STANDING COMPUTED TOMOGRAPHY (CT) OF THE EQUINE HEAD
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- Design of a standing CT system for imaging the equine head
- Application of standing CT in clinical cases

The use of computed tomography (CT) in equine patients began in the 1980s when a number of clinics, including Washington State University, installed early generation scanners decommissioned from human institutions. The modifications for use in equine patients were makeshift and cumbersome but it was to prove useful in a range of conditions and D. D Barbee and his colleagues at Washington State University first published the technique in the Proceedings of the American Association of Equine Practitioners in 1986 (Barbee & Allen 1986). Subsequent reports of its clinical application have been largely centered on imaging the head where detailed two-dimensional tomographic images yielded an unprecedented amount of information in the anatomically complex osseous, dental and soft tissue structures - unequalled by other means.

Recently, the huge turnover of machines has lead to an even greater abundance of less than state-of-the-art, CT systems reaching the second hand market, which are still expensive but not prohibitively so. This has made CT an increasingly viable option for larger equine veterinary hospitals and their clients. Techniques for a diverse range of equine orthopaedic and medical conditions, of both the head and distal limbs of adult horses and thorax and abdomen of foals, have been described over the last decade and equine CT imaging no longer relies on midnight trips to the local NHS trust hospital with cadaver specimens from cases way past the intervention stage! Recent advancements such as the development of a standing CT system by the late Alastair Nelson MRCVS at Rainbow Equine Clinic in Yorkshire in 2006 and, in 2008, the first multi-slice CT system capable of scanning equine patients under standing sedation and general anaesthesia was installed at Rossdales Equine Diagnostic Centre has resulted in the acquisition of CT images to rival those which have excited our medical colleagues for years are now a reality in equine CT imaging. Standing applications are restricted to the head and cranial neck, but have led to a dramatic increase equine CT case numbers as the cost to the client and the risk to the patient have been reduced.

CT will undoubtedly continue to establish its role as a diagnostic tool in equine veterinary imaging and the cost and availability of systems will surely see more standing facilities being established over the coming years. The extra information afforded us in cases of sinonasal disease in particularly can assist diagnosis, aid management and improve outcomes in these often
complicated cases at relatively little cost to the client.

References and further reading: