

BSAVA  
Congress

20  
20

2-5 April 2020 Birmingham, UK



How to become a quality improvement ambassador to improve clinical standards in your practice

An RCVS Knowledge webinar produced for BSAVA Congress

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Wendover Heights Veterinary Centre



# Conflict of Interest Disclosure

I have financial interest, arrangement or affiliation with:

## **Name of Organisation**

Wendover Heights Veterinary Centre

British Veterinary Nursing Association(BVNA)

RCVS Knowledge Evidence

VN Futures Career Progression Group

## **Relationship**

Clinical Nurse Lead

Council Member

Editorial Board Member

Working Group Member



**"Quality Improvement (QI) is, "the combined and unceasing efforts of everyone...to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development (learning)"**

Batalden PB and Davidoff F. 2007. What is "quality improvement" and how can it transform healthcare? BMJ Quality & Safety 16:2-3

  #BSAVA20 #whyQI

 **BSAVA**  
BRITISH SMALL ANIMAL VETERINARY ASSOCIATION

**BSAVA**  
**Congress**

**RCVS**  
**KNOWLEDGE**

Clinical  
Audits

Team  
discussions

Standard  
Operating  
Procedures

# QUALITY IMPROVEMENT IN PRACTICE

Your possible roles.

Bench  
marking

Checklists

Protocols

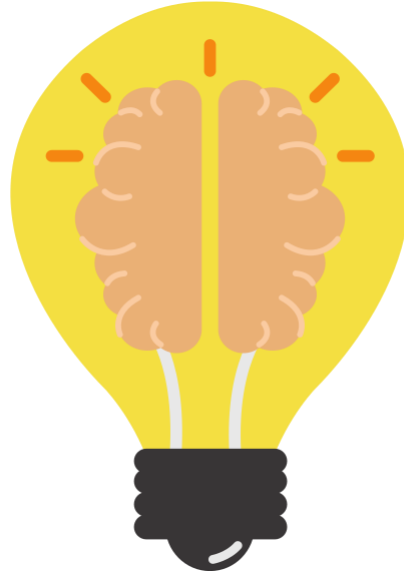
Guidelines

Evidence based  
veterinary nursing





How do you think  
you & your team are  
doing in practice right  
now?



  #BSAVA20 #whyQI

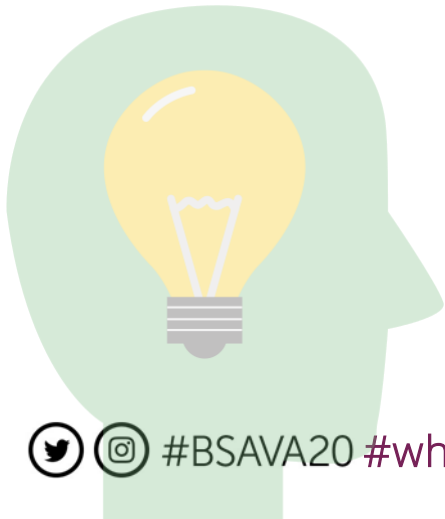




"How can we make  
improvements if we don't  
know how we're doing  
already?"



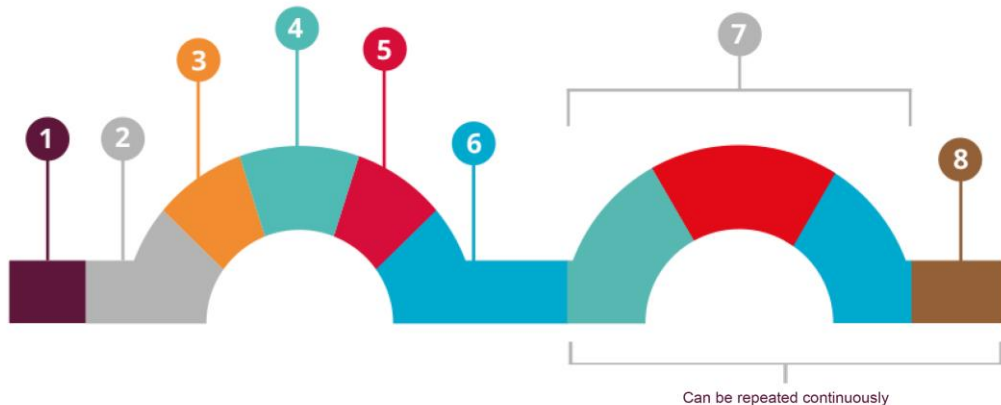
**We can measure it by doing  
a clinical audit!**



