



Ethiopian TVET System



**Animal Health Care Service Level -I**  
**Training Module –Learning Guide 36-38**  
**Based on Version 3 March 2018**  
**Occupational Standard (OS)**

Unit of Competence: Support the Identification of Sick  
Animals

Module Title: Supporting the Identification of Sick Animals

TTLM Code: AGRAHC1 TTLM10 0919v1

October 2019



# **Module Title:-Supporting the Identification of Sick Animals**

## **TTLM Code: AGRAHC1 TTLM10 0919v1**

**This module includes the following Learning Guides**

LG36:Develop Understanding of Normal Animal Health Indicators

(LG Code: AGRAHC1M10 LO1-LG-36)

LG37: Identify signs and symptoms of sick Animals

(LG Code: AGR AHC1 M10 LO2-LG-37)

LG38: Report Ill Health of Animal.

(LG Code: AGR AHC1 M10 LO3-LG-38)



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

- Identifying physical appearance, body conformation, and natural behavioural expression of animals
- Identifying normal feed intake and drinking behaviour of animals.
- observing normal physiological parameters of normal animals

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

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

- Identifies physical appearance, body conformation, and natural behavioural expression of animals
- Identify normal feed intake and drinking behaviour of animals.
- observed normal physiological parameters of normal animals

#### **Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheets 1”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1”, 2 and 3 **in page 9,12 and 18** Respectively
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.



<b>Information Sheet-1</b>	<b>Identifying physical appearance, body conformation, and natural behavioural expression of animals</b>
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## 1. General demeanour

General demeanour of animals is a useful indication of nature of disease and it is the response of the animal to external stimuli. In the case of animal in a herd or flock, separation of an individual may be an indication of disease.

Normal (bright): when, on being approached, an animal make a normal response to external stimuli, such as movement and sound, the demeanour is said to be normal (bright). Normal reaction under these circumstances may consist of elevating the head and ears, turning towards and directing the attention at the source of stimuli, walking away and evincing signs of attack or flight, the animal does not separate from its group; it should stand on all of its feet

## II. Physical Condition

It is recognizing body build of an animal and judged by inspection and digital palpation by giving attention to all body prominences, ribs, shoulder, blade, spinous process of cervical, thoracic and lumbar vertebrae. Besides, dewlap, brisket, thigh muscles and perineal regions should be viewed and judged.

From the patho-physiological and nutritional stand point the physical condition can be demarcated as follows

**Normal:** all the body prominences of the skeleton are adequately covered with well developed muscles and cushioned fat. The body has normal symmetry.

**Fatty (obese)**-it is a pathological deposition of a fat. There is abdominal protrusion and body assumes round shape.

**Lean (thin)** - in lean or thin animals, various parts of the skeleton are prominent (eg, ribs and pelvis) and the supra orbital fossa are deepened.

**Emaciation**- in emaciated animals, there is wasting or atrophy of the muscles and bones are very much prominent with depression of supra-orbital fossa. The difference between thinness and emaciation is only of degree.

**Hide bound**:-there is prolonged emaciation, lusterless with dry leathery skin and reduced elasticity of the skin.



**Cachectic (walking skeleton):** - prolonged muscular atrophy with deeply sunken eyes is the feature of this state of health. The animal remains with skin and bones, due to this fact it is also termed as “the walking skeleton”.

### III. Body conformation

the assessment of conformation or shape is based on the symmetry and the shape and size of the different body regions relative to other regions. An abdomen that is very large relative to the chest and hindquarters. Points of conformation are included in the description of body regions

### IV. Posture

It denotes the anatomical configuration when the animals remain in stationary situation. How does it stand? How does it sit? How does it lie?

### V. Gait

A gait can be defined as a particular way of going, either natural or acquired, which is characterized by a distinctive rhythmic movement of the feet and legs. The natural gaits which we would see in the wild animals are walk, trot, pace and gallop. Under domestication some have been modified and are called acquired gaits. These are the slow lope, running walk, rack, stepping pace, and fox trot

### In general Healthy animal should be

- ✓ walk easily and steadily with all of its feet taking its weight
- ✓ Steps should be regular. Irregular movement results from pain in the feet or limbs.
- ✓ Horses normally stand during the day.
- ✓ If you go near an animal that is lying down it should stand up quickly.
- ✓ The eyes should be bright and alert with no discharge at the corners.
- ✓ Most animals have erect ears which move in the direction of any sound.
- ✓ Ear movements will also be quick to get rid of flies, the body temperature of the pig can be checked by touching the ear when an unusually high temperature will be noticed.
- ✓ The nose should be clean with no discharge.
- ✓ In cattle and buffalo the muzzle should be moist not dry.
- ✓ In sheep and goats, the nose should be cool and dry.
- ✓ Healthy animals frequently lick their noses with their tongues.
- ✓ There should be no saliva dripping from the mouth. If chewing is slow or incomplete there must be a problem with the teeth.



- ✓ the hair or coat of the healthy animal will be smooth and shiny
- ✓ Horses should not sweat when resting.
- ✓ In poultry, the feathers should be smooth and glossy and not ruffled.
- ✓ In pigs a curly tail is a sign of good health while a scaly skin points to health problems
- ✓ The urine should be clear and the animal show no signs of pain or difficulty in urinating.
- ✓ Horses, mules and donkeys can have thick yellow urine which is normal.
- ✓ If feed is available, the healthy animal will have a full belly.
- ✓ Pigs will naturally rush at their feed, if they do not something is wrong.
- ✓ Sheep, goats, cattle, buffalo and camels chew the cud (ruminates) for 6 to 8 hours each day. It is a sign of ill health when these animals stop ruminating.

## 2. Natural behavioural expression of animals

Animal behaviour is the expression of an effort to adapt or adjust to different internal and external conditions, i.e. behaviour can be described as an animal's response to a stimulus

### 9 SYSTEMS OF BEHAVIOR

- Sexual
- Care-giving
- Care-soliciting
- Agonistic
- Ingestive
- Eliminative
- Shelter-seeking
- Investigative
- Allelomimetic

#### 1. Sexual

- **Pheromones:** Chemicals that attract the opposite sex present in vaginal secretions and urine of cows, ewes and mares and males respond to this with flehmen



**Fig 1:** Flehmen of males

Cattle:-

- Females will seek males if they are in full heat



**Fig2:** mount of cattle during heat

Sheep

- The ewe will seek out a ram. She will sniff him and chase after him.
- She will crouch and urinate when a ram sniffs her side or genital area.
- She fans her tail when the ram sniffs her.
- When the ram is preparing to mount, she will turn her head to look at him and stands



**Fig 3:** courtship behavior of sheep

- **Stallion approaches:** if mare is in heat, she will stand, squat and urinate, her vulva will “wink, and close

## 2. Care-giving

- Originates from sire or dam, but usually maternal. Mothers instinctively clean their young when they are born, Fight intruders. There is Strong attachments especially cow/calf sheep/lamb



**Fig 4:-** cleaning of cow new born calf

## 2. Care soliciting

- Young animals cry when disturbed, distressed or hungry
  - ⊕ Calves:-*bawl*
  - ⊕ Lambs:-*bleat*
  - ⊕ Pigs:-*squeal*
  - ⊕ Chicks:-*chirp*



**Fig 5:-** caring of sheep her lambs

#### 4. Agonistic behavior

- Agonistic behavior is activities of fight or flight, and those of aggressive and passive behavior when in contact with another animal or humans. Intact males of all farm animals fight when they meet an unfamiliar male of the same species. This behavior has great implication in farm management



**Fig 6:-**fighting of bull

#### 4.1. Social rank

- Animals fed together consume more feed than those fed alone. Due to Competition and the Dominant one eats more

Eg cows is eat more than Heifers because cow is dominant than over Heifers



**Fig 7:** dominant behavior of cattle

- Dominancy is depend on presence/absence of horn, age, size and strength



**Fig 8:** horned sheep

#### 4.2. Seclusion

- cows care the calf when they are sick



**Fig 9:** Seclusion behavior of cow

## 5. Ingestive

- **Rumination:** Cattle swallow food whole, then regurgitate the feed for chewing

Cattle

- Graze 4-9 Hours/Day
- Ruminates 4-9 Hours/Day
- Sheep
  - Graze 9-11 Hours/Day
  - Ruminates 7-10 Hours/Day



**Fig 10:** ingestive behavior of cattle

## 6. Eliminating

- Cows, sheep, goats and chicks void feces and urine wherever
- hogs defecate in a defined area
- horses void on other piles
- Stressed animals eliminate more; they lose up to 3 % of body weight in transit to market.

