The Clinical examination

The purpose of the clinical examination is to identify the clinical abnormalities that are present and the risk factors that determine the occurrence of the disease in the individual or population. From this information the most likely cause can be determined.

Without a proficient clinical examination and an accurate diagnosis it is unlikely that the control, prognosis and welfare of animals will be optimized.

There are several approaches to the clinical examination. The *complete clinical examination* consists of checking for the presence or absence of all the clinical abnormalities and predisposing factors.

From this information a list of differential diagnoses is deduced. The hypotheticodeductive method combines clinical examination and differential diagnosis.

The clinical examination

The clinical examination include :

1) **Owner's complaint**
2) **Signalment of the patient**
3) **The case history**
   - **Patient history (individuals and farm).**
   - **Disease history**
   - **Management history**
4) **Observation of the environment**
5) **Observation of the animal at a distance**
6) **Examination of the animal**
7) **Further investigation**

1) Owner's complaint

This information usually indentifies which individuals and groups of animals are affected. It may also indicate the urgency of the problem. The owner may include the history of the patient and the signalment in the complaint.

2) Signalment of the patient

Signalment includes the identification number, breed, age, sex, colour and production class of animal. Some diseases are specific to some of these groupings and this knowledge can be useful in reducing the diseases that need to be considered.

3) The Case History :

the case history of the patient as individuals and on level of the farm should include :

a) Patient history: which include the followings :
   - Disease information should include the group(s) affected, the numbers of animal affected (morbidity) and the identities of the animals affected; the number of animals that have died (mortality) should be established. Information regarding the course of the disease should be obtained including the signs observed.
   - Risk factors: Possible predisposing risk factors should be identified. These may include the origin of the stock, current disease control programs (vaccination, anthelmintic programs ….etc) and nutrition.
   - Response to treatment: Clinical improvement following treatment may support a tentative diagnosis.

b) Disease history: include development of the disease , the period of onset ….etc

c) Management history : include the nutrition, grouping, vaccination, anthelmintic treatment …..etc

4) Observation of the environment

The environment in which the animals were kept at the time of the onset or just before the onset of the illness should be carefully examined. The animals may be housed or outside.

Risk factors outdoors may include the presence of toxic material, grazing management and regional mineral deficiencies.

Risk factors indoors may include ventilation, humidity, dust, stocking density, temperature, lighting, bedding, water availability and feeding facilities.

5) Observation of the animal at a distance

Ideally this procedure should be performed with the patient in its normal environment. This enables its behavior and activities to be monitored without restraint or excitement. These can be compared with those of other member of the group and relative to accepted normal patterns.

However, sick animals have often been separated from their group and assembled in collecting yards or holding pens awaiting examination. Observations are most frequently made in this situation; they may include feeding, eating, urinating, defecation, interactions between group members and responses to external stimuli. The patient can be made to rise and walk. The posture, contours and gait can be assessed, and gross clinical abnormalities detected.

6) Examination of the animal

The clinical examination usually proceeds topographically around the animal, with clinicians starting at different points dependent upon personal preference.

Each topographical area may include several components of the different body systems and these are examined concurrently . Frequently the topographical approach is used to identify major clinical abnormalities which are then examined in a more detailed manner using a systems approach.

7) Further investigations

Further investigations may be required before a diagnosis can be made. These may include laboratory tests, post-mortem examination, and a wide range of advanced techniques. Careful consideration should be given to the additional cost and what additional diagnostic or prognostic information will be gained from the additional procedures.

Techniques used during a physical examination

1) **Palpation (touching) :** Changes in shape, size, consistency, position, temperature and sensitivity to touch (pain response) can be assessed by palpation.
2) **Auscultation (listening) :** Changes in the frequency, rhythm and intensity of normal sounds can be detected. Abnormal sounds can be identified. Stethoscopes are often used to increase the acuity.
3) **Percussion (tapping) :** The resonance of an object can be determined by the vibrations produced within it by the application of a sharp force. The sound produced provides information regarding the shape, size and density of the object.
4) **Manipulation (moving):** Manipulation of a structure indicates the resistance and the range of movements possible. Abnormal sounds may be produced, and the pain produced in response to the movement can be assessed.

5) **Ballottement (rebound) :** This is performed by pushing the body wall sharply and forcefully so that internal structures are first propelled against the body wall then on recoil rebound against the operator's fingers. This enables the presence or character of an internal structure to be assessed.
6) **Visual inspection:** This is used to identify abnormalities of conformation, gait, contour and posture. Visual appraisal may help determine the size and character of a lesion.
7) **Olfactory inspection:** This is used to identify and characterize abnormal smells which may be associated with disease.

Auscultation

I - Auscultation to the lungs area:

The triangle of auscultation composed of :

- **Anterior line** :Posterior angel of scapula to Olecranon process of ulna.
- **Dorsal line**: Pre- last intercostal space to External angle of ilium.
- **Ventral line** : Olecranon process of ulna to Pre- last intercostal space passing from the 9 ribs in cattle and 11 or 12 in horse.

Normal respiratory sounds أصوات التنفس الطبيعية

⇒ Vesicular breathing is heard only in the caudodorsal third of the thoracic field. it resembles the start of the letter "V".

Abnormal respiratory sounds أصوات التنفس الغير الطبيعية

⇒ Exaggerated or rough vesicular murmur: in case of excitement , pain and the first stages of lung congestion.

⇒ Attenuated vesicular murmur: heard in the second and final stages of pneumonia

⇒ Muffled sound (silent) : (pulmonary oedema, large abscesses, neoplasms, Consolidation).

II- Auscultation of the bronchus:

The normal bronchial sound like the CH sound and can be heard in the area of the larynx and trachea and the front part of the second third of the triangle which used to