# The process of auditing... (it's not as hard as you think!)



## The Veterinary Clinical Audit Cycle



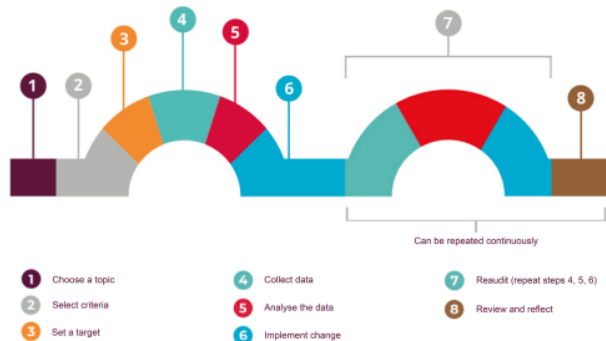
- 1** Choose a topic
- 2** Select criteria
- 3** Set a target

- 4** Collect data
- 5** Analyse the data
- 6** Implement change

- 7** Reaudit (repeat steps 4, 5, 6)
- 8** Review and reflect



A clinical audit is a measurement process that is repeated regularly to ensure on-going engagement and a high standard of care. It can be completed in 8 stages, repeating the final 2 stages to make it a tool for continuous improvement.



**1. What would you like to improve?**



The topic chosen should be relevant to your practice, be able to be measured, commonly encountered and have room for improvement. E.g. monitoring of hypertension in felines.

**2. How will you measure improvement?**



Select the criteria that will help measure improvement. It should be easily understood. You can measure processes or outcomes. E.g. Record the number of BP measurements performed over a period of two months.

**3. What will your target for improvement be?**



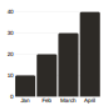
Set a target using the best available evidence and agreeing best practice. It is useful to allocate a team member to help drive improvement. E.g. The ISFM suggest that every senior cat should have BP measurement every 6 months. The target will be to increase in the absolute numbers performed over a period of 2 months.

**4. Collect data**



Identify who needs to collect what data, in what form and how. Ensure only relevant data is collected. E.g. Number of measurements performed, using data from the practice management system

**5. Analyse the data**



Compare the data with the agreed target. Note any reasons why it wasn't met and discuss these with the team. E.g. Initial data indicated monitoring in 12% of at risk patients, or 6 cases in absolute numbers. Following the audit this increases to 78% of at risk patients. Those with co-morbidities were less likely to have BP assessed; this may be due to limited time in consultation

**6. Implement change**



Develop an action plan for any change or interventions that will assist in the target being met. Set a time to re-audit. E.g. Raise awareness via a series of team meetings. Send written advice to relevant owners on the need for regular monitoring. Re-audit in 2 months.

**7. Re-audit**



Repeat steps 4 and 5 to see if the changes have made a difference. If there has been no improvement then implement a new change and repeat the cycle. E.g Re-audit shows further increase from 78% to 83%. Individual records of cats assessed to see why some were excluded. An outcome audit is completed measuring BP of hypertensive cats 4 months after diagnosis, to see how well thri condition is being controlled.

**8. Review and reflect**



Share your findings and compare your data with other relevant results. E.g. The findings were shared with the branch practices in the area



# What can I audit?

## Clinical topics

- Post op temperatures
- Drug dosing errors / reporting frequency “whoopsie books”
- Premedication protocols
- Analgesia protocols
- Anaesthesia adverse events
- Intra-op blood pressure
- Pain scoring patients post op (adequacy of analgesia)
- Post op wound complications
- Post op gastrointestinal upsets
- Other post op complications
- IV catheter site infections / phlebitis
- Diarrhoea / vomiting cases seen in consults
- Kennel cough cases seen in consults



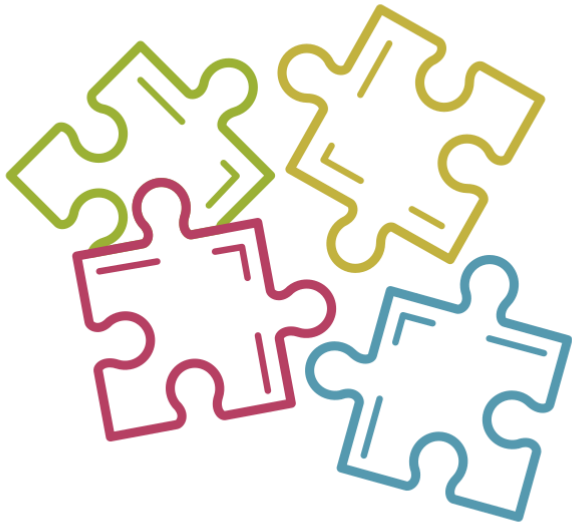
# What can I audit?

- Frequency of cleaning tasks undertaken
- Infection control audit
- Missed appointments
- Frequency of missed booster vaccinations
- Frequency of emergencies seen each month
- Client feedback
- Complaints
- Client waiting times
- Frequency of prescriptions not sent to correct branch
- Productivity (number of consults, operations etc.)

