Clinical Experience with Deep Resolve Boost in MRI

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The inherent challenges of improving MR image quality faced by veterinary imagers are well known, trying to balance the conflicting needs of increasing signal, reducing noise and minimising scan (and anaesthesia) times in patients. These challenges are compounded in a patient cohort that can be very small and with variable conformation, where we are tasked with acquiring adequate signal from slices thin enough to resolve their tiny anatomy.

In medical imaging, increasing the magnet field strength has been shown to improve image quality. Beyond 1.5T, however, the improvement in quality was not shown to change diagnostic utility, but improved radiologist confidence.

In veterinary MRI, the increasing expertise in neurosurgery and expanding understanding of CNS medicine requires greater expertise and confidence in localising and interpreting lesions in the CNS by veterinary radiologists. Improving image quality without sacrificing time, or even reducing scan times, could help improve radiologist accuracy, surgical confidence and ultimately patient outcomes.

Siemens' MRI AI-powered deep learning image reconstruction product is called Deep Resolve Boost, and this was installed at our veterinary hospital, Animalius, in 2024. DRB reduced scan times and increased signal, resulting in improvements in image quality. In this presentation we demonstrate the impact this technology has had on brain, spine and MSK imaging at our practice.