



**American Association  
of Equine Practitioners**

**Horse Health Education**

# LAMENESS EXAMS

**Evaluating the Lamé Horse**

**[www.aaep.org/horseowner](http://www.aaep.org/horseowner)**



# HORSE HEALTH EDUCATION: LAMENESS



Stress, strain or injury can take a toll on any horse, even one without obvious conformation defects. When lameness occurs, contact your veterinarian immediately.

A prompt examination can save you time, money and frustration by diagnosing and treating the problem immediately, possibly preventing further damage.



# HORSE HEALTH EDUCATION: LAMENESS



Lameness evaluations are typically routine in most purchase examinations. When your veterinarian evaluates an animal you are considering for purchase, you may be forewarned about potential problems and should be able to make a more informed decision.



# HORSE HEALTH EDUCATION: LAMENESS

## LAMENESS DEFINED

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Lameness has been defined as any alteration of the horse's gait. In addition, lameness can be manifested in such ways as a change in attitude or performance.



# HORSE HEALTH EDUCATION: LAMENESS

## LAMENESS DEFINED

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These abnormalities can be caused by pain in the following:



- Neck
- Shoulders
- Legs
- Withers
- Back
- Feet
- Loin
- Hips



# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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Veterinarians have specific methods for performing examinations, depending on the reasons for the evaluation.



# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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Essential components of a thorough examination include the following:



- **Medical History of the horse.** The veterinarian asks the owner questions relating to past and present difficulties of the horse. He/she also inquires about exercise or work requirements and any other pertinent information.



# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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- **A visual appraisal of the horse at rest.** The veterinarian will study conformation, balance and weight bearing, and look for evidence of injury or stress.







# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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- **A thorough, hands-on exam.** The veterinarian palpates the horse, checking muscles, joints, bones and tendons for evidence of pain, heat, swelling or any other physical abnormality.



# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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- **Application of hoof testers to the feet.** This instrument allows the veterinarian to apply pressure to the sole and frog of the foot to check for undue sensitivity or pain.



# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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- **Evaluation of the horse in motion.** The veterinarian watches the horse walking and trotting. Observing the horse from the front, back and both side views, the veterinarian notes any deviations in gait (such as winging or paddling), failure to land squarely on all four feet and the unnatural shifting of weight from one limb to another.



# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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The horse may also be observed walking and trotting in circles, on a longe line, in a round pen and under saddle. The veterinarian looks for some of these signs:

- Shortening of the stride
- Irregular foot placement
- Head bobbing
- Stiffness
- Weight shifting



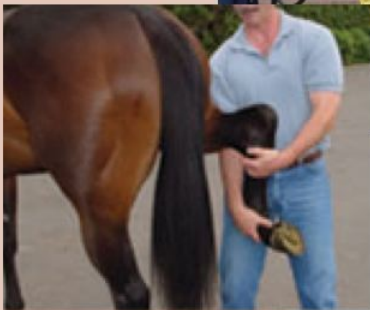
# HORSE HEALTH EDUCATION: LAMENESS

## EXAMINATION PROCEDURES

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- **Joint flexion tests.** The veterinarian holds the horse's limbs (one at a time) in a flexed position and then releases the leg. As the horse trots away, the veterinarian watches for signs of pain, weight shifting or irregular movement.

Flexing the joints in this manner may reveal problems that are not otherwise readily apparent.





# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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Diagnostic procedures are often necessary to isolate the specific location and cause of lameness. If your veterinarian has cause for concern based on initial examination, he/she may recommend further tests including:

- Diagnostic nerve or joint blocks
- Nuclear scanning
- Arthroscopy
- Examination of blood, synovial fluid and tissue samples
- MRI
- Ultrasound
- Radiographs
- Thermography



# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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**Diagnostic nerve and joint blocks.** These analgesic techniques are perhaps the most important tools used to identify the location of lameness. Working systematically, the veterinarian temporarily deadens the sensation to specific segments of the limb, one region or joint at a time, until the lameness disappears.

This procedure isolates the area of pain causing the lameness. Blocks can also help determine whether the condition is treatable.



# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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- **Radiographs.** These are useful in identifying damage or changes to bony tissues. An experienced and knowledgeable veterinarian should interpret them, since not all changes are cause for concern.





# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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Radiographs provide limited information about soft tissue, such as tendons, ligaments or structures inside the joints, which are often the source of lameness.

*Medial femoral condyle bone cyst, part of a development orthopedic disease (DOD) process.*

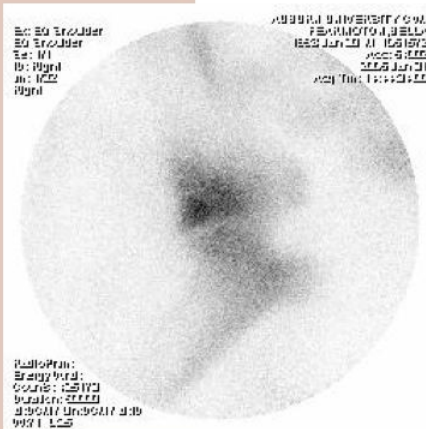


# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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- **Scintigraphy (Nuclear scanning).**  
Radioisotopes injected intravenously into the horse are concentrated in areas of injury. These areas are scanned with a gamma camera, providing an image of the troubled site.



*Nuclear scintigraphy of a subchondral bone cyst located within the shoulder.*



# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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- **Ultrasound (Sonography).** This non-invasive procedure uses ultrasonic waves to image internal structures such as tendons, ligaments, muscles, joint capsules and even bone architecture.



# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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- **Arthroscopy.** This surgical procedure allows visual examination of the inside of a joint or tendon sheath. It requires general anesthesia, but may be the only way to define the damage. Some diagnoses can only be made with arthroscopy. If deemed necessary, surgical treatment is often performed at the same time.



# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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- **Blood, synovial (joint) fluid and tissue samples.** These samples can be examined for infection or inflammation. Such examinations usually require laboratory testing.



# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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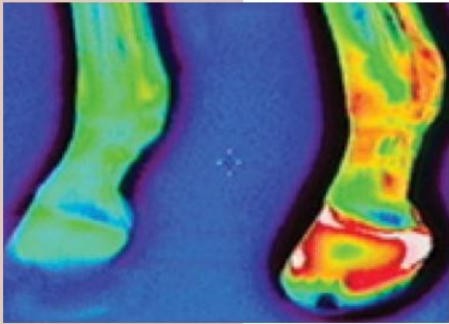
- **MRI (Magnetic Resonance Imaging).** Images are created by large magnets that spin around a body part. For this reason, only body parts that can fit inside a tube (head and legs) can be imaged by this technique. In the future, we may be able to image the entire horse using this technique, but larger magnets and/or tubes are needed.



# HORSE HEALTH EDUCATION: LAMENESS

## DIAGNOSTIC TESTS

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- **Thermography.** A medical thermogram represents the surface temperatures of skin, making it useful for the detection of inflammation.

Although thermography only measures skin temperature, it also reflects alterations in circulation of deeper tissues. This ability to assess inflammatory changes makes thermography an ideal image tool to aid in diagnosis of certain equine lameness conditions.



# HORSE HEALTH EDUCATION: LAMENESS

## AAEP LAMENESS SCALE

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Because each horse has unique performance characteristics, evaluating lameness can be challenging. Experienced riders may detect minor alterations in gait before they become apparent to an observer.

Lameness may appear as a subtle shortening of the stride, or the condition may be so severe that the horse will not bear weight on the affected limb.





# HORSE HEALTH EDUCATION: LAMENESS

## AAEP LAMENESS SCALE

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With such extremes of lameness possible, a lameness grading system has been developed by the AAEP to aid both communication and record keeping.



# HORSE HEALTH EDUCATION: LAMENESS

## AAEP LAMENESS SCALE

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The scale ranges from zero to five, with zero being no perceptible lameness, and five being most extreme. The AAEP guidelines explain the grading system this way:

- 0:** Lameness not perceptible under any circumstances.
- 1:** Lameness is difficult to observe and is not consistently apparent, regardless of circumstances (i.e. under saddle, circling, inclines, hard surface, etc).



