

# THE IMPACT OF MEDICAL CASTRATION (SUPRELORIN) ON WEIGHT GAIN IN MALE DOGS WHEN COMPARED TO SURGICALLY CASTRATED AND ENTIRE DOGS.

AUTHORS: CLAYTON H. AND CARLIDGE H. AFFILIATIONS: BSC (HONS)VETERINARY NURSING WITH SMALL ANIMAL REHABILITATION

CONTACT DETAILS: [HOLLYCLAYTON123@ICLOUD.COM](mailto:HOLLYCLAYTON123@ICLOUD.COM)

## Introduction – background & research aims

Gonadectomy is the traditional form of castration seen in veterinary practice(Hess *et al.*, 2024). Growing Concerns in relation to their effect on physical and psychological health has prompted the popularity of Deslorelin implant (Suprelorin) (Bjørnvad *et al.*, 2019). A subcutaneous injection which offers a non-invasive alternative to gonadectomy, However, the clinical significance and applicability of existing research to veterinary practice are limited making it difficult to accurately assess the effects on canine physical health.

The aim of this study is to evaluate whether Suprelorin induces weight gain in adult male dogs in comparable to surgical castration, thereby providing evidence-based guidance for veterinary professionals who may need to recommend nutritional adjustments. This will be achieved by measuring weight fluctuations between three control groups 6-12 months post procedure

- Null Hypothesis: A significant difference in weight change between the castrated, Suprelorin-treated, and entire male dogs over the 6–12-month post-procedure period.

## Methodology

A retrospective, blinded secondary data collection style was used in this study. Data was obtained from multiple Severn Edge Veterinary Group practices(2020-2023).

**Subjects:** Adult male dogs ( $\geq 12$  months old) with ASA score 1 or 2, divided into three groups: Surgically castrated, Medically castrated (Suprelorin implant) and Entire males( $n = 20$  per group).

**Data Collection:** Weights recorded at baseline and 6–12 months post-procedure.

**Additional Component:** Cross-sectional survey conducted to assess dietary advice provided by veterinary professionals.

**Statistical Analysis:**

- Descriptive statistics performed using Microsoft Excel and ANOVA with Bonferroni post hoc tests conducted using GENSTAT.



Figure 2: Suprelorin poster.(Virbac),(2025).

## “Findings challenge the basis of neutered diet recommendations, suggesting advocacy for medical rather than surgical castration”.

### Results

Whilst exploring the impact of different reproductive interventions on weight changes through retrospective study design, significant differences were found in mean percentage weight between both surgical castration and medical implantation and no significant difference between entire and the implanted control group.

**Supporting the theory that Suprelorin does not significantly impact bodyweight** (Muller *et al.*,2018).

- **Mean percentage weight change:** Surgically castrated:  $15\% \pm 11.2$ , Suprelorin-treated:  $5.5\% \pm 10.2$  and Entire males:  $3\% \pm 8.6$
- **Descriptive statistics:** data suggests there is no correlation between time elapsed and percentage of weight increase in all control groups.
- **Statistical analysis (ANOVA):** Significant difference was found between surgically castrated and Suprelorin groups ( $P < 0.001$ ). No significant difference found between Suprelorin and entire male groups.

### Survey findings:

**79%** of veterinary professionals believe Suprelorin predisposes dogs to obesity similarly to surgical castration. a similar trend of neutered specific diet was recommended to those who are implanted with Suprelorin or surgically castrated. This consensus was met with uncertainty with only **20% expressed confidence in this advice, and 40% admitted it was an educated guess.**

