriate for the task at hand, consider taking advantage of it. Protective equipment can greatly minimize the chances of injury.

- ✓ **Restrain animals properly**

Securing animals safely can help you to avoid sprains, strains, slip and fall accidents, and other physical injuries. Large animals, such as cattle and horses, should be placed in stocks or stalls. Halters, hobbles or other restraints can also be utilized. Dogs can be muzzled and cats can be wrapped gently in towels. In extreme cases, a tranquilizer should be administered by a veterinarian.

- ✓ **Dispose of medical waste in appropriate containers**

Always handle any hazardous medical equipment (such as needles or chemicals) with extreme caution. Never throw needles away in the trash. Most clinics and farms keep special red biohazard disposal boxes on hand for this purpose.

- ✓ **Have an exit strategy**

An exit strategy is especially important when working with large animals in pens, stalls, or chutes. Don’t allow to get cornered. Maintain a clear path of escape at all times. One can seriously injured if he/she are pinned in a corner by one of the larger livestock species.

Self-check 1	Written test

Name…… ID…… Date…….

Directions: Answer all the questions listed below

Test 1. Give short answer

1. . Discuss briefly the behavior of animal to the following specious ?
   i. Cattle
   ii. Equine
   iii. Pet animal
2. Discuss Hazards relating to animal restraint and handling?
3. Explain Safety guidelines for working with animals?

Test 2: choose the best answer

1. The scientific study of everything animals do is called_____?
A. Animal welfare B. animal behavior C. animal right D. all

2. Good animal handler understands the basic behavior of the farm animals to:

A. Facilitate better handling

B. Reduce stress

C. Improve both handler safety and animal welfare

D. All of the these

3. The knowledge of livestock behavior helps the farmer in:

A. Efficient breeding

B. Feeding

C. Management of farm animals

D. All of the above

4. The size of the flight zone diminishes when animals receive:

A. Frequent gentle handling

B. Rough handling

C. Both (a) and (b

LG #15	LO #2- Perform capturing of animals

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Animal capturing materials and equipment
- OHS procedures in animal capturing
- Safe and humanely capturing of animals

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Select and prepare Appropriate capturing materials and equipment are for use.
- Follow OHS and emergency procedures.
- capture Animals in a safe and humane manner and follow standard guidelines

Learning Instructions:

5. Read the specific objectives of this Learning Guide.
6. Follow the instructions described below.
7. Read the information written in the information Sheets
8. Accomplish the Self-checks
9. Perform Operation Sheets
10. Do the “LAP test”

Information Sheet 2

2.1.Animal capturing materials and equipment

2.1.1. Introduction.

Capture animals: is the way of controlling or catching animals for different purposes

Animal capturing / trapping, or simply trapping, is the use of a device to remotely catch an animal. Animals may be trapped for a variety of purposes, including food, wildlife management, hunting, and pest control. Trapping may also specify the capture of mammals for their furs which may be sold or bartered in the fur trade, or which may be used for making clothing and other articles.

Animal handling describes how people respond to and interact with animals within the animal's environment. Proper handling techniques can reduce animal pain and distress and improve animal welfare. Animal handling methods require training, skill, and behavioral knowledge of the species you are working with. Find resources that include training videos, guidelines, and peer-reviewed publications on animal handling.

2.1.2. Materials and equipment for animal handling and capturing

- **Small Animal Shields**

A must for veterinarians, technicians and kennel personnel. Just slip the light, transparent panel into the cage, push toward the rear, and inject through the evenly spaced holes. Easy to clean and a convenient means of treatment that is safe for the handler and humane to the animal



(a) Small shields

- **Bite Sticks**



(b)

Dog Attack Deterrent



(c)

- Spray Shield



(d)

Cat Carrier



(e)

Fig 2. 1. (a), (b),(c),(d),(e) different small animal handling and capturing equipment (https://www.google.com/search?tbm=isch&hl=en&q=Small%20animal%20shield)

- **Muzzles**

When you are not sure about the animal's temperament when it arrives in your facility, the Baskerville Ultra Muzzle wills offer bite protection to both you and other animals. It's flexible fit allows for wider noses and a small convenient opening allows the dog to eat and drink while wearing it. The ergonomically designed safety strap ensures it stays securely in place and a metal buckle with pre-holed webbing makes for a quick and easy fit. Also comes with an optional, removable over the head safety strap.



Figure 2.2. muzzling a dog

- **Feral Cat & Small Mammal Den**

This den is designed to lure a fractious or frightened animal into a quiet, "hiding place." Once the animal is secure by simply closing the porthole, the handler simply removes the carrier for cage cleaning, treatment or transportation of animal. Made of polyethylene for warmth and durability. Easy to clean and disinfect.



Figure 2.3. Mammal den

- Magnum Net

Our largest net features a handle that extends from 122 cm to 244 cm and an extra-heavy-duty, double-wall frame. Soft and gentle netting for birds and other animals.

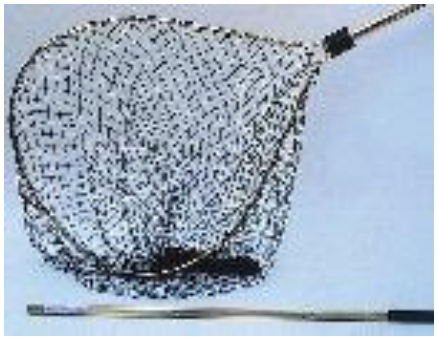


Figure 2.4. magnum net

- **'Y' Pole**

'Y' Poles are used to restrain wild or feral candid's against a solid surface (eg. Ground or wall) for capture, chemical immobilization, or simple treatments (such as injuries).



Figure 2.5. Y pole

- Cat Trap

Cat Trap is a locally manufactured rigid trap with a pressure plate mechanism. It is durable, easy to operate and affordable traps offer safe humane capture of animals



Figure 2.6. Cat trap.

2.2.OHS procedures in animal capturing

2.2.1. Occupational health and safety

- ***General consideration***

Occupational health and safety is about working safely and ensuring that the work place is a safe place for everyone, including visitors, animal handlers, veterinarians, staffs and animals.

Always note that Occupational Health and Safety (OHS) is an important integral part in monitoring and assessing health and the condition of animals. Identify the hazards of monitoring and assessing the animal. Assess the risks involved in relation to the restraining animals and make suitable controls to avoid accidents, injury or exposure to the disease. Personal protective equipment (PPE) must always be practiced as part of OHS. Animal care for farm and pet animals has a range of associated risks from bites, butting, kicks or scratches. All duties should reflect an awareness of and a respect for these risks. The handling of chemicals and drugs requires extra care to ensure safe work practices. Use appropriate safe handling techniques to reduce muscle load on exertion. Prevent farm and pet animal facilities from expose of zoonoses, release of infective agents (both animal and human) and chemical or drug spillage.

- ***Procedures to reduce the spread of disease and emergency accidents***

Emergency situations are by definition unexpected, and require immediate action. It is important that persons in charge **have a plan on what to do,** should an emergency situation take

place. The plan should include a series of emergency telephone numbers, e.g. to obtain veterinary assistance.

- ✓ Incident reporting
- ✓ Use of PPE and seeking advice from veterinarians
- ✓ Removal of waste and spillage
- ✓ Cleaning
- ✓ Disinfecting
- ✓ Sterilizing the equipment and the environment
- ✓ Containment or elimination of risk
- ✓ Recording

- **Emergency procedure:**

I. Call the national animal health emergency or regional number if the accident occurs on or if the emergency assistance is required for an on-farm accident. Recommend operator of:

- ✓ The location of the accident,
- ✓ The status of any loose animals or person,
- ✓ Any known hazards.
- ✓ Relate to the potential escape of an animal or injury to target animals, other animals, staff and potentially the public
- ✓ Report all injuries and illnesses

First aid will be administered by trained first aid officer

- For eye injury, treatment requires immediate and prolonged flushing with water (for 20 minutes in minimum). In addition, medical advice should be obtained.
- In the event of chemical or biological spills on skin, thoroughly wash the affected area with adequate water and antiseptics.
- For injury made by sharp materials, notify tutor immediately, wash the wound and encourage bleeding. Health service should be visited.

- If animal bite occurred, the wound must be rinsed with water and any antiseptic. Contact medical expert immediately.

II. Set out emergency warning devices within short period of accident.

III. Call the designated company contact. If the company has a dispatch checklist for accidents, proceed through list

IV. Call other designated contacts according to company protocol.

- To minimize work place risks while working with animals follow the following guidelines.
  - ✓ Use adequate restraining and handling facilities.
  - ✓ Be calm and deliberate. Speak gently -- do not startle animals.
  - ✓ Leave yourself an "out" when working in close quarters.
  - ✓ Stay clear of animals that are frightened, hurt, and sick or look suspicious.
  - ✓ Be alert for sudden movements, kicking, etc.
  - ✓ Use extra caution around strange animals.
  - ✓ Provide good footing for handling operations.
  - ✓ Keep floors and ramps clean.
  - ✓ Entrust livestock handling jobs only to persons with adequate strength and experience.
  - ✓ Wear protective footwear and headgear.

2.2.2. Handle and monitor animals

Proper handling is a key when dealing with animal welfare during emergency response situations. The animals are already stressed when being moved or handled. Appropriate handling minimizes the level of stress and leads to better overall health and welfare. The aim of every capture and restraint procedure must be to minimize the stress on the animal, and at the same time maximize the safety of the handler.

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- **Monitor:** it is the process of supervising animal's health on a regular basis

  - ✓ A healthy animal generally, is active, alert, and in good disposition physically and behaviorally.

  - ✓ It is important that the health of the animal should always be regularly observed and assessed to be able to immediately detect problems or signs of disease.

- **Distress** is a state associated with invasive procedures conducted on an animal, or with restrictive or other conditions which significantly compromise the welfare of an animal.
- **Stress** is a familiar aspect of life. Stress can be harmful when it is long-lasting and animals are unable to adapt successfully to it. Therefore, an important distinguishing characteristic of stress is its duration. **Acute stress** is defined as stress that lasts for minutes, hours, or a few days; and **chronic stress** as stress that persists for months or years. Indicators of stress may include trembling, vocalization and being off food or docile.

- Causes of stress in animals
  - ✓ Unusual noises
  - ✓ Unknown places
  - ✓ Confusing or inconsistent training or handling
  - ✓ People exhibiting strange or unusual behavior
  - ✓ Unpredictable or rough handling
  - ✓ Unusual odors
  - ✓ Being crowded by people or other animals
  - ✓ Extreme indoor and outdoor temperatures
  - ✓ Housing or resting area in an inappropriate place,
  - ✓ Inadequate exercise or mental stimulation
  - ✓ Inadequate diet for species
  - ✓ Inappropriate or excessive feeding of animals
  - ✓ Visiting animals from outside the facility coming into their territory

2.3.Safe and humanely capturing of animals

2.3.1. Introduction

All animals maintained in captivity should be treated humanely and provided with potable water, nutritious food, proper handling, health care, and a proper environment. Furthermore, all animals should be treated with respect. Fear, pain, suffering, and distress should be kept to a minimum.

From a humane and moral standpoint, the minimum amount of restraint consistent with accomplishing a necessary task should be used. It is incumbent upon a person who assumes the responsibility for managing domestic and either captive or free-ranging wildlife to be concerned about the animal 'swell-being. Everyone would agree that animal's well-being is an important issue.

Any discussion on the topic of animal use by humans brings with it moral, ethical, and practical implications. A concern that is always at the forefront of this discussion is animal welfare. We all want to be sure that the animals we use, regardless of the purpose, are given appropriate consideration. The United States and Canada have conducted the most extensive scientific testing of traps in the world to develop Best Management Practices for Trapping (BMPs), a program that ensures that traps are humane, efficient, safe and selective. Standards are applied and enforced to ensure animal welfare.

- **Definition Of Terms**

Many terms are used by different individuals and organizations to describe human associations with animals.

