

# National Audit for Small Animal Neutering Report 2021



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RCVS Knowledge is a charity with the mission to advance the quality of veterinary care for the benefit of animals, the public, and society. RCVS Knowledge champions the use of evidence-based veterinary medicine in veterinary practice and provides tools, resources and education to the professions. We support thousands of dedicated veterinary professionals to deliver high-quality evidence-based veterinary medicine to the millions of animals in their care.

We are the charity partner of the Royal College of Veterinary Surgeons.

# Introduction

The National Audit for Small Animal Neutering (NASAN) is a simple audit that allows veterinary teams to measure post-operative complication rates for the neutering of small animals.

The free-to-download audit template allows you to submit data for your dog castrates, bitch spays (both routine and laparoscopic), cat spays and castrates, and rabbit spays and castrates.

Your post-operative outcomes can be selected from six main groups:

- **Lost to follow-up:** patients that do not return to the practice, when a repeat check-up was expected.
- **No abnormality present:** healed as normal
- **Abnormal but no treatment necessary:** abnormal healing that resolved without any treatment.
- **Abnormal requiring medical treatment:** abnormal healing that required extra treatment, on top of your routinely prescribed post-operative treatment.
- **Abnormal requiring surgical intervention:** abnormal healing that required surgical intervention.
- **Fatality:** The patient died, either in the peri- or post-operative period.

The audit template combines practice data, and displays overall results, but also breaks down the analysis by complication and species.

By collecting this donated data, NASAN provides a system to measure national benchmarks for the outcomes of canine, feline and rabbit spays and castrations. The data is combined, analysed manually on an annual basis, and made publicly available to allow practices to compare their rates against the national benchmark.

## BENCHMARKING

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Benchmarking is a Quality Improvement (QI) tool that can be used to help improve clinical outcomes and quality of care. It is a comparison of clinical audit results against other audit results (the benchmark), whether they are from clinical practice or a national audit.

Comparing audit results against the NASAN allows teams to get a clearer picture of what is possible by making comparisons against a range of other practices that perhaps have different caseloads, use different protocols and have different practice structures.

By learning from other ways of working, and making changes, care can be improved for our patients.

## STATISTICAL SIGNIFICANCE

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We have used the Wilson method to calculate confidence intervals for each result, indicating 95% confidence that our results are representative of the population.

If we re-sampled the group 20 times, we would be 95% sure that the result would continue to fall between this range.

For example, if we recaptured the data for all patients included in the audit, we would be 95% certain that the result for "no abnormality present" would fall between 73.63% and 74.43%

## Acknowledgements

RCVS Knowledge would like to thank all practices that have submitted data.

Your participation contributes to strengthening the body of evidence and makes standards-setting possible.

# Overview of submitted results

The following is an overview of all the submitted results, with the percentage shown for each of the six outcome groups.

## NO ABNORMALITY PRESENT

**74.03%**

WILSON 95% CONFIDENCE LIMIT: 73.63% - 74.43%

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## LOST TO FOLLOW-UP

**9.59%**

WILSON 95% CONFIDENCE LIMIT: 9.33% - 9.86%

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## ABNORMAL BUT NO TREATMENT NECESSARY

**8.51%**

WILSON 95% CONFIDENCE LIMIT: 8.26% - 8.77%

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## ABNORMAL REQUIRING MEDICAL TREATMENT

**6.91%**

WILSON 95% CONFIDENCE LIMIT: 6.69% - 7.15%

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## ABNORMAL REQUIRING SURGICAL INTERVENTION

**0.87%**

WILSON 95% CONFIDENCE LIMIT: 0.79% - 0.96%

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## FATALITY

**0.09%**

WILSON 95% CONFIDENCE LIMIT: 0.06% - 0.12%

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# Overall complication rate

The actual outcome of those lost to follow up is unknown, therefore, although the percentage is important, we have not included them in the overall complication rate. The following represents the percentage of each complication with the lost to follow up removed.

## NO ABNORMALITY PRESENT

**81.88%**

WILSON 95% CONFIDENCE LIMIT: 81.51% - 82.25%

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## ABNORMAL BUT NO TREATMENT NECESSARY

**9.41%**

WILSON 95% CONFIDENCE LIMIT: 9.14% - 9.70%

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## ABNORMAL REQUIRING MEDICAL TREATMENT

**7.65%**

WILSON 95% CONFIDENCE LIMIT: 7.40% - 7.90%

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## ABNORMAL REQUIRING SURGICAL INTERVENTION

**0.96%**

WILSON 95% CONFIDENCE LIMIT: 0.87% - 1.06%

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## FATALITY

**0.10%**

WILSON 95% CONFIDENCE LIMIT: 0.07% - 0.13%

# Dogs

The results below are from the donated data of:

