Gamma Camera System

EQUINE SCANNER H.R. SCINTRON

Scintigraphy on a standing Horse

MiE medical imaging electronics

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Scintigraphy on a Standing Horse

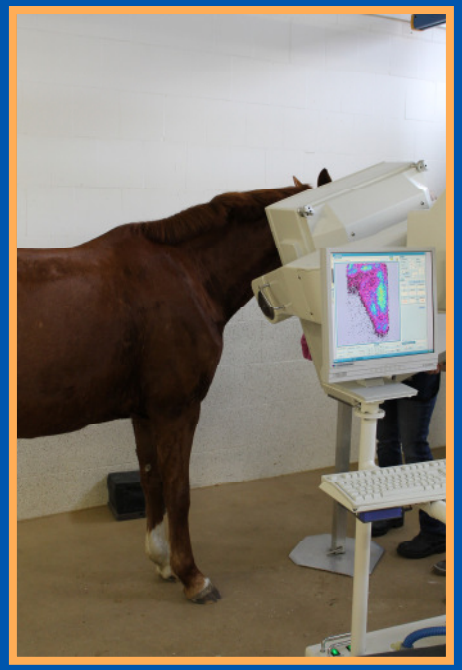
An ingenious combination of mechanics, electronics and software makes scintigraphy on a standing horse easily achievable. Experience gained from human medicine, including detector specifications, measurement methods and processing, as well as feed-back from our many customers have enabled us to achieve the aim of easy and fast diagnosis.

The 'MiE Equine Scanner H.R. – Scintron' Gamma Camera system offers many advantages. It is compact, robust and mechanically superior to pendulum suspension systems. The detector support column is mounted approximately one centimeter above the floor, allowing quick and easy movements along any axis of the gantry support and thus the gantry generates relatively little noise.

For image acquisition, the detector is positioned beside the sedated patient in the scanning room. The camera is manoeuvred mechanically and by hand. This process is quick and requires very little physical strength.

The combination of the NaI(Tl) crystal and 66 selected PMTs (photomultiplier tubes) with the 61 cm x 40 cm forms the largest field of view currently available.

All controlling and acquisition hardware has been placed in the base of the camera. This has the advantage that the cables have very little room to move - eliminating a frequent source of mechanical damage.