Animal welfare: Providing for the physical and mental wellbeing of an animal (health, readiness to breed and reproduce appropriate behavior for the species, and willingness to work). Criteria for judging the health of an animal include appropriate weight, appetite, feeding a proper diet, normal body functions (breathing, defecating, urinating), and normal life span. Ultimate judgment of health requires full knowledge and understanding of an animal's biology, natural behaviors, and life in its native environment.

Animal well-being: Maintaining an animal in optimal health(physical and mental) includes minimizing stress.

Animal rights: A system, advocated by some, that animals should have legal rights equal to those guaranteed people by the United States Constitution.

2.3.2. Safe Animal Handling And Physical Restraint

Handlers should become familiar with animals in their care, including their normal habits of eating, drinking, sleeping, urinating, defecating, and exercising, so that problems can be identified early and corrected when possible.

Effective, safer (none is entirely "safe") animal handling and restraint has therefore evolved over 14,000 years. The basic principle is well established: restrain as little as possible, but persist and do as much as it takes as long as it is safe and humane. Excessive, unnecessary restraint or initial failure will be magnified as greater resistance by the animal to handling in the future.

Throughout the more than these years of domesticated animal handling, the benefits of good handling practices for the animal and for the handler were obvious not only to the handlers but also to the observing public by addressing good image for humane of animal.

Evaluation of the quality of animal handling and restraint is not an exact science. The best, and only meaningful, source of evidence for good animal handling, restraint, and confinement is what the animal reveals by its behavior when the handling and restraint are repeated or persist. If the behavior is unnatural (stereotypic or exaggerated fear), poor handling or restraint methods have taken place. Stereotypic behaviors beyond random occurrence can be caused by excessive confinement and include pacing, weaving, chewing cages or stalls, and self-mutilation (feather picking, excessive grooming). Unnatural behavior caused by poor handling, restraint, or confinement is one of the primary means of assessing the need for improved management of animals, as well as the number of animals with excessive lameness, external injuries, and vocalizations. So concerning to this addressing animal welfare is mandatory.

Animal welfare is the state of the animal and how it is coping with the conditions in which it lives. When humans domesticated animals, they took on the responsibilities to provide shelter, food, and a painless death. Fulfilling these responsibilities has been erratic.

Animal welfare is defined animal welfare as "when an animal is healthy, comfortable, well nourished, safe, able to express innate behavior, and not suffering from unpleasant states such as pain, fear, and distress."

Furthermore, adding the five animal freedoms in the safe handling and capturing of animal is also very important.

Five basic needs (freedoms) of animals

I. Freedom from hunger and thirst
II. Freedom from discomfort
III. Freedom from fear and distress.
IV. Freedom from pain,injury and distress
V. Freedom to express normal behavior.

Proper animal handling for husbandry, treatment, and safety should be quiet, methodical, and leave the animal easier to handle the next time. In addition to achieving the initial purpose for handling animals, each handling event should have three goals:

(A**). Safety** for the animal and the handler,

(B) . Minimum stress for the animal and the handler during animal capture and restraint, and

(C) . A calm release of the animal at a time of the handler's choosing.

Safety is paramount and, if necessary, supersedes minimizing stress or a desirable release

NB: ***The single action that veterinary medical personnel do for each and every patient is the application of handling techniques.***

Figure 2.7: Outdoor kennel with covered top for shade and prevention of escape.

(a) (b)







(C)



(d)

Figure 2.3: a, b, c, d, different Safe handling and capturing of animal, images

(*https://www.google.com/search?q=safe+handling+and+capturing+of+animal,+images&hl=en&tbm=isch&ei=m3oLY5mdNo-O9u8PtteC4AY&start=20&sa=*N)

Self-Check -2	**Written Test**

Directions: Answer all the questions listed below 4 point each. Use the Answer sheet provided in the next page:

A. Short answer question

1. What is the purpose of restraining?

B. Multiple choice questions

2. Which of the following is the correct way of animal capturing technique?
   a. Separation from a group
   b. Enticement devices
   c. Lassoing and herding
   d. All
3. Controlling a number of animals of one kind together in a common environment is?
   a. Lassoing
   b. Herding
   c. A hood
   d. Separation
4. Of the following which one is capturing equipment?
   a. Visual barrier
   b. Nets
   c. Kat trap
   d. kennel
   e. All

C. True or False

5. Handling of animals is done for their physical examination.
6. Restraints devices should be suitable in size, design and operation to minimize discomfort or Injury to the animals.
7. A trap must be sited carefully to capture carnivores efficiently without causing undue injury.

Operation Sheet 2

2.1. Capturing pet animals

2.1.1. ***Procedures for capturing of a dog***

A. materials and equipment

I. animal (dog)

II. Muzzle

B. steps for capturing of a dog

Step 1- the muzzle for capturing of dog

Step2- apply the muzzle by inserting directly to the mouth in closing apposition of the upper and lower jaw.

Steps 3- make a knot by tightening the tighter of a muzzle dorsal to the nasal region.

2.1.2. ***Procedure for capturing of cat***

A. materials and equipment

I. animal (cat)

II. Cat carrier

B. Steps for capturing of a Cat

Step 1- handle home domesticated cat and approach it behaviorally before applying the cat carrier and massage the cat body to temporarily friend ship.

Step 3- prepare the cat carrier in front of the cat for little observation of the material

Steps 2- insert the cat to the cat carrier

LAP TEST-2	Performance Test

Name……. ID……..

Date…….

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **1** hour. The project is expected from each student to do it.

Task-1. Perform capturing of a dog

Task-2. Perform capturing of a cat

LG #16	LO #3- Carryout animal restraining activities

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Selecting and preparing restraining materials and equipment
- Applying physical restraining techniques
- Conducting chemical and verbal restraining
- Safety measures and animal welfare in restraining of animals

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Select and prepare appropriate restraining materials and equipment for use.
- Perform Appropriate restraining techniques are according to the species
- Conduct Physical restraining techniques carefully in a way free of stress or injury.
- Use Chemical restraints as restraints as of their appropriateness.
- Use Verbal restraints where required
- Take Measures based on the capturing and restraining objectives of the enterprise.
- Follow under supervision Protocols and procedures for capture and restrain including animal welfare requirements.

Learning Instructions:

11. Read the specific objectives of this Learning Guide.
12. Follow the instructions described below.
13. Read the information written in the information Sheets
14. Accomplish the Self-checks
15. Perform Operation Sheets
16. Do the "LAP test"

Information Sheet 3

3.1.Selecting and preparing restraining materials and equipment

3.1.1. Introduction

The animal restrained must become acquainted with a wide variety of tools used to handle animals safely, humanely, and effectively.

Restraint levels may vary from the level achieved by arousing the subordinate feelings of an animal by voice and/or force of personality to the level of complete physical or chemical immobilization (hypokinesia).

When we generalize restraining materials, equipment and/or tools For ease of discussion, the these have been placed into seven categories:

(1) Psychological restraint—understanding certain biological characteristic enables more satisfactory manipulation of a given animal;

(2) Diminishing sense perceptions of animals;

(3) Confinement;

(4) Lending added strength to or extension of the arms;

(5) Physical barriers used to protect us or allow closer scrutiny of animals;

(6) Physical force—used to subdue animals; and

(7) Chemical restraint—used to sedate, immobilize, or anesthetize animals.

3.1.2. Restraining materials and equipment

Apart from psychological and sense perception diminishing the other materials and tools listed in the above section are widely used for both domestic and wild animal restraint**.** So, as a materials and equipment the rest are discussing in the following way.

- ***Confinement***

  Confinement is a tool of restraint, but the acceptable degree of confinement may vary considerably, depending on the species and the situation.

  - ✓ To the free-ranging wild animal, being placed in ***a large fenced-in area*** represents confinement,
  - ✓ In a zoo situation this may be in an alleyway ; Confinement can be progressively intensified by smaller enclosures.
  - ✓ For a domestic animal it may be confinement in a stall or shed
  - ✓ ***NB; Close confinement makes it easier to evaluate clinical signs.***

The closest and most stressing confinement is that requiring an animal to be placed into a special cage, such as a transfer cage in a zoo, a special night box or bedroom, a shipping crate, or one of the many different types of squeeze cages





Figure 3.2:

Home-constructed squeeze cage for small mammals.

Transfer cage (Figure 3.1) in a zoo



Figure 3.3: Light squeeze cage for felids



figure 3.4: stronger squeeze cage for primates

F

✓ Squeeze cages are extremely valuable restraint tool for wild animals.



Figure 3.5: Portable squeeze cage for small animals.

Confinement may likewise be carried out by the use of special bags.

✓ The cat bag is useful for handling domestic species and can be adapted for use with many different species of small wild mammals.

- Cat Restraint Bag safely and comfortably restrains a cat for cephalic or saphenous blood draws, IM and IV injections, and nail trims. One person can easily restrain a cat in the bag, saving time and frustration.



Figure 3.6: Cat Restraint Bag

- ✓ Reptiles may be restrained for radiographic studies, anesthesia, or other mild manipulative procedures by inserting them into plastic tubes,



Fig 3.7: Plastic tubes used for snake restraint

- ✓ Complete restraint of an animal, usually under sedation, may be carried out with a restraint board.
  - This is routinely used with birds, snakes, and small primates.

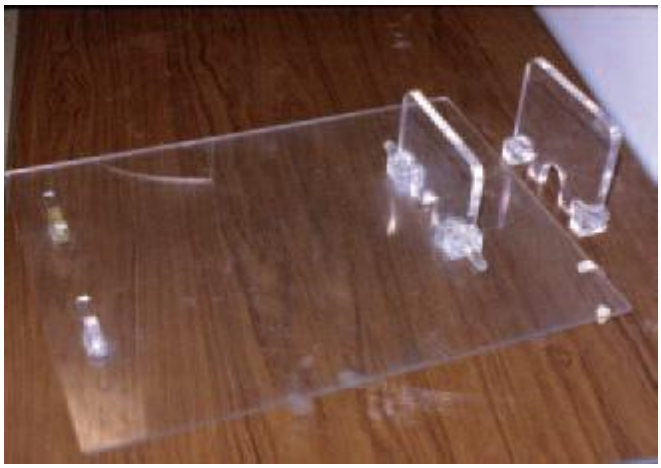


Figure 3.8: Plastic restraint board for radiography of birds.

- ✓ Stocks : defined as A frame for constraining an animal while it is receiving veterinary attention
  - Well-trained domestic cattle and horses may be placed into stocks for examination and manipulative procedures. This is the common method used to restrict movement, medicate, carry out dentistry, or examine a horse.



Figure 3.9: Different kinds of stocks: crush

- ✓ Confinement can also be accomplished with the use of ***ropes, cables, or wire panels***

- ***Extension Of Arms***
  - ✓ Ropes are an excellent means of extending the arm.
  - ✓ Roping has its greatest application when handling cattle. Nonetheless, horses, sheep, and even swine may be caught under proper circumstance Roping is not without hazard to the animal and the operator.
  - ✓ If the rope is used injudiciously and a tightened loop is
  - ✓ Roping is not without hazard to the animal and the operator. If the rope is used injudiciously and a tightened loop is left around the neck too long, the animal strangles.

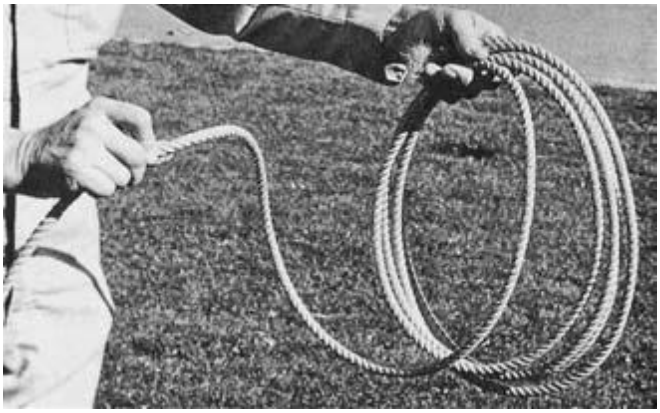


Figure 3.10 : .Right-handed roper coiling a rope to his left hand.

