

# **CALCIUM CHLORIDE CASTRATION**

BILLY CLAY MS, DVM, DIPLOMATE  
AMERICAN BOARD OF VETERINARY TOXICOLOGY  
STILLWATER, OK USA

**HOW DOES IT WORK?**

- A 20 % SOLUTION PREPARED WITH STERILE ETHYL ALCOHOL
- INJECTED INTO THE CENTER OF EACH TESTICLE WITH SUFFICIENT PRESSURE TO AVOID LEAKAGE INTO THE SCROTUM
- THE HYPERTONIC SOLUTION EXERTS OSMOTIC PRESSURE ACROSS CELLULAR MEMBRANES

**CALCIUM CHLORIDE DIHYDRATE**

- FLUID TRAVERSES THE MEMBRANES OF CELLS AS WELL AS EXTRAVASCULARLY RESULTING IN SWELLING OF EXTRACELLULAR TISSUES.
- THE INTEGRITY OF CELLS ARE LOST RESULTING IN DEATH AND NECROSIS- AND FINALLY FIBROSIS

**CALCIUM CHLORIDE DIHYDRATE**



72 hours post  
injection

**1.5x TO 2.0x NORMAL**



**38 days post  
injection**





**Castration after 30 days**



- Testicular and epididymis pathology was performed on 14 dogs 3-30 days post injection
- Testes showed inflammatory response with mineralization, fibrosis and tubular degeneration.
- Epididymides showed similar inflammation, mineralization and fibroplasia.

**Canine Chemical Castration Study in Collaboration with Spay FIRST!, pathology by Dr. Keith Bailey**

- A similar necrosis will occur with erosion to the skin surface in some.
- Those lesions will heal in about 30 days.

**Leakage into the scrotum will result in lesion.**

**Thank you!**  
**For your attention!**