## Non clinical topics



# Who is best to take lead?



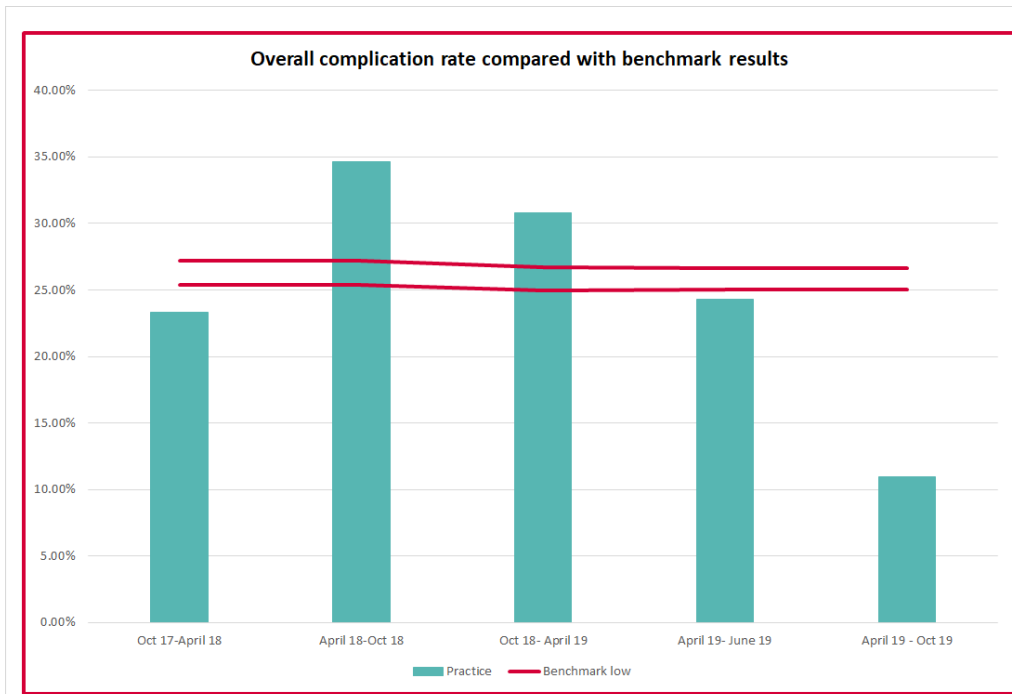
- One person to become the QI ambassador in practice..... & delegate!
- Give different areas to audit to different individuals specific to their area of interest as they are most likely to cause a positive effect.
- Passion = perseverance & productivity

# Looking at some of the results from audits at my practice



- Post op complications in all patients & procedures
- Post op temperatures

# Bitch Spay Audit Results: 2017 - 2019



Your results should be within, or below, the benchmark red lines. For ideas on how to reduce your total complication rate visit [www.rcvsknowledge.org](http://www.rcvsknowledge.org)



# Dog Castrate Audit Results: 2017 - 2019



Your results should be within, or below, the benchmark red lines. For ideas on how to reduce your total complication rate visit [www.rcvsknowledge.org](http://www.rcvsknowledge.org)

