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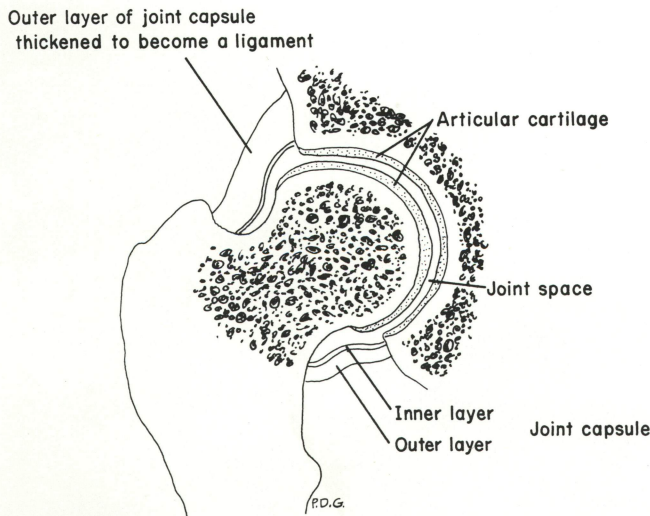
UNIVERSITY OF IDAHO

Common Joint Diseases of Horses

The junction between any two bones is known as an articulation or a joint. There are several types of joints. Some are fixed or practically immovable, such as those found between the skull bones. Others are freely movable and have articular cartilage and joint capsules.

The articular cartilage covers the ends of the bones and reduces friction between bones. The joint capsule surrounds the joint and consists of a tough, outer coat and a thin inner layer which lines it. This inner layer is termed the synovial layer and it produces a fluid known as the synovial fluid. This fluid resembles egg white in consistency and lubricates the joint when the bones move against one another.

Parts of the outer layer of some joint capsules are thickened to form ligaments. Ligaments connect bone to bone while tendons connect muscle to bone (Figure 1).



Cross Section of a Moveable Joint

Figure 1

Arthritis is an inflammation of a joint involving the bones, the articular cartilages, ligaments and joint capsules. In an infected or irritated joint the amount of fluid increases and produces swelling. Bacteria may enter the joint through

a wound of the joint capsule resulting in damage to the bones and cartilages. The joint may then become immovable. To treat this condition the affected joint is rested. Medication is used to counteract the inflammation. If the arthritis is severe, immobilization and resting of the joint is continued for four to six weeks. The outcome is usually favorable if bone damage or new bone growth has not occurred.

An injury to a ligament is defined as a sprain. Some ligaments hold bones firmly together and allow very little movement; others allow considerable movement. If an abnormal stress or movement is placed upon a joint such as overextension of a joint, the ligament may be torn. The amount of injury depends upon how much force is placed upon the ligament. If the ligament is torn completely away from its attachments to a bone, recovery is difficult. Adequate rest is necessary in hope that the torn ligament may repair itself.

Joint mice are pieces of bone or cartilage found within the joint cavity and may be the result of a fracture. These produce pain when lodged between the articular surfaces and may also produce arthritis. Surgical removal is usually successful (Figure 2).

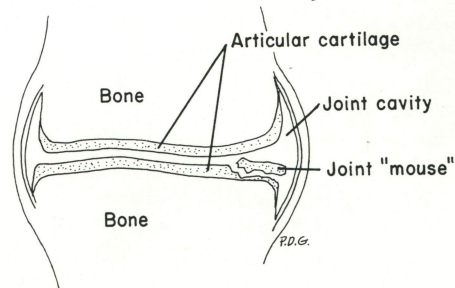
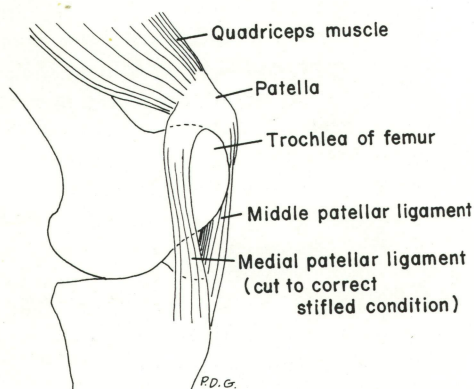