# HORSE HEALTH EDUCATION: LAMENESS

## AAEP LAMENESS SCALE

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- 2: Lameness is difficult to observe at a walk or when trotting in a straight line, but consistently apparent under certain circumstances (i.e. weight carrying, circling, inclines, hard surface, etc.).
- 3: Lameness is consistently observable at a trot under all circumstances.



# HORSE HEALTH EDUCATION: LAMENESS

## AAEP LAMENESS SCALE

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- 4: Lameness is obvious at a walk.
- 5: Lameness produces minimal weight bearing in motion and/or at rest or a complete inability to move.



# HORSE HEALTH EDUCATION: LAMENESS

## MORE ABOUT OBSERVING THE HORSE IN MOTION

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The veterinarian should observe the horse on both soft and hard surfaces since different types of lameness may become apparent with different footing.



# HORSE HEALTH EDUCATION: LAMENESS

## MORE ABOUT OBSERVING THE HORSE IN MOTION

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Lameness may only be apparent when the horse is under saddle, or it may manifest at liberty or on a long line when the horse can be evaluated without the influence of the rider.



# HORSE HEALTH EDUCATION: LAMENESS

## MORE ABOUT OBSERVING THE HORSE IN MOTION

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A thorough examination of the horse at different gaits is important so that problems do not go unnoticed. A horse's walk and trot may be especially revealing. A slower walking gait makes slight deviations more easily apparent. Such deviations are not as obvious at a faster pace.



# HORSE HEALTH EDUCATION: LAMENESS

## MORE ABOUT OBSERVING THE HORSE IN MOTION

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The trot is perhaps most useful for evaluating lameness since it is the simplest gait, consisting of a two-beat stride pattern where the horse's weight is distributed evenly between diagonal pairs of legs.

In some cases, the speed and concussion of a faster pace (canter, gallop) is needed to help demonstrate the lameness and may be best appreciated when the horse is ridden under saddle, performing the intended athletic effort.





# HORSE HEALTH EDUCATION: LAMENESS

## LAMENESS EVALUATIONS IN RELATION TO THE PRE-PURCHASE EXAM

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Evaluation for the presence of lameness should be part of every purchase evaluation. While it is impossible to predict a horse's actual performance, the veterinarian can provide information regarding lameness or potential lameness by evaluating:

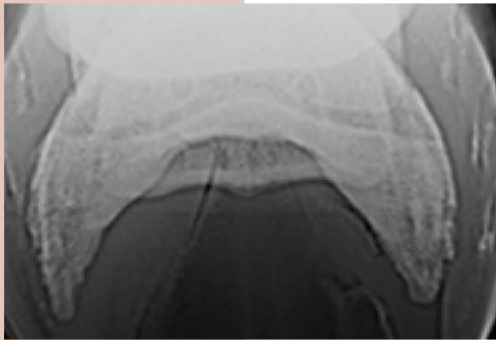
- Conformation
- Medical history
- Existing medical conditions
- Movement
- Past performance



# HORSE HEALTH EDUCATION: LAMENESS

## LAMENESS EVALUATIONS IN RELATION TO THE PRE-PURCHASE EXAM

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The extent of the exam will be determined by the buyer and veterinarian. Value, intended use and long-term goals may be factors in selecting certain exam procedures.

Radiographs, sonograms and other diagnostic tests provide comprehensive pictures of the horse's condition, but they also add to the exam's cost.



# HORSE HEALTH EDUCATION: LAMENESS

## LAMENESS EVALUATIONS IN RELATION TO THE PRE-PURCHASE EXAM

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Do not devalue the pre-purchase examination. The feeding and routine care of a horse with unforeseen issues is just as expensive as one that can be ridden normally on a routine basis.





# HORSE HEALTH EDUCATION: LAMENESS

## LAMENESS EVALUATIONS IN RELATION TO THE PRE-PURCHASE EXAM

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The most important question your veterinarian will ask is:

*“What will you be doing with this horse?”*

Your veterinarian will then weigh conformation, movement and medical considerations against the type and level of performance expected.