# Complications

## Canine neutering patients

### Minor complications:

- Erythema
- Swelling
- Seromas
- Clipper rash

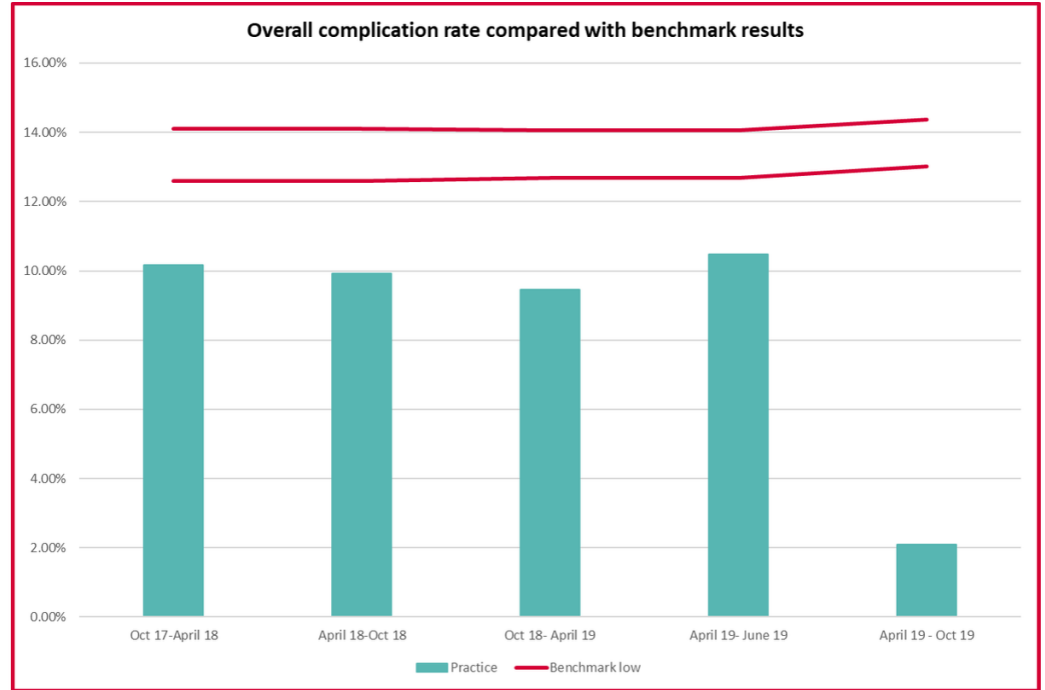


### More serious complications:

- Wound infections
- Suture reactions
- Patient interference/self-suture removal
- Complete wound breakdown
- Diarrhoea and/or vomiting
- Prolonged lethargy
- Inadequate analgesia



# Cat Spay Audit Results: 2017 - 2019



# Complications

## Feline neutering patients



- Erythema
- Self-suture removal
- Seroma
- Suture reactions (spays)
- Diarrhoea and/or vomiting
- Inadequate analgesia
- Lethargy

# What did we review?

## Wound Infections

- Pre-op advice given to owners
- Patients which would be higher risk
- Clipper type used
- Skin scrub technique
- Skin scrub dilution rates
- Skin scrub solution types
- Overall aseptic approach
- Post op wound dressings
- Post op wound protection options
- Post op advice give to owners



# What did we review?

## Gastrointestinal disturbances



- Pre-op advice given to owners
- Starvation times
- Stress
- Post op dietary advice
- Drugs used intra & post op
- Perioperative hypotension > effects on GI mucosa
- Considered probiotics (pre & post op)
- Reviewed Infection control protocols / infectious components
- Raw fed patients
- Practice infection control screen (swabbing clinical areas)



# What did we review?

## Inadequate analgesia/ Post op pain

- Post op analgesia protocols
- Types of analgesia used & available
- Timings of medications
- Pain scoring on recovery
- Update post operative information for owners

**Comparison between methadone and buprenorphine within the QUAD protocol for perioperative analgesia in cats undergoing ovariohysterectomy.**

Shah M, et al. J Feline Med Surg. 2018.

**Evaluation of the perioperative analgesic efficacy of buprenorphine, compared with butorphanol, in cats.**

Randomized controlled trial

Warne LN, et al. J Am Vet Med Assoc. 2014.

A comparison between methadone and buprenorphine for perioperative analgesia in dogs undergoing ovariohysterectomy

M. D. Shah, D. Yates, J. Hunt, J. C. Murrell ✉

First published: 21 May 2018





# Taking your audits that little bit bigger

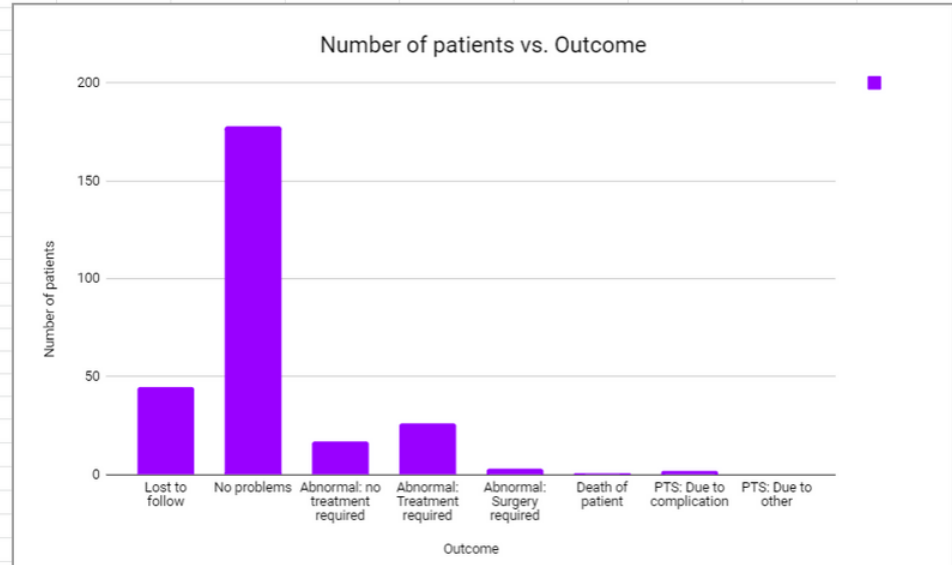
Some inspiration! All patients, all procedures, ASA 1-5