- ✓ ***Rope Halter***: Rope halters are used to lead animals, tie them up, secure the head to operating tables during surgery, or steady the head when manipulating under chemical restraint.

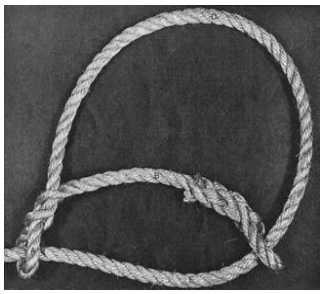




Fig 3.11: Rope halter

- ✓ ***Snares, hooks, and loops*** are used to capture and restrain animals in a variety of situations
- ✓ Snare is an important tool, but used carelessly, it can cause unnecessary pain or suffocate an animal.



fig 3.1.i. loops

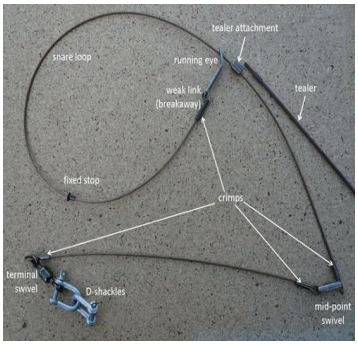






Fig 3.12: Different kinds of snares

(https://www.google.com/search?hl=en&tbm=isch&oq=&aqs=&q=+hooks+and+loops+for+animal+restraint)

- ✓ **Special tongs** have been developed for working with various species of animals, including swine and certain of the canids, such as the fox.
- ✓ A **vise tong** is used to grasp the animal at the neck, much as is done with a snare.



Fig 3.13 Different kinds of vise tong

- ✓ Nose tongs are widely used for handling domestic bovine species
- ✓ Bulls, particularly dairy bulls, usually have **a ring** placed through the nose to allow for safer manipulation or handling.
- ✓ A special **bull lead**, which is a pipe with a hook on the end of it, can be used to grasp the ring to guide the animal, allowing the handler to stay away from the animal.

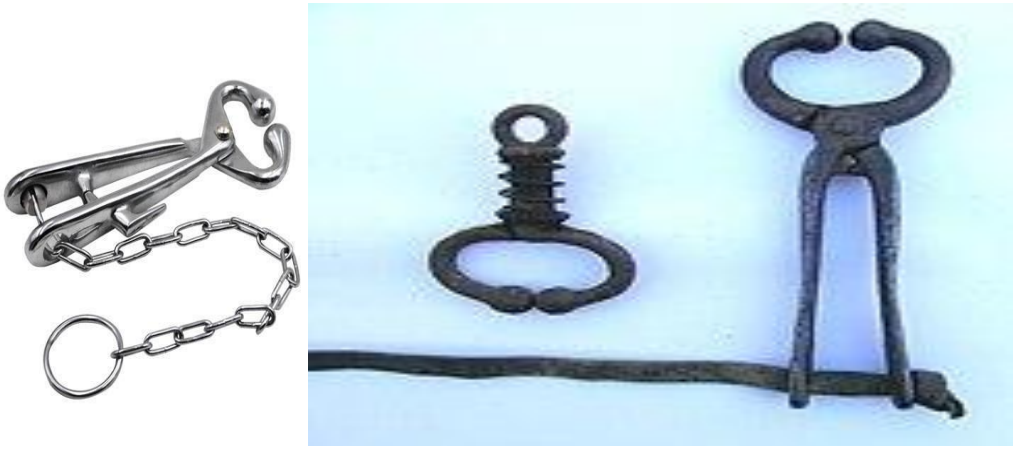


Fig 3.14: Bull leader and nose ring

✓ The **snake hook**, in its various forms, is utilized in handling all species of reptiles.



Fig 3.16: Snake hook,

✓ Trained wild animals, particularly the large cats or bears, may be restrained to some extent with the use **of chains**.

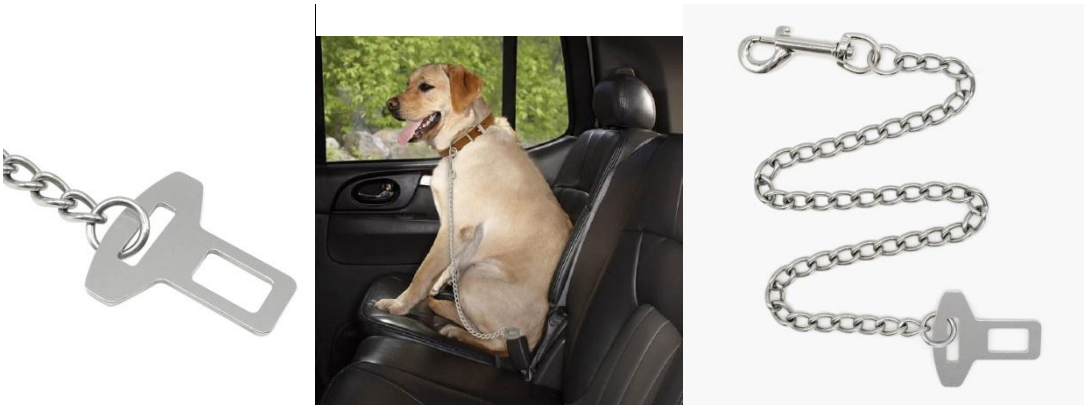


Fig 3.17: dog chain

- ***Physical Force***

✓ The hands are used in most manipulative procedures; the wise restrainer takes every precaution to protect them. The hands may be used alone to grasp an animal. The restrainer must know where and how to grasp the animal to be protected and to accomplish the restraint required.

- ✓ The pressure required varies with the species.
- ✓

3.2.Applying physical restraining techniques

3.2.1. Introduction

- **Physical Restraint:** is the use of physical means of different instruments to limit the movement and struggle of an animal.

  - ✓ Physical restraint is appropriate for simple procedures such as physical examination, injections, venipuncture etc.
  - ✓ Physical restraint should only be performed by operators who are familiar with the normal behavior patterns of the species that is to be restrained.
  - ✓ The duration of the procedure should be kept to a minimum, with prolonged stressful restraint unacceptable.
  - ✓ Appropriate restraining devices may be required to avoid injury to the animal or handler.
  - ✓ Personnel should approach the target animal in a calm and quiet manner.
  - ✓ Unnecessary people should keep away from the area to avoid making the animal more agitated.
  - ✓ For many species, it is important to cover the animal's head (e.g. with a blindfold, bag, blanket etc.) to impair its view of the environment and reduce stress.
  - ✓ Excessive noise and sudden movement should be kept to a minimum.

3.2.2. Types of physical restraint

- **Restraining techniques for cattle**

  a. **Nose lead technique:** Lift the animal's head fairly high and pull towards the side oppose that on which you intend to work. Apply pressure on the bridge between the nostrils contemporary pain the sensitive tissues between the nostrils

  b. **Heads restraint technique:**

Manually grasp the bridge between the nostrils with thumb and forefinger of one hand and hold it firmly. With the other hand hold the horn rear.

c. **Ear twitches technique:**

Ear twitches are easy to make and are very effective on a one foot length of a strong bar tie the lose end of 1. 5 feet length of soft rope. Apply twist and twitch the earlobe carefully and firmly exact little pressure on the ear lobe. Apply enough pressure only to elicit pain that can divert the animals' attention. Always treat the ear lobe with caution so as not to damage the ear cartilage.

d. **Milking hopples technique:**

Apply the figure "8" just above hock while milking. Hock twitch milker's is the delight a cow. It prevents a cow from raising the rear legs and thus prevents kicking. It is simple and effective. Get a rope made of heavy cotton between18-inches 22 around the hind legs just above the hock joint figure of"8"pattern cross between the two legs. A strong stick or piece about foot long is put through the eye by turning the stick the rope is twisted until it bind the legs tightly and press the tendon down. Thus it prevents the anima raising its legs and make milking possible (Figure 8).

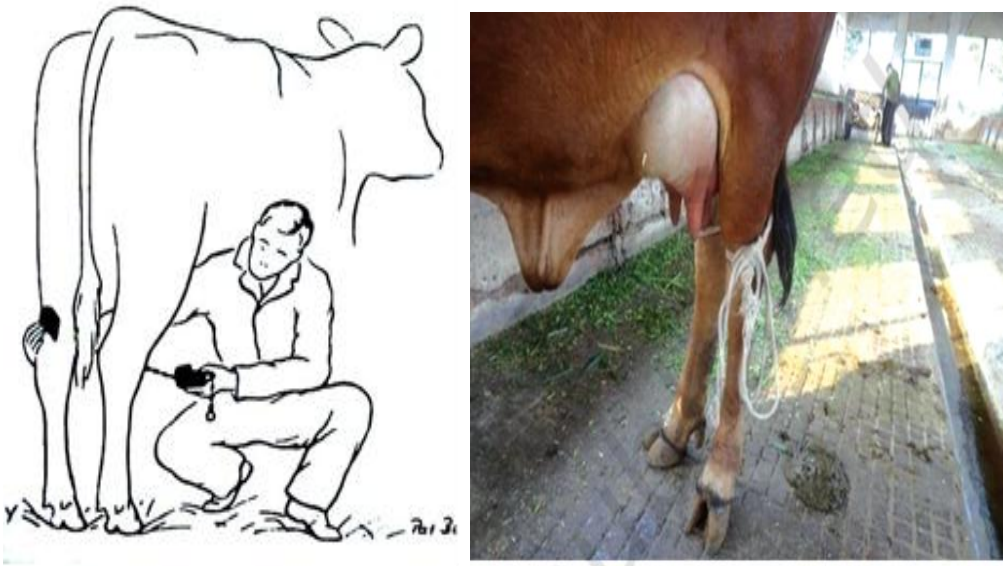


Figure 3.18: Milking restraint

e. Legs raising technique

First apply a nose lead. Grasp the legs at the pastern with the left hand; with the left shoulder push the cow's to shift her leg to the other near, at the same time raise the rear leg.

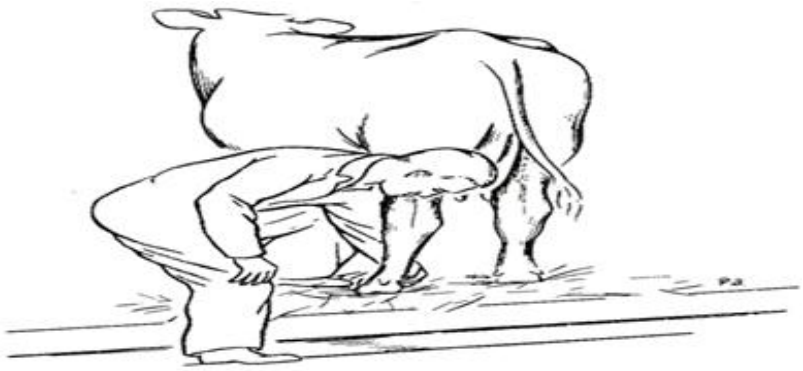


Figure 3.19: Raising the rare leg manually

f. Tail restraining technique

Your assistant may apply the tail restraint whenever it is necessary to distract cow's attention from another part of her body on which work is being done. It may be used when giving udder injections to a nervous cow. Keep both hands close to the base of the tail as much as possible. Stand to the side of the cow to avoid being kick and apply lifting force on the tail. It should be gentle but firm (Figure.3)

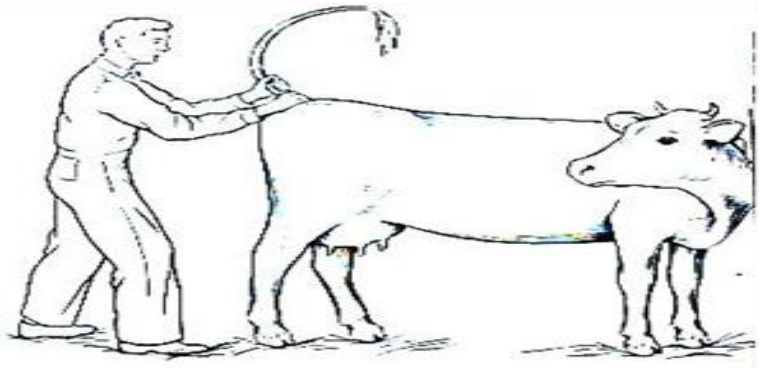


Figure 3.20: Tail restraining of cattle

g. Crush restraining technique

If many adult cattle are to be confined at time, a crush is most advised. Get the entire animals close together. Use person most familiar with cows to go close to them then to the animal in question. It is always advisable to hold long rope that has loosen at one end. Go as close to the cattle as possible and get the rope in the to head or horns. With the rope in place it will be easier to lead finally restrained.



