

# Examination of the Musculoskeletal System



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.  
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# Examination from Afar: Musculoskeletal System

- **Information collected during an examination from a distance**

- General body condition
- Posture
- Distribution of weight
- Lameness
- Muscular atrophy
- Musculoskeletal swelling
  - **Joints**
  - **Skeletal**
  - **Soft tissue**
- Open wounds
- Condition of hooves

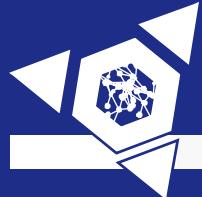




# Collecting a Meaningful History: Musculoskeletal System

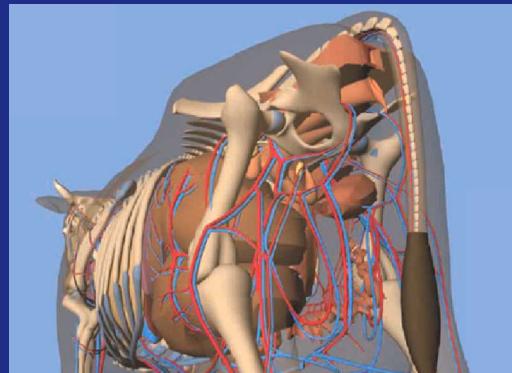
- **Historical information related to the evaluation of the musculoskeletal system**
  - Duration of illness
  - Injury
  - Respiratory disease
  - Calving/lambing history
  - Water consumption
  - Food consumption
  - Feces consistency
  - Previous treatments
- **Historical information related to the herd**
  - Other animals affected
  - Duration of signs
  - Similarity of signs
  - Deaths associated with the illness
  - Changes in food and/or water
  - New additions to the herd

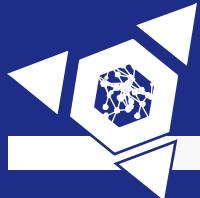




# Examination: Musculoskeletal System

- **Visual examination and palpation: skeleton and surrounding soft tissue structures**
  - Head and neck
  - Forelimbs
    - **Boney structures**
      - Swelling
      - Crepitus
    - **Soft tissue**
      - Swelling
      - Atrophy
    - **Joints**
      - Heat
      - Pain
      - Swelling
      - Crepitus
  - Hindlimbs
    - **Boney structures**
    - **Soft tissue**
    - **Joints**
  - Pelvis
    - **Rectal examination**

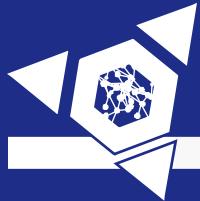




# Examination: Lameness Exam

- **Evaluation of the animal's gait**
  - Determination of affected limb
- **Determination of affected area**
  - Bone
  - Muscular
  - Joints
- **Hoof evaluation**
  - Hoof testers
  - Examination of the sole
    - **Paring sole**
  - Interdigital space





# Interpretation of Results: Musculoskeletal System

- **Abnormal findings: Musculoskeletal System**



# Ancillary Tests: Musculoskeletal System

- **Radiography**
- **Ultrasound examination – soft tissue injuries**
- **Joint fluid evaluation**
- **Microbiology**
- **Hematology**