

## Routine neutering complication rates

This document shows the results of submitted data from 2233 routine surgical cases in 2021. You can use the results from this group data to compare with the results from your practice.

### Total Results Submitted

The following represents the total and percentage representation of each of the six outcome groups:

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
<b>Abnormal but no treatment necessary</b>	150	6.72%	6.72%	5.75%	7.83%
<b>Abnormal requiring medical treatment</b>	134	6.00%	12.72%	5.09%	7.06%
<b>Abnormal requiring surgical intervention</b>	7	0.31%	13.03%	0.15%	0.65%
<b>Fatality of animal</b>	2	0.09%	13.12%	0.02%	0.33%
<b>Lost to follow up</b>	615	27.54%	40.66%	25.73%	29.43%
<b>No abnormality present</b>	1325	59.34%	100.00%	57.29%	61.36%
<b>Total</b>	2233	100.00%	100.00%		

### What does this mean?

This means if we re-sample the group 20 times, we can be sure of getting a result for each group somewhere between the two stated figures in 19 of those samples, i.e., we can be 95% confident that the true incidence of “lost to follow-ups” in this sample is between 25.73% and 29.43%.

### Overall complication rate

The actual outcome of the cases that are “lost to follow-up” is, however, unknown. Although the overall percentage level is important, we would be wrong to include them in the complication rate figures. All the following results have had lost to follow-ups removed from the calculations.

The following table shows the overall results of post-operative complications submitted to date.

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
<b>Abnormal but no treatment necessary</b>	150	9.27%	9.27%	7.95%	10.98%
<b>Abnormal requiring medical treatment</b>	134	8.28%	17.55%	7.04%	9.73%
<b>Abnormal requiring surgical intervention</b>	7	0.43%	17.99%	0.21%	0.89%
<b>Fatality of animal</b>	2	0.12%	18.11%	0.03%	0.45%
<b>No abnormality present</b>	1325	81.89%	100.00%	79.94%	83.69%
<b>Total</b>	1618	100.00%	100.00%		

So, for example, we can be 95% confident that the true level of ‘abnormal but no treatment necessary’ is between 7.95% and 10.98%.

However, knowing your 'lost to follow-up' numbers is important to encourage clients to report back to the practice. The following table shows the incidence of lost to follow-ups per procedure.

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
Cat castrate	304	49.43%	49.43%	45.50%	53.37%
Cat spay	141	22.93%	72.36%	19.78%	26.41%
Dog castrate	81	13.17%	85.53%	10.73%	16.07%
Bitch spay	65	10.57%	96.10%	8.38%	13.25%
Laparoscopic bitch spay	0	0.00%	96.10%		
Rabbit castrate	19	3.09%	99.19%	1.99%	4.77%
Rabbit spay	5	0.81%	100.00%	0.35%	1.89%
<b>Total</b>	<b>615</b>	<b>100.00%</b>	<b>100.00%</b>		

## Specific procedure complication rate



### Cat Castrate

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
Abnormal but no treatment necessary	11	5.12%	5.12%	2.58%	8.97%
Abnormal requiring medical treatment	2	0.93%	6.05%	0.11%	3.32%
Abnormal requiring surgical intervention	1	0.47%	6.51%	0.01%	2.56%
No abnormality present	201	93.49%	100.00%	89.32%	96.39%
<b>Total</b>	<b>215</b>	<b>100.00%</b>	<b>100.00%</b>		

### Cat Spay

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
Abnormal but no treatment necessary	23	6.85%	6.85%	4.60%	10.06%
Abnormal requiring medical treatment	13	3.87%	10.71%	2.27%	6.51%
Abnormal requiring surgical intervention	2	0.60%	11.31%	0.16%	2.14%
No abnormality present	298	88.69%	100.00%	84.86%	91.65%
<b>Total</b>	<b>336</b>	<b>100.00%</b>	<b>100.00%</b>		



### Dog Castrate

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
Abnormal but no treatment necessary	60	10.83%	10.83%	8.51%	13.69%
Abnormal requiring medical treatment	60	10.83%	21.66%	8.51%	13.69%
No abnormality present	434	78.34%	100.00%	74.72%	81.57%
<b>Total</b>	<b>554</b>	<b>100.00%</b>	<b>100.00%</b>		

## Bitch Spay

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
Abnormal but no treatment necessary	52	12.15%	12.15%	9.39%	15.59%
Abnormal requiring medical treatment	51	11.92%	24.07%	9.18%	15.33%
Abnormal requiring surgical intervention	2	0.47%	24.53%	0.13%	1.69%
Fatality of animal	1	0.23%	24.77%	0.04%	1.31%
No abnormality present	322	75.23%	100.00%	70.93%	79.09%
<b>Total</b>	<b>428</b>	<b>100.00%</b>	<b>100.00%</b>		

## Laparoscopic Bitch Spay

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
No abnormality present	2	100.00%	100.00%	15.81%	100.00%
<b>Total</b>	<b>2</b>	<b>100.00%</b>	<b>100.00%</b>		



## Rabbit Castrate

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
Abnormal but no treatment necessary	3	6.67%	6.67%	1.40%	18.27%
Abnormal requiring medical treatment	6	13.33%	20.00%	5.05%	26.76%
Abnormal requiring surgical intervention	2	4.44%	24.44%	0.54%	15.15%
No abnormality present	34	75.56%	100.00%	60.46%	87.12%
<b>Total</b>	<b>45</b>	<b>100.00%</b>	<b>100.00%</b>		

## Rabbit Spay

Outcome	Freq.	Percent	Cum Percent	95% Conf Limits	
Abnormal but no treatment necessary	1	2.63%	2.63%	0.07%	13.81%
Abnormal requiring medical treatment	2	5.26%	7.89%	0.64%	17.75%
Fatality of animal	1	2.63%	10.53%	0.07%	13.81%
No abnormality present	34	89.47%	100.00%	75.20%	97.06%
<b>Total</b>	<b>38</b>	<b>100.00%</b>	<b>100.00%</b>		

The vetAUDIT group would like to thank all practices that have submitted data. Without your participation, setting benchmarks would not be possible. We are still accepting data for 2021 procedures. Data can be submitted anonymously. However, if you require certification of participation, your practice name is required. All data is anonymised before sharing. If you haven't yet shared your data, you can do so at <https://vetaudit.rcvsk.org/submit-data>.