Figure 3.21: Typical working area and crush

h. **Calves restraining technique**

Reach a cross the animal's back and pull the legs on the side closest to you outward. Calve is the eased down to the ground with weight against your legs so that it falls to the ground gently. You should never cast a calf by pulling its leg quickly from under its body so that she falls hard on its side. A very young animal it may be injured that way

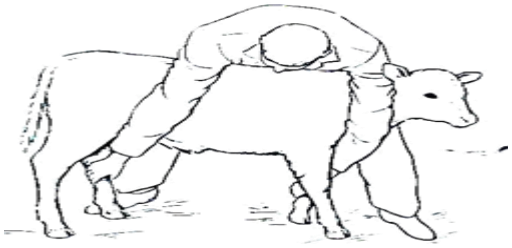


Figure 3.22: Step (i) in calf restraining

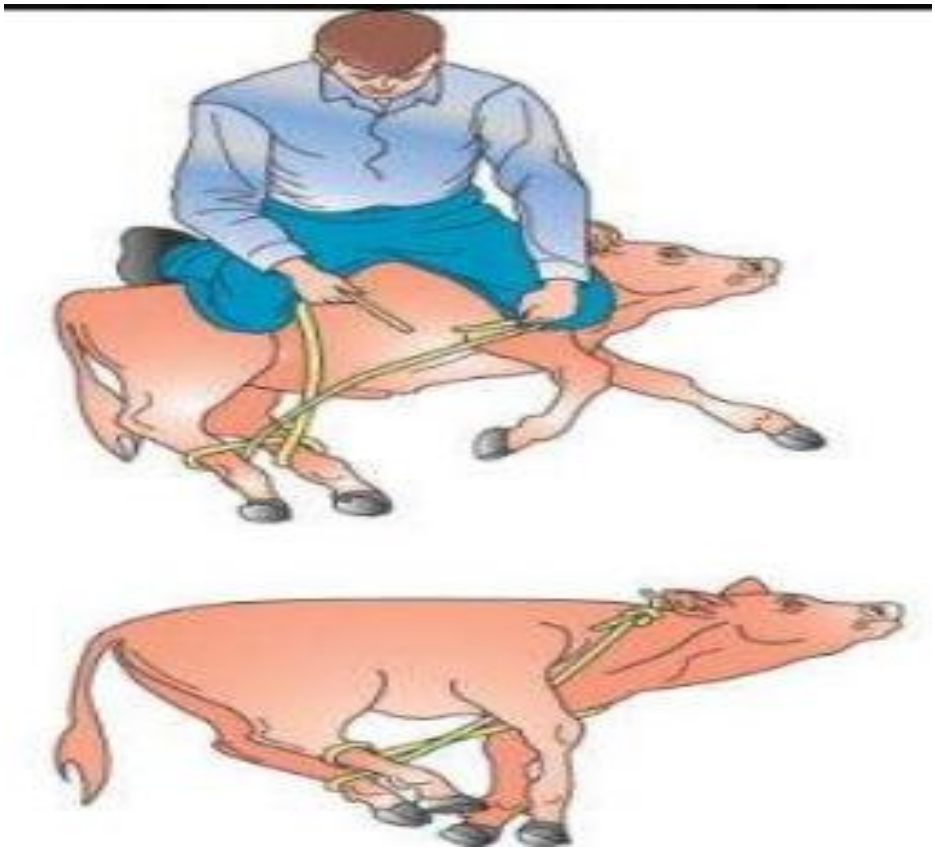


Figure 3.23: Step (ii) in calf restraining

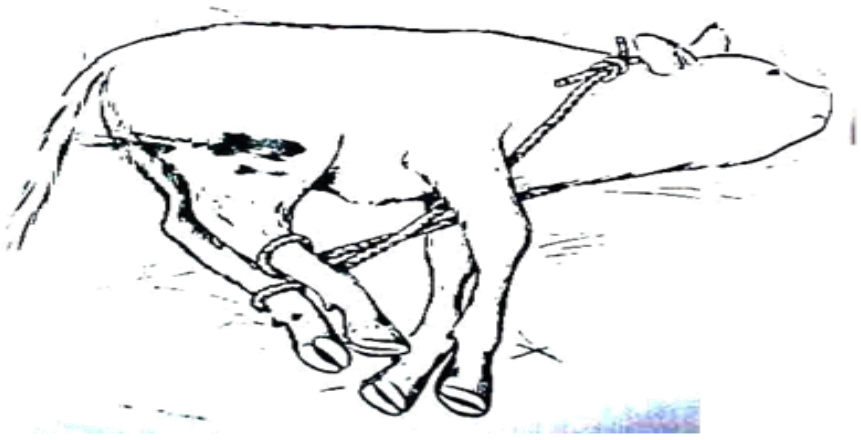


Figure 3.23: Step (iii) in calf restraining

Keep your knees against the calf's back to hold its own. Place the center of your rope over its back legs. Bring both ends back between the legs, cross the two ends and carry them between the front legs. Take the rope over the back of the neck. Getting the children of the herdsmen to catch hem best does catching the calf in the open. A gain catching calves head or hind legs is best.

i. Tail rope restraining

The purpose of this restraint is to keep the cow's tail out of the way when a placenta is being removed or the udder is being treated.

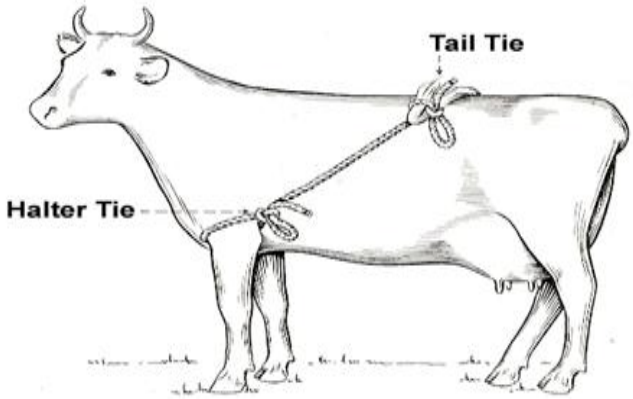


Figure 3.24: Tail rope restraining

j. Restraining cattle using mouth gags

Gags are means for keeping the two jaws apart for examination of mouth, teeth or for passing the probing in horse, cattle and buffaloes. Several types of gags are in use. These are mostly made of metal or wood. The one in common use with large animals here is called varnell's movable gag. The bars of gag or mouth pieces fit into the interdental space. The tongue must always be free. The bars should be covered with rubber or leather to prevent damage to gums. Gags are also available for use with small animals such as sheep, goats, etc.



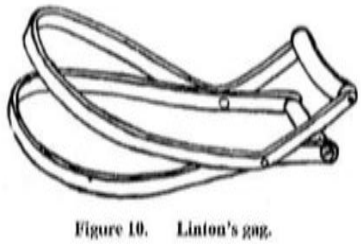




Figure 3.25: Varnell's gag **Figure 3.26: Linton's gag** **Figure 3.27: Mouth gag made from wood**

k. Restraining by using bull holder

Using nose lead is one of the best ways to restraints a cow. It is possible to give intravenous injections, to examine hoof, or to do udder surgery with only this restraint.

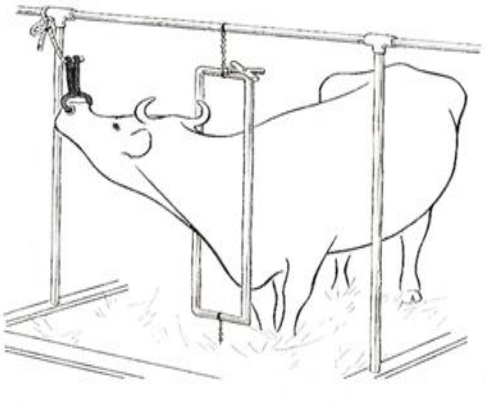




Figure 3.28: Restraining cow with bull holder **Figure 3.29: Bull holder**

l. Restraining cattle by using bull rings (nose ring)

These are used for restraining powerful bulls. They are generally made of two semicircular pieces hinged together and may be made of copper, aluminum, or some other alloy which does not rust. There are small as well as large rings which are used

according to the age and size of animal. The ring is applied through the nasal septum about 1 cm back from the nostrils. A hole is first punched with a special bull puncher. Bulls are generally rung at the age of 10 to 14 months. Some bulls need a new ring every year due to greater amount of wear and tear. It is a permanent type of restraint.

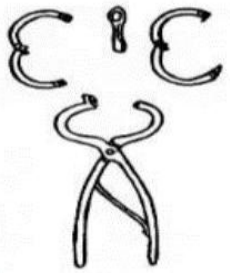


Figure 3.30 : Bull ring and bull puncher

m. Restraints by head (neck grip)

If the bull holder is not available restraint of the same kind may be applied manually. The assistance grasps the nasal septum with the thumb and forefinger of one hand and holds it firmly the horn or ear with the other hand.

- As more restraint is needed, he increases the pressure of his grip on the nose
- This is by no means effective a restraint as a nose lead and it is much more difficult for the assistant but it can be used in an emergency.

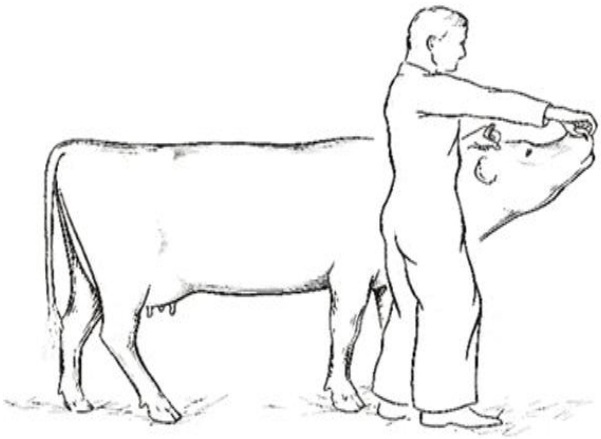


Figure 3.31: Restraint by head or neck grip or nose

n. Restraint by using front leg hobble

In this way a front leg may be raised and held off the ground for examination or treatment. This restraint can also be used to make a cow stand still and to keep her from kicking with a hind leg. A rope with an eye in one end is used to form a loop around the pastern. The other end of the rope passes over the withers where is should be held by an assistant so that it can be released quickly if the cow starts to go down.