A	B	C	D	E	F	G	H	I	J	K
Date	Month	Patient ID	Species	ASA Score	GA/Sedation	Procedure	Wound Score	Complication/ Outcome	Post-op temperature	Comments
<b>January</b>										
02.01.2020	January		Dog	1	Sedation	Soft tissue surgery	0: Normal Healing	(1) No Problems	37°-37.9°	
03.01.2020	January		Dog	2	GA	Dental	Not Applicable	(0) Lost to follow	37°-37.9°	
03.01.2020	January		Cat	2	GA	Dental	0: Normal Healing	(1) No Problems	37°-37.9°	
06.01.2020	January		Cat	1	GA	Spay	0: Normal Healing	(1) No Problems	37°-37.9°	
06.01.2020	January		Cat	1	GA	Castrate	Not Applicable	(0) Lost to follow	37°-37.9°	
06.01.2020	January		Cat	1	GA	Spay	0: Normal Healing	(1) No Problems	37°-37.9°	
06.01.2020	January		Cat	1	GA	Spay	Not Applicable	(0) Lost to follow	37°-37.9°	
06.01.2020	January		Cat	1	GA	Castrate	Not Applicable	(0) Lost to follow	37°-37.9°	
06.01.2020	January		Cat	1	GA	Castrate	Not Applicable	(0) Lost to follow	38° or above	
06.01.2020	January		Dog	2	GA	Dental	0: Normal Healing	(3) Abnormal- treatment required	37°-37.9°	
06.01.2020	January		Dog	2	GA	Dental	0: Normal Healing	(3) Abnormal- treatment required	37°-37.9°	
06.01.2020	January		Cat	3	GA	Radiographs	Not Applicable	(1) No Problems	Unknown	
07.01.2020	January		Cat	1	GA	Spay	Not Applicable	(0) Lost to follow	36°-36.9°	
07.01.2020	January		Cat	1	GA	Castrate	0: Normal Healing	(1) No Problems	37°-37.9°	
07.01.2020	January		Cat	1	GA	Castrate	0: Normal Healing	(1) No Problems	37°-37.9°	
07.01.2020	January		Dog	1	GA	Castrate	0: Normal Healing	(1) No Problems	Unknown	
07.01.2020	January		Cat	3	Sedation	Minor Procedure	Not Applicable	(1) No Problems	Unknown	
07.01.2020	January		Cat	4	GA	Castrate	0: Normal Healing	(1) No Problems	Unknown	
07.01.2020	January		Dog	1	GA	Spay	1: Mild bruising	(2) Abnormal no treatment	37°-37.9°	
07.01.2020	January		Guinea	3	GA	Dental	0: Normal Healing	(1) No Problems	38° or above	
07.01.2020	January		Cat	2	GA	Dental	Not Applicable	(1) No Problems	37°-37.9°	
07.01.2020	January		Dog	1	Sedation	Minor Procedure	4: Infection	(3) Abnormal- treatment	37°-37.9°	



# Overall patient outcomes

Outcome	Overall Number of Patients	%
Lost to follow	45	0.138
No problems	178	0.636
Abnormal: no treatment required	17	0.061
Abnormal: Treatment required	26	0.093
Abnormal: Surgery required	3	0.011
Death of patient	1	0.004
PTS: Due to complication	2	0.007
PTS: Due to other	0	0
<b>Total number of procedures</b>	<b>325</b>	
<b>Total number of complications</b>	<b>49</b>	<b>0.175</b>



Why are patients not coming back for their post op check?

That's another ongoing audit to consider doing!



# Post op wounds

## Southampton wound scoring

Procedure	(0) Normal	(1) Mild bruising or erythema	(2) Erythema/ inflammation	(3) Discharge	(4) Pus/ Infection	(5) Breakdown	N/A
Castrate	25	7	1	0	1	0	16
Spay	41	5	3	1	0	0	5
Dental	48	3	0	1	0	2	13
Radiographs	1	0	0	0	0	0	18
Suture wound	2	0	0	0	1	0	0
C-section	0	0	0	0	0	0	1
Soft tissue sx	20	1	0	1	1	3	4
Abdominal	2	0	0	0	1	0	1
Orthopaedic	0	0	0	1	0	0	0
Minor procedure	20	0	0	0	2	0	19

Species	(0) Normal	(1) Mild bruising or erythema	(2) Erythema/ inflammation	(3) Discharge	(4) Pus/ Infection	(5) Breakdown	N/A
Dog	117	15	3	4	6	3	0
Cat	34	1	1	0	0	1	29
Rabbit	3	0	0	0	0	0	1
Guinea Pig	2	0	0	0	0	0	1
Bird	1	0	0	0	0	0	4
Reptile	1	0	0	0	0	0	1
Other	1	0	0	0	0	1	0