## 7. Shelter-seeking

- varies with species
  - hot weather
    - cows/sheep seek shade while pigs seek a wet area



**Fig 11:** shelter seeking of animals

Horses and cows seek shelter under tree during rainy weather that increase chance of lightning strike

### 8. Investigative

- Pigs horses and goats are very curious
- Sheep are less curious and more timid than other farm animals

### 9. Allelomimetic

- Animals of the same species tend to do the same thing at the same time.



**Fig 12:** Allelomimetic behaviour of sheep

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

1. ----- can be defined as a particular way of going, either natural or acquired, which is characterized by a distinctive rhythmic movement of the feet and legs(2pts)
2. -----can be described as an animal's response to a stimulus (2pts)
3. List at least 6 systems of animal behavior (6 pts)



**Note: Satisfactory rating - 5 points**

**Unsatisfactory - below 5 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Information Sheet-2</b>	<b>Identifying normal feed intake and drinking behaviour of animals</b>
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➤ **Feeding and Drinking Behaviour cattle**

- The patterns of feeding vary according to the physical consistency of the ration. (grains, ground mixture , protein cake and pellets)
- Cows learn how to select the leaves from hay or pastures.
- Silage and chopped forages are pulled into the mouth by tongue and lips movements, mastication follows.



- Time spent in mastication of different rations varies directly with the total number of chews made. The fineness of the ration.
- Calves offered various grains (corn, milo, and oats) of different degrees of fineness exhibited no preference between grains, but consumed smaller quantities of finely ground preparations.
- Dry matter consumption is higher when animals are fed hay than when they are fed silage and pasture.
- The animal adapts its feed intake to environmental temperature (thermoregulatory mechanism) .
- Voluntary feed intake increases with the quality of feed they are given.
- The giving of concentrated feed resulted in a drop in the voluntary intake of hay.
- Palatability and digestibility may operate against selection.
- Cattle drink by dipping their muzzles into the water and sucking the fluid into the mouth, the tongue plays only a passive role in drinking.
- Cattle pastured on grass drink from **1 to 4 times** daily more often in hot seasons or when grazing old pasture.
- Cattle usually drink in the afternoon, late afternoon and evening; they seldom drink at night or in the early morning.

#### ➤ **Feeding and Drinking Behaviour of sheep**

- The animal adapts its feed intake to environmental temperature (thermoregulatory mechanism) .
- Voluntary feed intake increases with the quality of feed they are given.
- The giving of concentrated feed resulted in a drop in the voluntary intake of hay.
- Palatability and digestibility may operate against selection.
- The amount of water drunk varies with the breeds, climate conditions of pasture, and reproductive phase.
- Drinking water on range or dry pasture: **2-6 L. On hay and concentrate: 1.3 -2.7 L.**

#### **Feeding and Behaviour o horse**

- Horse tolerates harsh climates and the scarcity of food and water.
- When grasses are available horses generally prefer to feed on them.
- Prehensile upper lip, break off the blades with their incisors and use their tongue to ingest the material.
- Mastication at the rate of **1 time** per second.
- Variations occur dependent upon environmental factors.
- Suitable drinking places are important to horses.



➤ **Feeding and drinking Behaviour of pig.**

- Swine are omnivorous and their diet may include a wide variety of foods.
- Feral pigs eat plants, tubers, roots, seeds, grasses, buds and leaves. They also consume earthworms, caterpillars, snakes, frogs, eggs and young birds.
- Domestic pigs on pasture spend 6-7 hours a day searching for food and eating. When they are hand-fed with concentrate the eating time is often less than 10 minutes.
- Pigs prefer ration in which sugar or molasses have been added.
- Yeast and fish meal supplements increase feed acceptance.
- Soya cake increase feed consumption
- Wheat was preferred to rye, barley, oats and corn.
- Pigs consume more pellets than fine meals of the same composition.
- Feed increases when pigs are kept outdoors during the winter.
- Feed consumption of pigs decreased as temperature increased .
- Cold environment the thermogenesis uses energy from feed that would be converted to meat at higher environmental temperature.
- Troughs can be subdivided with crossbar and scattered over a large area to avoid competition during feeding.

➤ **Feeding and drinking behavior of poultry**

- Initially chicks peck and ingest both nutritive and non-nutritive substances.
- Free-living fowl are omnivorous, accepting a great variety of seeds, fruit and insects.
- The amount of space needed per bird increases with growth.
- Availability of feed is more important than the amount of feed present.
- Feed may be wasted as the birds search for some choice in the concentrate (Cauterization of beak is used to avoid feed waste).
- Pecking and feeding are directly facilitated by social stimulation (Order in distributing feeds in large scale farms).
- Dominance relations as well as degree of hunger influence the number of birds feeding at a given time.



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

1. Write daily requirement of water for sheep (2pts)
2. Write factors that affect the amount of water drunk for sheep (2pts).

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

Date: \_\_\_\_\_



<b>Information Sheet-3</b>	<b>Observing normal physiological parameters of normal <i>animals</i></b>
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## **Normal Physiological Parameters**

### **1. Temperature taking**

Based on thermoregulatory mechanism animals can be categorized as homeothermic and poiklothermic.

**Homoeothermic animals** (warm blooded, mammals and birds) have the ability to maintain constant body temperature independent of external environmental temperature. This is largely due to the interaction of physical and chemical thermo-regulation properties. The constant body temperature results from a balance between heat generation and heat dissipation. While poiklothermic animals those have not constant body temperature eg frogs

### **Body temperature**



The temperature of the body of different animals varies widely. The temperature of the body surface is usually less than the temperature of the deeper parts. During the process of examination of mucous membrane, skin and mouth, the clinician may appreciate the rise or fall of body temperature, but the exact temperature has to be recorded with the help of a clinical thermometer. Recording of temperature helps in establishing a diagnosis of febrile disease from afebrile ones. Temperature chart (T curve), if maintained properly, may help in determining the process and fate of a disease.

#### Site of recording

The temperature in domestic animals is recorded in the rectum. In female animals, the vaginal temperature may also be considered but it should be borne in mind that vaginal temperature may remain high during oestrus; vaginal temperature is 0.5 degree centigrade higher than the rectal temperature of healthy animal.

#### Temperature Taking

The temperature is recorded with the help of clinical thermometer which consists of a mercury reservoir communicating with a thin capillary channel. A range should be from about 36 degrees centigrade to 42.5 degrees centigrade. Also body temperature is measured by digital thermometer.

Temperature of healthy animals may vary during morning and evening. Therefore, recording of temperature may be made twice daily to locate the diurnal variation. This can be graphed into a temperature curve (sick or healthy animal)

**Table: Normal Rectal Temperatures**

<b>Animal</b>	<b>Range</b>	<b>Average</b>
<b>Adult draught horse</b>	<b>37.2-38.0</b>	<b>37.6</b>
<b>Foal</b>	<b>37.5-38.6</b>	<b>38.0</b>
<b>Ox, over 1 year</b>	<b>37.8-39.2</b>	<b>38.5</b>
<b>Calf, up to 1 year</b>	<b>38.6-39.8</b>	<b>39.2</b>
<b>Sheep</b>	<b>38.9-40.0</b>	<b>39.5</b>
<b>Goat</b>	<b>38.6-40.2</b>	<b>39.4</b>
<b>Pig, adult</b>	<b>37.8-38.9</b>	<b>38.3</b>



<b>Piglet</b>	<b>38.9-40.0</b>	<b>39.4</b>
<b>Chicken/fowl</b>		<b>40.8</b>
<b>Duck</b>		<b>40.7</b>
<b>Camel</b>	<b>35.0-38.6</b>	<b>37.8</b>
<b>Dog</b>	<b>37.9-39.9</b>	<b>38.9</b>

### **Factors that affects normal body temperature**

- Exercise
- Environmental temperature and humidity and ventilation
- Age, species:- in smaller animals >larger; younger animals >older
- Female>male; pregnant>non-pregnant
- Sweating
- Feeding
- Stimuli (including the operation of clinical examination)
- Local inflammation of the rectum, higher; but diarrhoea/cold fluid enema/anal sphincter flaccid, lower

### **Temperature of skin and its appendages**

The external temperature of the skin is best judged by palpation, passing the palmer surface of the hand from the ears over the horns (in cattle), neck and trunk, to the extremities of the cutaneous capillaries. The environmental temperature and functional activity of the heat-regulating areas in the anterior hypothalamus have a significant effect on skin temperature. Normally the skin temperature shows regular gradations: Ear > muzzle > feet > tip of the tail, on account of the poorer blood supply.