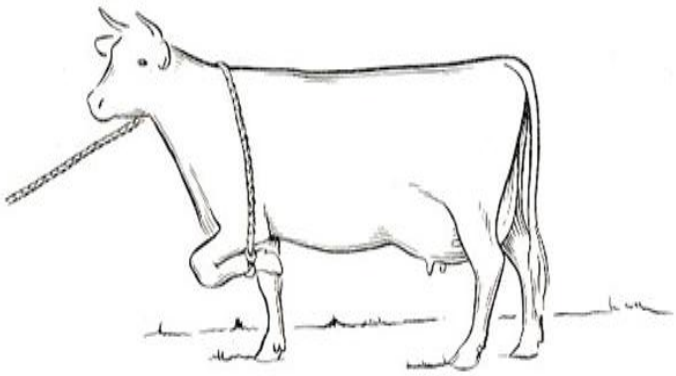


Figure 3.32: Front leg hobble

o. Casting restraints of cattle

Placing an animal in recumbence is known as casting the animal down or simply, casting the animal. These methods include the reef (rope squeeze method) and the Burley hitch, also known as the running "W". Bulls are more vigorous and are harder to cast and control. It may be safer to cast them with a double side-line harness than with one of the squeezes.

p. Rope squeeze

The Reef hitch is a technique using a rope to induce recumbence in cattle. This technique is performed with a shorter rope than the Burley hitch. This is a standard method of casting a cow. The rope for this restraint may be arranged on a cow while she is in the stanchion. She may then be led to the place where it is desired that she lie down and tension applied to the end of the rope.

- ✓ Make a loop around the cow's neck using a bowline knot placed as indicated in the drawing (As shown in fig 24 below). Throw the end of the rope over her back to the opposite side (As shown in fig 17).

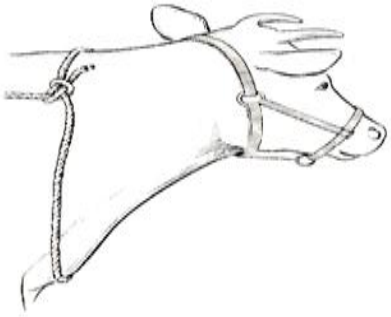


Figure 3.33: Loop around the cow neck

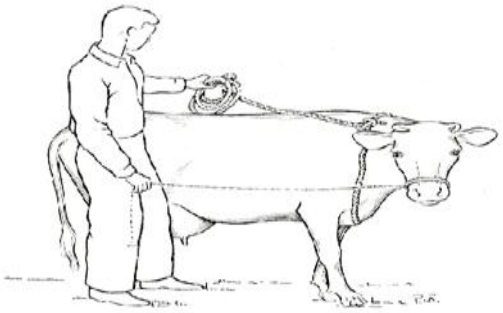


Figure 3.34: Throwing the rope over the cow's back

- ✓ Reaching under the cow, pick it up and bring it around her body and under the standing part of the rope near the bowline to form a half hitch just behind the shoulder (as shown in fig 19). By tossing the end over the cow's back again, make another half hitch just in from of the udder. Pulling the rope will force the cow to lie down (as shown in fig 20).

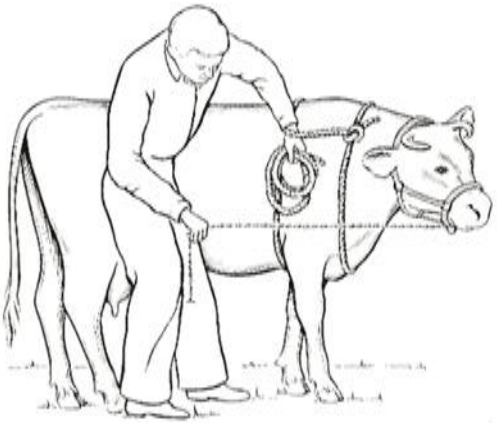


Figure 3.35 : Making the first half hitch

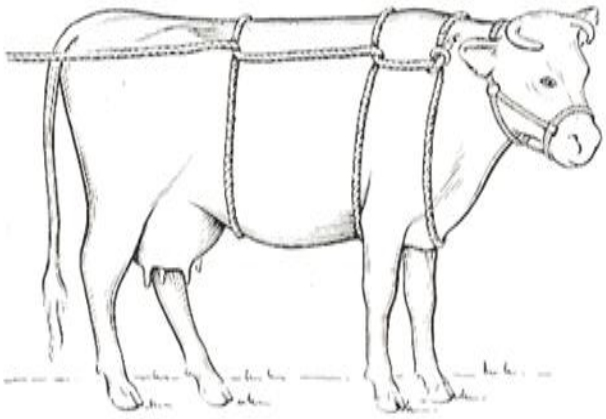


Figure 3.36 : Making the second half hitch

q. Burley hitch method of casting

This method of casting cattle has many advantages over the other casting methods. First, it is not necessary to tie the rope around the horns or the neck. It is simply passed around the animal's body which takes less time. Second, this restraint does not put pressure over the thorax and thus does not interfere with the action of the heart and lungs. Third, it does not endanger the genital organs of the bull or the mammary vessels of the cow. Finally, with this restraint both rear legs may be tied with the ends of the casting rope. While the cow is being held by a strong halter or by a nose lead a piece of rope is placed over her back with its center at the withers. The ends are carried between the forelegs and crossed at the sternum. One end is carried up each side of the animal's body and the two are crossed again over the back. Each end passes downward between the rear legs going between the inner surface of the legs and under the udder or scrotum.

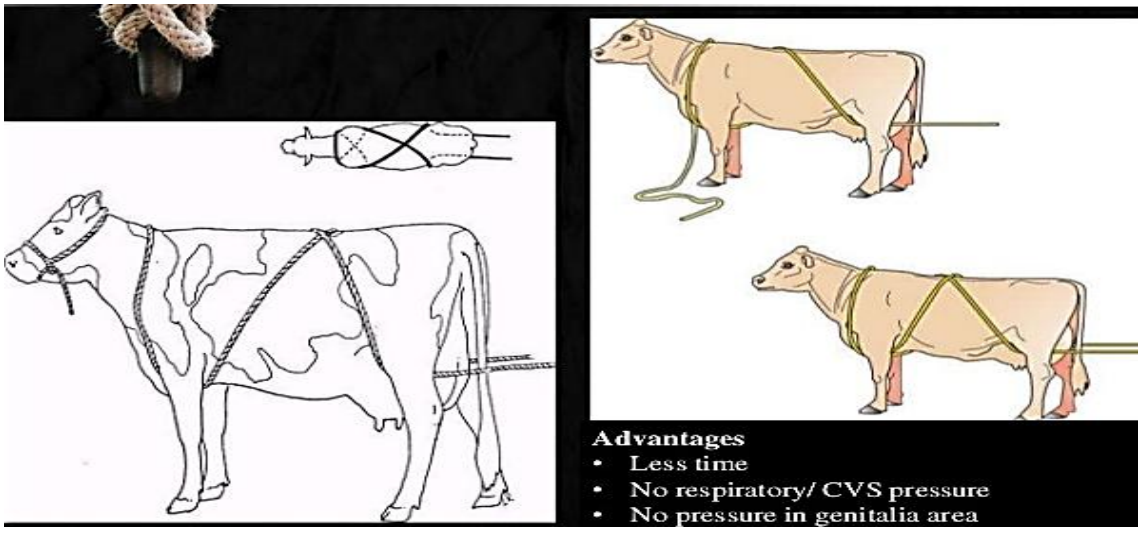


Figure 3.37 : Burley method of casting cattle

When the ends of the rope are pulled, the cow will fall. The operator may control the direction of the fall by pulling the casting ropes so that the animal is forced to one side or the other. To tie the rear leg the operator keeps both ropes tout and slides the uppermost one along the under surface of the rear leg to the fetlock. He flexes the leg and makes a half hitch around the fetlock. The end is then carried around the leg above the hock, across the cannon bone, and back around the fetlock. The leg is secured by several such figure 22.

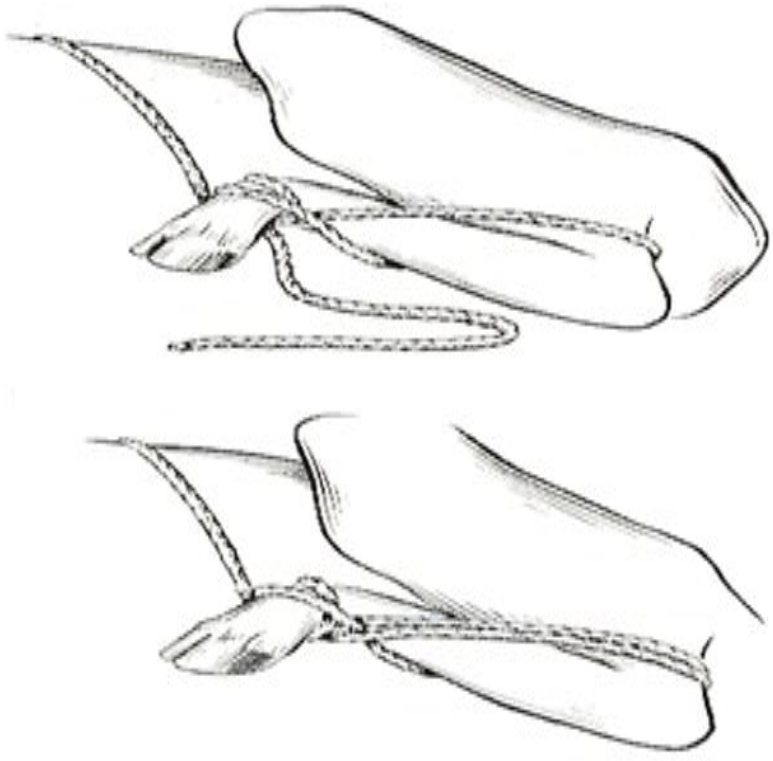


Figure 3.38: Securing animal's leg

To tie the front leg a short heavy cord or rope about six feet long is needed. One end of it is fastened around the pastern with a clove hitch leaving a free end about eight inches long. The front leg is flexed and the long end of the cord carried forward and passed under the main casting rope descending from the withers. The cord is passed around the flexed front leg several times and tied in a reefer's knot to the short free end at the pastern.



Figure 3.39 : Final securing the leg of animals

The animal is rolled over and the rear leg of the other side is tied with the other end of the casting rope. With another six foot cord, the other front leg is tied, and the animal is then completely restrained

r. Heifer restraint technique

Persons most familiar with them best, restrain heifers. With one hand hold a horn or the ear. Hold the ear at its base and apply all the pressure of your hand against the head (Figure.24). The ear should merely pass between the thumb and forefinger and should not be squeezed. Place the other hand under the heifer's chin, grip the lower lip and hold her head steadily against your hip. The heifer can then be examined or treated.

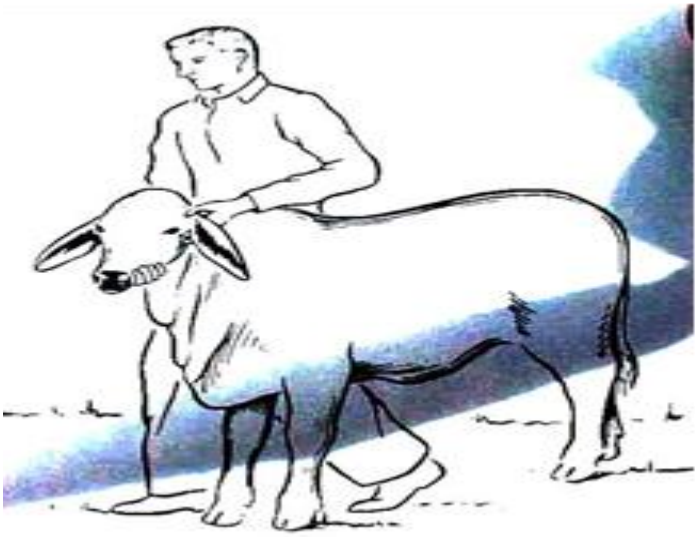


Figure 3.40: Heifer restraint technique

How to make temporary halter

The temporary halter is used when a permanent halter is not available. To make halter loop the rope around the cow's neck and secure the loop with a bow line knot. Make bight in the standing long part of the rope. Pass the bight through the loop and over the nose.

