Clinical Audit Case Example: Use of IV's during anaesthesia by Louise Northway

Section A: The eight stages of a clinical audit

Clinical audit is a process for monitoring clinical care standards to ensure care is being carried out in the best way possible, known as best practice.

Clinical audit can be described as a systematic cycle. It involves measuring care against specific criteria, taking action to improve it, if necessary, and monitoring the process to sustain improvement. As the process continues, an even higher level of quality can be achieved.

What the clinical audit process is used for

A clinical audit is a measurement process, a starting point for implementing change. It is not a one-off task, but a regularly repeated process to ensure on-going engagement and a high standard of care.

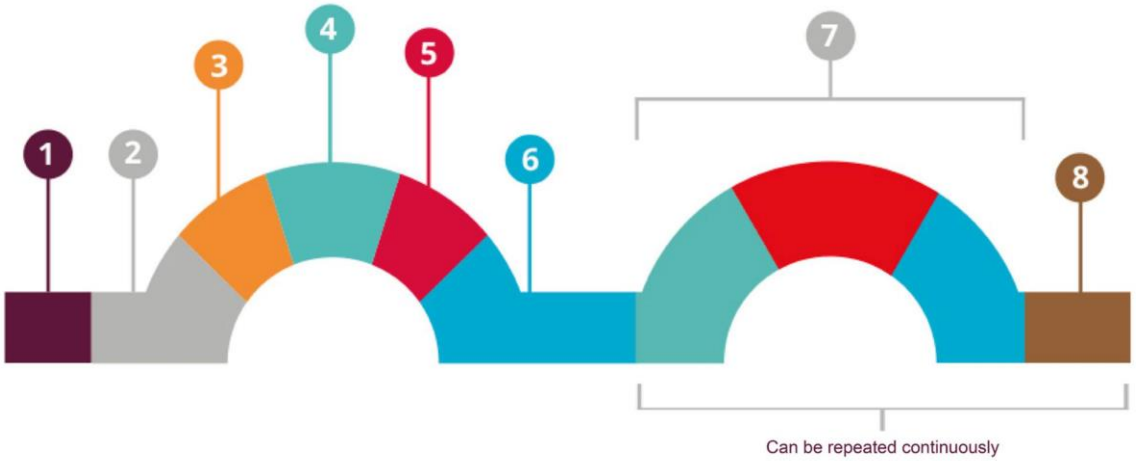
It is used:

- ⇒ To check that clinical care meets defined quality standards.
- ⇒ To monitor the changes made, ensure that they bring about improvements, and address any shortfalls.

A clinical audit ensures concordance with specific clinical standards and best practice, driving improvements in clinical care. It is the core activity in the implementation of quality improvement.

A clinical audit may be needed because other processes point to areas of concern that require more detailed investigation.

A clinical audit facilitates a detailed collection of data for a robust and repeatable recollection of data at a later stage. We can see this in the diagram where the 2nd process shows steps 4, 5, and 6 repeated. The next page will take you through the steps the practice took to put this into place.



1. Choose a topic relevant to your practice

The topic should be amenable to measurement, commonly encountered and with room for improvement. In this case, the practice undertook an audit of patients undergoing anaesthesia, and which of those patients had an intravenous (IV) catheter placed for the procedure. Louise Northway RVN led the audit.

2. Selection of criteria

Criteria should be easily understood and measured.

For this audit quantitative data was gathered and transferred to an excel spreadsheet for accurate measurement. Data included the IV catheter status of the patient.

3. Set a target

Targets should be set using available evidence and agreeing best practice. The first audit will often be an information gathering exercise, however targets should be discussed and set.

This audit was performed to obtain information on the current standard (benchmark) of the practice. This information would also be used to identify any training requirements within the practice.

4. Collect data

Identify who needs to collect what data, in what form, and how.

To collect data a number of veterinary nurses were recording information on a spreadsheet once they had handed the patient over to the kennel nurse. This ensured that data was recorded regularly and accurately.

5. Analyse

Was the standard met? Compare the data with the agreed target and/or benchmarked data if it is available. Note any reasons why targets were not met. These may be varying reasons and can take the discussion from the entire team to identify.

The audit results and the discussion around them identified that a number of feline patients were not having IV catheters placed before a procedure.

