Methods of examination
A clinician has responsibility towards the farmer who has brought the animal for treatment with the hope that it will be cured from its disease and put back into production or back to work. Clinician is also responsible to the animal patient itself and there should not be any misdiagnosis and wrong treatment, which might affect the life of the animal adversely.

The only tools available for use with the clinician are his/her sharp eyes for detailed examination, skilled hands for performing any task that may be required and good reasoning ability to analyze, synthesize information that are narrated by the farmer and fit into the observations made.

Laboratory tests for diagnosis
For a farmer it is more important to get the animal cured and get back into production or back to work and there is no time to be wasted. As a clinician it is important to examine the animal arrive at a diagnosis and treat the animal. If need be collect relevant samples send them to lab for test while treatment is being continued. Never wait for the result to come from lab and treat it may be too late.

The various methods available for examinations are:
1. Inspection  observing the animal patient through eyes
2. Palpation  feeling with fingertips and hands
3. Percussion tapping animal body / part of body with fingertips
4. Succussion shaking animal body from side to side to detect fluid in body cavity
5. Auscultation listening to sound from organs like heart / lungs.

Inspection: is the method by which animal patient is examined from a distance without disturbance. (refer general inspection for detail)

Palpation: is the method of examination of animal body or part by applying light pressure with fingertips. Prior to this the normal feelings of various parts of animal body has to be known and this skill has to be developed through continuous practice. Information that can be obtained from performing palpation are:
- Presence and intensity of pain
- Size, shape & consistency of organ or growth
- Sensitivity of part of animal body high sensitivity, no sense
- Abnormalities of urogenital organs can be palpated through per rectum
- Cutaneous thermal level can be detected by palpation of skin

Consistency that can be felt on palpation are described as:
- Resilient – area palpated returns to normal position soon after palpation
- Doughy – after palpation the print of the finger tips are left on the area palpated
- Firm – tissue appear solid like muscles and liver
- Hard – tissue feels like bone
- Fluctuating – tissue palpated feels soft, elastic and undulates
- Emphysematous – the tissue palpated crackles on and there is sort of spongy feeling due to subcutaneous accumulation of gas.

Some of the structures that can be palpated and what they are palpated for are:

<table>
<thead>
<tr>
<th>Organs</th>
<th>palpated for</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial arteries</td>
<td>pulse</td>
</tr>
<tr>
<td>Uterus</td>
<td>pregnancy</td>
</tr>
<tr>
<td>Muscles</td>
<td>pain / swelling</td>
</tr>
<tr>
<td>Bone</td>
<td>fracture / growth</td>
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<tr>
<td>Stomach, intestine</td>
<td>pain</td>
</tr>
<tr>
<td>Oesophagus</td>
<td>obstruction</td>
</tr>
<tr>
<td>Rumen</td>
<td>bloat, impaction</td>
</tr>
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**Percussion:** method of examination in which part of body to be examined is struck with sharp blow using fingertips to produce audible sound. Sound thus emitted will indicate the nature of the tissue / organ involved for example rumen when bloated will emit drum like sound. Some of the organs that can be examined by percussion are: gastro-intestinal tract, abdomen and thorax, frontal and nasal sinuses.

Sounds produced from various structures can be described as:
- dull / flat – sound without resonance or echo, this type of sound can be heard on percussion of thick muscles or bone.
- Full sound – sound heard is with resonance but not booming like drum. This type of sound is heard from tissues like lungs that contain air inside.
- Tympanic sound – drum like sound can be heard, and this type of sound is heard from bloated rumen, abomasums and intestine.

Tactile percussion or ballottement: is method in which palpation and percussion are combined together to feel structures that cannot be felt by either of these methods applied singly. This is normally used for pregnancy diagnosis in cows when the foetus cannot be palpated through per rectum. Here a firm pushing stroke is applied on to the uterus and the hand after pushing is kept in contact with uterus so that the foetus will bound and strike on it. While firm pushing is done this sets fluid in uterus into motion and foetus is made to bounce.

Fluid percussion: here fluid present in the body cavities can be detected by percussing on one side and palpation is done on other side.

**Auscultation:**
Word auscultation comes from ‘auscutona’ meaning ‘to listen’. This is a technique of listening to the sounds produced from organs in the abdominal and thoracic cavities. In olden days listening to these sounds were done with naked ears. This had certain limitations like the skin on animal being dirty and infested by parasites it was not healthy for the clinicians and was also difficult to keep ears in contact on animal body due to
constant movement. Therefore an instrument was later developed for this purpose and this is called stethoscope. The figure below shows the stethoscope.

![Stethoscope Diagram]

**Parts of stethoscope**

- **Ear piece**
- **Rubber tube**
- **Chest piece**

**Types of auscultation:**
Auscultation can be of two types, 1. direct method and 2. indirect method. Direct method was used in olden days before the invention of stethoscope and the clinicians listened to the sounds of heart and lungs by placing their ears directly on animal body. Disadvantages of this method are listed above. Indirect method is using stethoscope, which is widely practiced these days.

**Steps in auscultation**
Place the ear piece into the ears, hold the chest piece and give a gentle tap on diaphragm, if no sound is heard adjust it by holding rubber tube with one hand and turning the chest piece with the other until there is ‘click’ sound. Tap again there should be amplified sound heard. Place the chest piece over the desired area and listen to the sound hear or lungs accordingly. Areas for listening to heart and lungs sounds are shown below, for rumen left flank region can be used.

![Diagram of Areas for Auscultation]

**Area for lungs auscultation**

**Area for heart auscultation**

**Succussion**
Is the method used to determine the presence of fluid in the body cavities like thoracic and abdominal cavity. Here the animal is shaken from side to side to set fluid into motion so that audible fluid sound is produced. This is difficult in large animals and can be applied only in small animals like dogs and cats.