

Article referencing *Infrared Thermography: Current Applications in Equine Medicine* (Howell, Soroko, 2016)

Infrared Thermographic technology is an emerging form of diagnostic practices within the realm of veterinary medicine. Infrared thermography is an imaging method, mapping body floor temperature adjustments that could potentially suggest inflammatory, neurological, or vascular issues within Equines. The use of Infrared thermal imaging as a diagnostic tool within veterinary medicine could redefine the process of diagnostics by narrowing the search for infection or disease, while decreasing the fiscal burden of exams, excess bloodwork, and imaging. Thermal imaging technology could possibly detect the localized problematic area of the body, before ordering excess imaging, such as CT, X-RAY, and MRI scans.¹ It's important to note that the use of thermal imaging is not yet commonplace within private Veterinary practice, and is still considered a very new diagnostic tool in need for clinical trials, long term follow-ups, as well as practical implementation.

Thermal cameras work by detecting infrared energy emitted by any object, which is commonly known as heat signature. IR cameras work to convert these signatures into electronic images that displays the surface temperature of the subject being measured. Thermal cameras have sensors that are made up of thousands of detectors that are responsive to infrared radiation, also known as thermal heat.²

Equine medicine is a prime disciplinary that could benefit from the use of Infrared Thermographic Technology. In this research paper, *Infrared Thermography: Current Applications in Equine Medicine*, Soroko and Howell provide context on how Thermal imaging can aid in the diagnostics of multiple Equine diseases and disorders, such as soft tissue injuries, superficial bone lesions, general lameness, and a variation of limb injuries, including, but not limited to, Tendinopathy.³ Since IF imaging is used to detect heat, and inflammation within the body emits heat, it is apparent that thermal cameras could be used in a preliminary physical exam to determine if inflammation is present within the body, thus aiding in the diagnosis of acute or chronic diseases or disorders.

Thermographic technology aids as an advanced technological device that has proven beneficial to assist in the early detection of Equine pathologies, as well as assisting in the prevention of those pathologies worsening by aiding in the documentation of anti-inflammatory drug efficiency. The lowered monetary cost of exams and diagnosis for the consumer (in this case, the individual responsible for covering the costs of these services). It may be in private practices best interest to research and start implementing IR technologies within their daily physical exams.

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¹ Maria Soroko, Kevin Howell, *Infrared Thermography: Current Applications in Equine Medicine*, Journal of Equine Veterinary Science, Volume 60, 2018.

² Kirk J. Havens, Edward J. Sharp, Chapter 8 - Imager Selection, *Thermal Imaging Techniques to Survey and Monitor Animals in the Wild*, Academic Press, 2016

³ Maria Soroko, Kevin Howell, *Infrared Thermography: Current Applications in Equine Medicine*, Journal of Equine Veterinary Science, Volume 60, 2018.