A horse that is fine for a daily pleasure ride may not hold up under more strenuous activities.



# HORSE HEALTH EDUCATION: LAMENESS

## LAMENESS EVALUATIONS

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In the purchase lameness exam, the veterinarian will try to determine the following two things:

1. Is the horse lame at the present time, or are there existing conditions that deserve a closer look?
2. What is the likelihood that the horse will remain serviceable for its intended use? Age, health, expected level of activity, conformation and past use will be considered.



# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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The pre-purchase exam is considered an important factor in deciding whether the horse is going to be a wise investment and meets the potential owner's needs.

It is important to remember even a favorable report is not a guarantee that there are no problems.



# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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The veterinarian's role during the pre-purchase exam is neither to pass nor fail an animal, but to provide the potential buyer with information regarding any existing medical problems.

This is also the time to discuss those problems so that an informed purchase decision can be made.



# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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The attending veterinarian can only advise the potential buyer about the horse's current physical condition, which may include:

- Evaluation of conformation
- Eyes
- Vital organs and signs (heart rate, temperature, respiration)
- Limbs for signs of disease or injury

The veterinarian can discuss how these things might affect performance from a health standpoint, but he/she cannot predict the future.





# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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Many factors can affect a horse's short- and long-term ability to perform. Factors in the lameness equation include many variables such as:

- Conformation
- Hoof care
- Use of protective leg gear
- Fitness and conditioning of the horse

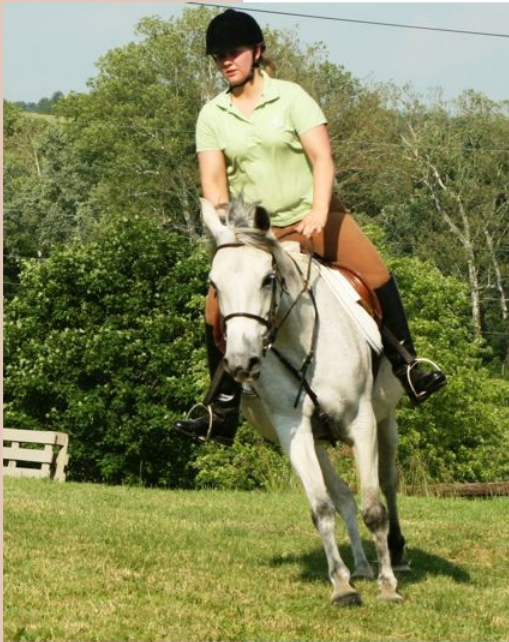




# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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- Degree and manner of training
- Type and level of performance
- Age
- Skill, balance and experience of the rider



# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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- Type or condition of the ground on which the horse performs
- Disease or injury
- Genetic predisposition
- Other factors



# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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In order for your veterinarian to evaluate a horse fairly, the animal should be fit, conditioned and in training for its intended use.

A horse that has been laid off for an extended time will be difficult to evaluate for lameness.



# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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One option may be to ask that the horse be returned to training and then re-examined after 30 to 60 days. Depending on the horse's value, such a request may be reasonable. Ask your veterinarian.



# HORSE HEALTH EDUCATION: LAMENESS

## LIMITATIONS OF THE PRE-PURCHASE EXAM

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The decision to buy a horse is up to the potential buyer. However, an equine veterinarian can be a valuable partner in the process by providing objective, health-related information.

*For more information regarding the pre-purchase exam, ask your veterinarian for a copy of AAEP's Bayer Healthcare brochure, *Purchase Exams: A Sound Economic Investment*.*





# HORSE HEALTH EDUCATION: LAMENESS

## GOOD STEWARDSHIP

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Lameness is a complicated condition, with many possible causes. Be a conscientious observer. If you suspect a problem, discontinue riding your horse and seek advice from your veterinarian promptly.



# HORSE HEALTH EDUCATION: LAMENESS

## GOOD STEWARDSHIP

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By identifying even minor lameness and acting swiftly to correct it, you will be rewarded by better performance and a longer, useful life from your horse.





# HORSE HEALTH EDUCATION: LAMENESS

*Photos courtesy of*

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