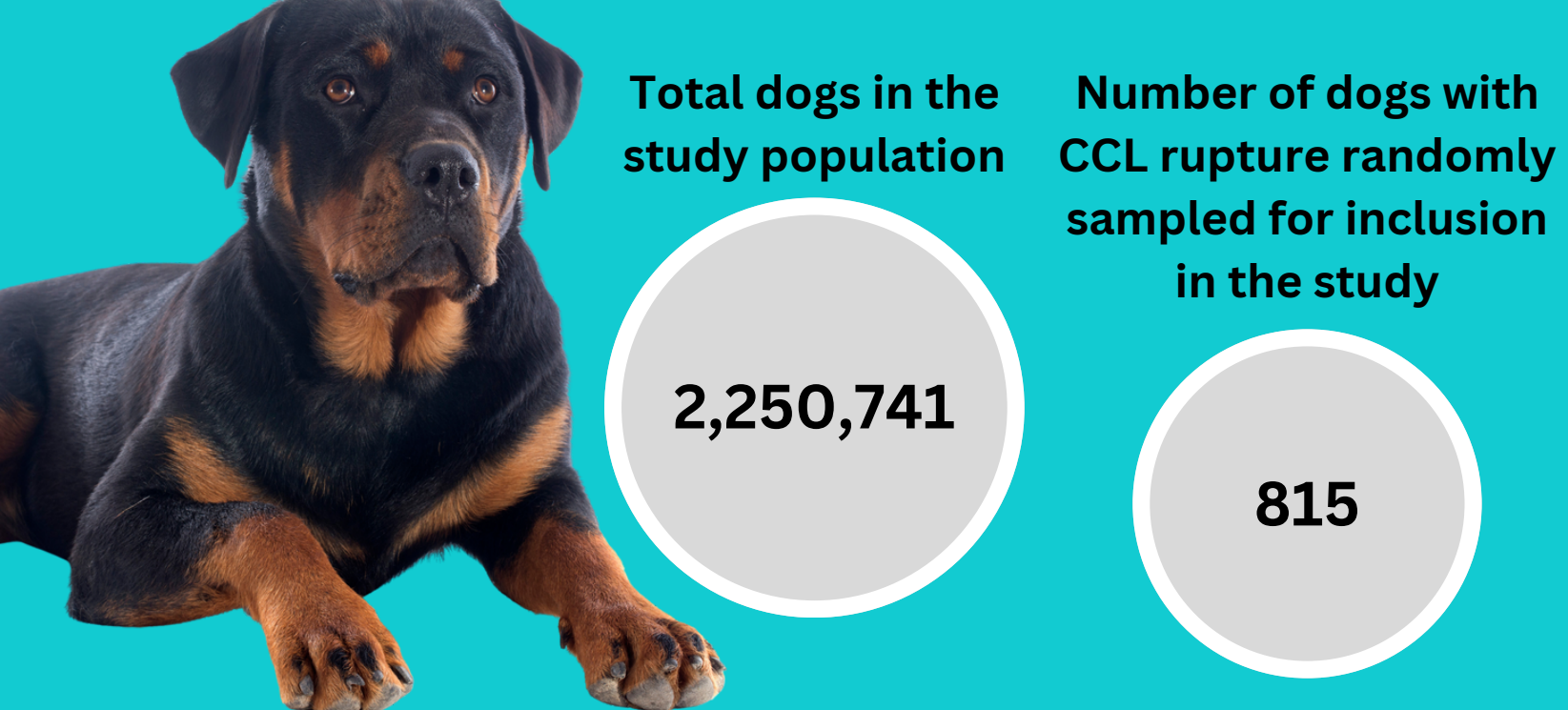


# Does surgery cause improved outcomes in dogs with cranial cruciate ligament (CCL) rupture?

The cranial cruciate ligament (CCL) supports the proper functioning of a dog’s stifle joint (knee) similarly to the anterior cruciate ligament (ACL) in humans. However, the ligament can weaken over time and eventually rupture, causing pain and associated limping.

This study used novel statistical methods to determine whether surgical management for CCL rupture in dogs causes improved outcomes compared to non-surgical management.