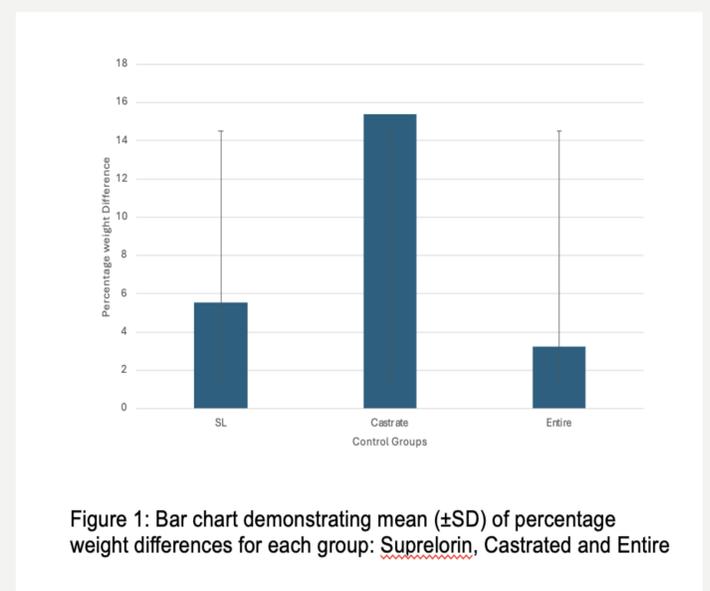


Figure 1: Bar chart demonstrating mean ( $\pm$ SD) of percentage weight differences for each group: Suprelorin, Castrated and Entire

### conclusion

- **Suprelorin does not** cause the same weight gain seen with surgical castration, challenging routine **neutered diet** recommendations for medically castrated dogs.
- Suprelorin offers a safer alternative with **reduced obesity risk** suggesting we could avoid unnecessary diet changes post procedure.
- Future research should include **longitudinal studies with larger sample sizes** and control for confounding factors such as **diet and exercise**.

### References

- Bjørnvad, C.R., Gloor, S., Johansen, S.S., Sandøe, P. and Lund, T.B. (2019) 'Neutering increases the risk of obesity in male dogs but not in bitches—A cross-sectional study of dog-and owner-related risk factors for obesity in Danish companion dogs', *Preventive veterinary medicine*, 170, pp. 104730 Available at: <https://doi.org/https://doi.org/10.1016/j.prevetmed.2019.104730>.(Accessed: 04/04/2025).
- Hess, R.A., Park, C.J., Soto, S., Reinacher, L., Oh, J., Bunnell, M. and Ko, C.J. (2024) 'Male animal sterilization: history, current practices, and potential methods for replacing castration', *Frontiers in Veterinary Science*, 11, pp. 1409386 Available at: <https://doi.org/https://doi.org/10.3389/fvets.2024.1409386>.(Accessed:06/04/2025).
- Müller, L., Mester, L., Nagy, A., Hanáček, R., Janett, F., Cseh, S., Reichler, I.M. and Balogh, O. (2018) 'Effect of long-acting deslorelin implant (Suprelorin® 4.7 mg) on semen characteristics, body weight, serum biochemical and haematology profile in adult male Beagle dogs. Literature review and a prospective study.', 140(12), pp. 1 Available at: <https://www.cabidigitallibrary.org/doi/full/10.5555/20193035518>.(Accessed: 20/04/2025).
- Virbac. Suprelorin poster. 2025. Available from: <https://nz.virbac.com/products/reproduction-and-contraception/suprelorin-47mg>.(Accessed: 06/04/2025).

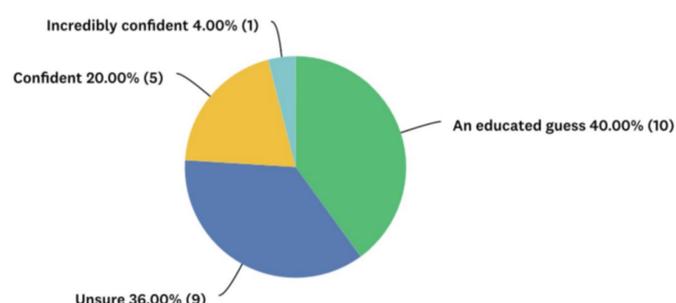


Figure 3.5: Pie chart demonstrating the confidence in feeding advice for Suprelorin-implanted dogs.