Percutaneous Laser Disc Ablation (PLDA) is a minimally invasive prophylactic procedure for thoracolumbar disc disease. This procedure was developed by Dr. Kenneth E. Bartels at Oklahoma State University. Thousands of dogs have undergone percutaneous disc ablation since the procedure was clinically introduced in 1993. PLDA is recommended as a prophylactic procedure to reduce the risk of extrusion of nucleus pulposus into the spinal canal. It is intended for dogs with a prior history of thoracolumbar disc disease or dogs that are at a high risk (chondrodystrophic breeds) of disc rupture. The procedure has been found to be over 97% effective with only 9 dogs (2.6%) over a 10 year period having recurrence of paraparesis or paralysis that required surgical intervention. All nine dogs recovered uneventfully.

**Procedure Description**

1. A surgeon meets with the pet owner to explain the procedure, benefits, risks and perioperative care.

2. Dogs are given a pre-surgical evaluation, anesthetized, and aseptically prepared for laser disc ablation. The dorsolateral aspect of the left upper lumbar area extending from the caudal thoracic to the caudal lumbar spinal column is the...
site for percutaneous needle insertion.

3. Seven myelographic/spinal needles are placed percutaneously into the center of disc spaces (T10-11 to L3-4). A fluoroscope is used to visualize placement of the needles.

4. A holmium:YAG (Ho:YAG) laser is used to vaporize the nucleus pulposus by placing the laser fiber through the needle into the disc space. The laser is activated and the disc material is vaporized and coagulated which stabilizes the nucleus of the disc, in theory, so it no longer has a propensity to herniate in the future.

**Indications**

Candidates for PLDA are dogs that have a history of disc disease that have recovered from either surgery or medical management and are neurologically stable, and dogs that are in a very high risk group such as Dachshunds (chondrodystrophic breeds). Dogs that are exhibiting lumbar pain but are not neurologically affected should be treated with medical management and should be pain free and drug free for a minimum of 2 weeks.

**Perioperative Care**

Dogs are normally admitted into the hospital and standard presurgical workup is performed as warranted for each dog (blood work and spinal radiographs). Patients typically stay one night and are discharged with NSAIDS and Tramadol. The dogs should be kept under strict cage confinement for the next 2-3 weeks and then may slowly return to normal activity over a 1-2 week period.

**Interested?** Please call the DVSC-North Dallas office if you have questions, would like more information, or want to refer a patient for PLDA consultation.

**Resources:**


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