# Neutering post op complications

Dogs, cats, rabbits & guinea pigs- January 2020

Procedure	Number done	Outcome														Complication total	Complication total in %		
		Lost to Follow		Normal		Abnormal: no tx req.		Abnormal: mx req.		Abnormal: sx req.		Death of patient		PTS: due to complications				PTS: not related to procedure	
		Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%			Number	%
Bitch Spay	39	0	0%	23	58.97%	6	15.38%	3	7.69%	0	0.00%	0	0%	0	0.00%	0	0.00%	9	23.08%
Dog Castrate	34	2	6%	17	50.00%	4	11.76%	5	14.71%	0	0.00%	0	0%	0	0.00%	0	0.00%	9	26.47%
Cat Spay	21	5	24%	13	61.90%	1	4.76%	1	4.76%	0	0.00%	0	0%	0	0.00%	0	0.00%	2	9.52%
Cat castrate	22	12	55%	9	40.91%	0	0.00%	0	0.00%	0	0.00%	0	0%	0	0.00%	0	0.00%	0	0.00%
Rabbit spay	3	0	0%	1	33.33%	0	0.00%	2	66.67%	0	0.00%	0	0%	0	0.00%	0	0.00%	2	66.67%
Rabbit Castrate	1	1	100%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0%	0	0.00%	0	0.00%	0	0.00%
Guinea Pig Spay	0	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!
Guinea Pig Castrate	0	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!
<b>Total in number</b>	<b>120</b>	<b>20</b>	<b>17%</b>	<b>63</b>	<b>52.50%</b>	<b>11</b>	<b>9.17%</b>	<b>11</b>	<b>9.17%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>0</b>	<b>0.00%</b>	<b>22</b>	<b>18.33%</b>



# The National Audit for Small Animal Neutering (NASAN)

Take part: download the spreadsheet

Submit data: upload your spreadsheet

Download the latest neutering benchmarks

## Instructions

1. All you need to do is identify the animals in your practice that have had a routine spay or castration in a set period of time.
2. Using the spreadsheet supplied for each case, identify:
  - the date of surgery
  - the procedure
  - the grouping.
3. Click on the 'Download spreadsheet' button above to open the spreadsheet, then save it on your computer somewhere you'll be able to find it again easily.
4. Enter the information as described below.
5. When you've finished, submit the completed submission form using the form on the 'submit data' page. Please put a reference to your practice in the {practice ref} of the file name.



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# vet AUDIT

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## NASAN



National Audit for Small Animal  
Neutering

## CCR

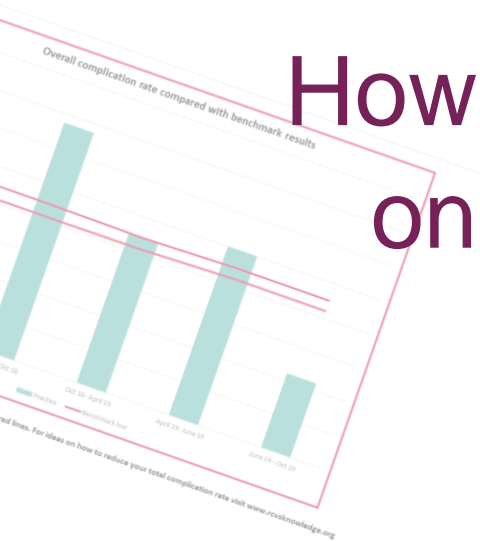
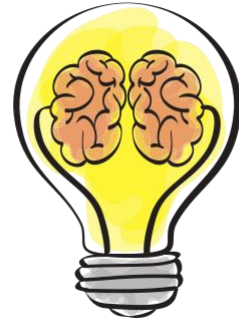


Canine Cruciate Registry

## mySAVSNET AMR

mySavsnet  
AMR

Antimicrobial resistance audit



# How do I make changes based on the results of my audits?

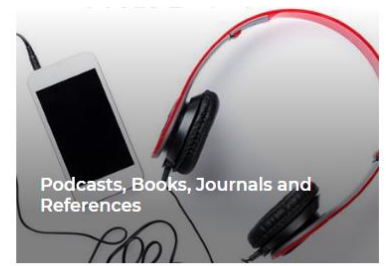


  #BSAVA20 #whyQI



# EBVN - Evidence-Based Veterinary Nursing


## EBVM resources for veterinary nurses



EBVM RESOURCES

- EBVM resources for VNs
- EBM resources

MORE FROM 'EVIDENCE'



EBVM Learning  
Start the tutorial now!

