

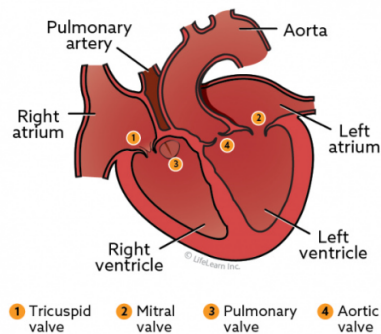


Newsletter



Universiteit Utrecht

Anatomy of the heart



Cardioscreening Schapendoes

VNS Board

Via Mariska Meerveld (breeder "van Ons Vrolijk Doesje") Dr. Santarelli PhD, veterinarian cardiologist at Universiteit van Utrecht, contacted the VNS to discuss studies about heart issues in Schapendoezen. After a meeting and extensive mail exchanges the board agreed to participate in two studies. With this newsletter, we would like to present and explain our plans, why we do it and how we need your cooperation.

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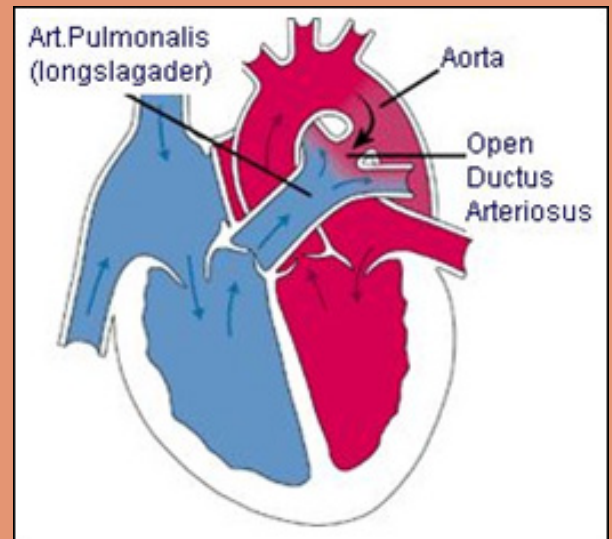
What, who, how? - P5

What is a PDA?

Before birth, the developing fetus receives all of its oxygen needs through the placenta, and the developing lungs are deflated. As part of the fetal circulation, the ductus arteriosus allows the majority of circulating blood to bypass the lungs. Therefore, while the fetus is in the uterus, the ductus arteriosus is normally open, or patent.

When the newborn puppy takes its first breath, the ductus is stimulated to close down. Closure of the ductus arteriosus ensures that blood will circulate through the inflated lungs and become oxygenated.

Patent ductus arteriosus (PDA), is a heart defect that occurs when the ductus arteriosus fails to close down at birth.



How is PDA diagnosed?

A PDA will usually be diagnosed when your veterinarian hears a 'continuous' heart murmur during a routine physical examination of your puppy. Echocardiography, or cardiac ultrasound, will be needed to definitively diagnose a PDA. The ultrasonographer will examine a moving image of the heart to assess the degree of enlargement of its walls and the efficiency of its pumping ability. The goal of treatment for a PDA is to stop the blood flowing through the shunt. Your veterinarian will refer you to a veterinary cardiovascular surgeon, who will determine the optimal treatment for your dog. In some cases, the ductus will be tied off during heart surgery. In other cases, a less invasive surgical treatment may be an option. The less invasive procedure involves occlusion (blocking) of the ductus arteriosus with a device, which is placed by means of cardiac catheterization.

Usually, a diagnose is set early on, but sometimes a PDA is missed, or there is a false assumption that the pup will outgrow the condition.

Every year, a few Schapendoezen are born with a PDA, at every breedclub in every country. We register the parents and the pup obviously, but the heritability is still unclear.

Utrecht University asks for our cooperation to improve the education (and re-training) of vets, to ensure that as little as possible PDAs are missed. Besides that, Utrecht is willing to study the heritability of PDA in Schapendoezen. As the founder breedclub in the country of origin, obviously the VNS wants to participate and help improve the health of newborn pups (improved recognition of possible heart problems) and we support the goal to develop a DNA test, with which we could possibly prevent this disease in the future.



Mira

BY MARJON SUVAAL-VAN ANGEREN

Dear Schapendoesfriends,

This is the story of Ons Vrolijk Doesje Kamira.

My name is Marjon Suvaal-van Angeren, I am a member of the VNS since 1985. We had *doezen* till the end of 2011. After our last one died we took a break, but when I retired we did get one again. Jara came first in 2017 and 3 years later we had her halfsister Mira.

At 9 weeks of age, we visited the vet with Mira for puppy vaccinations and health checks. "I can hear a noise very distantly," I was told, "but... she'll grow out of that!" Mira played with all kinds of dogs, took puppy classes, follow-up courses, hooper and detection with me. At the 12-week vaccinations, the vet said nothing about the murmur, so we stopped thinking about it.

With the annual check-up and vaccinations, the vet again said she heard a very slight murmur and advised us to go to a good specialist. In the car, I said to René, my husband, "I hope she doesn't have an Open Ductus Botalli." If only I hadn't said that because indeed, Mira had an ODB, called PDA (Persistent Ductus Arteriosus) by the specialists.