6. Implement change

What change or intervention will assist in the target being met? Develop an action plan: what has to be done, how, and when? Set a time to re-audit.

Analysis showed that a number of new protocols needed to be put in place and distributed to all team members to increase their knowledge and understanding. Regular in-house training has also been provided to all team members.

7. Re-audit

Repeat steps 4 and 5 to see if changes in step 6 made a difference. If no beneficial change has been observed, then implement a new change and repeat the cycle. This cycle can be continuously repeated if needed. Even if the target is not met, the result can be compared with the previous results to see if there is an improvement.

The audit was repeated after initial changes were implemented to monitor for improvements. Another audit is due in the next few months.

8. Review and reflect

Share your findings and compare your data with other relevant results. This can help to improve compliance. Findings and updates to protocols are regularly given to the veterinary team by Louise.

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Section B: Clinical audit in practice

Name of initiative: Use of IV's during anaesthesia by Louise Northway
Initiative start date: September 2017
Submitted by: Louise Northway VNCert(ECC) Ncert(Anaesth) RVN Clinical Nurse Lead

Introduction

This QI initiative took place in a busy, independent, general practice. The anaesthesia audit took place over four weeks during September and October 2017 and involved a sample size of 50 dogs and 25 cats undergoing general anaesthesia. More patients were anaesthetised than this number however, were excluded from this audit due to incomplete data.

The audit was undertaken as surveillance to assess how well we were currently doing in practice and see if we needed to review and adapt how we were doing things. Procedures varied from routine surgery to emergencies and patients American Society of Anaesthesiologists (ASA) 1 (healthy) to ASA 5 (moribund, very unwell).

Aims

The audit aimed to provide evidence for positive change in regards to patient management. We undertook the audit as surveillance looking for any trends and complications so that changes could be made to enhance patient care.

Actions

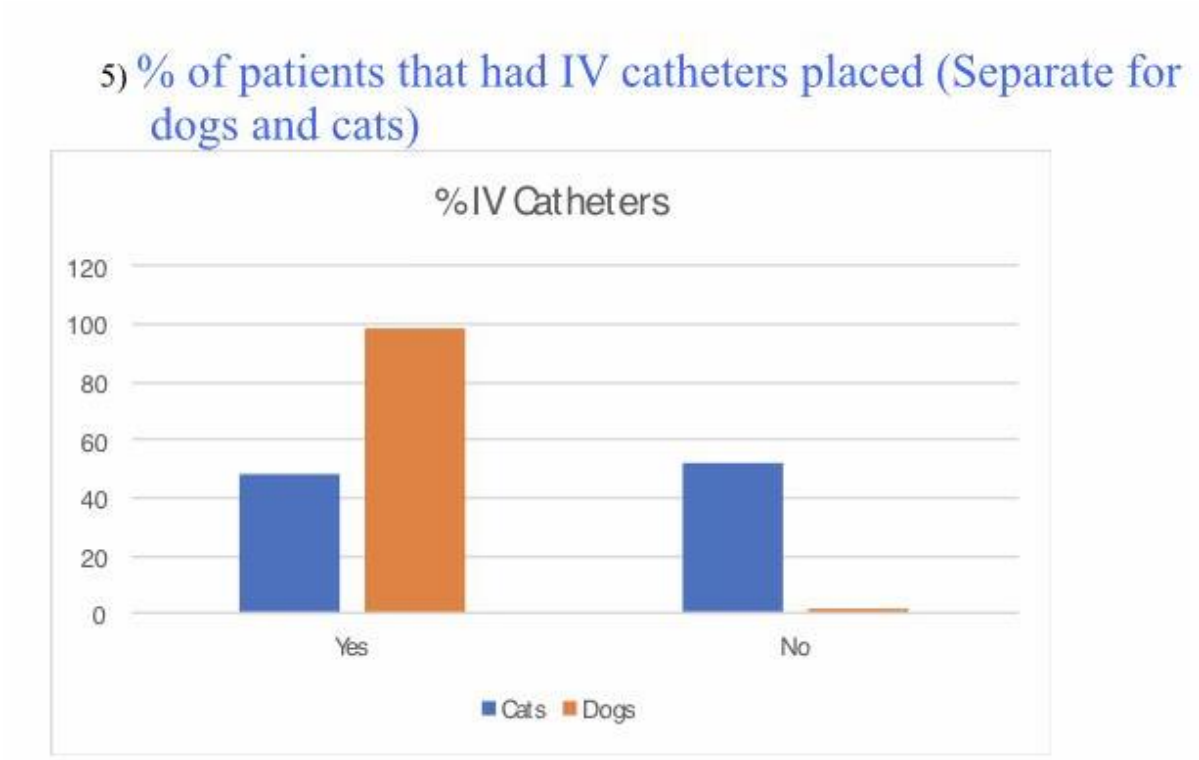
In our audit, we reviewed the percentage of patients that had intravenous catheters placed for the procedure. Nurses collected the data and recorded it on a spreadsheet in our prep room. This information was then transferred to an excel document.

