7. Summary

Radiological examination of navicular bones from mares and their foals including control until the age of two years

In this study, x-rays of 141 mares and their foals (born 2001) were evaluated in the dorsopalmar (Oxspring) view. The foals were at that time between 4 and 8 months old. At the age of two years the foals were re-examined. Also, two years old were x-rayed who were not x-rayed as a foal but whose mothers had existent x-rays of the dorsopalmar (Oxspring) view.

The x-rays of the foals and mares were made by the conventional technique, these of the two years old were made by the digital technique. The radiograms were analysed in two different schemes of radiographic criteria. Once in the scheme of BRUNKEN (1986) and once in the categorization from committee of x-ray.

For all navicular bones quantity, length and form of the canales sesamoidales were evaluated. Structure and contour of the navicular bone were also evaluated. The form of the navicular bone were estimated by the schemes of LUKAS (1987) and DIK (1995).

Furthermore the structures of the middle phalanx and the coffin bone were evaluated in the dorsopalmar (Oxspring) view. The fetlock was not estimated by the use of tight collimation, because of radiation protection.

The evaluation of navicular bones by the schemes of BRUNKEN and x-ray classes result from a comparison of mares and their offspring a better outcome for offspring of mares with navicular bones with a better x-ray examination.
The comparison between mares and their offspring reveal a maternal influence concerning canales sesamoidales but not the form of navicular bone.