## **2. Pulse taking**

Pulse is the elongation and expansion of the arterial wall imparted by arterial blood due to contraction of the left ventricle. It tells us useful information about the cardio-vascular system. It is the number of elongation and expansion of arteries per minute

The techniques of taking the pulse consists of placing the ball part of one or more fingers on the skin over the selected artery and applying gentle pressure until the pulse wave can be detected. When determining the pulse rate, a watch with a second hand should be used, and the waves counted for a minimum of 15 seconds, where the number obtained should be multiplied by 4.

### **Sites of pulse taking:**



Horse –External maxillary artery  
 -Transverse facial artery  
 -Median artery  
 -Great metatarsal artery

Cattle –facial artery  
 -Transverse facial artery  
 -Median artery  
 -Middle coccygeal artery

Sheep/goat, dog, cat, pig, calf-femoral artery

**Physiological factors affecting the pulse rate in normal animals:**

- **Species:** in general, the smaller the species, and the more frequent the pulse rate is.
- **Size:** within species the pulse rate is usually higher in small individual
- **Age:** the pulse rate in very young animals is much higher than in adolescent and adult individuals of the same species. The neonatal calf, for example, has a pulse rate in the region of 120 times per minute compared with the rate of over 80 for yearling cattle and 50-80 for adult animals.of the same species and type.
- **Sex:** in most species male animals have a slightly lower pulse rate than females.
- **Pregnancy:** pregnant animals have more frequent pulse than non-pregnant ones
- **Parturition:** as parturition becomes imminent, there is a further increase in pulse frequency.
- **Lactation:** lactating animals have a higher pulse rate than comparable ones not lactating.
- **Excitement:** this may cause a considerable increase in the pulse frequency, particularly in animals unaccustomed to being handled.
- **Exercise:** physical exertion increases the pulse rate to an extent that varies according to the severity of the exercise and fitness of the animal
- **Ingestion of food:** eating a large quantity of food will cause a very considerable increase in the frequency of the pulse.
- **Environmental temperature:** exposure to either very high or very low temperature produces an increase in the rate of pulse.

Animal	Range	Animal	Range
Horse	30-40	Cat	110-130
Cattle	60-80	Rabbit	120-250
Calf	100-120	Chicken	250-300
Sheep/goat	70-90	Chick	350-450
Pig (adult)	60-90	Camel	25-32
Dog (large)	65-90	Ass	40-56
Dog (small)	90-120	Elephant	22-53

**Table 2:** Normal pulse rate (beats/minute)



### 3. Respiration

Respiration includes both the chemical and physical process that enables an organism to exchange gases with its environment.

The physical features of respiration involve the diaphragm and intercostal muscles, which are in action during breathing. The volume and frequency of the respiratory movements are controlled by centers in the brain stem, which maintain inspiration and expiration.

The exchange of gases takes place by simple diffusion and is dependent on the pressure gradient (partial pressure) of the gas across the membrane separating the alveolar air and the blood in the alveolar capillaries.

This part of clinical examination is best performed in conjunction with the general inspection, prior to physical procedures, or the application of restraint. In selected cases, exposing the animal to physical effort may be a necessary part of the examination, as a means for determining respiratory efficiency. The clinician should stand behind and to one side of the animal, so that both the thoracic and abdominal areas of the body are in view. It is advisable to observe the animal from both sides, in order to determine whether the respiratory movements are bilaterally similar. In quiet animals, determining the frequency and rhythm of the respirations is facilitated by placing one hand on the lower part of the flank. The respiratory rate may also be determined by observing nostril movements, or more efficiently by auscultation over the thorax or trachea.

Animal	Range
Horse	8-16
Ox	10-30
Sheep	15-30
Goat	25-35

**Table 3:** Normal respiration rates (breathes/minute)

**Types of respiration:** there are three types of respiration based on the external muscles predominantly involved in the respiratory movement

- a. Costal respiration: in dogs and cats
- b. Costo-abdominal: in equine
- c. Abdominal: in cattle, sheep and goats

**Respiratory rate:** -refers to the number of breathes per minute: The state of normal quiet breathing is called **eupnoea**.

**Respiratory depth:** refers to amplitude of movement of external respiratory organs indicating the volume of air taken in and the capacity of the lung. Normally there is great variation in the amplitude of the respiratory movements.

**Respiration Rhythm:** - there are three phases in respiration: expiration, inspiration and pause. Respiratory rhythm refers to the regularity of time between the intervals of inspiration



and expiration. Normally equal intervals between respirations, with expiration being of slightly longer duration than inspiration is universal.

#### 4. Visible mucous membranes

Mucous membranes visualized mostly on the eye, but oral cavity, vaginal and rectal areas also used. Eye Mucous membranes should be examined with ample light (day light is more suitable). Deeper mucous membranes may require the use of appropriate speculum and endoscopy. The normal ocular and other visible mucosa should be salmon pink in colour.

#### Skin and coat

The skin is a largest organ, which serves as the principal medium of communication between the animal and its environment. The main functions of the skin include maintenance of water and electrolyte balance of the body, participation in temperature regulation, mechanical protection and limitation of penetration of noxious physical and chemical agents, sensory perceptivity and elaboration of vitamin 'D'.

The skin is a stratified tissue consisting of two major layers: the outer layer called epidermis and the inner corium or dermis. Smooth muscle fibres composing the arrector pilorum, which are attached to the hair follicles, are distributed at intervals throughout the dermis.

The normal coat appears smooth; shiny coat usually implies that the animal is not suffering from significant nutritional deficiency.

The elasticity of the skin is tested by lifting up and then releasing, a fold of skin in the region of the neck, back or ribs. In a healthy animal, the fold of skin is easily grasped at these sites and on release immediately flattens out again. When the elasticity is reduced, the skin is less easily picked up and the fold tends to remain after the grasp has been released. When the elasticity of the skin is completely lacking it is impossible to pick up even a small fold. The animal is then said to be hide-bound.

#### Normal rumen motility

This is a very useful part of the clinical examination. In normal animals there are 1-2 primary contractions per minute, involving the reticulum and the dorsal and ventral sacs of the rumen; the frequency depends on the amount of time that has elapsed since feeding and the type of food consumed. Secondary contractions of the dorsal and ventral sacs of the rumen occur at about 1 per minute and are commonly associated with eructation. The examination is made in the left paralumbar fossa and a normal sequence of sounds consists of a lift of the flank with a fluid gurgling sound, followed by a second more pronounced lift accompanied by a booming, gassy sound. Auscultation over the lower left ribs will reveal the fainter fluid sounds of reticular contractions just prior to the contractions of the dorsal and ventral ruminal sacs described above. The reticular and ruminal sounds are the predominant abdominal sounds in the normal ruminant. In general normal rumen can be move 2-3 times per minute



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

1. -----is the normal breathing state of animals (2pts)
2. Vaginal temperature is always greater than rectal temperature (2pts)  
A. True      B. False
3. List at least 4 factors that affect normal pulse rate (4 pts)
4. List types of thermometer (2 pts)
5. -----is a device used to measure/ taking heart/respiratory rate (2pts)
6. Normal rumen can move -----/minutes (2pts)

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

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Level -I Version: 1	Author: Federal TVET Agency	



Name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Operation Sheet 1</b>	<b>Taking internal body temperature</b>
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### Procedure

- ✓ The thermometer should be sterilized by disinfectant (antiseptics) before use;
- ✓ It should be well shaken before recording of temperature to bring the mercury column down below the lowest point likely to be observed in different species of animals (if manual thermometer is used but if we use digital thermometer no need of shaking).
- ✓ The bulb end of the thermometer should be lubricated with liquid paraffin or glycerine or soap especially in case of small pup and kitten.
- ✓ Care should be taken so that the bulb of the thermometer remains in contact with the rectal mucous membrane.
- ✓ The thermometer should be kept in site for at least 3-5 minutes for mercuric thermometer
- ✓ Read the thermometer and record the result.