Figure 2

A "stifled" horse results from the "locking" of the patella (knee cap of man) in the stifle joint. Normally a horse stands for hours without tiring of the hindlimb musculature. This is due to the "locking" mechanism of the hindlimb. The "locking mechanism consists of the loop formed by the junction of two patellar ligaments with the patella and the bony projection of the lower end of the femur (thigh bone). The

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stifle joint is locked in an extended or straightened stiff position whenever the horse is unable to "unlock" the loop of ligaments from over the bony projection. Sometimes a slap on the croup will cause the horse to jump and "unlock" the stifle joint. Often this "locking" will reoccur. Whenever surgery is necessary to correct the condition, the medial patellar ligament is cut on the inside of the stifle joint in order to prevent further "locking" (Figure 3).



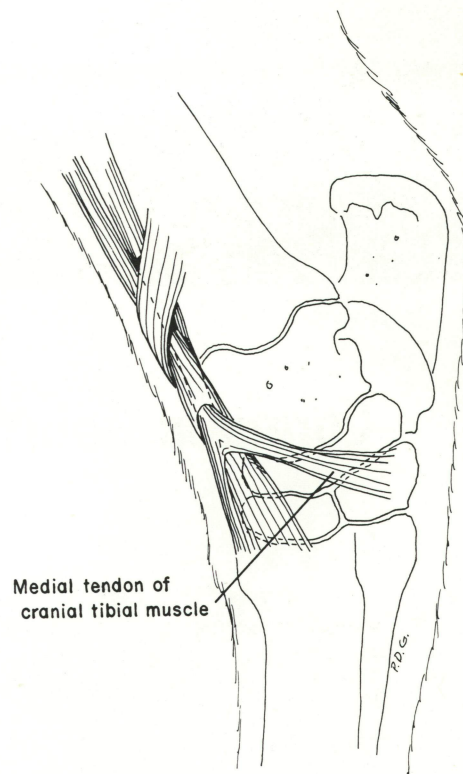
Medial View of Stifle Joint

Figure 3

Bone spavin: Bone spavin is defined as an inflammation of one or more bones of the hock and most often causes an arthritic condition of the affected bones. In bone spavin the joint between the bones on the inside of the hock become immovable. Quick stops, such as those which occur during roping and other stresses, along with mineral deficiencies, may produce bone spavin. Horses with full, well-developed hocks tend to have less incidence of bone spavin than those with narrow, thin hocks. Bone spavin occurs on the inside of the hock (jack spavin). It may occur between the bones within the hock joint and cannot be seen or palpated (blind spavin). A large percentage of horses affected with blind spavin recover completely.

Jack spavin is usually a bony growth of variable size. The bony enlargement pushes out against a tendon that lies over the inside hock area (Figure 4). The cause of bony growth cannot be fully explained. When the hock is flexed or bent, pain is produced and as a result the hindlimb is not raised very high. Therefore, the horse drags his foot (Figure 5).

Treatment consists of alleviating as much pain as possible. By cutting the tendon veterinarians can remove one



