“Surgery is essentially curative in a large proportion of canine patients,” says veterinary cardiologist Leigh Griffiths, who leads the open-heart surgery program at the William R. Pritchard Veterinary Medical Teaching Hospital.

“About 20 percent of our cases are young dogs with congenital heart disease,” says Griffiths. “The majority of our cases have mitral valve disease, the most common acquired heart disease in dogs. The surgical success rate is 70 percent. Currently the only other treatment is medical therapy, which gives patients a prognosis of about six to 18 months. With a successful surgery, we have patients without any clinical signs of heart disease after six years.

“UC Davis is now the only place in the United States that has regularly scheduled open-heart surgery for animals,” he says. “A team of about 20 people spent more than a year training together—with everyone learning about not just their bit, but every stage of the procedures and equipment.”

The program started in October 2009 with one case per month. “The goal as we build the program is to do at least 100 to 150 cases per year. We can basically do anything they can do in humans,” says Griffiths. “The only exceptions are coronary heart disease, because dogs don’t get it, and aortic valve replacement, a procedure that is far more difficult in dogs than in humans.

“There are two types of open-heart surgical techniques. Only a handful of schools in the U.S. could even consider doing either highly specialized technique,” says Griffiths.

Cardiopulmonary bypass, only being done for dogs at UC Davis, involves the heart-lung machine, and allows surgeons to open the heart in a controlled way for one to two hours.

Inflow occlusion, which is much less expensive, allows only a minute or two for the entire procedure. Griffiths explains, “We stop all blood flow, empty the heart of blood, open the heart and do the procedure. Inflow occlusion is most commonly used for pulmonic stenosis, a congenital heart disease in dogs; surgeries such as tumor removal; and cor triatriatum, a disease in cats.”

For more information, visit: www.vetmed.ucdavis.edu/vmth/small_animal/cardiology.