

CLIENT INFORMATION SHEET PACEMAKER IMPLANTATION

Indications: This procedure is recommended for patients with certain types of bradyarrhythmias (abnormally slow heart rhythms) that lead to clinical symptoms (collapse/fainting) and/or increased risk of death. Even patients showing no clinical symptoms may be at increased risk of death. The most common arrhythmias treated with pacemaker implantation are heart block (AV block) and sick sinus syndrome.

AV Block (AVB): Atrioventricular block is a condition where the electrical system in her heart is not able to transmit impulses (heart beats) appropriately. This is due to an abnormality in its electrical signaling system. This results in an excessively low heart rate and inadequate blood flow to the body. Clinical symptoms include exercise intolerance and syncope (fainting). Congestive heart failure, organ failure, and even sudden cardiac arrest can occur.

Sick Sinus Syndrome (SSS): SSS is an idiopathic (meaning "cause unknown") disease, which leads to degeneration of the electrical conduction system of the heart. This disturbance in electrical conduction can lead to very slow heart rates with some pauses in the heart's rhythm. Additionally, in some cases SSS can cause bursts of a fast heart rate. Affected dogs are not at risk for sudden death but can experience frequent episodes of weakness or syncope (fainting).

Procedure: This procedure requires general anesthesia. Depending on your pet's size and other medical conditions, either a transvenous (inserted through a vein) or an epicardial (attached to the outside of the heart) pacemaker lead will be recommended. The remainder of the device will be inserted under the skin and superficial muscle. The pacemaker delivers the signal necessary for the heart to beat at a higher (normal) rate.

Possible Complications include:

General anesthesia

- Pneumonia secondary to aspiration of stomach contents
- Changes to the heart rhythm and blood pressure
- Uncommonly, death

Pacemaker implantation

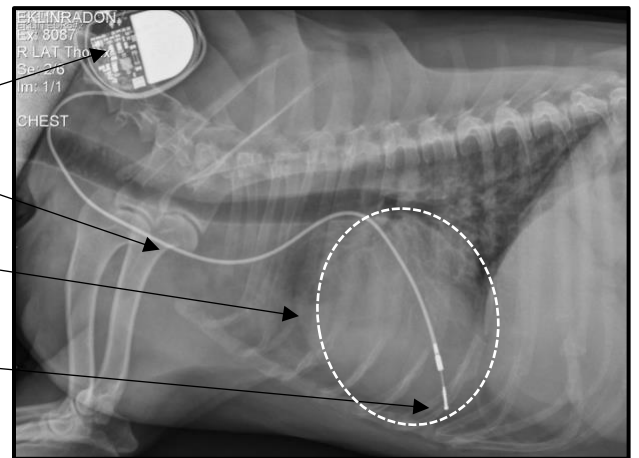
- Lead dislodgement, lead fracture
- Infection
- Premature battery drainage
- Pulse generator migration

Pulse generator

Leadwire

Heart

Electrode



Chest x-ray of transvenous pacemaker in a dog

After the procedure:

- Your pet will be hospitalized ~ 24 hours for continued monitoring and recovery from anesthesia.
- The pacemaker will be interrogated (to assess proper function) prior to discharge
- Detailed instructions regarding after-care and recheck recommendations will be provided at discharge

At home care:

- Activity restriction for at least 4-6 weeks while the pacemaker adheres to underlying tissue
- We will teach you how to count heart or pulse rate (HR) on your pet. The HR should never be lower than the lower pacing rate (usually ~ 60 beats per minute). Please check HR daily initially and the weekly lifelong.
- No neck lead or collar should be worn with a transvenous pacemaker; your pet will require a harness.
- Typical recheck schedule:
 - 10-14 day recheck with NCSU or your primary veterinarian for a heart rate check and staple removal
 - 3 month recheck with NCSU or local cardiologist for pacemaker interrogation +/- echocardiogram
 - Annual pacemaker interrogations by NCSU or local cardiologist