

## Dr. Mike Paul, DVM

Mike has more than 35 years of experience in companion animal veterinary practice and is a valued member of IDEXX's Pet Health Network team since 2013.

An uncommon [cardiac](#) defect called "Tetralogy of Fallot" is a devastating birth defect of cats<sup>1</sup>. The condition includes a group of four defects. According to the [American Heart Association](#), those are:

- A hole between the lower chambers of the heart
- An obstruction from the heart to the lungs
- The aorta (blood vessel) lies over the hole in the lower chambers
- The muscle surrounding the lower right chamber becomes overly thickened

The condition results in reverse flow of blood resulting in a lack of oxygenated blood in the circulation<sup>1</sup>. It's extremely uncommon in cats and no particular cause has been postulated, but since it is congenital there is likely a genetic component involved.

### Symptoms of Tetralogy of Fallot

While uncommon in dogs it is even less frequently reported in [cats](#). Most cases are first seen in kittens at around six months of age. There may be cyanosis (blue or purple color to skin) and a failure to grow and develop normally<sup>1</sup>. Tetralogy of Fallot is the most common of rare diseases that produce cyanosis as a main finding. It is said to make up 6% of feline congenital heart defects<sup>2</sup>.

### Diagnosis of Tetralogy of Fallot

The diagnosis involves a number of diagnostic tests from simple and readily available to very sophisticated and requiring specialist involvement. These include:

- [Radiography](#)
- Electrocardiography
- Echocardiography
- Laboratory blood tests
- Cardiac catheterization

Several cases of polycythemia (excess red blood cells) have been associated with Tetralogy of Fallot. Polycythemia may result in seizures.

### Prognosis of Tetralogy of Fallot

Without [surgical](#) treatment for the pain, the prognosis is poor with most cats dying before a year of age<sup>1</sup>.

Treatment approaches include:

- Medical management
- Attempts to dilate valves using balloon catheters and surgical management

Most surgical approaches are done to relieve [pain](#) with some resulting in better response than others. Successful surgical repair can completely resolve clinical signs associated with the defect<sup>4</sup>.

### Prevention of Tetralogy of Fallot

Because of the probable congenital basis of this condition, genetic considerations are important. Avoid breeding the parents of affected kittens.

### Questions to ask your veterinarian

- I have a three-month-old [kitten](#) who can barely find the energy to walk across the room? My [veterinarian](#) told me there could be a [heart problem](#) and wants me to see a specialist. What do you think?
- My kitten's ears sometimes appear blue. What could it be?

*If you have any questions or concerns, you should always visit or call your veterinarian -- they are your best resource to ensure the health and well-being of your pets.*

### Resources:

1. ["Case 29: Tetralogy of Fallot Chapter from "Small Animal Cardiovascular Medicine" Online." UC Davis. Web.](#)
2. [Brownlie, Serena, Dr., Phil Fox, Dr., and Penny Watson. "Tetralogy of Fallot." Vetstream.com. Web.](#)
3. [DJ Brockman, DE Holt, JW Gaynor, and TE Theman. "Long-term Palliation of Tetralogy of Fallot in Dogs by Use of a Modified Blalock-Taussig Shunt." National Center for Biotechnology Information. U.S. National Library](#)

[of Medicine, 1 Sept. 2007. Web.](#)