**Background & Purpose**

- Corneal endothelial dystrophy (CED) is a devastating disease that causes blindness and discomfort. The purpose of this study is to evaluate the efficacy of a new surgical technique – Descemetorhexis without Endothelial Keratoplasty (DWEK) – in combination with a new regenerative drug (Ripasudil) to treat CED in dogs.

**Participation Requirements**

- Dogs diagnosed with acute CED with focal edema (excludes dogs with severe cardiopulmonary or neurologic disease)
- To determine eligibility, dogs will need physical and ophthalmic exams and advanced ophthalmic imaging.

**Procedures**

- The following will be performed prior to and at 1, 3 and 6 weeks, and then 3, 6 and 12 months after surgery as part of the study:
  - A full ophthalmic examination
  - Advanced ocular imaging while under sedation, including digital slit lamp biomicroscopy, spectral domain optical coherence tomography and confocal biomicroscopy
  - Blood collection and analysis (only done once prior to surgery)
  - Corneal surgery in one eye while under anesthesia
  - Administration of topical ripasudil administration 4 times a day to both eyes for 1 year after surgery
  - Monitoring for any side effects for 6 months following discontinuation of Ripasudil

**Owner Responsibilities**

- Bring your dog in for scheduled appointments
- Cover costs of the surgery beyond the $1000 credit mentioned under “Benefits”
- Fill out questionnaires
- Give multiple eye and oral medications several times a day for several weeks for 1 year
- Keep a log book of when the medication was given
- Monitor the well-being of your dog at home and report any changes or side effects to us
- Cover costs of Ripasudil after your dog completes the study if you choose to continue administering topical ripasudil beyond the 1 year anniversary of the surgery

**Benefits**

- The study will:
  - Cover the cost of the ophthalmic examination, ocular diagnostic testing, sedation, advanced ophthalmic imaging, blood collection, and medications
  - Provide a $1000 credit towards your dog’s pre-operative bloodwork, general anesthesia, corneal surgery, and hospitalization
  - Offer to pay for medical treatment for injuries up to $1000 as long as the care is performed at UC Davis
- It is expected that this corneal surgery and the topical ripasudil will decrease the thickness of your dog’s cornea, improve vision and decrease the frequency of your dog’s corneal ulcers.