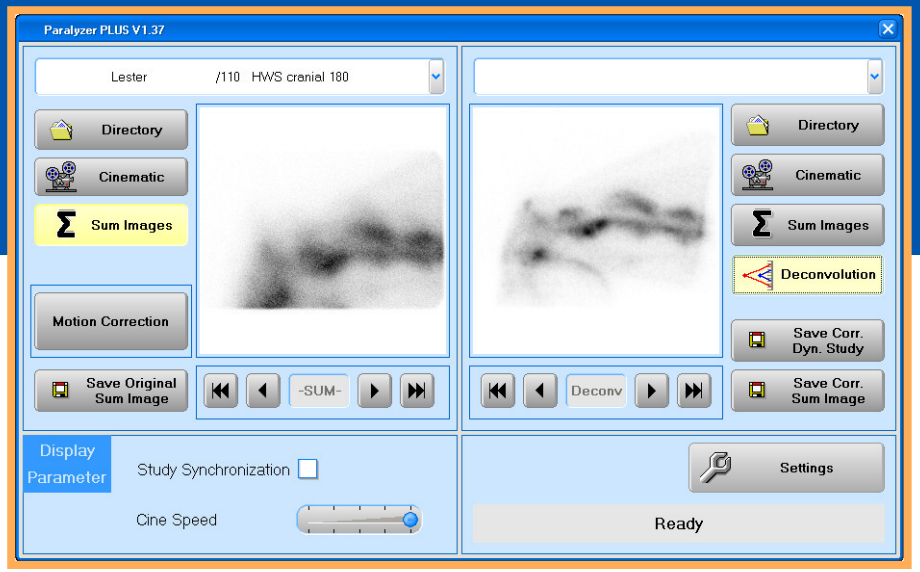
Motion Correction on the Fly

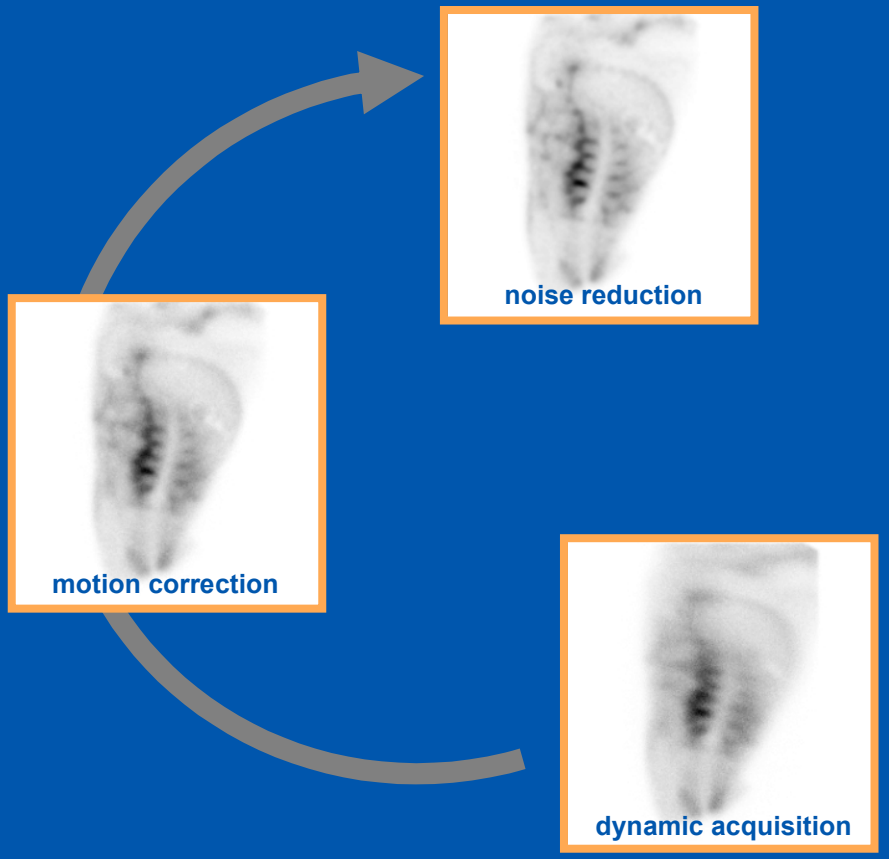
To minimize motion artefacts for the standing horse, MiE has developed the world's first real time motion correction …

… the Paralyzer.

The rigid registration software allows shorter image acquisition times and improved diagnostic quality. To use the Paralyzer software makes it possible to eliminate patient movement from the images, therefore eliminating the need to repeat acquisitions.

- **the entire scanning process is faster**
- **no post processing is needed for motion correction**
- **allowing to increase patient throughput**
- **reduce staff radiation dose per examination**





DECONVOLUTION

Beside the motion correction during acquisition the *Paralyzer*^{PLUS} improves the signal to noise ratio with standardized parameters. This will display sharper contours and makes a precise diagnosis possible without losing counts.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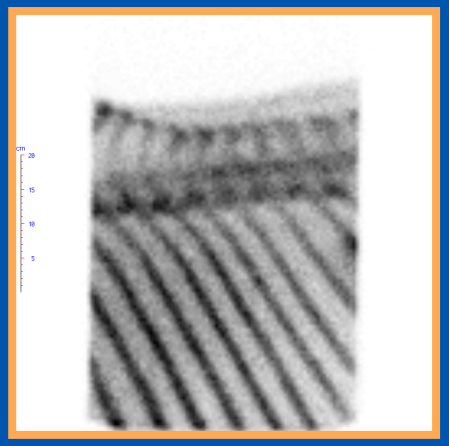
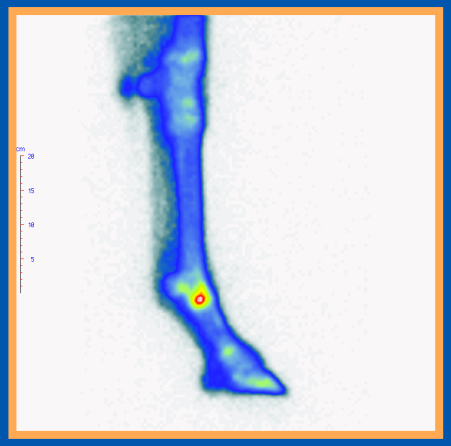
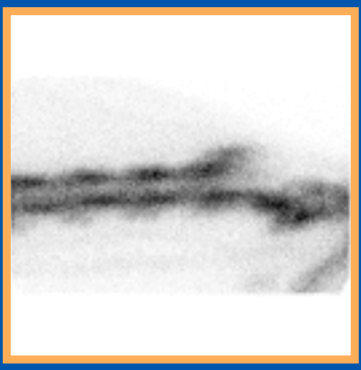
SCINTRON workstation

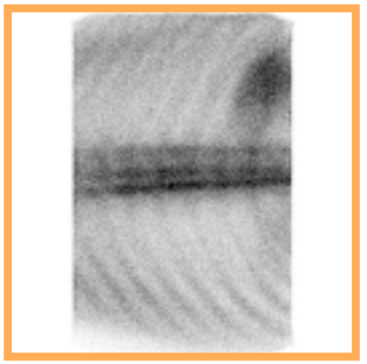




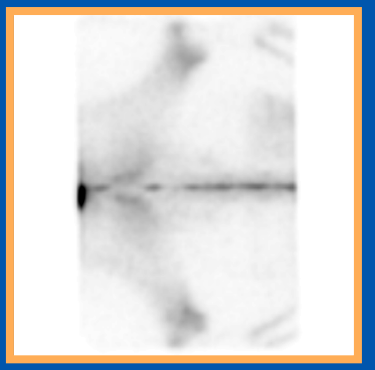
The Scintron workstation is designed for image acquisition, processing and display. All hardware and software has been developed by MiE in Northern Germany. This allows reacting quickly and flexibly to any specific customization requests. The extensive, easy to use software package provides effective and fast working. It includes general functions such as image processing and display, ROI technique, profiles, contrast adjustment as well as smoothing and image algebra.

