

# Young Horse Joint Health



*Osteochondritis Dissecans affects young, growing horses and causes joint pain.*

**By Andrea Caudill**

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It is important to examine all aspects of a horse, including its joint health before purchasing it from auction.



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ITS OFFICIAL NAME IS OSTEOCHONDRITIS DISSECANS, BUT YOU can call it OCD.

The disease affects young horses, is most frequently found in the hock, stifle, fetlock and shoulder joints, and, left untreated, it can end a horse's athletic career.

C. Wayne McIlwraith, the Barbara Cox Anthony University chair in orthopedics and professor of surgery and director at the Orthopaedic Research Center at Colorado State University, is a leading researcher in equine joint problems.

"It's a developmental disease that occurs in young horses," McIlwraith says.

Due to the improper formation of bone and cartilage as the horse is growing, the cartilage at the end of the bone separates, forming cartilage flaps that also sometimes have bone fragments in them.

The damaged flap of cartilage causes inflammation and increased fluid in the joint, creating various degrees of lameness, depending on how severely the horse is affected.

OCD can often be successfully treated, but left alone can cause permanent damage.

### How Does OCD Occur?

A FETUS HAS SOFT BONES OF CARTILAGE AND AS IT GROWS AND ages, the bone ossifies, or hardens. In a normal horse, it hardens from the center to the end of the bone, then leaves a layer of cartilage when the process is complete. This is called articular cartilage and is critical for long-term

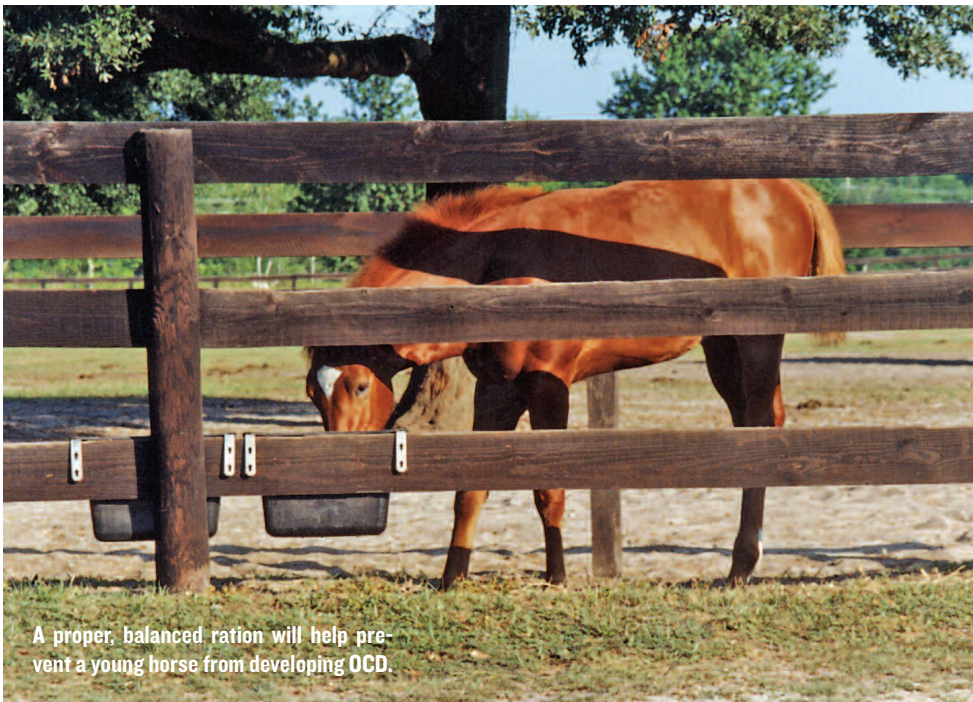
joint function.

OCD is considered a result or manifestation of osteochondrosis, which is when the bone does not ossify properly.

"For some reason, that ossification process doesn't work

## FAST FACTS

- **OCD, or Osteochondritis Dissecans, is a developmental disease occurring in young horses. When developing bone and cartilage do not form properly, causing flaps and fragments in joints.**
- **The most commonly affected joints are hocks, stifles and fetlocks.**
- **The major signs of OCD are swelling or puffiness in one or more joints and lameness to varying degrees.**
- **The OCD lesions occur by the age of 11 months; however, horses might not show signs of the disease until 3 to 5 years of age.**
- **OCD is associated with genetic predisposition, excessive growth and body size, nutritional imbalances and stress or trauma.**
- **Treatment for OCD usually requires arthroscopic surgery.**
- **When purchasing a young horse, it is advisable to take radiographs of the horse's joints during a prepurchase exam to check for OCD.**



A proper, balanced ration will help prevent a young horse from developing OCD.