Medial View of Hock Joint

Figure 4

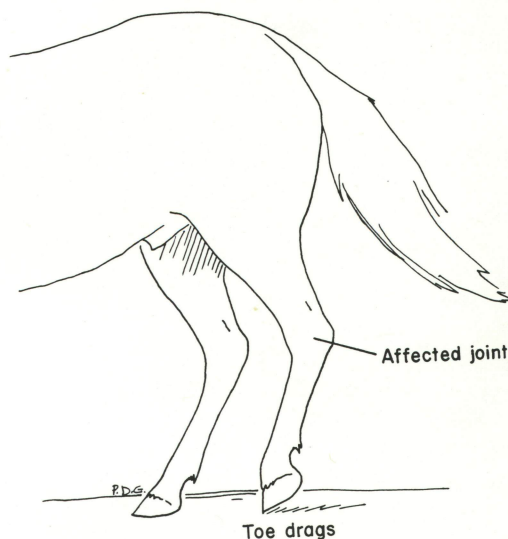
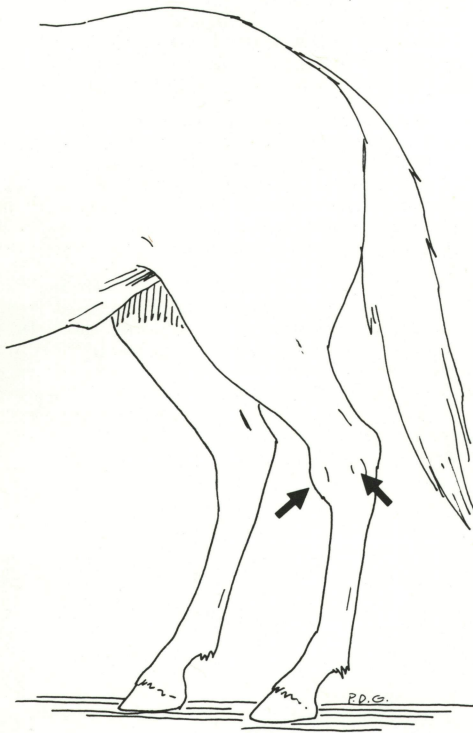


Figure 5

source of pain. However, the outlook for full recovery from jack spavin is usually not favorable even with surgery. The horse will probably be useable, but rest and time are needed for repair to occur.

Bog spavin: There is no bony enlargement; swelling, heat and pain are most evident on the front surface of the hock (Figure 6).

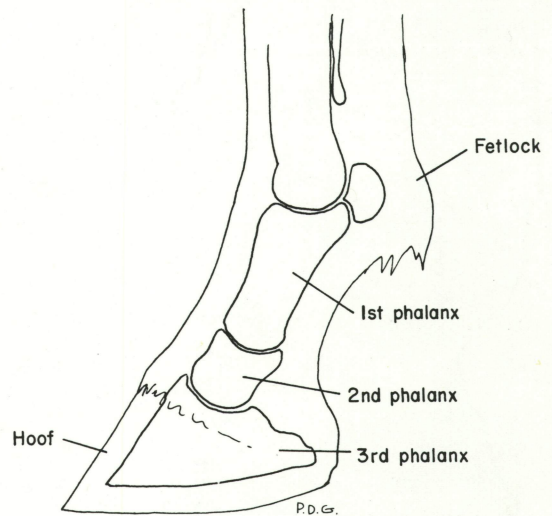


Soft swellings on hock (arrows) is referred to as "bog spavin."

Figure 6

The cause may be due to nutritional deficiencies, accidental injury to the hock joint or the hocks being too straight (hereditary). If the condition is caused by conformation or too straight hocks, it cannot be treated successfully. Veterinarians have many factors to consider in order to determine the cause and to advise the best treatment. Anti-inflammatory drugs may help bog spavin caused by nutritional deficiencies or injury. The drugs decrease inflammation and prevent swelling of the joint capsule. A bandage around the hock prevents excessive build-up of fluid and swelling. The horse is rested for four to six weeks. Adding vitamins and minerals to the diet may relieve bog spavin within four to six weeks. Horses six months to two years of age are most often affected with bog spavin.

Ringbone: This condition is characterized by new bone growth which occurs on the first, second or third phalanx (high or low ringbone). The phalanges are the three small bones extending from the fetlock to the hoof (Figure 7). Ringbone is more common on the forefeet than hindfeet.



Bones of the Digit

Figure 7

Ringbone is due to an inflammation of the tough fibrous layer which surrounds the bones. The inflammation may be caused by stresses which pull on ligaments attached to the bone. The new bone growth may lead to arthritis and stiffening of the joints between the fetlock and pastern. If the tough, fibrous layer surrounding the bones is cut (such as in wire cuts), new bone growth may result. The new bone may grow into the joints between the phalanges and produce stiffening of the joints. In early ringbone, swelling and heat are present over the affected areas. To assure a complete diagnosis, it is necessary to take radiographs. Again the veterinarian has many factors to consider in advising the best treatment. If the joints are involved, chances for full recovery are poor. Immobilization of the foot and a long period of rest are often necessary. Corrective shoeing is also advisable in some cases.