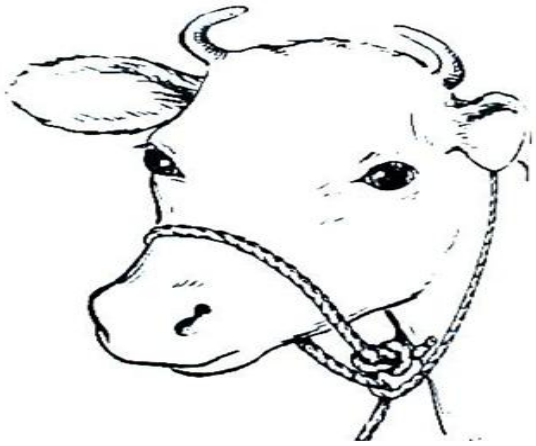


Figure 3.41: Cow on temporary halts

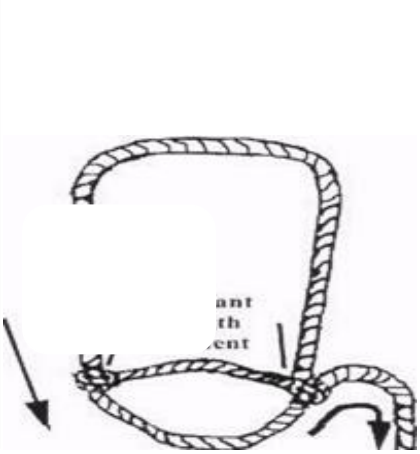


Figure 3.42: Permanent halter

3.2.3. . Restraining technique for sheep and goats

I. Catching and holding sheep and goats

Sheep and goats are easily to catch in an enclosure. The on to be caught is place long with few others in the enclosure. Move toward the animal slowly and catch the one you want by the leg or horn. Two to five persons may be required to successfully control a large herd of sheep or goat in an enclosure. Lamb and Kids are caught in enclosures by catching the legs hind legs. Ewes does with lamb or kids are best caught by first caching their young ones. This method can be employed in both open and in an enclosure.

a. Restraining sheep and goat for examination

Do not attempt to keep sheep or goat from moving by pulling on its head, horn hide. He will quickly become excited and resist. Merely keep agent pressure with handle under the jaw with left arm to prevent forward movement and their right arm around its back will stop backward movement (Figure 27).

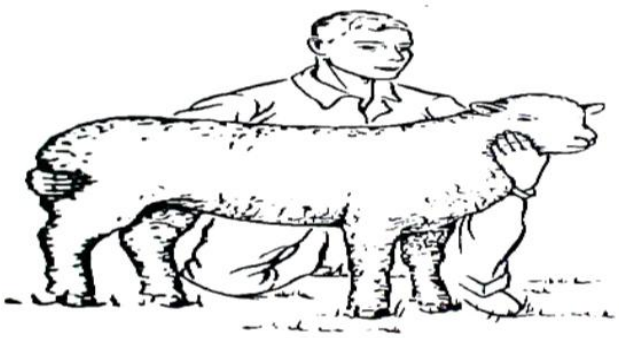


Figure 3.43 : A sheep properly restrained for restraining

Restraining sheep or goat in-between legs with one hand supporting the head. The method demonstrated above is an excellent way to tolerate flocks (Figure.28) with a good assistant and effective handling restraint several hundred sheep can be drenched in an hour.



Figure 3.44: Restraint for drenching

(https://www.google.com/search?tbm=isch&hl=en&q=Restraint%20for%20drenching)

Sheep or goat should be setup on their rump. If they are to be vaccinating the groin, it will be sufficient restraint tilt him backward so that he is of balance (Figure 29).



Figure 3.45: Restraint hoof of examination

(https://www.google.com/search?tbm=isch&hl=en&q=Restraint%20for%20drenching)



Figure 3.46: Restraint for hoof trimming in sheep

Sheep or goats should be held the same way for hoof trimming or for vaccination the groin where the clean free skin available for the needle puncture (Figure30).

3.2.4. Restraining technique for pigs

Pigs are stubborn animals. They have definite idea soft their own and are extremely individual. Every pigs different from the other. What apply to one may not apply to the other in the same pen or herd. Pigs may look hard to you in appearance they not strong enough when you subject them to rough handling especially the way you do to ram and goats. Also the legs are thin and rather fragile when you use catch and restrain pig for very long time. Pigs are not gentle either. Even the piglets are capable of biting your finger of if you frighten them. As a rule make pigs a comfortable as possible even under restrain. When large Herds are to be controlled, it is advisable to have their pen as clean and dry as possible. The pen should be in order several days before they are handle. If the pen is clean and fresh beddings supplied and the Pigs have dried up environment and they will be easier to maneuver.

Pig can be restrained by two methods

A) Catching method

a. Hurdling: Trap the pigs between solid barriers to restrict movements of the pigs. Catch the large ones among the pigs with pig catcher rope when trapped. It is advisable to handle young one with car in other not to cause dislocation of the bones.

b. Trap or confinement: Individual pigs may be driven into confinement and selectively restrained with effective use of rope.

c. Pig catch: Catch the near legs in the clamp of the pig catcher and pull the rope to hold it, tight around the legs.

4. Use of bucket Move a large pig covering its face with buckets and moving it in the reverse direction.

5. Snubbing rope: The rope behind the tasks is snubbed to a post as the pig pulls back.

(B) Special restraint method

a. Hug snare twitch

The twitch used for pigs is usual loop. Place the twitch over the but firm pressure that is painful movement.

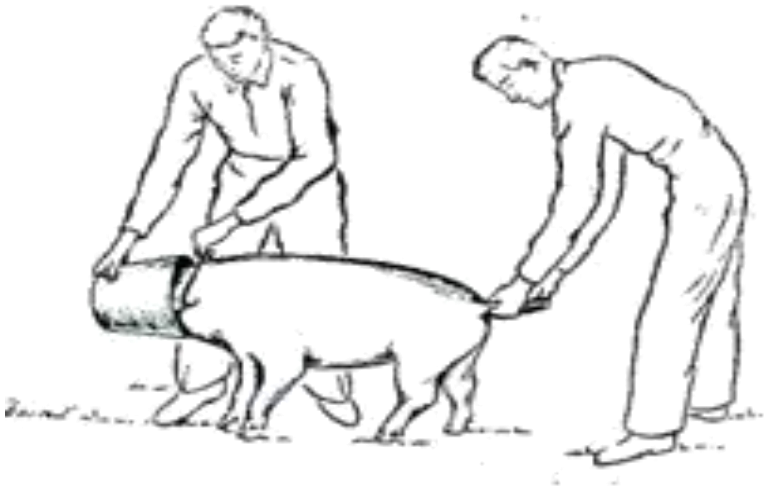


Figure 3.47: Moving a large pig the face covered catching a piglet with bucket or blanket

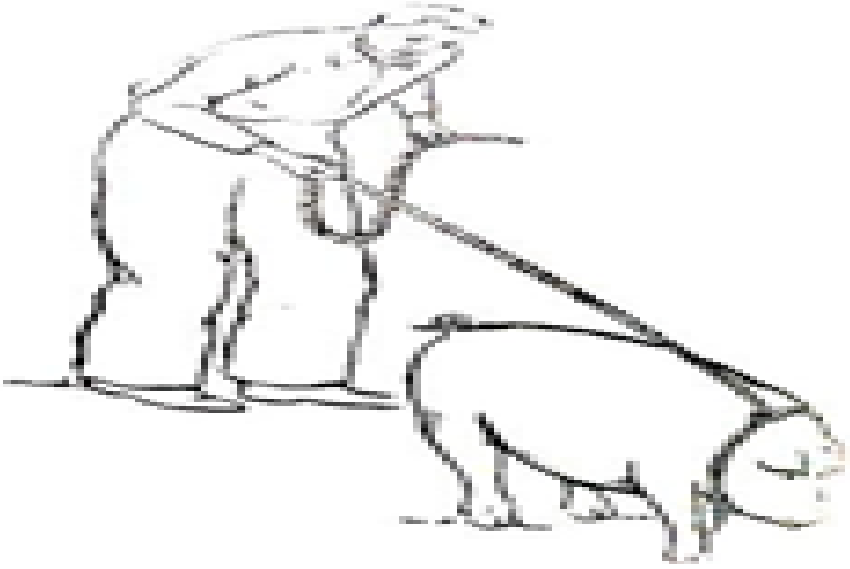


Figure 3. 48: Catching of pig



Figure 3.49: Holding of pig

3.2.5. Poultry restraints

a. Holding a small bird

Pigeons, Quail and other small birds should be picked up and held in one hand. (Figure 34-36) finger should. Be extended across the birds back to hold down both wings. When transport small bird for long distance they should be in cages. Don't carry small birds by the wings. Never use bird's wing as Handles. The wings are fragile and can easily be fractured. The wings. Can only be used to lift birds. The wings are so large and hand that is tempt using the as handles. This temptation should be resisted.



Figure 3.50: Holding small birds for examination

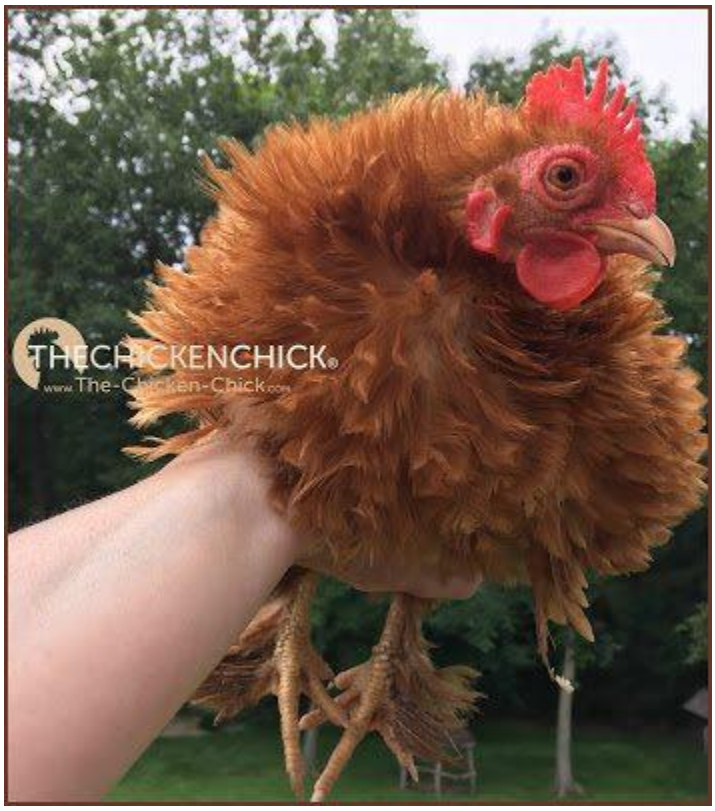


Figure 3.51: Holding chicken in one hand for examination

(https://the-chicken-chick.com/the-right-way-to-hold-handle-chicken/)

Hold the chicken in one hand. Pass your middle finger between its legs and the other fingers slightly spread apart to support the body. You can use your other and to work the feather for examination for parasites or scoring of body conditions.

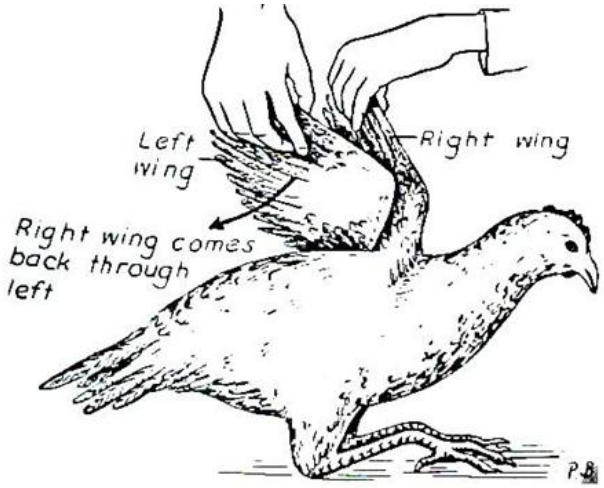


Figure 3. 52: Holding chicken with wings crossed

To keep a chicken in one position and fairly still its wings can be crossed. They Will stay in this position for a short time but even the usually bird will free itself.