AP Photo  
joints – i.e. one or both hocks, but rarely both a hock and stifle. It is also uncommon to treat OCD in one joint and have it develop later in another joint.

“Dr. Roy Pool, a leading joint researcher at Texas A&M, talked about a window of opportunity,” McIlwraith says. “It’s interesting, why do you get it in both stifles, but not elsewhere? Why might you get it in both hocks but not elsewhere? It’s as though there’s been some insult during critical development of that joint. If that insult comes along, whether it’s nutritional, traumatic or whatever, both joints get affected.”

## What Causes OCD?

THE DISEASE CAN BE ASSOCIATED

properly, so you get left with an area of retained cartilage,” McIlwraith says. “(The cartilage) undergoes cell death and necrosis, and fragments split off from there. So what happens, is the bone doesn’t form normally in this zone in the joint. There are predilection sites in each joint. This diseased tissue can then separate out.

“In severe cases, the flap will separate out when the animal is either a weanling or yearling, so you see the signs early,” he says. “In less severe cases, they may go on to have an athletic career and only develop clinical signs when they’re 3, 4 or 5.”

Extrapolating from a study done on Dutch warmbloods, McIlwraith says, all lesions have developed by 11 months of age. Hock lesions develop by 8 months and stifle lesions by 11.

“If you radiograph that horse and there’s a lesion, it’s there to stay,” he says. “The corollary is you’re not going to get OCD after that period if it’s not there before. Now that doesn’t mean it’s symptomatic. It could break out later, after exercise. That’s why I will get horses that show up as 3-year-old racing Quarter Horses with OCD. It just so happens that they broke the flap off, because you often have to have that trauma on top of the disease to break the fragment out.”

## Signs of OCD

THE FIRST SIGN OF OCD, ACCORDING TO DR. PAUL EDMONDS, of Equine Sports Medicine & Surgery at Weatherford, Texas, can be joint swelling, caused by increased synovial fluid.

“You can also have lameness,” he says. “Most of the time, our first step to figure out what is going on is to take radiographs of the joints. Sometimes you can’t see the whole extent of the defect on radiographs and you have to diagnostically or surgically go in and look at the joint with an arthroscope to see the full extent of the lesion.”

The shoulder, however, due to the muscle surrounding it, will only show lameness, but no swelling.

“You usually find it when you start to exercise them,” Dr. Edmonds says. “That means the defect has been there as they were growing, but it sometimes is not brought out until you start to work these horses.”

OCD most commonly occurs in one joint, or in bilateral

with a number of factors, including genetic predisposition, fast growth and body size, nutritional imbalances and mechanical stress or trauma.

According to McIlwraith, a study conducted in Europe showed a link between one stallion and a significantly high rate of OCD in his get, as compared to other stallions. Several other subsequent studies have shown a strong probability of a genetic link.

A study in Kentucky on Thoroughbred yearlings showed a link between a higher than average body weight and a higher risk for OCD. There have been correlating studies in dogs and pigs.

Another major factor is nutritional imbalance. If the horse is given too much energy, there is an increased incidence of OCD, and it can also contribute to too-fast growth. In addition, mineral imbalances can cause problems. The main factors are high calcium, phosphorus and zinc, and low copper.

“Most people are feeding fairly balanced rations,” McIlwraith says. “But if they want to be sure, then they need to contact someone for nutritional advice.”

He suggests first speaking to a veterinarian. Agricultural extension agents and nutritionists are also available for advice and to have feeds tested for proper balances.

Trauma on the joint can cause symptoms, not only by causing an OCD flap of cartilage to separate but potentially having an influence on the early process.

Despite the known factors, why one horse will get this disease while another kept under similar conditions won’t is unknown.

“I liken OCD to human heart disease,” McIlwraith says. “We all have various levels of genetic tendency toward heart disease. If we’ve got good genes, we can afford to be fat and lazy and not exercise. If we’ve got bad genes, all the exercise and the perfect diet in the world might not protect us.

