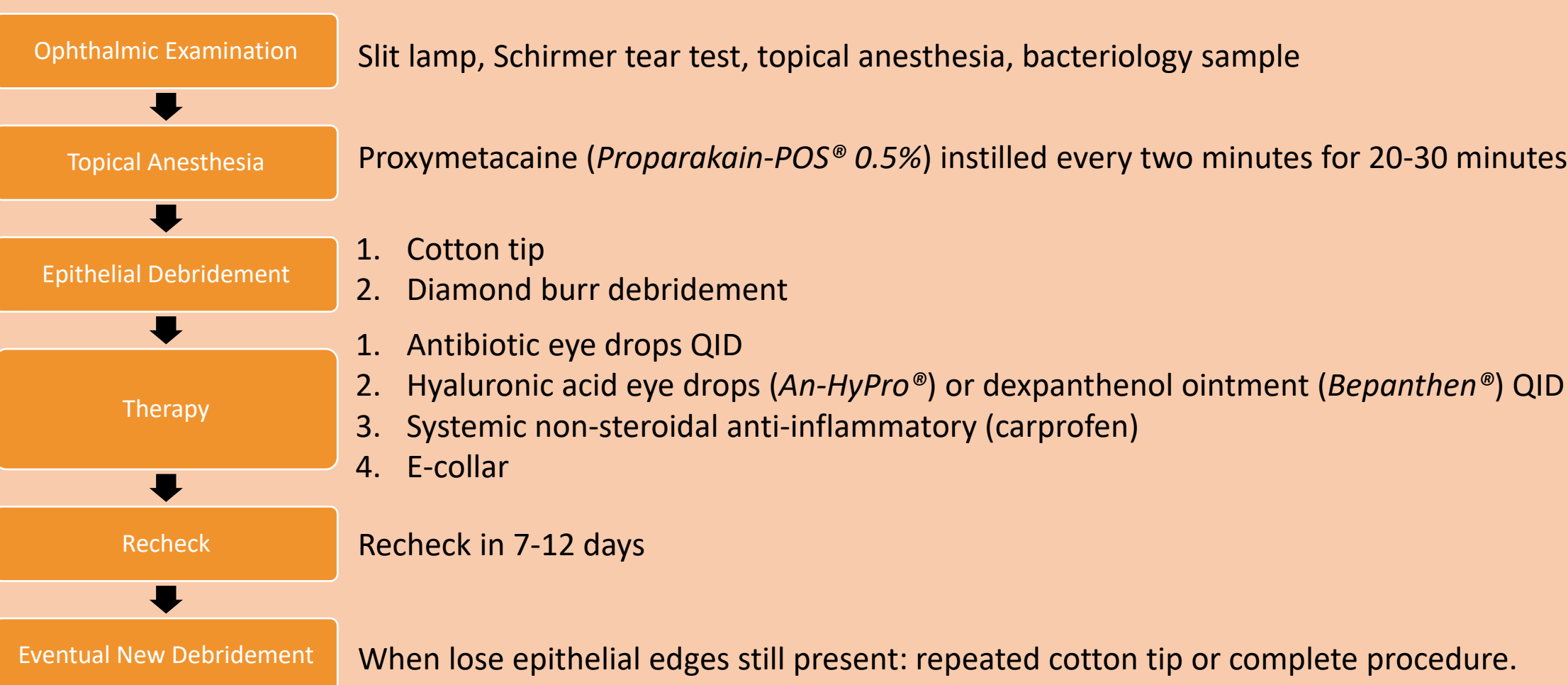


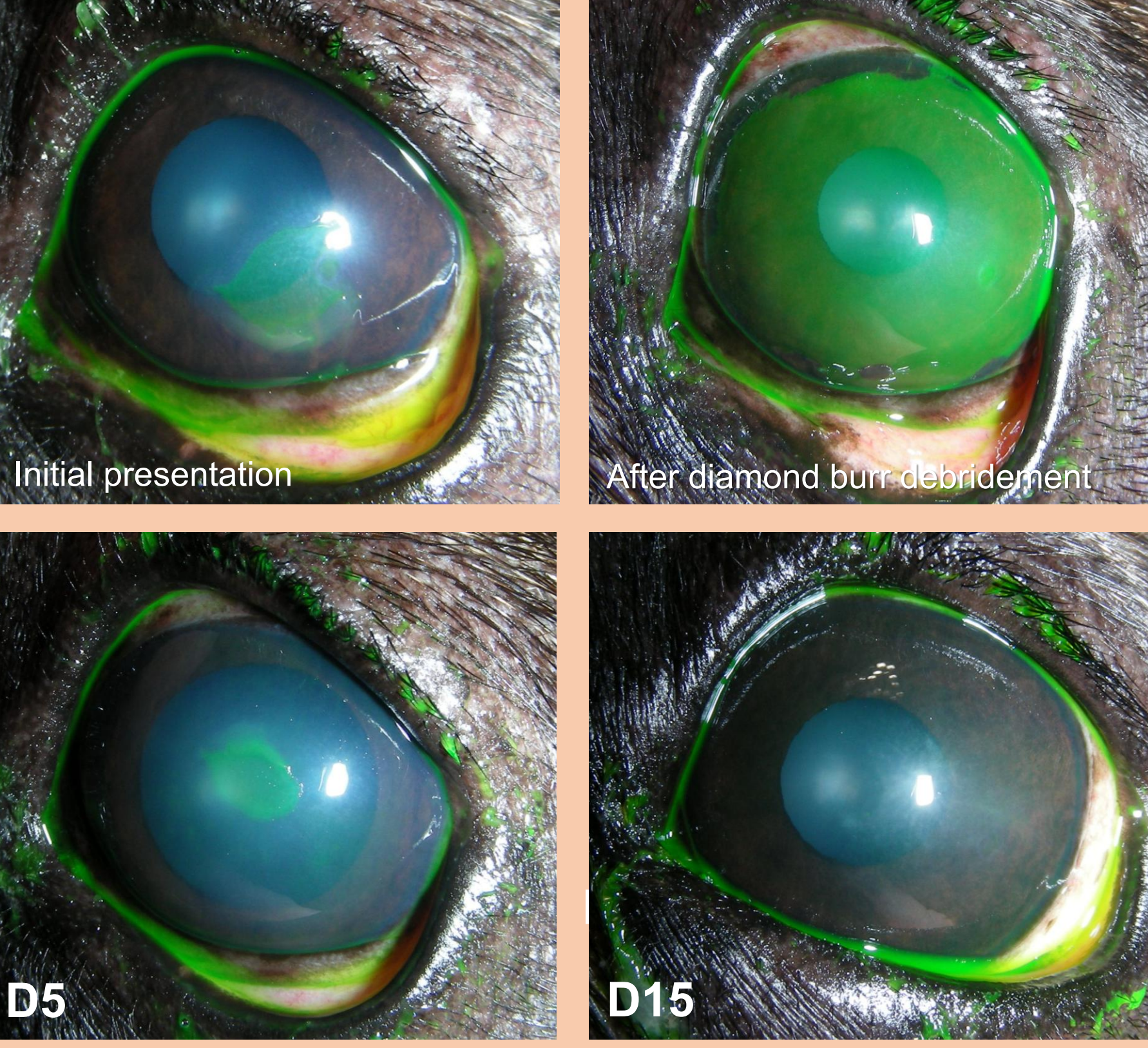
# Cold plasma is a promising new adjunctive therapy option for treating SCCEDs in often treatment-refractory French Bulldogs.

