TEMPERATURE.

The detection of internal body temperature is of great importance in diagnosis & Prognosis of the diseases.
Its range from 36 TO 42.5 °C

Measuring the internal temperature.
By Thermometer.
### The normal temperature of different animals:

<table>
<thead>
<tr>
<th>Animals</th>
<th>Range °C</th>
<th>Average °C</th>
<th>Animal</th>
<th>Range °C</th>
<th>Average °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horse (adult)</td>
<td>37.2 - 38</td>
<td>37.6</td>
<td>Camel</td>
<td>35 - 38.6</td>
<td>36.8</td>
</tr>
<tr>
<td>Foal</td>
<td>37.5 - 38.5</td>
<td>38</td>
<td>Pig (adult)</td>
<td>37.8 - 38.9</td>
<td>38.3</td>
</tr>
<tr>
<td>ox</td>
<td>37.8 - 39.2</td>
<td>38.5</td>
<td>Piglet</td>
<td>38.9 - 40</td>
<td>38.4</td>
</tr>
<tr>
<td>Calf</td>
<td>38.5 - 39.8</td>
<td>39.2</td>
<td>Small dog</td>
<td>38.6 - 39.2</td>
<td>38.9</td>
</tr>
<tr>
<td>Sheep</td>
<td>38.9 - 40</td>
<td>39.5</td>
<td>Large dog</td>
<td>37.5 - 38.6</td>
<td>38</td>
</tr>
<tr>
<td>Goat</td>
<td>38.6 - 40.2</td>
<td>39.5</td>
<td>Guinea pig</td>
<td>37.5 - 39.4</td>
<td>38.4</td>
</tr>
<tr>
<td>Rabbit</td>
<td>39.9 - 40.5</td>
<td>39.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cat</td>
<td>37.8 - 39.2</td>
<td>38.5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Physiological factors affecting the body temperature:

- 1- Female, pregnant, young animals have a relatively higher temperature than male, non pregnant, old animal.
- 2- In all healthy animals the temperature varies during the day.
- 3- High atmospheric temperature increase the normal body temperature.
- 4- Excitation, forced exercise increase the temperature.
- 5- The normal body temperature increase after feeding.
Abnormal body temperature:

1- Sub normal temperature (hypothermia):

a)- physical:
The sphincter of anus is relaxed
-The thermometer has not been inserted deep enough
- Defecation takes place just before or during the insertion
- Administration of a cold fluid enema

b)-Pathologically:
In cases of: anemia, hemorrhage, hypocalcaemia, hypothyroidism.
- GIT parasites, mal nutrition, shock, parturition.

c)- Sub normal temperature most frequent in fatal diseases just before death (Temperature of collapse).
2-Elevated body temperature (Hyperthermia).

- It is elevation of body temperature above the normal range.
- The following phenomenon are met with it:
  1-Chill.
  2-Un even distribution of the external temperature of the body.
  3-Loss of appetite & impaired digestion:
    - The secretions of digestive juices are lessened.
    - Peristalsis suppressed (constipation).
    - Thirst increased.
  4-Mental depression.
  5-Albuminuria.
Stages of fever:

- 1- Increment or The onset.
- 2- Fastigium or the period of maximum temperature.
- 3- Decrement or Defevescence.

Degree of fever:

1- Mild fever: about 1°C above normal.
2- Moderate fever (pyrexia): about 1.7°C above normal.
3- Severe fever (Hyperpyrexia): about 2°C above normal.
Types of fever:

1- Simple fever.
2- Continuous fever.
3- Remittent fever.
4- Intermittent fever.
5- Recurrent fever.
6- Atypical fever.
Pulse:

**Importance of examining the pulse:**
Help in diagnosis of circulatory disturbance.

**Site of examination of pulse:**

*It is usually examined from arteries.*

The arteries examined for pulse must be:

1. Superficially situated.
2. Of medium size.
3. Lying in adherence with solid mass as bone.
The common sites for examine Pulse in domestic animals:

**Horse:**
The external maxillary artery.

**Ox:**
Middle coccygeal artery.

**Sheep, Goat, Dog, Cat, Small pigs:**
Femoral artery.

**In dog & cat** can be taken from brachial artery.

**Large pig:**
Coccygeal artery.
Aspects of examination of the pulse:

1- Rate.
2- Rhythm.
3- Quality.