12,120 castrates

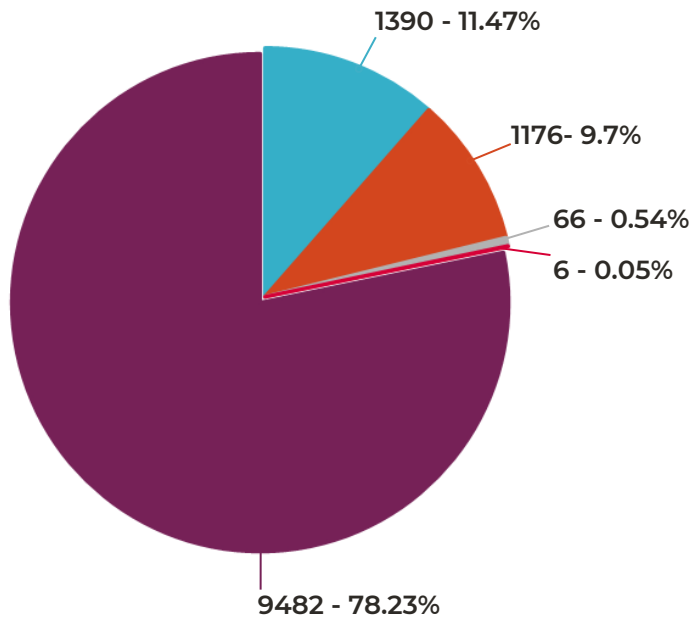


112,004 spays

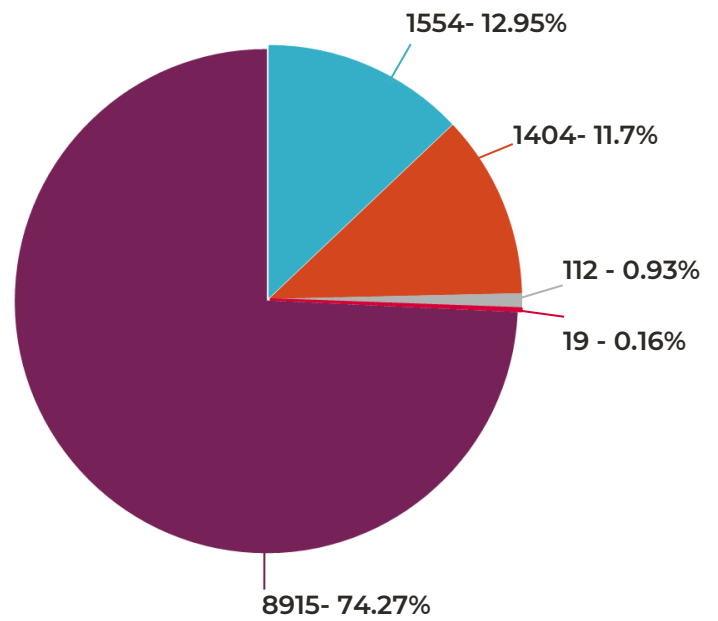


244 laparoscopic spays

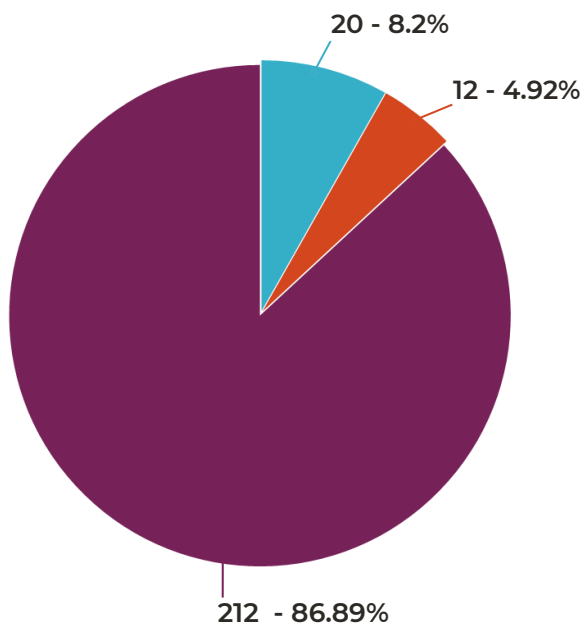
Castrate



Traditional spay



Laparoscopic spay



- No abnormality present
- Abnormal but no treatment necessary
- Abnormal requiring medical treatment
- Abnormal requiring surgical intervention
- Fatality of animal



# Cats

The results below are from the donated data of:

