



## The Liphook Equine Hospital

### **Information about Bone Scanning for Owners**

Bone scanning (or more correctly, Nuclear Scintigraphy) has now become a routine diagnostic aid employed in specialist equine hospitals and clinics. These notes are intended to help explain why and how we use scintigraphy at Liphook. The use of scintigraphy was pioneered in the 1980's at several European centres, including here at Liphook and has now evolved into a sophisticated and reliable technique.

What is scintigraphy used for?

The procedure is most commonly used as an additional diagnostic aid to help us in the investigation of the more complex types of lameness and poor performance. However it can also be useful in diagnosing other problems such as dental disease, headshaking and certain soft tissue injuries.

How does it actually work?

Your horse is injected intravenously with a combination of two drugs; one is a special dye that attaches itself to all active bone cells in the skeleton and the other is a radioactive compound.

After injection these two combined drugs course round the bloodstream and settle on all the bone cells. Highly active bone (e.g. because of injury or infection) will have more cells and therefore will be more radioactive. The presence of the radioactive isotope (Technetium 99) may then be imaged by the use of a special gamma camera and the information acquired is then processed by a computer to produce pictures of the skeleton in which the bone activity is colour coded.

What does the procedure involve?

Horses are generally admitted to the Hospital the day before the procedure so that they can settle down and so that the procedure can begin early the next day. On the day of the bone scan the horse will be lunged (if appropriate and safe in the individual case) and then returned to his stable. Lungeing helps to increase blood flow to the limbs and experience has shown us that it leads to better, more diagnostic pictures. The legs are then bandaged and the hooves taped – this helps to prevent urine splashing of the legs, as the drugs are eliminated in the urine which becomes temporarily radioactive.

The horse is then injected after the correct dosage of isotope has been calculated and generated. Around 2-4 hours later the horse is led to the bone scan room where he is heavily sedated and blinkered; this because it takes several minutes to acquire each picture (and keeping the horse still is essential) and around 2-3 hours to acquire images of, say, a pair of legs.

After the horse has been returned to his stable the images will be processed and refined by the computer.

When are the results available?

Unfortunately, the procedure does not produce immediate results that can be interpreted there and then. After processing overnight the computer generated images may need to be enhanced further or compared before your veterinary surgeon can examine them and make a diagnosis. Usually therefore the results of the scan will not be available until at least the following day.

What happens after the scan?

The horse remains radioactive for 48 hours after injection and it is a condition of our Home Office licence for scintigraphy that injected horses must remain at our property for this time and that contact with humans must be minimised. Horses are not allowed to be mucked out during this period and visiting by owners is discouraged. Following an analysis of the results the attending vet will decide what, if any, follow up tests are required and these, such as radiography, will then be carried out. Horses are usually discharged 2 to 5 days after the scan.

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