## SCCED: Standard of care treatment (our practice)



## Therapy example: Hilde

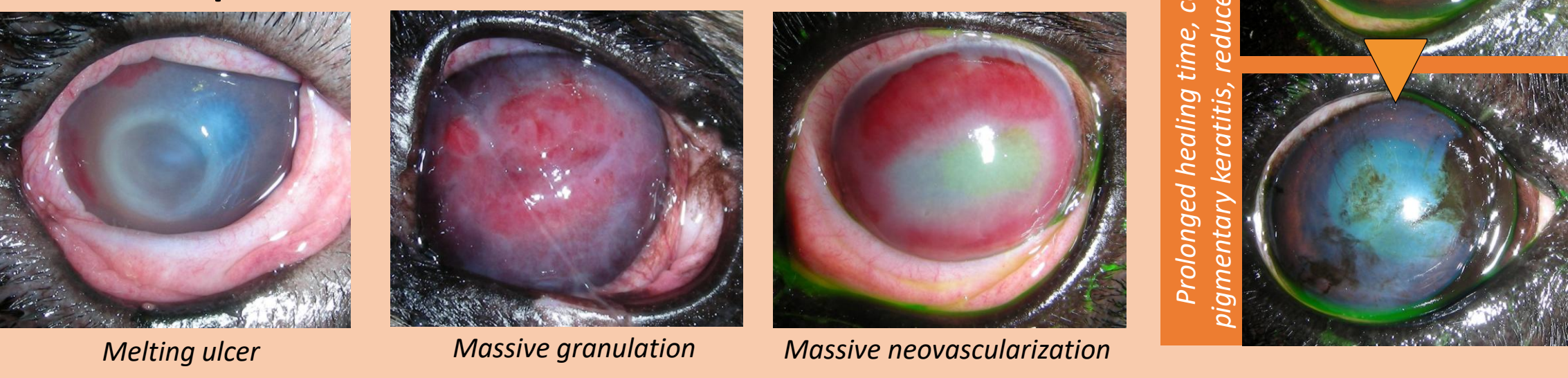
8-year-old French Bulldog,  
**Cold plasma add-on:**  
Three treatments  
**Medical therapy:**  
topical antibiotics,  
hyaluronic acid,  
systemic NSAIDs  
E-Collar



## Frenchies and SCCEDs: Why the fuss?

- SCCEDs in French Bulldogs (FB) remain a therapeutical challenge in terms of healing time as well as long term corneal clarity outcome. There is an acute unmet medical need for new ways of SCCED treatment in FBs.
- Most common breed presented to our practice.<sup>2</sup>
- Most common breed with SCCED in our practice.

### SCCED complications in Frenchies:



## Argon cold atmospheric plasma



## Argon cold plasma treatment significantly shortens healing time of spontaneous chronic corneal epithelial defects in French Bulldogs