### RCVS KNOWLEDGE The Clinical Audit Cycle

**4. Collect data**  
Identify who needs to collect what data, in what form and how. Ensure only relevant data is collected.  
E.g. Number of measurements performed, using data from the practice management system

**5. Analyse the data**  
Compare the data with the agreed target. Note any reasons why it wasn't met and discuss these with the team.  
E.g. Initial data indicated monitoring in 12% of at risk patients, or 6 cases in absolute numbers. Following the audit this increases to 78% of at risk patients. Those with co-morbidities were less likely to have BP assessed; this may be due to limited time in consultation

**6. Implement change**  
Develop an action plan for any change or interventions that will assist in the target being met. Set a time to re-audit.  
E.g. Raise awareness via a series of team meetings. Send written advice to relevant owners on the need for regular monitoring. Re-audit in 2 months.

**7. Re-audit**  
Repeat steps 4 and 5 to see if the changes have made a difference. If there has been no improvement then implement a new change and repeat the cycle.  
E.g. Re-audit shows further increase from 78% to 83%. Individual records of cats assessed to see why some were excluded. An outcome audit is completed measuring BP of hypertensive cats 4 months after diagnosis, to see how well thri condition is being controlled.

**8. Review and reflect**  
Share your findings and compare your data with other relevant results.  
E.g. The findings were shared with the branch practices in the area

Refer back to the evidence base!

[www.rcvsknowledge.org](http://www.rcvsknowledge.org)







SHARE THE AUDIT RESULTS



PRESENT UP TO EVIDENCE

with recommendations for change



DISCUSS with your TEAM

What do they think?



STOP  
BLAME  
CULTURE

  #BSAVA20 #whyQI



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# Auditing mistakes

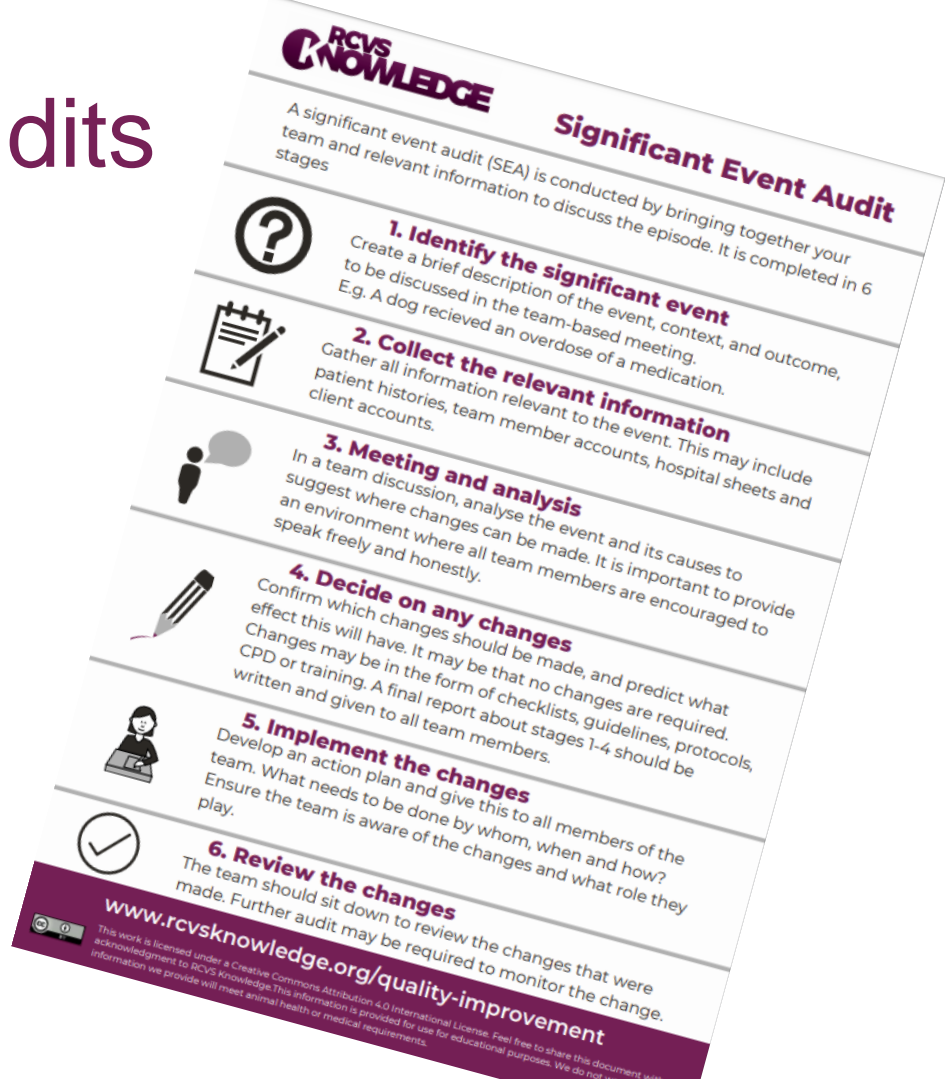
## And more serious events

- Drug over/under dose
- Wrong drug administered
- Wrong fluid administered
- Wrong drug given to wrong patient
- Air in giving set
- Closed APL valve on breathing system > Pulmonary barotrauma
- Oxygen supply failure
- Patient deaths (expected)
- Patient deaths (unexpected)