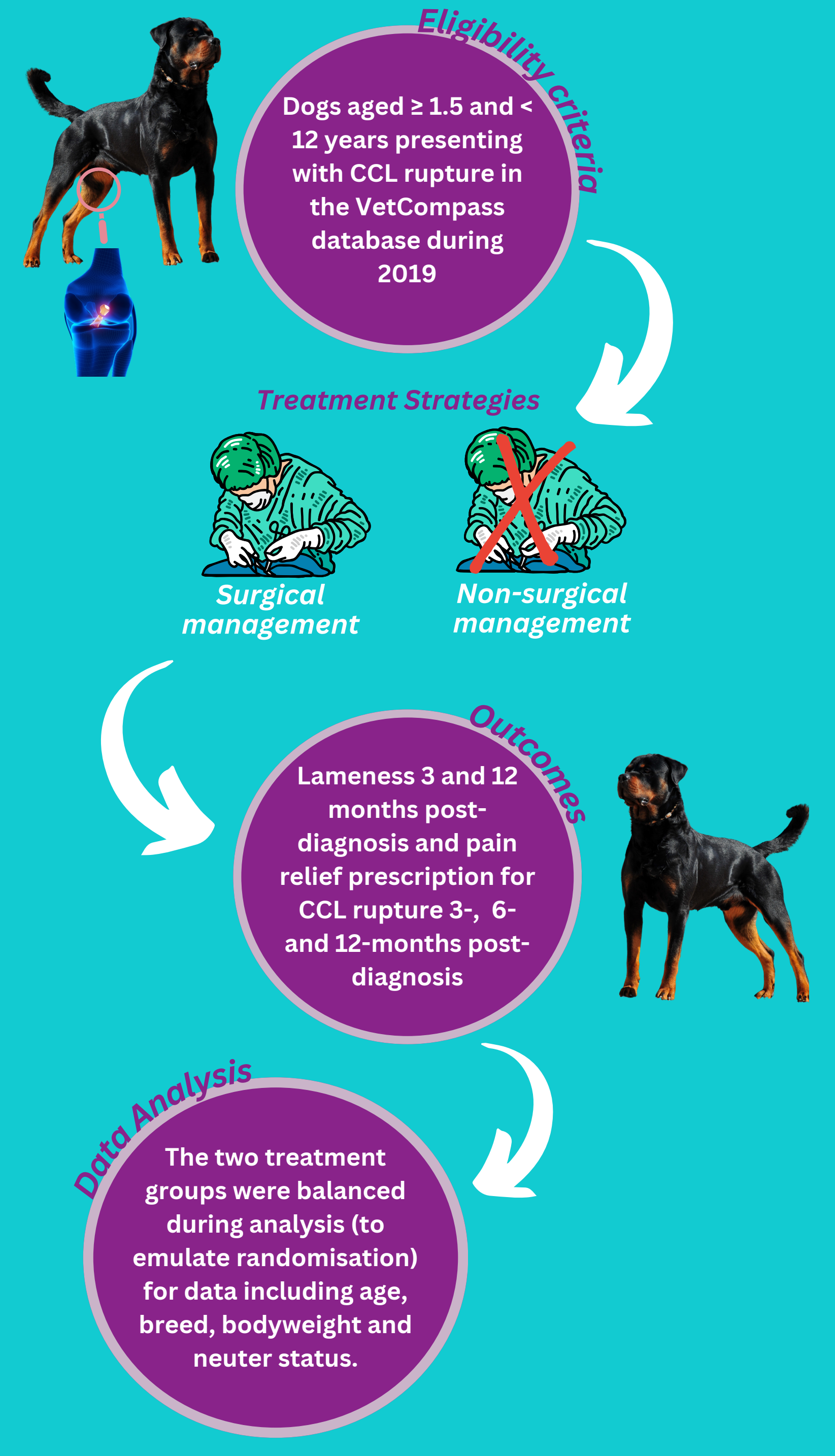


## Target Trial Emulation Methods

Randomised controlled trials (clinical trials) are considered “gold standard” for estimating causal treatment effects. Randomisation evens out differences between treatment groups, however clinical trials are not always feasible or ethical.

Therefore, this study used causal inference “target trial emulation” to emulate (i.e., replicate) a randomised controlled trial using VetCompass anonymised veterinary electronic clinical records.