### PURPOSE

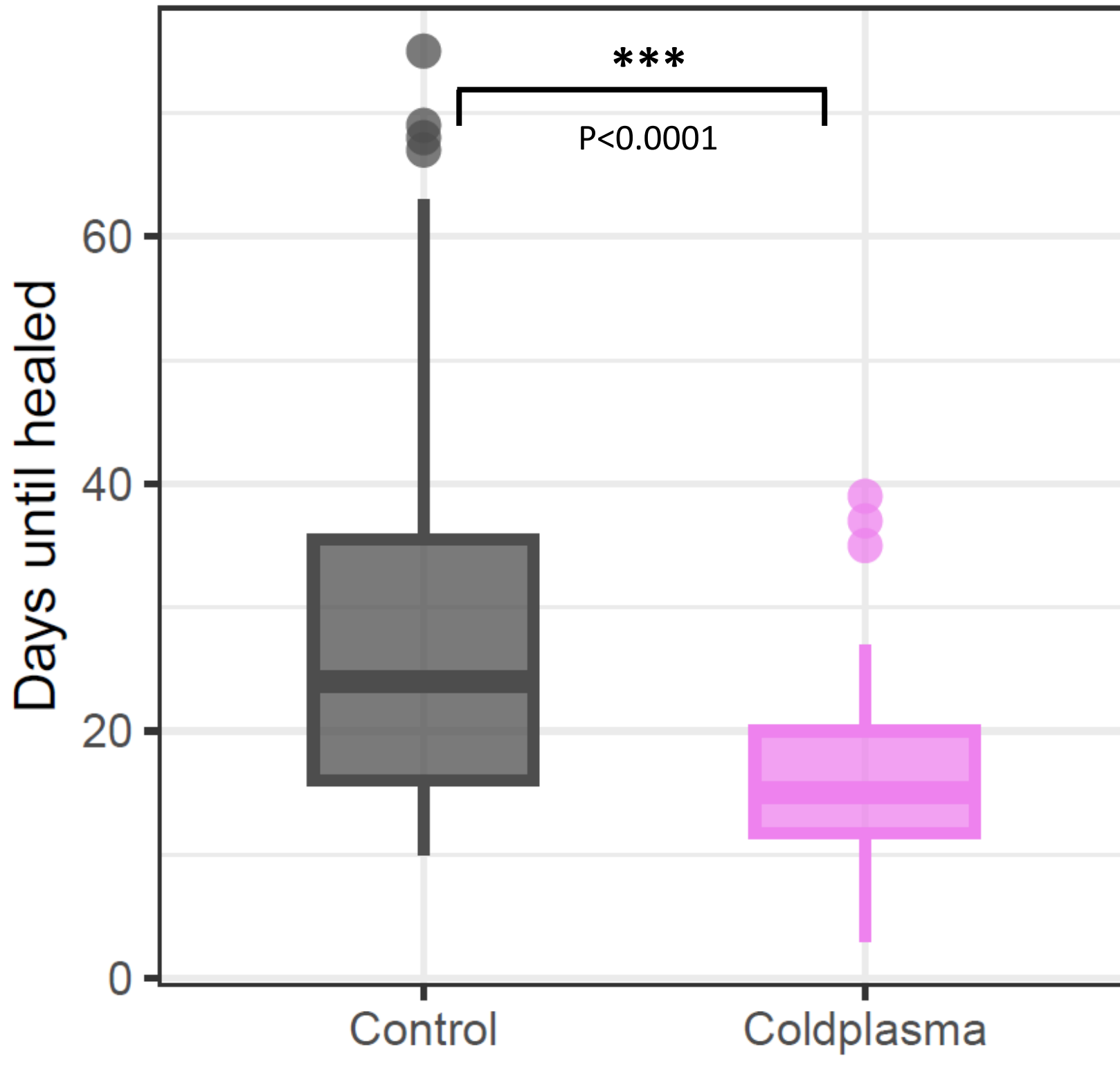
- To evaluate adjunctive argon cold atmospheric plasma (ACP) treatment on healing time of SCCEDs in French Bulldogs.