1- The rate or frequency:

Means the number of blood waves (beats) Felt in minutes time.
Normal pulse rate /minute for domestic animals:

<table>
<thead>
<tr>
<th>Animal</th>
<th>Range</th>
<th>Animal</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horse</td>
<td>28 - 40</td>
<td>Large dog</td>
<td>60 - 90</td>
</tr>
<tr>
<td>Yearling</td>
<td>70 - 80</td>
<td>Small dog</td>
<td>90 - 120</td>
</tr>
<tr>
<td>Mules</td>
<td>45 - 50</td>
<td>Cat</td>
<td>110 - 130</td>
</tr>
<tr>
<td>Cattle</td>
<td>55 - 80</td>
<td>Rabbit</td>
<td>120 - 150</td>
</tr>
<tr>
<td>Calf</td>
<td>100 - 120</td>
<td>Swine</td>
<td>60 - 100</td>
</tr>
<tr>
<td>Sheep &amp; Goat</td>
<td>70 - 90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Physiological factors affecting The pulse rate in normal animals:

1- Species.
2- Size: higher in small than in large animals.
3- Age: higher in young than adult animals.
4- Sex: male slightly lower than female animal.
5- Parturition & Late stage of pregnancy: relatively more pulse rate.
6- Exercise: increase pulse rate.
7- Ingestion of food: cause momentary increase in frequency of pulse.
8- Posture: pulse rate reduced about 10% when animal is recumbent than when standing.
Pathological changes of pulse rate:

**Bradycardia (Slow pulse rate):**
1- Accompany brain diseases attended by great depression as:
   - Chronic & sub acute hydrocephalus.
   - Brain tumors.
   - Poisoning from alcohol or lead.

**Tachycardia (Fast pulse rate):**
1- In most severe diseases especially when attended by fever.
2- In painful conditions:
   - Severe injuries.
   - Fractures.
   - Abscesses.
3- In mental excitement: as fear or anxiety.
2- **Rhythm**:

By Observation of the interval occurring between successive waves.

1- **Rhythmic or Regular**:

Individual pulse beats are separated by intervals

Of equal duration.

2- **Arrhythmic or Irregular**:

The interval is not regular.
**Quality:**
It means the strength of pulse.
It normally varies according to kind of animal.

**Jugular pulsation:**
Engorgement of jugular vein produces movement which observed in jugular furrow. It may be:

* **A negative jugular pulse:**
Its physiological observed in lean animals. It is common in cattle.

* **Positive jugular pulse:** Its true pulse waves.
Respiration:

Examination of respiration is of great importance in diagnosis of respiratory diseases.

The following points are noted:

1- Type.
2- Rate.
3- Depth.
4- Rhythm.
Type:

Means the way in which the respiratory movement are shared between the thoracic and abdominal walls. The diaphragm play an important role in respiratory action.

The normal Types of respiration according to species:

1- Abdominal: (In cattle).
   The abdominal muscle predominate.

2- Costal: (In dog & cat).
   The costal muscle predominate.

3- Costo abdominal: (In horse).
   The abdominal & costal muscles are similarly sharing in Respiration.
**Respiratory rate or frequency:**

Means the numbers of respiratory movement **per minute**. The rate should be counted for at least one minute.

**The normal respiratory rate in different species:**

<table>
<thead>
<tr>
<th>Animal</th>
<th>Range</th>
<th>Animal</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horse</td>
<td>10 – 14</td>
<td>Dog</td>
<td>15 – 30</td>
</tr>
<tr>
<td>Ox (adult)</td>
<td>10 – 30</td>
<td>Cat</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Ox (yearling)</td>
<td>15 – 40</td>
<td>Rabbit</td>
<td>30 – 45</td>
</tr>
<tr>
<td>Camel</td>
<td>5 – 12</td>
<td>Rat</td>
<td>90 – 110</td>
</tr>
<tr>
<td>Sheep &amp; Goat</td>
<td>20 – 30</td>
<td>Guinea pig</td>
<td>100 – 150</td>
</tr>
<tr>
<td>Pig</td>
<td>8 – 18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Factors accelerating respiratory rate:

**A) physiological:**
1. Exposure to high atmospheric temperature.
2. Just after exercise.
3. Ingestion.

**B) Pathological:**
1. Fever.
2. Anemia.
3. Severe cardiac diseases.
4. Various pulmonary diseases.
5. Obstruction of upper respiratory passage.
6. Conditions making respiration painful (pleurisy or peritonitis).
**Hyperpnoea:**

(Increased pulmonary ventilation).
Increased respiratory rate with or without increase in the amplitude (width).

**Poly pnoea:**

Increased respiratory frequency with reduction in Depth of movement.

**Oligo pnoea:**

( Retarding the respiratory rate). Pathological causes
1- Stenosis of the upper respiratory passage.
2- Uremia.
3- In space occupying lesions of the brain.
**Respiratory rhythm:**

- In each respiratory cycle three phases:
  - Inspiration, Expiration, pause.
- It means regularity in intervals between successive respirations.

**Respiratory depth:**

- It means degree of movement of both abdominal & thoracic muscles.
- In deep breathing the movement of muscles are clearly visible.
Dyspnoea:

-Means deviations from normal respiration in its rate, type, depth accompanied by pathological sounds.

- Clinically can be divided into:
  1- Simple dyspnoea.
  2- Aggravated dyspnoea:
    a) Inspiratory dyspnoea.
    b) Expiratory dyspnoea.
    c) Mixed dyspnoea.