

## What Pre-CT Diagnostic Procedures may I Need From My Referring Veterinarian?

- General exam/Lameness exam
- Nerve blocks (Regional anesthetic procedure)
- Digital/conventional radiographs
- Ultrasonography\*
- Nuclear Scintigraphy\*

\*\*Although ultrasonography and nuclear scintigraphy may provide a diagnosis, CT scanning often compliments these procedures by revealing additional useful information.

Universities of veterinary medicine and veterinary teaching hospitals frequently use CT scans more than MRI, even though these two modalities compliment each other too.

During the procedure, no patient motion may occur. The gantry continuously rotates around the selected body part of interest. Patient motion is eliminated through a short acting general anesthetic, most often obtained with intravenous and anesthetic agents.

CT has a much shorter anesthetic time than diagnosis through an MRI which also requires general anesthesia or heavy sedation.

## What are the costs can I expect with CT?

CT procedure price is comparable with Nuclear Scintigraphy, and much less than MRI procedure. Myhre Equine Clinic strives to provide the best quality care for the most affordable price. Please ask for an estimate so you can compare to other possible diagnostic alternatives.

### References:

[www.dvmnewsmagazine.com](http://www.dvmnewsmagazine.com)

[www.merckvetmanual.com](http://www.merckvetmanual.com)

Contrast-Enhanced Computed Tomography of the Equine Distal Extremity. AAEP Proceedings. Vol 51. 2005.

Diagnosis & Management of Lameness In The Horse, Ross, Dyson. 2003. Pgs. 213-215.



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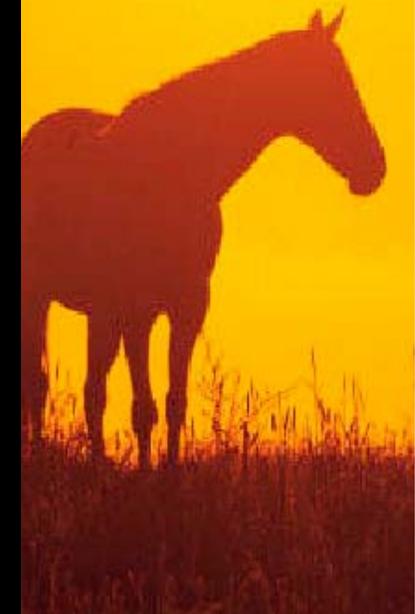
MYHRE EQUINE CLINIC

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# Computer Assisted Tomography (CAT) for Large Animal Medicine (Equine)

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# Computer Assisted Tomography (CAT)

## What is CT?

CT uses sophisticated computer technology combined with x-rays to take images in rapid succession, along the length of a body or body part. The resulting images are like thin slices of the examined part. Computed tomography images are a window to the body, allowing extensive diagnostic assessment of organs, bones, and muscle that was not previously possible, even with surgery.

The technology behind Computed Tomography has advanced tremendously during more than three decades of use. Today's fourth generation "Helical" machine, like that available at Myhre Equine Clinic, allows continuous rotation of the x-ray tube for increased image quality and quantity, and rapid test speed.

## Contrast-Enhanced CT

By intravenous or intra-arterial routes, MEC doctors administer modern contrast agents, such as Gadolinium as the CT takes pictures. The contrast agents highlight areas of increased blood supply, indicating inflammation and pain. Contrast-enhanced CT is especially helpful for diagnosing lameness pathology such as in the equine hoof.



NEVIC/MEC Tomoscan

The CT images not only evaluate the foot's blood supply: it can also detect soft-tissue lesions within the hoof capsule, such as deep digital flexor tendon (DDFT) changes, which can be associated with Navicular Syndrome.

## Benefits of Computer Tomography:

For any diseases causing heel pain of the front feet, CT is an excellent diagnostic tool. In the past, Navicular Syndrome was a generic diagnosis for any lameness that disappeared with a "heel block" (a temporary anesthetic injected into the nerves that sense heel pain of all kinds). Now, CT reveals the detailed pathologic changes in the heel, which can originate from more than just the navicular bone (inflammation of the navicular bone otherwise called Navicular disease).

Similarly, "Bone Spavin" describes hock pain in general. CT pinpoints osteoarthritic changes in the many joints of the hock, which is comprised of many intra-locking bones.



CT is exceptionally useful in other diagnoses of the Equine patient, such as:

- Skull tumors
- Identifying possible infections of the head
- Providing additional information in severe fracture
- Identifying other bone abnormalities and misalignment
- Diagnosing spinal cord disease of the neck Lung and heart abnormalities in smaller patients, such as fouls, miniature horses and ponies
- Identifying abdominal abnormalities (liver, stomach, intestinal, kidney, etc.) abnormalities in small patients such as fouls and minis

Often times, radiographic (x-ray) evaluation does not sufficiently correlate with the veterinarian's findings during the patient's physical examination. CT mirrors probable diagnoses, by providing additional information through imaging of gas-containing structures in organs, which is not possible through other modalities, such as ultrasound diagnosis.

As a preventative modality, CT helps trainers avoid catastrophic break-downs. In young athletic horses, CT records the effects of training or exercise on bone mineral composition and density.