The cardiologist, Giorgia Santarelli, did an ultrasound of Mira's heart and indeed concluded that she had PDA and saw an enlarged left side of her heart, which also caused the left heart valve to leak. Mira needed surgery and was given a so-called umbrella patch. Meanwhile, Mira was almost 1.5 years old. Everything was going well until Mira suddenly stopped wanting to eat from 15 October 2022. She no longer played with Jara and her friends and isolated herself. On Monday 17 October 2022, we took Mira to our own vet. On Wednesday 26 October, Mira was still not eating or eating little and in the meantime she had lost weight from 14.5 to 10 kg. We then went to the Veterinary Faculty in Utrecht again. The heart ultrasound showed that the ductus was open again.

At Giorgia's advice, we took Mira to another cardiologist who had a lot of experience with implant insertion. He confirmed that the implant was tilted and had become lodged in the side wall of the connecting vein. It was very risky to take out the implant or to operate in the old-fashioned way to close the vein, as she might suffer a severe haemorrhage and die on the operating table.

Meanwhile, we had Mira to the point where she had gained 1.5 kilos through favourite foods and recovery food. On Friday 17 November, she suddenly started twitching and waddling. Giorgia recommended some more medication, but it was too late. René went to take Jara out around 9pm. When René came back with Jara and called Mira to let her out, we got no answer. I got a premonition and said, "René, she died..."

Mira was picked up by the cardiologist on Saturday to be autopsied. She only lived to be 2 years and 1 week, I would have wished her more, but we know deep in our hearts that she was very happy those 2 years and that we did everything we could to help her.

We thank everyone who supported us and Mira, we had a lot of support from them! It would be nice if we could investigate if and how this is hereditary, that is very important for the health of the Schapendoes.

Marjon, Rene



Universiteit Utrecht

My name is Giorgia Santarelli, I am a Diplomate of the European College of Veterinary Internal Medicine, subspecialty veterinary cardiology. I have been working as a veterinary cardiologist at the University of Utrecht for just over three years

I had the pleasure of having Mira as a patient, getting to know her when she had no clinical symptoms before and right after catheterisation, and later when she was very ill with her heart failure. She was incredibly sweet, I must say she really touched my heart and it was really hard to accept that she had developed such a serious complication after the procedure. We always strive to give our patients the best possible care, hoping to positively impact their lives. This is a procedure that is successful in most cases with a low rate of complications. Unfortunately, these can still occur, as in Mira's case. I also had to mourn her loss, but of course that was nothing compared to what her dear owners had to go through. Because of the strict follow-up her condition required after the complication developed, I developed a special bond with them. Their love for Mira and for the breed prompted me to turn my frustration into a drive to improve my practice and hopefully the future of other Schapendoezen.

Therefore, with the help of Marjon, René and Mariska, I decided to ask the Vereniging for their cooperation to set up an efficient screening programme involving all veterinarians assessing new litters, so that the disease can be detected at an early stage for the best treatment, and to carry out research with my colleagues at the University into the genetic background of the condition.

By doing so, we hope to understand the mode of transmission through different generations of dogs, and hopefully reach valuable conclusions that can contribute to healthy breeding and preventing or at least reducing the disease.

In this setting, we want to study affected dogs as well as healthy adult Schapendoezen to obtain blood (or saliva) samples for genetic testing. At the same time, we want to perform echocardiography in at least 40 of them, to provide breed-specific echographic values, which are not yet available (currently, we use values obtained from a large, mixed population of healthy dogs from different breeds), which may help to determine with more accuracy when the heart is enlarged and thus better map the disease to determine the best treatment options. We hope to recruit as many dogs as possible through this newsletter. If your pet is a healthy Schapendoes aged 1 to 7 years and you are interested in participating, please do not hesitate to contact the Vereniging. There are options to involve Universities/Specialists abroad (outside the Netherlands) for this study. There is no cost for the ultrasound at Utrecht, and the Vereniging will economically help us to establish a DNA database. If you have a litter of Schapendoes that you would like us to assess to rule out the presence of the disease, there are also opportunities for this.

Giorgia Santarelli

What, for whom, where, costs?

Study 1: Echocardiography. *all healthy Schapendoezen between 1 - 7 years old. Most likely this will be a Dutch study group due to logistics. *Research on PDA affected dogs. If you have a dog that has a PDA, please contact the Vereniging so we can obtain your data and discuss options for the study:
populatiebeleid@schapendoes.nl

Study 2: Genetic research and hopefully develop DNA test.

Who: *all healthy Schapendoezen between 1 - 7 years.

*Alive, PDA affected dogs that have not been treated in Utrecht. If you have a dog that has a PDA, please contact the Vereniging so we can obtain your data and discuss options for the study:

populatiebeleid@schapendoes.nl

Where : Universiteitskliniek Utrecht, the Netherlands

When: Contact us if you want to participate.

Costs: Utrecht University will pay for the Echocardiography, other costs will be covered by the VNS.

Register, donations and additional information: populatiebeleid@schapendoes.nl



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Stichting Schapendoes 1947