<b>Operation Sheet 2</b>	<b>pulse taking</b>
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### Procedures

1. With the aid of an assistant, restrain the patient.
2. Ensure that the patient is relaxed and still.
3. using the tips of your fingers, apply them directly on the artery.
4. Count the rate of pumps over a minute.
5. Record this information



### Operation Sheet-3

### measuring respiratory rate

#### Procedures:

#### OPTION I

- A) Stand near the animal without disturbing it
- B) Count the movements of contraction or expansion of the thorax and abdomen per minute.
- C) Record the result

#### OPTION II

- A) Apply the palm of your hand over the nostrils keeping about 4-5 inches away from nostrils
- B) Feel and count for the nostril air movement per minute.
- C) Record the result

#### III. by using stethoscope

- 1. Restrain and handling animals safely and humanely
- 2. Find the lung sound by using stethoscope mostly at right side of chest
- 3. On stop watch and start count for 15 seconds and multiply by 4 in order to get for one minute breath
- 4. Record the result as ---breath/minute



<b>LAP Test</b>	<b>Practical Demonstration</b>
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

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

**Task 1: Taking body temperature**

**Task 2: Taking pulse rate**

**Task 3: Taking respiratory rate**



## List of Reference Materials

### 1- BOOKS

- Aiello S. and Mays A. 1998. *The Merck veterinary manual* 7<sup>th</sup> ed. Whitehouse Station, N.J., Merck and Co. in cooperation with Merial Ltd.
- Radostits O.M., Gay C.C and Hinchcliff K.W. 2006. *Veterinary Medicine*. 10<sup>th</sup> ed. Saunders,
- Veterinary clinical diagnosis Second Edition W. R.KELLY M.A., Professor of Medicine, Pharmacology and Food Hygiene, Faculty of Veterinary Medicine, University College, DublinBailliereTindall • London

### 1- WEB ADDRESSES (PUTTING LINKS)

<http://vikaspedia.in/agriculture/livestock/general-management-practices-of-livestock/appearance-of-the-healthy-animal>



<b>Instruction Sheet</b>	<b>Learning Guide37 #-</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Identifying changes to physical appearance, abnormal feeding and drinking behaviour
- Distinguishing abnormal physiological parameters of animal
- Identifying signs and symptoms of sick.

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

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

- Identifies changes to physical appearance, abnormal feeding and drinking behaviour
- Distinguish abnormal physiological parameters of animals
- Identifying signs and symptoms of sick

#### **Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheets 2”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1” ,2 and 3 **in page 25,28 and 35 -respectively**
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).



6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

<b>Information Sheet-1</b>	<b>Identifying changes to physical appearance, abnormal feeding and drinking behaviour</b>
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### **Abnormal demeanour**

**1. Decreased response (depression):** this has three stages.

**I. dull (apathetic):-** this state is appreciated by the reactions to normal stimuli being sluggish or retarded, or even somewhat suppressed.

**II. Dummy state:** this state is an advanced degree of failure to respond to external stimuli although the animal remains standing, and is capable of movement. Encephalomyelitis in horse, and listeriosis and occasional cases of lead poisoning and ketosis in cattle have these signs.

**III. Comma:** the most advanced degree of apathy (depression) is comma, in which the animal is unconscious and fails to respond to painful stimuli, as in the cow in the advanced stages of parturient paresis (hypocalcaemia) and pregnancy toxemia.

### **2. Excitation or increased response**

**I. Apprehension (mildly anxious):** - the animal appears alert, looks about constantly, but exhibits normal movements. It may arise due to slight constant pain, in serious defects of vision and the early stage of parturient paresis or hypocalcaemia.



II. **Restlessness:** - it is a more severe state in which movement is almost constant, consisting of lying down, rolling, getting up again, looking at the flanks, kicking at the belly and groaning or bellowing. This form of behaviour is usually caused by sharp intermittent or constant pain, as in colic syndrome in horse.

III. **Mania:** in mania the behaviour aberrations appear to compulsive and include vigorous licking of some specific parts of the body surface (ketosis, pseudorabies). Pressing forwards with the head (meningitis) or licking or chewing inanimate objects.

IV. **Frenzy:** - when frenzied, the animals' actions are uncontrolled as in acute lead poisoning, hypomagnesaemictetany and rabies.

#### iv. Abnormal Gait

Locomotors disturbances are seen when the animal moves about voluntarily, or is led or driven at various paces, towards or away from the clinician

- Walking in circle: disease like Coenurosis(gid) Otitis(dog/cat),E.ovis(sheep),listrosis (cattle /sheep
- **Lameness:** is an abnormal gait or stance of an animal that is the result of dysfunction of the locomotor system. **It is a common problem in all animals and can greatly affect the welfare and productivity of the animals. Lameness is not a single disease but a symptom associated with a range of different conditions**

#### Cause of lameness

##### Infectious disease

- ✓ **Foot and Mouth Diseases (FMD)** in of cattle, sheep, goats and pigs and buffalo
- ✓ **Foot rot:-** cattle, sheep and goats
- ✓ Bluetongue :- cause mass lameness in sheep/goats
- ✓ Tetanus, **Rabies:-** all animals

##### Non Infectious disease

- ✓ Hypocoprosis
- ✓ Acidosis

##### Physical injury (break, wound )

#### Abnormalities of posture

- **Kyphosis:** it is dorsal bending of the spinal column.  
Image
- **Lordosis:** it is ventral bending of the spinal column.



Image

- **Dog-sitting-position:** in acute gastro-distention in the horse, pain and pressure on the diaphragm cause the animal to adopt the “dog-sitting-position”.

Image

### 1. Abnormalities in appetite

- **Inappetance:** reduction of feed intake, caused by unsuitable feed, inability toprehend, masticate or swallow due to pain in the digestive tract and GIT diseases.
- **Anorexia:** complete loss of appetite, caused by dietary deficiency like Co, submerged hunger sensation (due to fear, excitement or severe pain), toxemia and GIT problems.
- **Polyphagia:** increased appetite, caused by diabetes, abnormality in absorption, excess starvation.
- **Polydipsia:** increased water intake, caused by loss of body fluid, in the diabetes mellitus.
- **pica:** consumption of substances, which don't fall in the normal diet of that specific species of animal (Eating of foreign materials)

Causes - nutritional deficiency: P, Ca, salt, Co, Cu, protein, bulk fiber

-Nervous diseases: rabies, ketosis

**Anophagia or Aphagia** is decreased feed intake. It may be due to painful conditions of the mouth and pharynx or to any bacterial or viral infection producing toxemia or septicemia. Vitamin deficiency like thiamin and cyanocobalamin may also produce inappetance.

**Starvation:** It is complete deprivation of feed as in drought, flood, bushfire or human intervention. Starvation may lead to hypoglycemia; acidosis, & ketosis.

**Thirst:** - the subjective sensation of the need to drink fluid which is manifested in farm animals by polydipsia, or allotriophagia in the form of drinking abnormal fluids, especially **urine.**

**Coughing:** disease like tuberculosis, pneumonia etc are possible cause of coughing



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

1. Write abnormal postures (3pts).
2. ----- is the consumption of substances, which don't fall in the normal diet of that specific species of animal (1pts)?

**Note: Satisfactory rating - 2 points**

**Unsatisfactory - below 2 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



## Abnormal physiological parameters

### 1. Temperature

#### I. Hyperthermia (Overheating)

**Hyperthermia** results from retention of excess heat as a consequence of disturbed thermoregulation and impeded heat elimination into the surroundings. This condition develops due to the following reasons:

1. Less humid conditions reduce heat loss
2. Reduced air current leading to poor body cooling
3. When there is reduction or complete loss of sweating
4. In the presence of thick body coat
5. Defects in thermoregulation of the body

Sequences of hyperthermia

**1<sup>st</sup> stage:** - adaptive reaction to dissipate the heat→dilation of peripheral vessels→accelerated blood flow to the peripheral organs→increased sweating→rapid respiration→loss of heat

**2<sup>nd</sup> stage:** -elevation of body temperature→excitement→restlessness→accelerated shallow respiration→accelerated heart beat and accelerated pulse→increased metabolism→increased nitrogenous wastes—convulsion and twitching of muscles

**3<sup>rd</sup> stage:** -excitement→diminished vital functions→shallow respiration→fall of blood pressure→unconsciousness→clonic spasms→respiratory failure→death



## II. Hypothermia or subnormal normal temperature

It is a condition, which is caused by 2 reasons: pseudohypothermia (diarrhoea, enema, etc.) and true hypothermia (shock and prior to death). Thus true hypothermia shows poor prognosis of the patient.

## III. Fever

The word “fever” is used to describe any sort of elevation of bodytemperature by the layman, but it is not so from clinical standpoint. “Hyperthermia’ is a broader term that includes fever and any other conditions which increase body temperature. Theterm“fever” has been affixed against some diseases where there is no elevation of bodytemperature, e.g., milk fever.

