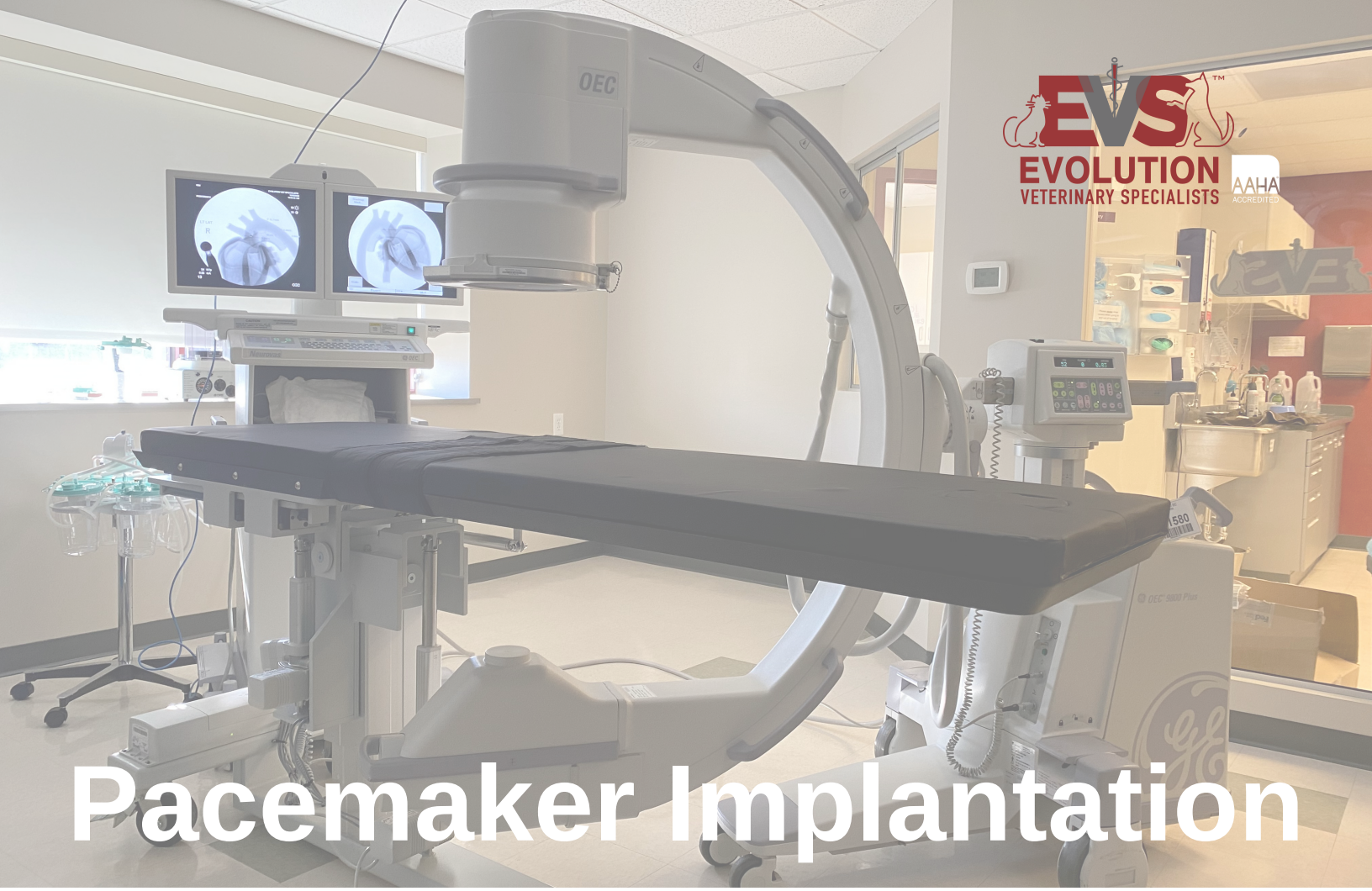

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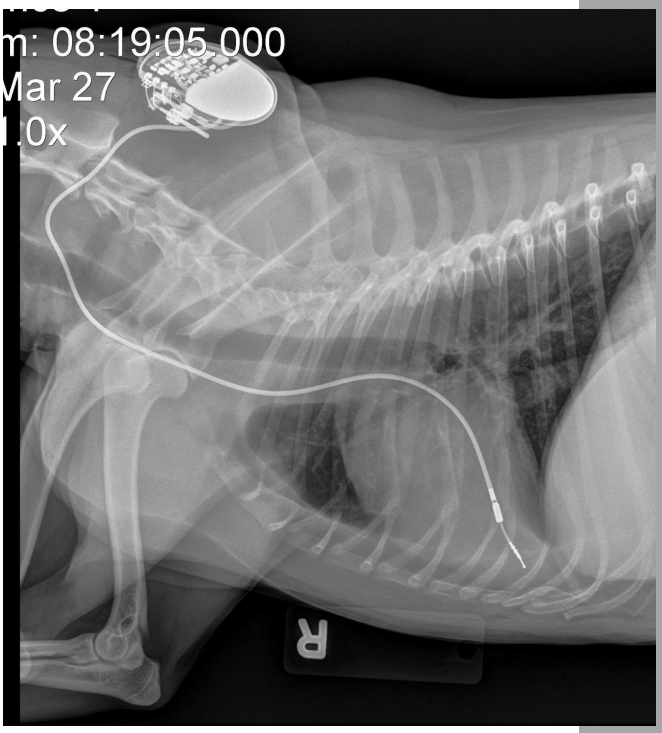
Pacemaker Implantation

About Pacemakers

Pacemaker Implantation is a common surgical procedure in veterinary medicine for the treatment of conditions that cause an abnormally low heart rate including third-degree atrioventricular (AV) block, sick sinus syndrome, and atrial standstill. Common signs of severe bradycardia include lethargy, weakness, and syncope (collapse). In some cases, there are no signs, and a low heart rate is detected on routine examination.

Pacemaker implantation requires the use of fluoroscopy (real-time X-ray) to guide the placement of the pacemaker lead into the pet's heart. The right jugular vein (large vein in the neck) is accessed surgically and the pacemaker lead is inserted and guided into the right ventricle (right pumping chamber). A generator (battery that controls and powers the pacemaker) is then inserted underneath the skin by the neck or behind the shoulder blade and attached to the pacemaker lead. The generator can then be programmed externally to program the heart rate, assess pacemaker function, and check the generator.

Life with a Pacemaker



Patients recover quickly from implantation given that the procedure is relatively non-invasive and most patients are typically discharged the morning after surgery. A neck bandage is usually placed for 3-5 days post-operatively. Strict exercise restriction is necessary for about 6 weeks following implantation to reduce the risk of lead dislodgement. You will need to walk your pet with a harness (no neck leads) to prevent damage to the pacemaker lead.

The pacemaker will be initially be rechecked 6 weeks after placement and following that time every 6 months to confirm that the pacemaker is functioning appropriately.

Possible Complications

Mild complications include:

- Bruising at the pacemaker site
- Seroma formation at the generator site
- Mild arrhythmia
- Infection of the pacemaker site requiring treatment with antibiotics

More severe complications are extremely rare. Depletion of the pacing generator battery may also be considered a complication, as new generators have become more widely available the expected battery life of the generators has improved. Depending on how often the generator is required to provide impulse, a new generator may last 3-5 years or more. After that time, if the battery is depleted, generator replacement using the same pacing lead may be pursued.

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