

Mitral Valve Surgery



A new mitral valve surgery option: V-Clamp device placement, a minimally invasive hybrid procedure

VCA cardiologists are the only veterinary specialists in Australia to undertake intensive training for the V-Clamp surgical procedure at the international purpose-built training facility, which is equipped to train both human and veterinary cardiologists. This surgical approach to valve repair is also described as a mitral transcatheter-edge-to-edge repair (TEER).

What is a V-Clamp procedure?

The V-Clamp is the veterinary version of the human Mitra-Clip. This is a small device (approximately 8 mm in length) that is implanted to clamp together the two mitral valve leaflets of patients with myxomatous mitral valve disease to reduce blood leaking backwards through the valve. It is this leak in the valve that results in heart failure in veterinary and human patients.

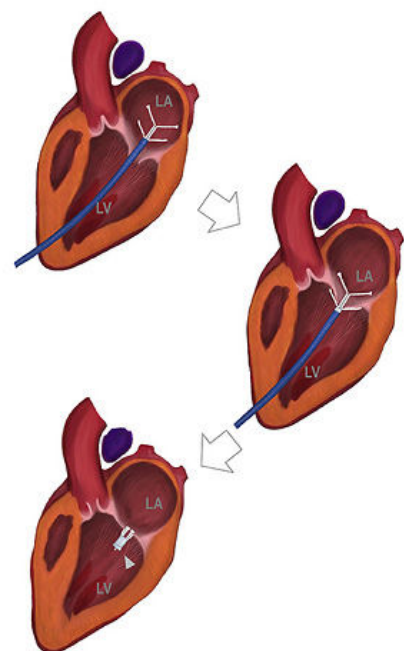
Is this a new or experimental procedure?

This procedure is relatively new in dogs, but not experimental. The Mitra-Clip has been used for 18 years in people and the equivalent device (ie. the V-Clamp) has been used for 3 years in dogs. The technique in dogs has been refined during this time primarily through the input of the thoracic surgery team at Colorado State University (CSU) and the device developer.

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Does the procedure carry significant risk?

Unfortunately, all cardiac surgeries may result in adverse outcomes, including death. The only large, published study describes a successful result in 38/40 patients (CSU), with no patient deaths (Potter et al. ACVIM abstract 2023). Patient deaths may be reported in the future in larger studies. Avoidance of an open-heart approach and avoidance of cardiopulmonary bypass makes the V-Clamp procedure lower risk than other methods of mitral valve repair.

Will this procedure improve my dog's quality and length of life?

It is too early to have long term data to definitively answer these important questions. However In humans, the Mitra-Clip is proven to be superior to medical treatment alone. In dogs, the significant improvement in valve function following V-Clamp placement is very encouraging in terms of potential for enhancement of both length and quality of life.

Will I still need to give my dog medications?

Typically the number and/or amount of medications will decrease. However over time, dogs may progress towards heart failure, requiring re-commencing medications or increasing dose rates of existing medications.

Does recovery take long?

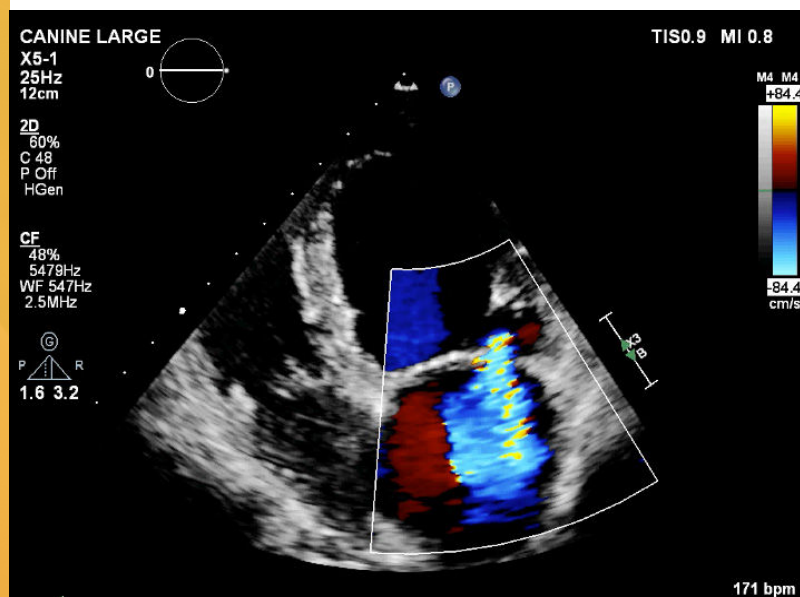
Patients are typically able to go home within 2 days of the procedure, with minimal signs of discomfort. Some patients may require low grade pain-relief during the first few days at home.

How is the procedure performed?

The V-Clamp procedure is performed via a small (5-6 cm) incision low on the chest, between the ribs. The device is delivered via a catheter placed into the beating heart, avoiding the need for open heart surgery under cardiac bypass. The procedure is guided by 3-D transoesophageal ultrasound and fluoroscopy.

What alternative cardiac surgeries can be performed to improve mitral valve function?

Mitral valve replacement is not currently available in dogs. Open-heart surgery with cardiopulmonary bypass to repair the mitral valve is currently offered by Dr Uechi and his team from Japan. They have travelled to Australia to perform the procedure in the past, working closely with specialists in Sydney. Fees range from \$50-70K. The published results of Dr Uechi's surgery outcomes in Japan demonstrate that 45 of 48 dogs survived to time of discharge from hospital and 25% were alive 3 years following the surgery (Uechi, M et al., JAVMA 2012).



Is the V-Clamp procedure expensive?

While pet insurance (if available) will cover a variable proportion of the fees, the procedure is expensive. The costs are associated with the attendance of a large team of specialists during the surgery (2-3 cardiologists and an anaesthetist) and the device cost. The procedure is currently less than half the cost of open-heart mitral valve repair surgery, with significantly reduced risks to the patient. Given the variability between patients, accurate pricing is provided on a case-by-case basis following consultation with your VCA cardiologist.

Can mitral valve surgery be performed as an emergency procedure?

No. Patients which are hospitalized for treatment of acute heart failure (fluid in the lungs) require urgent medical stabilization. Only once a patient is stabilized on medication is it appropriate for your cardiologist to discuss surgical options.

Is my dog a candidate for this procedure?

Identifying dogs with the best chance of a good result is our highest priority. Small breed dogs (over 4 kg) with advanced valve disease (ACVIM Stage B2 or Stage C)* may be eligible for the procedure. To assess an individual's suitability, the mitral valve anatomy and function is meticulously examined via ultrasound by a VCA cardiologist.

**ACVIM Stage B2 myxomatous mitral valve disease patients have enlarged hearts, however they are not in heart failure. ACVIM Stage C patients have experienced heart failure (fluid on the lungs) and are currently prescribed diuretics as part of their medical management.*

About Us

We understand how stressful a diagnosis of heart disease can be when it comes to looking after your pet's health.

But it doesn't have to be this way.

If your veterinarian has detected a heart murmur or has hospitalised your pet for other signs of heart disease, we'll provide you with an accurate same-day diagnosis and treatment plan to get your pet home as safely and quickly as possible.

We believe in a holistic approach that brings together state-of-the-art medical therapies, surgical options and a nutrition and exercise plan to help you give your pet the lifestyle they deserve.

If you haven't already, ask your veterinarian for a referral to see us. Then call us on 1800 442 648 to book an initial consultation with one of our compassionate cardiologists.





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