3.2.6. Restraining of dog and cat

a. Restraint using muzzle

Muzzles can prevent an animal from biting you, and they can sometimes make an animal behave better. Muzzles can be used for both cats and dogs, but you need to be careful. Several types of muzzles can be used. The end of the muzzle can be closed (basket-style) or open. They can be made of leather, plastic or cloth. The closed ended muzzles allow the animal to open their mouth to pant. The open ended muzzles allow the animal to extrude their tongue to drink.



Figure 3.53: Basket style closed ended –plastic





Figure 3.54: Open ended leather Figure 56: Open ended style muzzle Figure 3.57: Basket style muzzle

A leash or strip of rolled gauze can be used as a temporary muzzle. Because dogs often try to remove a muzzle, it is important that the muzzle be placed securely. The gauze should not be stretchy. As the gauze is not very strong it should be doubled to increase strength. The length must be adequate to wrap around the muzzle at least twice, and then tie behind the ears. A large loop is made in the center of the length of gauze. The loop should be about 3 times the diameter of the dog's muzzle. The loop is placed around the muzzle and pulled tight on the top of the nose. A single knot is tied.





Figure 358: Double gauze Figure 3.59: : A large loop Figure 3.60: Loop around the muzzle

The ends of the gauze are then tied under the jaw with a single knot. The long ends of the gauze are brought behind the ears and tied in either a square knot or an easy release bow.



Figure 3.61: Gauze tie under the jaw

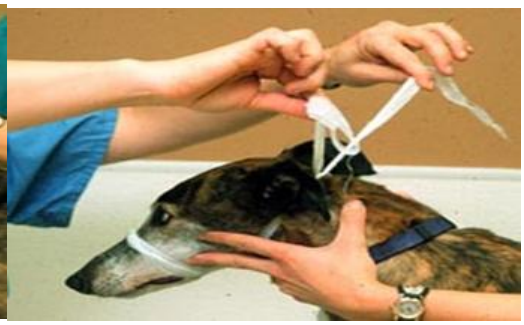


Figure 3.62: Gauze tied behind the ear

A weak or poorly made muzzle may lead to a false sense of security and the possibility of being bitten. Do not leave a muzzle on an unattended animal. If the animal vomits while wearing a muzzle, it could choke. Also, the animal will not be able to cool itself by panting and may experience heat exhaustion and/or heat stroke.

b. Dog and cat collar

Collar is a protective medical device worn by an animal, usually a cat or dog. Shaped like a truncated cone, its purpose is to prevent the animal from biting or licking at its body or scratching at its head or neck while wounds or injuries heal.



Figure 3.63: Dog collar

(https://www.google.com/search?hl=en&tbm=isch&oq=&aqs=&q=Dog+and+cat+colla)

c. Restraint bags

It can be used to restrain cats and small dogs. The bags are made of canvas or nylon, with a hook or other type of fastener at the neck opening and one or more zippers (or strips of Velcro) to allow selective exposure of a body part. Instead of a restraint bag, a heavy towel can be used to wrap the cats body, leaving the head exposed but use of a towel is not nearly as effective as a bag.



Figure 3. 64: Restraining cat with bag

d. The net:

It is the primary tool used to handle fractious cats or wildlife. It allows for the safe handling and transfer of even the most aggressive small mammal. Effective use of the net requires some training and practice.



Figure 3. 65: Restraining cat and dog with net

3.2.6. Restraint of horse

In many regards, restraint is the single most important aspect of the equine physical examination. Without adequate restraint, the examiner will be unable to complete a meaningful examination. The size and strength of horses make them potentially dangerous. Horse can kick, bite, rear, and strike. Any person should never be attempted without a halter and lead rope in place with someone holding the horse.

a. Halter

It is one of the simplest controlling devices for horse, cattle, and buffalo.

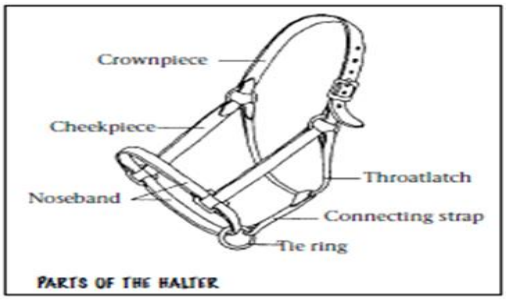




Figure 3.66 : Halter parts and restraining with halter

(https://www.thebarnrat.com/tbrblog/about-types-of-restraints)

b. Chain over nose: Provides additional restraint (as shown in figure 50).

c. A lip or gum chain: is more severe, and is often used on breeding stallion .



Figure 3.67: Chain over nose



Figure 3.68: Chain on lip or gum

(Source: https://www.dvm360.com/view/7-commonly-asked-questions-how-use-twitch)

d. Twitching with hand

Neck twitch

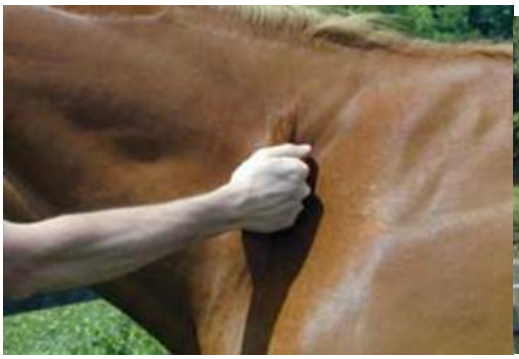


Figure 3.69: Neck twitch

Nose twitch and Ear twitch



Figure 3.70: Ear twitch

e. Twitching with device

- Different types -
  - ✓ Wood with rope; less severe than
  - ✓ Wood with chain

Applying twitch



Figure3.71: Lip twitching with rope with chain



Figure 3.72: Lip twitching with wood

f. Holding up a front leg

This can be very useful when examining hind legs to minimize the risk of kicking. Care must be taken not to get kicked or stepped on if the horse starts to move. This method is often useful

when a horse needs to bear weight on a sore leg, such as to place a bandage. Care must be taken, however, with horses that are able to balance on two legs.

i. Cradle

Ten or twelve pieces of wood having pointed ends are strung on the two pieces of cord and put around the neck of the animal and tied along the crest. It is helpful in preventing an animal from getting his head to a fore or hind limb in case of blistering or wounds. It is also helpful in restraining cow/buffalo/goat from sucking theire own milk. It allows very little vertical or lateral flexion of head if properly applied.



Figure 3.73: Restraining with cradle

j. Crush

Crush is especially useful for controlling large animals for the purpose of treatment, operations such as dehorning, docking and for shoeing. Different types of crush are used for different species of animals.

k. A hobble

It is a device for restricting the ability of a horse to walk by limiting the motion of the legs. They are made from leather, rope or synthetic materials like nylon. It is best to familiarize the horse with the hobbles slowly and on a soft sandy surface in case they fall or jump around. Hobbles can be strapped to one or two legs of a horse

One leg

- Strap it around the pastern and then lift the leg

- Put the strap around the upper leg until it is fairly snug but not so it hurts the knee



Figure 3.74: One leg hobble restraining

Two legs

- Strap it around the forearm of the horse's leg
- Put the strap around the other forearm till it is fairly snug but not so it hurts.

l. Casting horses

The following methods are employed for the purpose:

a. Casting with hobble

Horse is first made to stand with all four legs close together

Hobbles are applied and the rope is then drawn up tight, the leading man standing near to the fore hobble

Master hobble is applied on the opposite side of fore limb where animal has to be casted

Rope is pulled by 3-4 men simultaneously

Head is held back and pressed upon the ground.

A piece of old pasture is the most convenient place



Figure 3.75: Hobble

b. Single side line

A slipping knot is given at the pastern. The side line is then passed between the two fore-legs and the free end taken round the neck and brought up from over the off shoulder to the near side and a knot applied near the point of elbow, drawing the hind-leg a little bit forward (figure. 59).

c. Double side line

A slipping knot is given at the near hind pastern, the knot being on the outside. The side lines is then passed between the fore-legs and given a turn. The free end is then passed under the previous turn of the side line and passed over the shoulder onto the off side. The side line is then wound round the off fore-limb in a similar fashion as was done on the near side and then it is passed round the pastern and a knot applied on the outside. Both the hind-legs are slightly brought forward during the operation (figure 59).

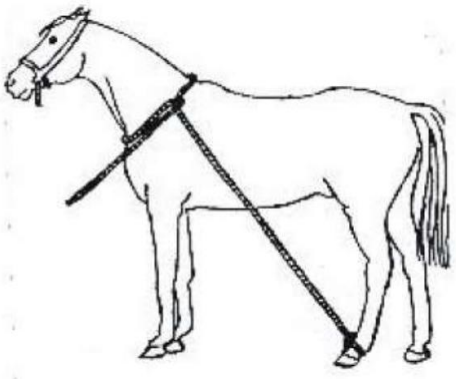


Figure 3.76: Single side line horse restraining

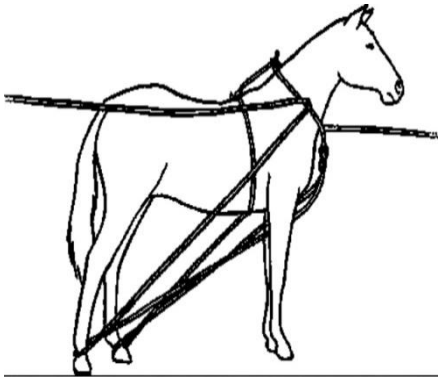


Figure 3.77: Double side line horse restraining

m. Camel handling and restraint

i. .Raising the forelimb:

The forelimb is lifted by tying a 90 cm of rope around the pastern. Both the ends of rope are pulled backward and upward. The hand is placed below the fore' cannon to flex the leg, when the camel lifts the forefoot off the ground. The free ends of rope are passed between cannon and forearm crossing over each other to make a figure of '8'. Both the ends are then tied in front of the forearm. It can be used to prevent kicking while manipulating or examining the hind quarters and other parts of the animal.

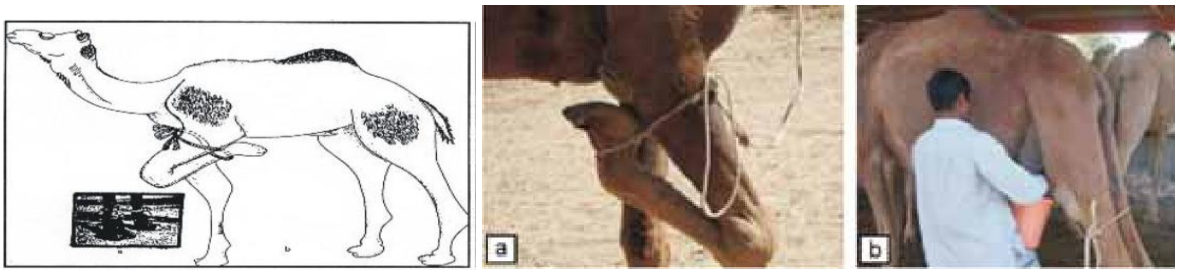


Figure 3.78: Raising forelimb (*https://www.researchgate.net/figure/a-b-a-Restraining-of-a-camel-in-standing-position-by-folding-and-tying-one-foreleg_fig6_315686287*)

ii. Prevention of hind leg movement:

The movement of hind leg can be restricted by tying the hind leg with the fore leg of the same side. The fore leg is lifted from the ground and the rope is then passed and twisted around the hind pastern. The forelimb is released and then the free end of this rope is tied around the pastern of fore leg. It can be used to prevent kicking while manipulating hind limb.

iii. Restraining in decumbency:

It is used for majority of surgical procedures. The camel is made to sit and then the fore and hind limbs are tied. One end of the rope is passed between the forearm and fore cannon and then it is passed below and around the cannon. The rope is later passed between cannon and forearm to make a figure of '8'. The rope is passed over the neck and the opposite leg is also tied in the

similar fashion. The free ends of the rope are tied over the neck. Two ends of long rope are taken by two assistants. The rope is placed below the hock and then it is slipped below hind cannons to the pasterns by pulling it in front. The rope is pulled inside the stifles over the flanks. This can also be done by pushing hind quarters on the opposite direction. The free ends of the rope are then tied on dorsal aspect of lumbar region. The surgery can be done either in sitting position or the animal can lie down on lateral side. After completion of surgery, the hind limbs are released first and forelimbs later to release the animal.