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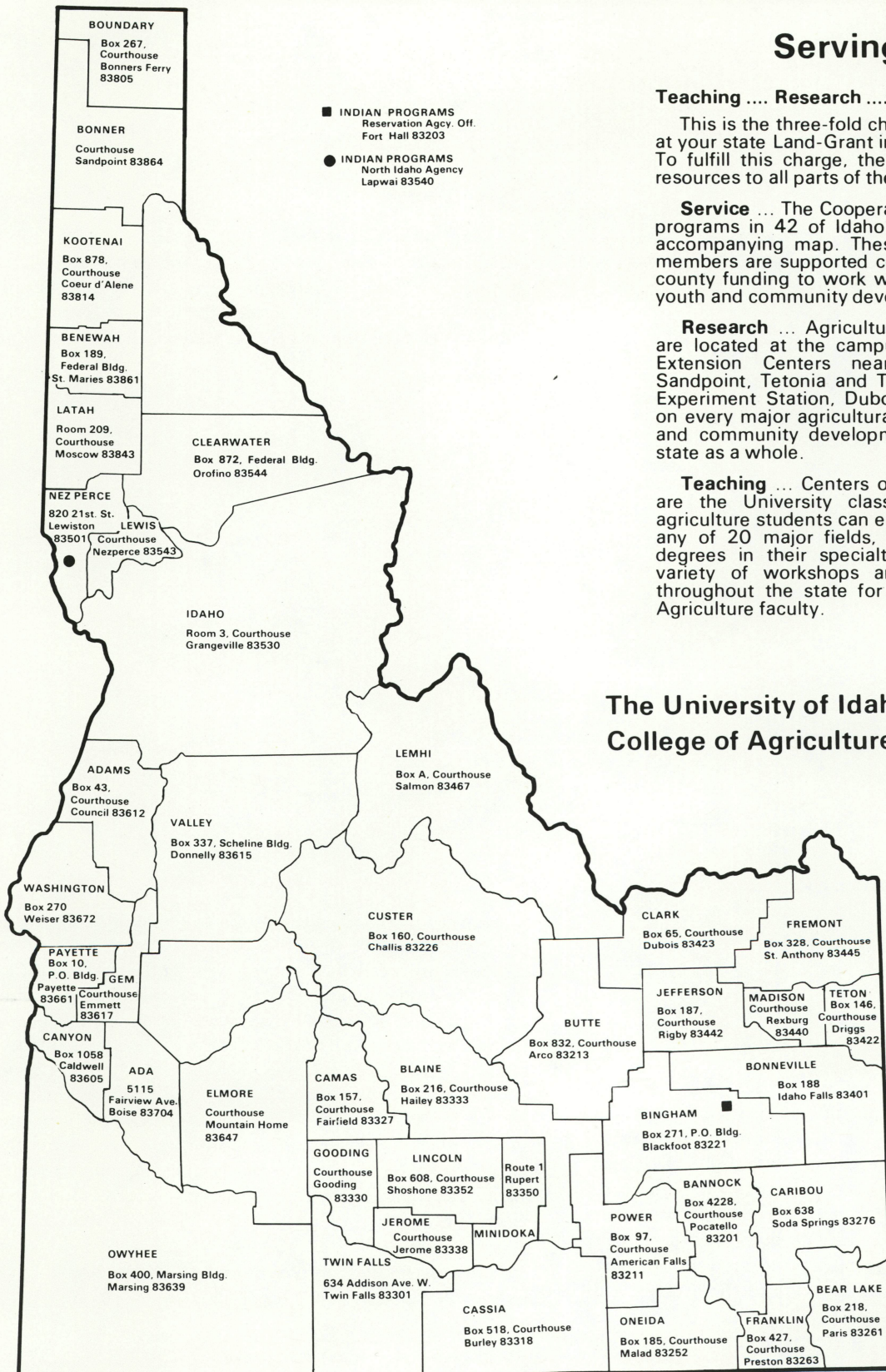
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