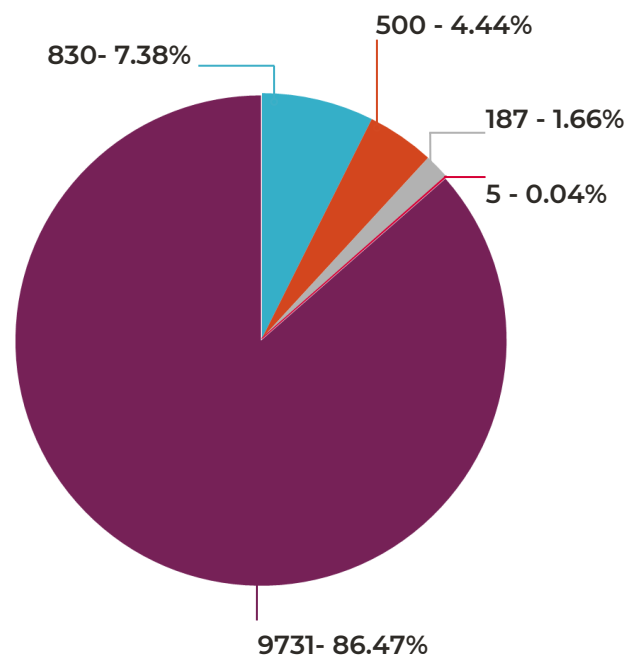
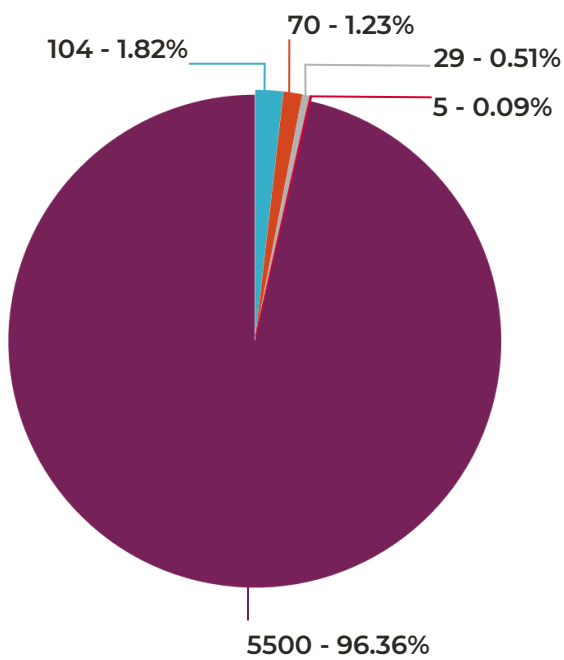
5,708 castrates



11,253 spays

Castrate

Spay



- No abnormality present
- Abnormal but no treatment necessary
- Abnormal requiring medical treatment
- Abnormal requiring surgical intervention
- Fatality of animal





# Rabbits

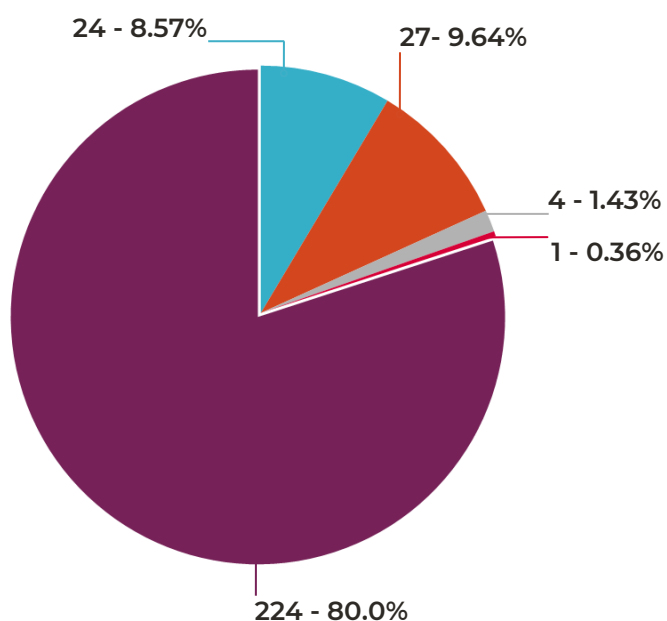
The results below are from the donated data of:

280 castrates

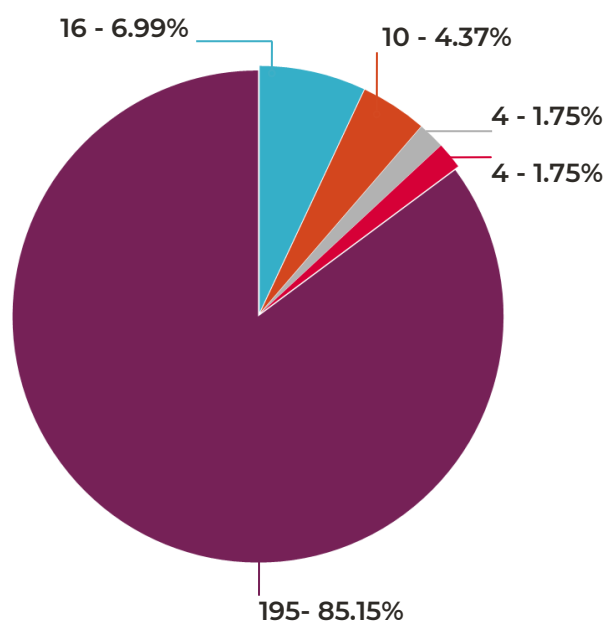


229 spays

Castrate



Spay



- No abnormality present
- Abnormal but no treatment necessary
- Abnormal requiring medical treatment
- Abnormal requiring surgical intervention
- Fatality of animal





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