Figure 3.80: Restraining of camel in recumbent position

(*https://www.researchgate.net/figure/Restraining-and-maintaining-the-camel-in-sitting-position-for-surgery_fig2_318991636*)

3.3.Chemical restraint and verbal restraining technique

3.3.1. Chemical restraint

- Chemical restraining is a reversible process. Animals can be restrained by administrating certain chemical drugs called anesthesia.

  Anesthesia: is a reversible loss of sensation of any part or whole of the body produced by agents, which depress the activity of nervous tissue either locally or centrally. Terms used to denote nervous tissue depression:

✓ **Local anesthesia -** loss of sensation in a limited body area

✓ **Regional anesthesia -** loss of sensation in a larger but limited body area

✓ **General anesthesia -** is a complete unconsciousness

- ✓ **Analgesia -** is a relief from pain
- ✓ **Tranquillization -** is a state of behavioral change. The patient animal is relaxed but unconscious of its surroundings
- ✓ **Sedation -** a state of mild degree of central depression, when the patient is awake but calm
  - **Examples** of sedative tranquilizer chemicals are**:** Azaperone, Xylazine, Chloral Hydrate, Guaifenesin, Acepromazine, Ketamine etc…

- **Importance of anesthetic agents**

They are used for two main purposes

- ✓ To make the animal insensible to all feeling in the operation area and
- ✓ To decrease muscular tone, so that manipulation may be carried out easily and quickly
  - Example of anesthetic agent: lidocaine

- **Classes of anesthetic agents**

There are two main groups of anesthetic agents:

- ✓ **General anesthetic agents-**cause the loss of sensation, the abolition of voluntary motor response and induce sleep. They have effect on the CNS
- ✓ **Local anesthetic agents-**they desensitize one area of the body and they have no direct effect on the CNS

- **Chemical restraint methods may be used to**:
  - ✓ Reduce responsiveness through sedation – sedation reduces the responsiveness of an animal but does not produce unconsciousness; the animal may still react to stimulation
  - ✓ Totally immobilize through anesthesia – this may be used if the nature of the incident requires additional control; it can be delivered by injection, blow pipe or dart gun
  - ✓ The effects and timescales of chemical restraint will vary depending on the

method, dosage and levels of stimulation experienced by the animal, before and during its rescue. It may be necessary for the chemical restraint to remain effective after rescuing the animal, for example to assist with taking it to an appropriate destination.

- ✓ A suitable and safe anesthesia recovery area will need to be identified for the animal to remain in, until it has sufficiently recovered from the effects of the anesthetic.
- ✓ The drugs and administering equipment, such as needles and syringes, used to carry out chemical restraint are extremely hazardous. The veterinary surgeon has responsibility for the safety of these items, but emergency responders should be made aware of their presence

3.3.2. verbal restraining

Many dogs know some commands or can at least recognize authority, even if the command is unfamiliar. Commands such as **sit, stay, come, down, no** may be useful tools to encourage a dog to cooperate. Also, soft quiet words can calm a frightened animal. Yelling or screaming should never be used as it can cause the animal to become more fearful or aggressive.

This method of restraining is under psychological restraint which address that the successful restrainer must know a given species ‘particular behavioral patterns.

Each species exhibits its own behavioral pattern, its own degree of nervousness, and other unique traits. Knowledge of these patterns enables restrainers to counteract or incorporate them into restraint practices.

Understanding certain biological characteristics of the animal(s) involved in a restraint procedure enables the Keeper to utilize behavior in control of the animal. Behavior patterns can be predicted and allowed for. For example, swine grasped around the snout with a rope will pull back, whereas a carnivore is more likely to attack. Each species has

its own behavior patterns and the keeper can counteract or incorporate these into restraint practices. Voice is a tool which can be very effective; remember that emotional states are reflected in the voice. Wild animals perceive fear or lack of confidence in the Keepers' body language – the way the hands are held; posture and general stance can all influence the success of a restraint procedure. Contact with the animal may be by voice or sight initially to avoid startling it. Most Sanctuary animals are used to certain routines such as feeding and cleaning and these can be used in the restraint situation. Many sanctuary's utilize a squeeze cage built into a passage way regularly used by the animals, often on a daily basis. With some species, the Keeper must establish himself as the alpha animal, dominant over the group, before being able to control or influence the animals. Under this concept verbal (voice) is an important tool, frequently overlooked by animal handlers because of its simplicity. Emotional states are reflected in the voice.

Most pet animal respond favorably when spoken to:

- Use calm, reassuring voice
- Speak the animal's name
- . May try appearing less large and overbearing
  - ✓ . Hunker down
  - ✓ Offer hand to sniff
  - ✓ If you are accepted, animal's body will relax, may sniff hand, dog may wag tail and approach

3.4.Safety measures and animal welfare in restraining of animals

3.4.1. Safety measures

There measures that are taken to be based on the animal capturing and restraining objectives of the enterprise.

So, appropriate measures are applied according to the diagnosis results. These could be

• Physical examination of animals

• Administration of medicine and vaccines

• For carrying out operation like dehorning, castration, disbudding, hoof trimming

• Quarantine and isolation

• Performing minor surgical operations

• Reducing exposure to allergens

• Customer is informed on the status and well-being of the animal

• Giving advice to the customer/owner

• Sample collection for further examination

• Culling of the animal

So, there is another measure of option which comes to next; i.e. treatment measure

- ✓ Treatment measures for external parasites

Many cattle diseases are transmitted by ticks and in cases of a serious infection, it can cause anemia. The most effective method of controlling ticks is to dip the animals regularly. The following dipping methods or combinations thereof can be used for treatment:

- Spray dip
- Immersion dipping
- Pour-on remedies
- Hand spray or tractor spray
- Hoof dip
- Draining pens
- Other methods used for systemic treatment

- ✓ Implanting medicine or antibiotics
  - Intravenous injection of antibiotics.
  - Intramuscular injection
  - Subcutaneous injection

3.4.2. Examples of Safe Animal Handling:

- Be aware of the special stressors for animals in the clinic setting.

- The clinic is extremely chaotic for any animal-there are an incredible number of smells and other stimuli and animals are likely to be confused and distressed.
- Many of our patients have lived entirely outdoors and have not been handled or examined before.
- They may not have any experience on a leash and may panic in response.
- Even the most social animal may exhibit aggression toward other animals, particularly in a strange environment and may redirect to nearby people when over-stimulated.
- Never put your face directly into the face of a dog or cat.
- Do not move in behind or crowd around a dog.
- Concentrate on the animal you are handling without being distracted by other activities.
- NEVER sit on the floor while handling/examining a dog. If the animal becomes aggressive or aroused you will be unable to move away or protect yourself and risk serious facial bites.
- Always be prepared to protect yourself or move away quickly in the event an animal becomes aggressive unexpectedly.

Safe and effective animal handling requires a thorough understanding of the normal behavior and responses of each species. Below is some general information on animal behavior and handling techniques. There is no substitute, however, for careful observation and experience.

Self-Check -3	Written Test

Directions: Answer all the questions listed below 2 point each. Use the Answer sheet provided in the next page:

A. Short Answer

1. Describe and discuss the techniques of restraining.
2. List methods of restraining cattle.
3. Describe restraining methods of horse.
4. Write briefly the important point to make a decision to use physical or chemical restraint.

B. Multiple choices

5. Physical restraint is:
   a. The way of using voice, eye contact, gesture to restrain animals.
   b. The way of using devices to restrain animals.
   c. The way of using anesthetic chemical to restrain animals.
   d. None of the above
6. Of the following one is the method of restraining cattle.
   a. Burley method of casting
   b. Tail restraining
   c. Restraining using mouth gags
   d. Rope squeeze method of casting
   e. All the above
7. The purpose of restraining sheep and goat is:
   a. Hoof trimming

b. Examination
c. Drug administration
d. All of the above

8. Which one is the correct method of restraint pig?
   a. Hurdling
   b. Burley hitch
   c. The use of halter
   d. The use of hobble

9. Among the following restraining method which one is not used for equine restraining?
   a. The use of hobble
   b. Neck grip
   c. Use of double side line of casting method
   d. Hug snare twitch
   e. Use of cradle

10. Which one is not used for camel restraining?
   a. Restraining in recumbence
   b. Prevention of hind leg movement
   c. Raising the forelimb
   d. The use of collar

C. Fill in the blank space

11._____ is a reversible loss of sensation of any part or whole of the body produced by agents, which depress the activity of nervous tissue either locally or centrally.

12._____they desensitizes one area of the body and they have no direct effect on the CNS.

13._____is the primary tool used to handle fractious cats or wildlife.

14._____ is a protective medical device worn by an animal, usually a cat or dog.

D. True or False

15. Sheep and goats are easily to catch in an enclosure.

16. Pigs are hard and strong enough to rough handling.

Operation Sheet 3

3.1.Restraining techniques

3.1.1. performing rope squeeze method to casting cattle

A. materials equipment

- Rope
- PPE

B. Animal (cattle)

C. Steps to squeeze method of casting animal

Step 1. Make a loop around the cow's neck using a bowline knot

Step 2. Throw the end of the rope over her back to the opposite side.

Step 3. Reaching under the cow, pick it up and bring it around her body and under the standing part of the rope near the bowline to form a half hitch just behind the shoulder

Step 4. By tossing the end over the cow's back again, make another half hitch just in from of the udder.

Step 5. Pulling the rope backward will force the cow to lie down

3.1.2. Performing Burley hitch method of casting

A. materials equipment

- Rope
- PPE

B. Animal (cattle)

C. Steps to squeeze method of casting animal

Step 1. Hold the animal by a strong halter or by a nose lead

Step 2 . Place a rope over her back with its center at the withers.

Step 3. The ends are carried between the forelegs and crossed at the sternum.

Step 4. One end is carried up each side of the animal's body and the two are crossed again over the back.

Step 5. Each end passes downward between the rear legs going between the inner surface of the legs and under the udder or scrotum.

Step 6. Then the rope is pulled by men simultaneously backward to cast the animal

Step 7. Ttie the rear leg the operator keeps both ropes tout and slides the uppermost one along the under surface of the rear leg to the fetlock.

Step 8. Flexes the leg and makes a half hitch around the fetlock.

Step 9. The end is then carried around the leg above the hock, across the cannon bone, and back around the fetlock.

Step 10. Tie the front leg a short heavy cord or rope about six feet long

Step 11. One end of it is fastened around the pastern with a clove hitch leaving a free end about eight inches long.

Step 12. The front leg is flexed and the long end of the cord carried forward and passed under the main casting rope descending from the withers.

Step 13. The cord is passed around the flexed front leg several times and tied in a reefer's knot to the short free end at the pastern.

Step 14. Head is held back and pressed upon the ground.

3.1.3. Performing casting horse with hobble restraining

A. materials equipment

- Rope
- PPE

B. Animal (horse)

C. Steps to hobble method of casting a horse

Step 1. Prepare a piece of old pasture as a bedding for casting the horse

Step 2. Horse is first made to stand with all four legs close together

Step 3. Hobbles are applied and the rope is then drawn up tight, the leading man standing near to the fore hobble

Step 4. Master hobble is applied on the opposite side of fore limb where animal has to be casted

Step 5. Rope is pulled by 3-4 men simultaneously

Step 6. Head is held back and pressed upon the ground

LAP TEST-3	Performance Test

Name……. ID……..

Date…….

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **1** hour. The project is expected from each student to

Task-1. Perform rope squeeze method to casting cattle

Task-2. Perform Burley hitch method of casting

Task-3. Perform casting horse with hobble restraining

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