# Significant Event Audits (SEA)







- System factors
- Human factors
- Patient factors
- Owner factors
- Communication factors
- Other



**RCVS KNOWLEDGE**

## Significant Event Audit

A significant event audit (SEA) is conducted by bringing together your team and relevant information to discuss the episode. It is completed in 6 stages

- 1. Identify the significant event**  
 Create a brief description of the event, context, and outcome, to be discussed in the team-based meeting.  
E.g. A dog received an overdose of a medication.
- 2. Collect the relevant information**  
 Gather all information relevant to the event. This may include patient histories, team member accounts, hospital sheets and client accounts.
- 3. Meeting and analysis**  
 In a team discussion, analyse the event and its causes to suggest where changes can be made. It is important to provide an environment where all team members are encouraged to speak freely and honestly.
- 4. Decide on any changes**  
 Confirm which changes should be made, and predict what effect this will have. It may be that no changes are required. Changes may be in the form of checklists, guidelines, protocols, CPD or training. A final report about stages 1-4 should be written and given to all team members.
- 5. Implement the changes**  
 Develop an action plan and give this to all members of the team. What needs to be done by whom, when and how? Ensure the team is aware of the changes and what role they play.
- 6. Review the changes**  
 The team should sit down to review the changes that were made. Further audit may be required to monitor the change.

[www.rcvsknowledge.org/quality-improvement](http://www.rcvsknowledge.org/quality-improvement)

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## Example 1

Rachel the new student nurse set up her breathing system ahead of a rabbit spay.

The Vet was in a rush and asked her to be quick.

Sally the RVN had phoned in sick so Rachel was left to set up alone.

30 seconds after anaesthetic induction Rachel noticed the rabbit was not breathing.

On closer inspection the APL valve was shut

The rabbit had gone into respiratory arrest

A pneumothorax was present

The rabbit went into cardiac arrest

Despite CPR return of spontaneous circulation was not achieved.

The patient died.



What were the;

- System factors?
- Human factors?
- Patient factors?
- Owner factors?
- Communication factors?
- Other factors?





**RCVS KNOWLEDGE** **Signifi**

A significant event audit (SEA) is conducted by a team and relevant information to discuss the event is collected.

**1. Identify the significant event.**  
Create a brief description of the event, context, and what was to be discussed in the team-based meeting.  
E.g. A dog received an overdose of a medication.

**2. Collect the relevant information**  
Gather all information relevant to the event. This may include patient histories, team member accounts, hospital sheets and client accounts.

**3. Meeting and analysis**  
In a team discussion, analyse the event and its causes to suggest where changes can be made. It is important to provide an environment where all team members are encouraged to speak freely and honestly.

**4. Decide on any changes**  
Confirm which changes should be made, and predict what effect this will have. It may be that no changes are required. Changes may be in the form of checklists, guidelines, protocols, SOPs or training. A final report about stages 1-4 should be written and given to all team members.

**Implement the changes**  
Develop an action plan and give this to all members of the team. What needs to be done by whom, when and how? Ensure the team is aware of the changes and what role they play.

**Review the changes**  
The team should sit down to review the changes that were implemented. A final report may be required to monitor the change.

**Knowledge.org/quality-improvement**

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What were the;

- System factors?
- Human factors?
- Patient factors?
- Owner factors?
- Communication factors?
- Other factors?



## Example 2

Jessica is a member of the client care team, this is her first evening working on the front desk alone for a while and it's very busy! The nurse has just discharge Toffee the bitch spay back to her owners.

Whilst at the desk the owner states that they do not want a buster collar like the nurse suggested because Toffee won't like it. Jessica takes back the buster collar and continues serving another customer.

The owner does not have any written post op advice. The following morning Toffee's owners phone in as she has removed her sutures overnight.





# In summary

- Encourage all members of your team to be reflective

"How are **we** doing? How could **we** do things better?"

- Think about members of your team with niche interests


"What can my team members audit that is specific to their interest?"

- Keep it simple!

- **Guidelines and checklists help support teams and improve patient safety**

- Veterinary medicine & nursing is constantly evolving - keep going back to the evidence base and updating what you are doing in practice.



With thanks to  for their wonderful resources available at

[www.rcvsknowledge.org/QIResources](http://www.rcvsknowledge.org/QIResources)



# QUESTIONS?



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