### METHODS

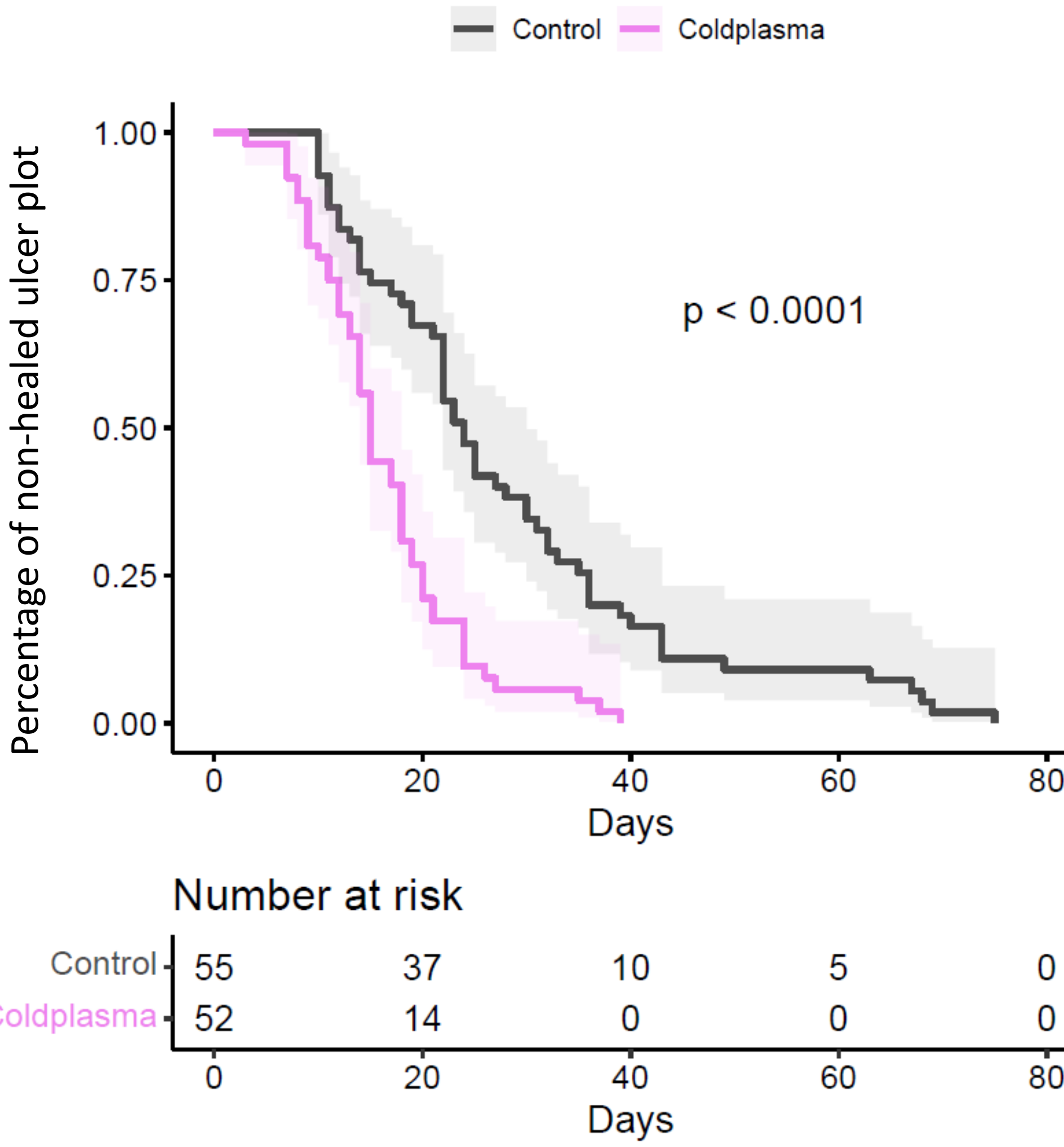
- Comparison of ACP group and control group in unilateral and bilateral SCCEDs in French Bulldogs
- **Control group** = standard of care treatment (see on the left) undergoing diamond burr only
- **ACP group** = standard of care treatment + **ACP therapy every 3-6 days**
- kinPEN-VET® (Neoplas GmbH, Greifswald, Germany): Application of plasma jet in meandric movement over lesion for 30-90s (60s ≈ 1 cm<sup>2</sup>), flow rate 4.6-4.8 L/min, distance: plasma jet tip slightly touching cornea (conducting mode)

### RESULTS

- Healing time was significantly shorter in ACP group (linear regression model, p<0.001) and was 61.2% (CI:[50.2%, 74.8%]) of control group healing time. ACP treatment was well tolerated.



	Control group	ACP treatment group
Number	52 dogs (55 eyes)	45 dogs (52 eyes)
Age (median)	7.7 years (5.2-11.9)	7.4 years (4.7-10.4)
Tear film disorder	51% (28/55)	52% (27/52)
Time to heal (mean)	28.1 ± 16.30 days	16.4 ± 7.48 days
Time to heal (median)	24.0 days (10-75)	15.0 days (3-39)
ACAPs sessions (median)	---	3 treatments (1-8)



Literature/sources: [1] <https://www.neoplas-vet.com/kinpenvet/>  
[2] Allgoewer I: Ocular disorders of 809 French Bulldogs (2019), Abstracts: Annual Scientific Meeting of the ECVO, Antwerp, Belgium May 23–26, 2019. Vet Ophthalmol. 2019;17(6):E1-E27. 10.1111/vop.12702

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