

MEDIA RELEASE

UP equine expert pioneers service to detect early heart health issues in horses

PRETORIA – A specialist at the University of Pretoria’s (UP) Faculty of Veterinary Science has created a unique offering for horse owners: an equine cardiology consulting service called EquiCardio, which provides comprehensive evaluation for horses with heart murmurs and arrhythmias.

“Heart diseases in horses often do not cause any obvious clinical signs and may go unnoticed by the owner until they progress and become relatively severe,” says Dr Christina Eberhardt, an equine internal medicine and cardiology specialist, and senior lecturer in Equine Medicine at the Faculty’s Onderstepoort Veterinary Academic Hospital. Abnormalities of the heart are commonly detected during a routine physical examination in horses, but it can be challenging to determine their significance without further diagnostic evaluation. In addition to providing more extensive assessment in this regard, the consulting service will also evaluate horses with poor performance for cardiovascular diseases.

Some heart diseases cause poor performance, resulting in a reduced lifespan or generating safety concerns for both the rider and the horse. “Some horses with heart disease progress to heart failure or experience episodes of collapse and sudden cardiac death,” Dr Eberhardt says. “Ideally, heart diseases should be diagnosed early in the course of disease.”

The comprehensive cardiac examination performed by Dr Eberhardt aims to diagnose the specific abnormalities and severity of the disease, and answer questions related to rider safety, impact on athletic performance, quality of life as well as treatment or management options.

Heart murmurs or an arrhythmia (an irregular heart beat) are two common findings that raise a veterinarian’s suspicion of potential heart disease. “Heart murmurs are often related to valvular regurgitation – also known as ‘leaky valves’ – or may be the consequence of a congenital heart defect,” Dr Eberhardt says. “Unfortunately, cardiac valve replacement, as performed in small animals and human medicine, is not possible in horses because of their size, but horses with certain arrhythmias can be treated with anti-arrhythmic medication.”

Recently, Dr Eberhardt examined a 16-year-old Warmblood horse used for showjumping, after a private veterinarian had detected the arrhythmia and referred the horse to her. Dr Eberhardt performed an electrocardiogram (ECG) – which checks the horse’s heart rhythm and electrical activity – and diagnosed atrial fibrillation. An echocardiogram (an ultrasound of the heart) was also performed to screen for any underlying disease, and an ECG was performed during exercise to screen for potentially dangerous additional arrhythmias. “The horse had no underlying heart diseases but some concerning additional arrhythmias during the exercise test,” Dr Eberhardt says. “Treatment with the anti-arrhythmic drug quinidine sulphate was therefore recommended. This treatment can only be administered in a hospital under continuous ECG and clinical monitoring as the drug can have dangerous side effects. The treatment was successfully performed and the horse was discharged from the hospital.”

The EquiCardio team has the best and latest equipment currently available for the examination of horses with heart disease, including telemetric ECG devices, a specific cardiac ultrasound machine and blood pressure measurement devices.

Open-heart surgeries cannot be performed on horses because of their size. However, minimally invasive procedures can be carried out, such as a transvenous electrical cardioversion for the treatment of atrial fibrillation. During this procedure, special catheters are placed in the heart and introduced through the jugular veins; correct placement is guided with ultrasound and radiography. General anaesthesia is induced so that an electric current can be delivered directly to the heart, which “shocks” the heart back into normal rhythm.

This procedure is performed by very few equine specialists in the world, Dr Eberhardt says. “It has not been performed in South Africa before, but I have the expertise to perform transvenous electrical cardioversion; hopefully, we will be able to offer it in the near future.”

In terms of what horse owners can do to protect a horse’s heart health, Dr Eberhardt says it is important to note that the nature of heart disease is different in horses – in contrast to humans, horses do not have high cholesterol that clogs their arteries and increases their risk of heart disease. However, owners must ensure that their horses undergo a routine veterinary examination once a year. “During this examination, the veterinarian should listen to the heart on both sides of the horse to screen for heart murmurs or arrhythmias,” Dr Eberhardt explains. “If an abnormality is detected, further diagnostics by a specialist are indicated. Horses that are not performing well should also be examined by a veterinarian and an exercise ECG should be performed as some arrhythmias occur only during exercise.”

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on the Hatfield Campus, Pretoria. This 114-year-old institution is also the largest producer of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country that has a Faculty of Veterinary Science which is ranked top in Africa, and overall has 120 academic departments, as well as 92 centres and institutes, accommodating more than 55 000 students and offering about 1 100 study programmes.

UP is one of the top five universities in South Africa, according to the 2019-2020 rankings by the Center for World University Rankings. It is also ranked among the top 100 universities worldwide in three fields of study (veterinary science, theology and law), and among the top 1% in eight fields of study (agricultural sciences, clinical medicine, engineering, environment/ecology, immunology, microbiology, plant and animal sciences and social sciences).

In May 2020, the annual UK Financial Times Executive Education Rankings once again ranked GIBS as the top South African and African business school. The University also has an extensive community engagement programme with approximately 33 000 students involved in community upliftment. Furthermore, UP is building considerable capacities and strengths for the Fourth Industrial Revolution by preparing students for the world beyond university and offering work-readiness and entrepreneurship training to its students.

For more information, go to www.up.ac.za