Fever is a general reaction of animals and man to the action of harmful and most frequently infectious agents known as pyrogens.

Pyrogens (exogenous or endogenous) disturb the heat regulation mechanism resulting to elevation of body temperature regardless of the temperature of the external environment. Hyperthermia supervenes under the influence of the elevated temperature of the external environment whereas fever may appear under prevailing usual atmospheric temperature.

Pathogensthat cause fever include specific (infectious) agents: viruses, bacteria, fungi, protozoa; and non-specific agents: foreign protein, substances which cause tissue damage, protein degradation products, necrotic tissue, and damaged blood.

Stages of fever and signs

**1<sup>st</sup> stage (initial stage)(increment)**— temperature of the body rises, ratio of heat production increases to heat loss. Signs include: dullness, drowsiness, disinclination to move, inappetance, erection of hair, arched back, rapid respiration, shivering, heavy urine colour (deep yellow).

**2<sup>nd</sup> stage (hot stage, fastigium)**— temperature remains on its acme, i.e., in a period of maximum temperature.Here the ratio between heat productions to heat loss remains at a definite level. The temperature remains more or less constant. Signs include: profound dullness, dropping of ears, lowering of head, frequent respiration, rapid pulse, congested mucous membrane, hot breath, dry muzzle, anorexia, drop in milk yield, increased thirst, constipation, scanty urine.

**3<sup>rd</sup> stage (decrement)**—there is decline of body temperature. Heat loss is ensued as a result of profuse sweating or dilatation of peripheral vessels. The ratio of heatproduction to heat loss becomes reverse to the first stage. Body regains its normal temperature. The signs



include: respiration less frequent, regain of appetite, skin and coat appears normal, muzzle becomes moist, and urine turns normal.

## 2. Abnormal types of pulse

- I. Tachycardia: Increased **pulse rates**(number of beats per minute).
- II. Bradycardia :Decreased **pulse rates**(number of beats per minute).

## 3. Abnormal Respiration Noises (stridorosis)

- I. **Hiccup (singultus)** is a short, jerky inspiration, caused by stimulation of the phrenic nerve producing sudden contraction of the diaphragm.
- II. **Wheezing or blowing**: stenosis of upper air passages, more pronounced on inspiration.
- III. **Snoring**: due to fluttering of the soft palate in open mouth breathing, from various interference of air flow through the upper respiratory tract (as nasal granuloma, tumours of the pharynx, abscesses, etc)
- IV. **Sneezing**: an explosive expiration through the nose due to irritated nasal mucous membrane.
- V. **Rattling**: accumulation of exudates in the upper air passages, fluttering of relaxed vocal cords on inspiration, etc.
- VI. **Stenotic laryngeal sound**: due to narrowing or occlusion of the glottis, as in laryngeal hemiplegia (roaring) in horses, also necrotic laryngitis (calf diphtheria), actinobacillosis, oedema of the glottis, neoplasm and equine strangles.
- VII. **Groaning or grunting**:a long inspiration followed by a prolonged audible expiration through a partially closed glottis. This sound is audible only on expiration. This sound occurs in traumatic gastritis, peritonitis, and vaginal and rectal prolapse

## Other abnormal parameters

### VISIBLE MUCOUS MEMBRANES

Abnormal mucus membrane includes pallor (anaemia), hyperaemia (congestion), cyanosis (blue discoloration), jaundice (yellowish discoloration), eruption \, ulceration, haemorrhage, swelling, discharges, etc.

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

1. What are the abnormal mucous membranes (3pts)?
2. List at least 5 abnormal respirations (3pts).
3. Write types of abnormal pulse rate (1pts)

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



<b>Information Sheet-3</b>	<b>Identifying Signs and symptoms of sick</b>
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**Salivation:** It is excess discharge of saliva usually associated with oral lesions, foreign body in the oral cavity and oesophagus and paralysis of pharyngeal area.

- ✎ Lesions: Foot and Mouth Disease, Rinder Pest, Malignant Catarrhal Fever, Peste des Petits Ruminants
- ✎ Foreign bodies: bone, wooden materials, chocking
- ✎ Paralysis: rabies, tetanus

**Tongue:** Clinical examination of the tongue may involve withdrawal from the mouth, visual inspection for the presence of lesions or colour change, and palpation of the whole part of the tongue. Extraction of the tongue and panting may be observed in respiratory diseases.

- Hard swelling (wooden tongue) - caused by Actinobacillosis
- Erosion: - in the case of FMD
- Cyanotic: in the case of cyanosis
- Physical injury

### Teeth problem

Examination of teeth is important from clinical point of view in detecting abnormalities and in age estimation based on eruption.

Abnormalities like congenital defects (fluorosis, hypoplasia and premature wear) and periodontal diseases caused by chronic infection of the gum by *Spirochetes*, and *Fusobacterium* are noted in the teeth. Teeth grinding (which is normally audible) is a sign of pain in cattle.

### Skin and coat abnormalities

Patches of hair loss, reddening, crusting, or excess scurf (dandruff) may be indicative of skin disease. The following are the major skin and coat abnormalities

**1. Pruritis (itchiness)** Pruritis is a characteristic sensation, having much in common with pain, but it creates the desire to scratch, which pain doesn't. Pruritis is associated with a variety of skin diseases in animals, and is indicated clinically by scratching, biting, and rubbing against any convenient object. The stimulus for pruritis may originate peripherally or centrally.

I. Pruritis of peripheral origin: damage to the epidermal or deeper layer cells, by stimulating the pain recording end organs situated immediately beneath the epidermis and in the



epidermis itself, produces itching of peripheral origin. This type of itching is characteristically present in many forms of ectoparasitism, such as mange and many other verminous infestations. Itching does not occur when the epidermis has been completely destroyed, as in moderately deeply ulcerated areas, nor when skin damage is only superficial, as in most cases of ringworm.

The sensation of itching, and its expression by scratching, is usually most marked when the lesion of skin disease involve the mucocutaneous junctions rather than other areas because of the greater number of pain recording end organs at these sites.

II. Pruritis of central origin:- itching of central origin occurs in scrapie, aujeszky's disease, pseudo rabies, in certain forms of hepatitis, obstructive jaundice, chronic nephritis, diabetes mellitus, and the nervous forms of acetonaemia. In scrapie and pseudo rabies, the itching sensation may have a structural basis, the sensory stimuli being conveyed to the medulla via the spino- thalamic tracts in the dorsal horns of the spinal cord, otherwise it is probably functional in its derivation, being motivated from the scratch centre below the acoustic nucleus in the medulla.

## 2. Primary skin Lesions

- I. **Maculae or spot:** it is a circumscribed area of discoloration of the skin which is not elevated above the level of the surrounding skin, e.g. the local hyperaemia of the skin which occurs at the outset of many skin diseases, including the pox group. Maculae may be large or small, circular or irregular.
- II. **Papule or pimple:** it is a solid elevation on the surface of the skin, ranging in size from a pinhead to a pea, caused by a cellular infiltration. A similar lesion of larger size is described as a nodule and a still larger lesion of this type is termed a node.
- III. **Vesicle:** it is a small elevation of the superficial epithelium of the skin caused by a lenticular shaped accumulation of serous fluid or lymph between the epidermal or dermal layers. Blister is a larger lesion of similar type. The vesicular type of eruption may be unilocular and smooth on the surface (FMD, vesicular exanthema), or sharply pointed (pseudo-cow pox), or multilocular and irregular in the surface (poxes). A pustule is a similar lesion containing pus, which gives it a yellow colour.
- IV. **Wheel (urticaria, hive):** it is a circumscribed, semisolid, elevated, round or flat topped lesions, e.g. allergic reactions, insect bites, sting, etc.

## 3. Secondary lesions

secondary lesions can develop from primary lesions following some form of interference, biting or scratching the affected part.

- I. **Scurf (scales, pityriasis):** is discarded epithelial tissue retained in the coat. Pityriasis is exaggerated in certain dietary, parasitic, or fungal diseases and in some forms of chemical intoxication. The important dietary deficiencies include avitaminosis A, nicotinic acid, riboflavin, and linolenic acid. It is also associated with infestation by fleas, lice or mange mites, and is pronounced in the early stages of ringworm.
- II. **Erosion** is a destructive loss of the superficial layers of the skin (epidermis). Examples of causes, FMD, vesicular exanthema, bovine ulcerative mammillitis, malignant catarrhal fever, rinder pest, mucosal diseases, ulcerative dermatitis, etc.
- III. **Ulcer:** it is the result of localized destruction or break down of tissue, which may occur as part of an inflammatory reaction or may result from trauma. Ulceration of the skin occurs at the sites of earlier vesicular or necrotic lesions in FMD, ulcerative dermatitis, malignant catarrhal fever, rinderpest, mucosal disease, glanders ulcerative lymphangitis and epizootic lymphangitis.