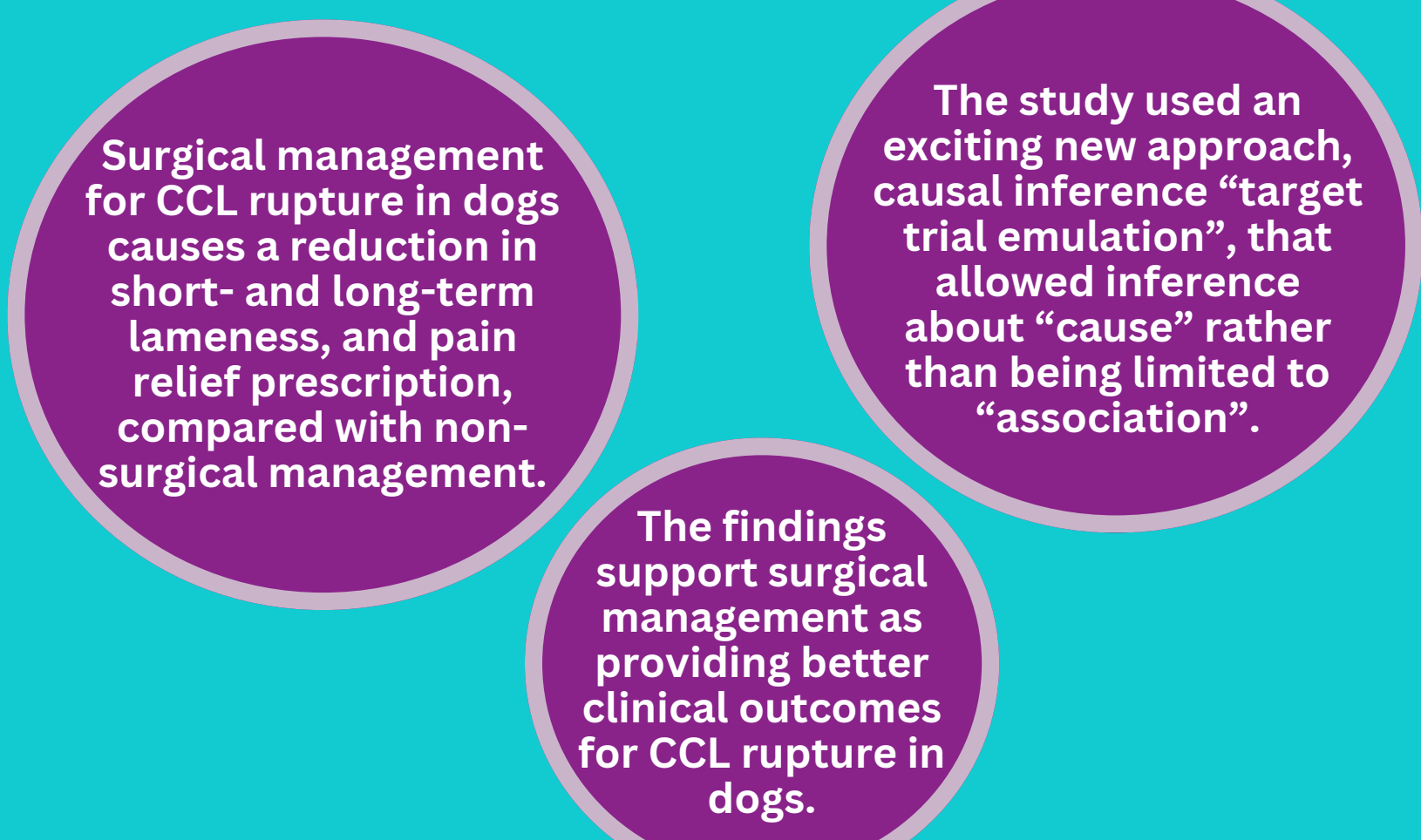
### CCL Rupture Target Trial Emulation - key steps:



## Target Trial Emulation Results

Outcomes	After accounting statistically for differences between the two treatment groups...		Difference in risk of outcome in dogs managed surgically compared with non-surgically
	615 dogs managed surgically	200 dogs managed non-surgically	
Lameness 3 months post-diagnosis	33.9%	59.5%	-25.7%
Lameness 12 months post-diagnosis	16.3%	48.1%	-31.7%
Pain relief prescription at 3 months	27.5%	66.4%	-38.9%
Pain relief prescription at 6 months	21.0%	55.2%	-34.1%
Pain relief prescription at 12 months	17.4%	50.1%	-32.7%

## Conclusions



### CLICK TO READ THE FULL STUDY

Pegram et al. (2024) “Target Trial Emulation: Does surgical versus non-surgical management of cranial cruciate ligament rupture in dogs cause different outcomes?” Preventive Veterinary Medicine

RVC VetCompass <https://www.rvc.ac.uk/vetcompass> carries out welfare research based on anonymised clinical information shared from over 30% of UK veterinary practices. We are very grateful to the owners and veterinary professionals who contribute to VetCompass research. We are also grateful to the Dogs Trust Canine Welfare Grants for funding of this research.