“I think OCD is a bit like that. You’ve got people who have bad genes and die of a heart attack even though they run marathons and have done all the right things. It’s a bit like that with horses. It’s going to be superimposed.”

## How Is it Diagnosed?

IF YOU SUSPECT YOUR HORSE MIGHT BE SUFFERING FROM OCD, the first step is to pick up the phone and call your veterinarian to perform an examination and take radiographs of the joints to check for damage.

"You need to consult somebody that can look at it and give you a prognosis," Dr. Edmonds says. "Different joints are going to have different prognoses. Hock joints, most of the time you can take those OCD lesions out and the horse is going to go back to training and have about an 80 percent chance of going back to performing at the highest level he's capable of. But other joints depend on where the lesions are within those joints. You might have a less favorable prognosis – it's something that the veterinarian would really need to evaluate."

## Treatment

THE TREATMENT OF OCD IS USUALLY, BUT NOT ALWAYS, SURGERY.

If the lesions are fairly minor and caught early, there is a possibility the horse can just be stall-rested for a few months to allow it to heal.

"In general, some mild cases of stifle OCD and fetlock OCD, even if they've got some filling and lameness, can get better with just stall confinement," McIlwraith says. "But you need a veterinary opinion on that, because it depends on the size (of the lesion) and if you've got a fragment in the defect vs. just a defect."

The majority of cases require arthroscopic surgery.

"We anesthetize him, and we go in with an arthroscope and take the flaps and fragments out," McIlwraith says. "Then we have some junky, diseased bone and cartilage underneath, and we curette (scrape) that down until it's healthy bone and healthy cartilage. We then flush all the debris out of the joint."

The cost of surgery depends on where it is performed, what joints are affected and their severity, but McIlwraith estimates an average surgery to be in the \$2,000-3,000 range. Hock lesions usually run less, while fixing shoulder or stifle lesions is more expensive.

What if an owner elects to not do the surgery?

"It depends on the lesion," McIlwraith says. "With smaller lesions in the stifle or hock, life is still good. It's usually not a crippling disease, but they wouldn't get the athletic activity (from the horse) that they want. If it's severe, it will ultimately hurt those horses."

Secondary osteoarthritis in the joints is not usually a concern if the OCD is treated promptly and the cartilage is in good condition when you operate, McIlwraith says.

"If the remainder of the cartilage is in good condition, the horses generally do very well," he adds. "On the other hand, we don't always get the cases immediately. If we get the cases later, we have secondary osteoarthritic change, and that lowers our percentage of those horses being athletes."

## Prevention and Purchasing

THE FIRST STEP IN OCD PREVENTION IS PLANNING BEFORE horses head to the breeding shed. Breeding stock should be evaluated for the potential to pass on the disease.

"You never indict a foal the first time around," McIlwraith says. "People often ask me that. If you get a foal with OCD, should I breed to that stallion again, or should I use the mare again? By all means do so. You don't necessarily want to panic. But if you start getting it consistently that way, then that's different."

Foals should be given a balanced ration that allows for growth but does not cause excessive growth. In addition, exercise may help prevent the development of OCD. There is evidence, according to McIlwraith, showing that foals that are turned out have less incidence of OCD than those kept stalled.

When purchasing young stock, it pays to be careful. Many auctions provide radiographs of horses in the sale, allowing you or your veterinarian to evaluate a potential purchase's joints.

"It's not in every horse, but I think it's out there enough that if I were a buyer and putting a lot of money into a horse, spending some money on taking the X-rays would be warranted," Dr. Edmonds says. "You are just not going to know exactly which horse has it and which horse doesn't. Some of the yearlings that we X-ray had no clinical signs like joint effusion or lameness. If you are looking at buying a horse, X-rays give you that edge of finding out what's in there and what's not."

In private purchases, X-rays can also be taken.

If the horse shows signs of lesions, though, it's not necessarily a throw-out.

"It's going to depend on where (the lesion) is and how much that person really wants that horse," Dr. Edmonds says. "I think that I, as a veterinarian, would want to inform the buyer what the risks are in buying the horse, depending on where the lesion is."

"A person would really need to consult with their veterinarian on where the lesion is and the prognosis for that specific joint and lesion." ■



Taking X-rays of a young horse's joints before purchasing it can help diagnose any potential future problems.



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