- IV. **Chap:** a chap is a small fissure in the skin, which extends to the subcutaneous tissues. Fissuring usually develops where ulceration usually involves a fold in the skin; it shows a tendency to increase in length and depth.
- V. **Crust (scab):** is a firm mass, consisting of dried inflammatory exudates and epithelial debris, or blood. Characteristic crusts occur in ringworm in cattle.
- VI. **Scar:** scar is formed by the proliferation of fibrous tissue at the site of a lesion, which has destroyed the corium of the skin.

#### 4. Dermatitis

Dermatitis is inflammation of the deeper layers of the skin, including blood vessels and lymphatics with secondary involvement of epidermis.

The causes can be classified as:

Bacterial dermatitis (e.g. dermatophilosis), Viral (e.g. sheep pox), Fungal (e.g. sporotrichosis in horse), Ectoparasites (e.g. mange), Physical agents (e.g. sunburn, photosensitization)

Abnormal coat includes lustrelessness, dry, staring and loss of elasticity

**Distension of abdomen:** Caused by advanced pregnancy, ascites, frothy bloat, gas bloat, neoplasia in the liver and spleen. hernial swelling is also another cause of increase in the size of the abdomen.

**Reduction of abdominal size,** which can be caused by starvation; chronic disease like trypanosomosis, TB, John's disease, Cu deficiency should be considered.

**Traumatic reticular-peritonitis (TRP):** It is the commonest deformity in reticular examination. TRP is the penetration of foreign materials ( eg metals) from reticulum to the peritoneum and eventually to the pericardium due to contraction of the reticulum.

**abomasal displacements:** Left side and right side are common abnormalities in high producing cows. Displacement is caused by atony of the abomasums as a result of high concentrate and hypocalcemia and is characterized by sudden onset of inappetance. Left side displacement is predominately detected and rectal palpation reveals an "L" shape structure in the caudal abdomen. Furthermore, ping sound is produced at percussion.

**Examination of colour of mucous membranes** (e.g. jaundice), urine (haemoglobinuria), body condition (the presence of oedema and emaciation), and faeces through inspection give the health status of liver..

#### Signs of Liver diseases

The most common signs are emaciation, oedema, jaundice (icterus), anaemia, haemorrhage, disturbance of intestinal functions, nervous signs, and haemoglobinuria, enlargement of anterior abdomen and pain are indicatives of liver dysfunction.



## Urine abnormalitie

**Color:** - The usual color of urine is straw-yellow. Abnormally colored urine may be cloudy, dark, or blood-colored.

**Abnormal urine** color may be caused by infection, disease, medicines, or food you eat.

- ✓ **Cloudy or milky urine** is a sign of a urinary tract infection, which may also cause a bad smell. Milky urine may also be caused by bacteria, crystals, fat, white or red blood cells, or mucus in the urine
- ✓ **Dark brown but clear urine** is a sign of a liver disorder such as acute viral hepatitis or cirrhosis, which causes excess bilirubin in the urine.
- ✓ **Pink, red, or lighter brown urine can be caused by:** Beets, blackberries, or certain food colorings, Hemolytic anemia, Injury to the kidneys or urinary tract,
- ✓ Dark yellow or orange urine can be caused by: B complex vitamins or carotene, Medicines such as phenazopyridine (used to treat urinary tract infections), rifampin, and warfarin
- ✓ **Green or blue urine is due to:**, Artificial colors in foods or drugs

**Visible blood in urine:** Bloody urine is common in urinary tract infections and kidney stones. These problems usually cause pain. Painless bleeding might signal a more-serious problem, such as cancer.

**Uraemia**—is the presence of urine in the blood. It is caused by renal failure and rupture of the ureters, urinary bladder and urethra

**Polyuria** :frequent urination in the case of diabetes mellitus

**Oliguria** is decreasing of a urine output: due to **Dehydration, Burns** and other serious injuries

**Anuria:** Complete absence of urine due to kidney failure

## Signs of abnormality in the nerves

**Muscle atrophy:** when a muscle is deprived of motor enervation, it becomes weaker and begins to waste.

**Spasm:** pathological and exaggerated contraction of muscle recognizable with physical examination. Continuous spasm is known as tonic and when there is alternation between contraction and relaxation it is clonic spasm.

**Tetany:** is generalized tonic muscle spasm, excitement and paiting.

**Tremor:** is rapid sequence of limited clonic muscular contraction, which produces shivering, but with little or no movement of the body except in severe cases.

**Nystagmus:** jerking movement of the eyeballs horizontally or vertically or in circular direction.



**Ataxia:** is a locomotor's disturbance in which the power of individual muscle is unaffected but there is lack of functional coordination of several muscles. Hypocoprosis is a possible cause of ataxia

**Forced movement:** absence of control over the body of an animal and as a result it moves in circle, falls backwards, rolls or walks aimlessly.

E.g. GID in sheep due to *Coenurus cerebralis*

**Absence of sensitivity:** is detected by palpation and pain percussion or pinching or picking of the most sensitive skin (around the eyes, perineum).

**Hyperaesthesia:** increased sensation to stimuli, e.g. meningitis, spinal injury, tetanus, etc.

**Paresthesia:** pruritis or burning of central origin, e.g. enzootic myelitis (mad-itch), equine rabies, sheep scrapie etc.

### Signs of muscular defects

I. **Myopathy:** denotes non-inflammatory degeneration of skeletal muscles.

II. **Myositis:** inflammation of muscle fibres.

III. **Muskulo-hypertrophy:** is increased size of muscle due to excessive function.

**Anemia:** is a deficiency of red blood cells per unit volume of blood, causing a lack of energy.

In practical terms it can be defined as a decrease in the packed cell volume (PCV), hemoglobin (Hb) concentration, or the RBC counts below reference values for the species.

### Causes of anemia may include:

- ✎ Infectious disease: endo-parasitic infection, babesiosis, leptospirosis, arsenic poisoning, snake venom, trypanisomiasis
- ✎ Non infectious disease: bone marrow disorders, renal disease
- ✎ Trauma/injury:

**Jaundice:** It is a yellow discoloration of body tissues, caused by hyperbilirubinemia. Icterus is a term often used interchangeable with jaundice. Bilirubin especially stains elastic tissues and is thus most visible in the sclera and vulva. Icterus usually indicates decreased excretion of bilirubin with liver or biliary tract diseases or increased production of bilirubin with hemolytic anemia.

**Edema:** It is an abnormal accumulation of extra cellular fluid in the interstitial spaces of the tissues or in body cavities and it can be generalized or localized. If the fluid accumulation occurs in the pleural cavity, it is referred to as pleural effusion or hydrothorax; if the fluid accumulation is in the abdominal cavity, it is referred to as ascites. Fluid accumulates more easily in those parts of the body where the connective tissue structure is relatively loose.

### Fecal Color



Fecal color is influenced by feed type, bile concentration, and the passage rate of feedstuffs and digesta. Typically, manure is dark green when cattle graze fresh forage and darkens to a brown-olive if animals receive a hay ration. When cows consume a ration containing large amounts of grain, a typical TMR for example, feces are usually a yellow-olive color. This color results from the combination of grain and forage and will vary by the amount of grain and processing of that grain. If an animal experiences diarrhea, feces may change to a gray color. Animals undergoing medical treatment may excrete abnormal colored feces as a result of drugs that are administered. Dark or bloody manure may indicate hemorrhaging in the GI tract from watery dysentery, mycotoxins, or coccidiosis. Light-green or yellowish manure combined with watery diarrhea can result from bacterial infections such as salmonella

## Diarrhoea

Diarrhoea is a condition in which animals pass watery droppings (faeces) many times a day. The droppings are loose, runny and smelly and are a different colour from normal. Droppings can become dark green, dark brown or reddish black in colour because of blood in it.

**Causes of diarrhea:** johns' disease, salmonellosis, colibacillosis, render pest, PPR, coccidiosis, endo-parasites, a sudden change in the animal's feed and contamination of feed, excitement (physiological diarrhea).

**Vomiting:** The act of forceful emptying of stomach contents by vigorous contractions of diaphragm and abdominal muscles. It is the most protective disturbance of digestive tract. It is frequently observed in dog and cat, sometimes in pig, seldom in cattle, horse, sheep or goat.