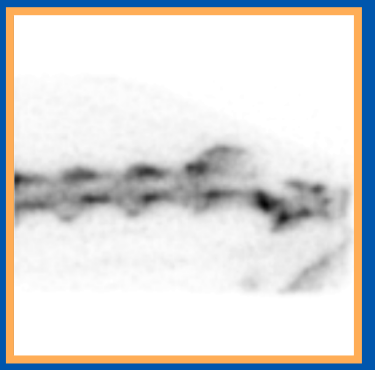
raw study





*Paralyzer*PLUS





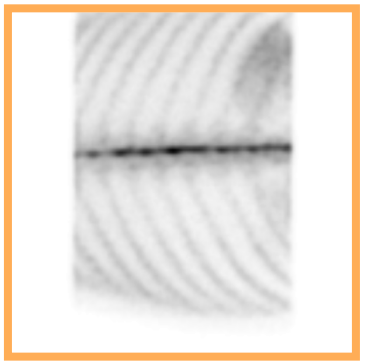


Image Fusion Software

x-ray

scintigraphy

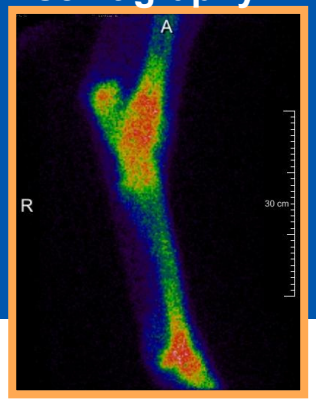
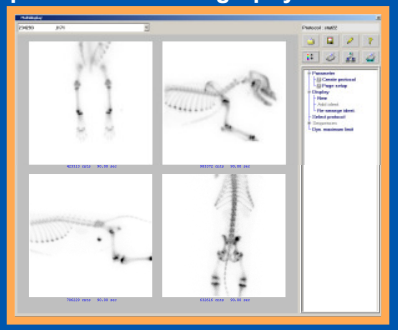


image fusion

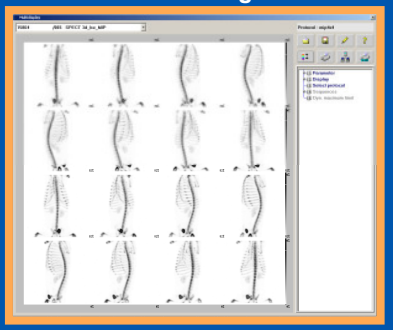
MiE´s Image Fusion for scintigraphy and x-ray images enhances the diagnostic possibilities. The program evaluates the different structures, resolution, acquisition geometries and regions. Rotation, translation (shift) and scaling will be adjusted. The process operates multi modal and fully automatic.
The fusion allows the combined usage of the morphologic information of the x-ray and the functional information of the scintigraphy in one image.

Software for Small Animals

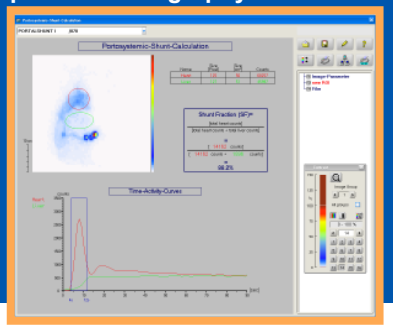
planar bone scintigraphy



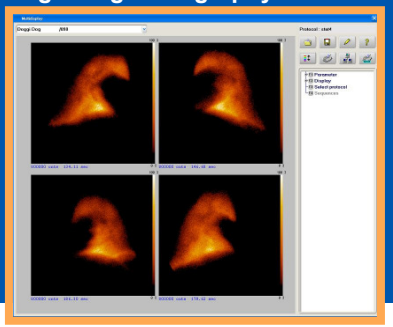
bone SPECT of a dog



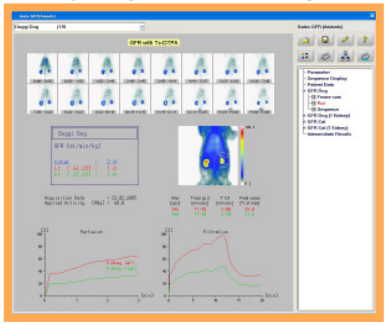
p-shunt scintigraphy



dog - lung scintigraphy



kidney diagnostic on a dog



cat study - thyroid scintigraphy