**Causes:**• Gastric irritation and ulceration

- Gastric dilatation, emotional conditions
- Foreign body in oesophagus or pharynx
- Most toxins and some drugs

**Oesophageal obstruction (Choke):** it is an obstruction or occlusion of esophageal lumen or tube.

**Causes:** • Inruminants by solid objects, such as apples, pears, potatoes, etc.

- In horses most frequently due to greedily eating behaviours, by dry grains or a bolus of hay, less often by corn, potatoes, and occasionally on medical boluses.
- Tumours, swollen lymph nodes, abscess of the surrounding tissue etc

**Dried muzzle:** indicates the animal is in the febrile condition



<b>Self-Check –3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the causes of distension of abdomen (2pts)
2. What are the cause of vomiting (3pts)
3. -----is yellow discoloration of body tissues (1pts)

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

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Level -I Version: 1	Author: Federal TVET Agency	



## Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### List of Reference Materials

#### 1. BOOKS

- Aiello S. and Mays A. 1998. *The Merck veterinary manual* 7<sup>th</sup> ed. Whitehouse Station, N.J., Merck and Co. in cooperation with Merial Ltd.
- Radostits O.M., Gay C.C and Hinchcliff K.W. 2006. *Veterinary Medicine*. 10<sup>th</sup> ed. Saunders,



- Veterinary clinical diagnosis Second Edition W. R.KELLY M.A., *Professor of Medicine, Pharmacology and Food Hygiene, Faculty of Veterinary Medicine, University College, Dublin* Bailliere Tindall • London

## 2. WEB ADDRESSES (PUTTING LINKS)

- <https://www.merckvetmanual.com/digestive-system/dentistry/endodontic-disease-in-small-animals>
- <https://animalcareofgloucester.com/2018/02/08/causes-of-dental-problems-in-pets/>
- <https://www.medicalnewstoday.com/articles/165749.php>
- <https://www.msdrvvetmanual.com/dog-owners/skin-disorders-of-dogs/itching-pruritus-in-dogs>
- <http://www.fao.org/3/T0690E/t0690e0b.htm>
- <https://vcahospitals.com/know-your-pet/pruritus-itching-and-scratching-in-dogs>
- <https://www.farmhealthonline.com/disease-management/cattle-diseases/lameness/>

<b>Instruction Sheet</b>	<b>Learning Guide #-38</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Reporting unusual condition or ill health of animal promptly.
- Identifying and reporting animal lagging behind the herd or injured
- Identifying and reporting feed intake and drinking changes



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

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

- Report unusual condition or ill health of animal is promptly to supervisor.
- Identify and report animal lagging behind the heard or injured
- Identify and report feed intake and drinking changes

**Learning Instructions:**

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 7.
3. Read the information written in the “Information Sheets 3”. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish the “Self-check 1”, 2 and 3 **in page 43, 45 and 47** respectively
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-check 1).
6. If you earned a satisfactory evaluation proceed to “Information Sheet 2”. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to Learning Activity #1.
7. Submit your accomplished Self-check. This will form part of your training portfolio.

<b>Information Sheet-1</b>	<b>Reporting unusual condition or ill health of animal is promptly</b>
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**Recognising ill health in animals**

There are degrees of ill health ranging from the animal that is merely "off-colour" to one that is desperately ill. An animal that looks "not quite right" should be observed closely until it appears fully recovered. If it is incubating a serious disease, an early diagnosis could save



the animal. By checking the vital signs of the animal, the owner can receive early warning that something is amiss. Seriously ill animals must receive immediate and urgent veterinary attention.

The first sign that an animal is becoming sick is that it picks at or refuses food. It may drink more or less water than normal, depending on the illness. The eyes will be dull, and on closer inspection, the mucous membranes may have changed colour. Deep red membranes indicate fever; pale membranes show anaemia; yellow membranes indicate a liver disorder, while blue-red membranes show heart and circulatory problems, or pneumonia.

The coat may look dull and dry. The animal might be sweating (except for dogs). A cold sweat indicates pain while a hot sweat indicates fever. If the animal is in pain it will probably be restless (getting up and down and pacing about) and it might even be groaning.

The animal will either scour (i.e. pass very loose droppings), or will become constipated and pass no droppings at all. The passing of urine might also cease. A very sick animal will lie down for long periods and will not get up when approached.

The vital signs of a sick animal will change. The temperature may go up or down. A rise in temperature of one or two degrees usually indicates pain, while a rise of more usually indicates infection.

The rate of respiration, and the way the animal breathes could also show changes. With pain or infection, breathing becomes more rapid. In a very sick animal, breathing can be laboured and shallow.

A slightly increased pulse rate suggests pain, while a rapid pulse suggests fever. An irregular pulse can indicate heart trouble. In a very sick animal, the pulse is weak and feeble.

Unusual animal signs may include::

- abnormal physiological parameters
- Abdominal distension
- abscesses, wounds or injuries
- listlessness
- persistent coughing
- Severe depression
- Lowering of head
- Pressing inanimate object
- Abnormal posture (kyphosis/lordosis)
- Frequent urination, color, volume of urine
- rapid loss of body condition
- a sudden drop in milk yield



- Frequent defection, color, volume and consistency of faeces
- Condition of coat (rough, lusterless, excessive wool loss)
- alopecia,
- Itching, lesion, scratching or frequent rubbing
- Horn fracture
- Bleeding
- Not eating
- Diarrhea: with blood, mucous, epithelium
- Vomiting
- Animal that has severe lethargy
- Animal that is seizing
- Animal that is straining to urinate
- Animal with evidence of pain such as restlessness, vocalizing or panting
- Animals with lameness/circling

**Animal Daily Health Monitoring Program sheet**

**Animal ID#** \_\_\_\_\_

Animal Information			
<b>Animal ID:</b>	<b>Intake Date:</b>	<b>Gender:</b>	<b>Age:</b>
<b>Color:</b>	<b>Breed:</b>	<b>Wt:</b> <b>kg</b>	<b>BCS:</b> ____/9

➤

WEEK IN SHELTER: 1							
Day in Shelter	1	2	3	4	5	6	7
Date							
Location in Shelter							
Initials							
Attitude							
Vocalization							
URI Signs							
Eating							
Stool							
Urine							
Behavior/Aggression							
Location & Position							
Demeanor/Activity							

➤

WEEK IN SHELTER: 2							
Day in Shelter	8	9	10	11	12	13	14
Date							
Initials							
Location in Shelter							



Attitude							
Vocalization							
URI Signs							
Eating							
Stool							
Urine							
Behavior/Aggression							
Location & Position							
Demeanor/Activity							

#	Date	Note	Action Taken	By

Item	Descriptions of Options						
	Attitude	B = Bright	Q = Quiet	D = Depressed			
Vocalization	0 = Quiet	B = Bark	M = Meow	W = Whine	P = Panting	G = Growl	
URI Signs	0 = No signs	S = Sneeze	C = Cough	ODC = Ocular Discharge		NDC = Nasal Discharge	
Eating	0 = None	+ = Some	++ = All				
Stool	0 = None Seen	N = Normal	D = Diarrhea	BD = Bloody Diarrhea			
Urine	0 = None Seen	+ = Some	++ = Lots	BU = Bloody Urine		Out = Outside Box (Cat)	
Behavior	F = Friendly	T = Timid	A = Aggressive	N = No interaction			
Location & Activity in Cage	F = Front	M = Middle	B = Back	S = Sit	L = Lie	P = Pace	J = Jump
Demeanor	C = Calm	E = Excited	T = Timid	S = Shaking		H = Hiding	

Disposition – Date: \_\_\_\_\_ Type: RTO\_\_ Adopted\_\_ Rescued\_\_ EA\_\_  
Other \_\_\_\_\_

By filing the above animal health monitoring program chart daily, report to the supervisor if encounter unusual signs by the following animal disease reporting form.

## Animal Disease Reporting Form

### 1. Animal Information

Type of animal involved:  Domestic Pet  Livestock  Wild animal  
 Exotic  Zoo animal



Number of animals:  One  Multiple (give number \_\_\_\_\_)

Species of Animal \_\_\_\_\_

Other Identifying Information:

Breed \_\_\_\_\_ Color \_\_\_\_\_

Sex \_\_\_\_\_ Name \_\_\_\_\_

Age \_\_\_\_\_ IMPOUND # \_\_\_\_\_

## 2. Animal Owner (if applicable)

Name(s) \_\_\_\_\_

Address \_\_\_\_\_

Telephone: \_\_\_\_\_

## 3. Animal Location (where in community animal originated, if not same as owner)

Name(s) \_\_\_\_\_

Address \_\_\_\_\_

## 4. Reporting Veterinary Clinic or Shelter

Name of veterinarian or technician: \_\_\_\_\_

Vet Clinic Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Fax E- mail: \_\_\_\_\_

## 5. History

Date of onset of first symptoms \_\_\_\_\_ Date of presentation \_\_\_\_\_

Date of death(s), if applicable \_\_\_\_\_

History (include vaccine history, if applicable): \_\_\_\_\_

## Animal disease reporting form, p.2

## 6. Clinical Findings

Highest body temperature measured \_\_\_\_\_

Physical Examination \_\_\_\_\_

### Normal Comments

General:  Yes  No \_\_\_\_\_

Skin:  Yes  No \_\_\_\_\_

Head Area:  Yes  No \_\_\_\_\_

Respiratory:  Yes  No \_\_\_\_\_

Cardiovascular:  Yes  No \_\_\_\_\_

Abdomen/digestive:  Yes  No \_\_\_\_\_

Urogenital:  Yes  No \_\_\_\_\_



Musculoskeletal:  Yes  No \_\_\_\_\_

Nervous:  Yes  No \_\_\_\_\_

Lymph nodes:  Yes  No \_\_\_\_\_

Other:  Yes  No \_\_\_\_\_

**7. Treatment.** Please describe treatment given, particularly antibacterial, antiviral, antifungal, antiparasitic

Treatment Date Describe Treatment

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

**8. Laboratory results :** \_\_\_\_\_

**9. Additional comments.** \_\_\_\_\_

<b>Self-Check –1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write at least 6 abnormal/unusual sign of animals (6pts)

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



## Information Sheet-2

# Identifying and reporting animal lagging behind the herd or injured

## Daily monitoring

Care staff who work with the animals early in the morning may be best able to pick up on signs of problems before cages are cleaned and food is replaced. Appetite and food intake monitoring is best done during feeding. Monitoring sheets, filled out by direct care givers, can then be consulted by those doing rounds even if signs of possible illness have been cleaned away.

Provide caretakers with guidance on what to do if an animal with possible signs of infectious illness is identified prior to cleaning (e.g. clean that animal last after caring for healthy animals in the area, make a note on the veterinarian's log, move the animal to an isolation area if appropriate).

To implement monitoring by care staff:

- ✓ Provide training for care staff in recognition of clinical signs of disease and behavior concerns.
- ✓ Utilize daily monitoring forms for each animal in the shelter and provide training for care staff in utilizing these forms for recording all daily observations
- ✓ Look for urine/fecal output before beginning cleaning and any signs of vomit
- ✓ Record attitude prior to feeding in the morning
- ✓ Monitor appetite during feeding
- ✓ In general housing areas, if an animal appears sick, mark the cage so others are alerted
- ✓ Follow appropriate procedures to notify veterinary staff or supervisors of problems or concerns
- ✓ Include weekly weight checks as part of a complete monitoring program (have weighing as part of the intake process as well)
- ✓ When animals remain in the shelter for longer than one month, perform a full physical exam including weight and body condition score by trained staff on a monthly basis
- ✓ Make sure veterinary examinations are performed at least biannually for all animals, more frequently if problems are identified
- ✓ Geriatric or health-compromised animals should be evaluated by a veterinarian as needed for appropriate case management

The animal keeper must be report to the supervisor or nearby expert about those animals lagging behind the herd/ injured.

### **Injury may include**

Car accident, Eye trauma, Lameness, Nasal bleeding, Wounding, Bleeding, lesion on oral cavity animals also lagging from herd due to lameness, TRP, trypanosomiasis infected animals



<b>Self-Check –2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the cause of animals lagging from herd (6pts)

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



**Feeding behaviour**, any action of an animal that is directed toward the procurement of nutrients. The variety of means of procuring food reflects the diversity of foods used and the myriad of animal types.

The living cell depends on a virtually uninterrupted supply of materials for its metabolism. In multicellular animals the body fluids surrounding each cell are the immediate source of nutrients. The contents of these fluids are kept at a relatively constant level in spite of tolls taken by the cells, primarily by mobilization of nutrients stored in the body; in vertebrates, for example, glucose is stored in the liver, fats in the fat tissues, calcium in the bones. These stores, however, will become exhausted unless the animal takes up nutrients from outside. Movements performed for this purpose are termed feeding behaviour.

### Drinking Behavior

Providing the opportunity for livestock to consume a relatively large amount of clean, fresh water is essential. Water is consumed several times per day and is generally associated with feeding or milking. Cows may consume 30 percent to 50 percent of their daily water intake within one hour after milking. Reported rates of water intake vary from 1 to 4 gallons per minute. On the basis of farm studies, the length of water troughs should be 2 inches per cow, with an optimal height of 24 to 32 inches. Reducing the height 2 to 3 inches may be logical for small-framed Jersey cattle. Water depth should be a minimum of 3 inches to allow the animal to submerge its muzzle 1 to 2 inches. Provide at least one watering device for every 15 to 20 cows, or a minimum of 2 feet of tank space per 20 cows. At least two water locations are needed in the loafing area for each group of cows. For confinement operations, waterers should be located at the milking parlor exit and within 50 feet of the feed bunk or at every crossover in free-stall barns. For grazing operations, water also should be located at the milking parlor exit and in each paddock so that animals are always within 600 feet of a clean, fresh water source. Heifers should be provided at least one watering space per 20 animals, with a minimum of two waterers per group.

The temperature of drinking water has only a slight effect on drinking behavior and animal performance. Responses to chilling of water under most circumstances would not warrant the additional cost of cooling the water. Given a choice of water temperature, cows prefer to drink water with moderate temperatures (63 F to 82 F) rather than very cold or hot water

### Abnormal feeding and drinking behaviour of animals

Foals frequently nibble at manure, which is one way the microbial population of the gut is established. It might not look attractive, but is normal investigative behavior. Other unusual eating behavior includes chewing on fences or stall walls, eating bark off trees, chewing on



stablemates' tails, and eating dirt. In some species, the term "pica" is used to indicate consuming unusual food.

Except for salt, and perhaps phosphorus, there has been limited information to document that horses have nutritional wisdom for selecting nutrients. Horses can select and consume plants that taste better than other plants. Consumption of sandy soil can cause colic or diarrhea

Anytime a horse is consuming unusual material, a thorough review of the diet is a good idea to make certain there is sufficient fiber, adequate minerals (including salt), and adequate protein/amino acid intake. If boredom is an issue, increased exercise or the use of stall toys may be a good idea. And of course, if your horse consumes something odd, or excessive amounts of something, make sure to contact your veterinarian

**Cattle and sheep:** Pica consuming foreign body rather than feed, polyphaga incase of diabetes Miletus, inappetance due to painful condition in oral cavity, polydipsia, thirst/reduce water intake

Dog/cat: over/under eating, pica, Scoffing (Scoffing or bolting food is when a dog eats food too quickly, often without much chewing)

The animal keeper must be aware about animal normal feeding and drinking behavior and immediately report to the supervisor abnormal sign will encounter.



<b>Self-Check –3</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write abnormal feeding behaviour of horse (3pts)
2. What are abnormal feeding behaviour of cattle (3pts)
3. -----is when a dog eats food too quickly without much chewing(1pts)

**Note: Satisfactory rating - 3 points**

**Unsatisfactory - below 3 points**

**Answer Sheet**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



## List of Reference Materials

### a. BOOKS

1. Aiello S. and Mays A. 1998. *The Merck veterinary manual* 7<sup>th</sup> ed. Whitehouse Station, N.J., Merck and Co. in cooperation with Merial Ltd.
2. Radostits O.M., Gay C.C and Hinchcliff K.W. 2006. *Veterinary Medicine*. 10<sup>th</sup> ed. Saunders,
3. Veterinary clinical diagnosis Second Edition W. R.KELLY M.A., *Professor of Medicine, Pharmacology and Food Hygiene, Faculty of Veterinary Medicine, University College, Dublin* BailliereTindall • London

### WEB ADDRESSES (PUTTING LINKS)

<https://thehorse.com/114032/abnormal-eating-behaviors-your-horse-ate-what/>.

(<https://www.ag.ndsu.edu/publications/livestock/water-needs-and-quality-guidelines-for-dairy-cattle>).