Results

At the time of this audit, only 40% of our feline patients were having an IV catheter placed; far lower compared to our canine patients, where 96% of dogs had IV catheters placed.

We reviewed and discussed the reasons why. We perform a high proportion of routine ASA 1 feline neutering using IM general anaesthesia combinations at our practice. So it was, perhaps, that an IV catheter was not required for induction of anaesthesia. Aside from total intravenous anaesthesia, cannulas are not required for the maintenance of anaesthesia. However, this was not good practice in case of an emergency or if intravenous fluids were required. ASA 2 patients and above did routinely have IV catheters placed. The cost of IV catheters was discussed and we agreed it was minimal and should not affect the decision to place one if it is in the best interest of the patient. We spoke about the Confidential Enquiry into Perioperative Small Animal Fatalities (CEPSAF) study (Brodbelt, et al., 2008), which found that healthy cats are at far higher risk (1:895) compared to healthy dogs (1:1849) of death in the perioperative period. A healthy cat is twice as likely to have an anaesthetic related complication compared to a dog.

This audit's results were communicated to the team (vets and nurses) via a written report. It was then discussed during clinical rounds. Since, I have provided regular, in house anaesthesia training for the team about up to date evidence and newly published guidelines. I also updated our clinical forms to include recommended resources like checklists to improve patient safety.



Impact of intervention

This intervention's impact is that clinical standards and patient care have greatly improved since we started auditing and monitoring what we are doing. From doing this audit, we made vital changes in our day-to-day approach to anaesthetising our patients and clinical outcomes; it is now a standard procedure that ALL patients undergoing anaesthesia have an intravenous catheter placed. I feel our standards used to be 'average' - now they are much better! We often have multiple vets performing surgery and multiple nurses monitoring anaesthesia simultaneously, so it isn't until you start looking back at monitoring sheets at the frequency of complications (even if minor!) that you see that it might actually be a recurring theme. The increased awareness of complications revealed by the audit was very interesting, and in conjunction with the further training provided, we are all doing a much better job. The audit helped to flag up other things we could improve. Sometimes it's only when you stop and look at all the 'little' complications you see each day that you realise it's a much bigger problem that needs reviewing and addressing.

You have to accept that nothing you do is 'perfect' and there is ALWAYS room for improvement, which is what quality improvement is all about.

Even if it's good, you can make it EVEN BETTER!

To conclude, I'm sure many of you sitting reading this case example are thinking 'I wonder how my practice is doing?' ….. Why don't you do an audit and see!

References

Brodbelt, D. C. et al., 2008. The risk of death: the confidential enquiry into perioperative small animal fatalities. *Veterinary Anaesthesia & Analgesia ,* 35(5), pp. 365-373.

Feller, B. K., 2018. Dangers of Hypothermia: Avoiding the Cold. *Todays Veterinary Nurse,* 1(1).

Lascelles, D. X. & Shaw, K., 2016. An extended release local anaesthetic: potential for future use in veterinary surgical patients. *Veterinary Medicine & Science,* 2(4), pp. 229-238.

McMillan, M., Seymour, C. & Bearley, J., 2013. Effect of intratesticular lidocaine. *Journal of small animal practice,* Volume 53, pp. 393-397.

Robertson, S. et al., 2018. American Association of Feline practitioners anaesthesia guidelines 2018. *Journal of feline medicine and surgery,* 20(7), pp. 602-634.

Shah, M., Yates, D., Hunt, J. & Murrell, J., 2018. A comparison between methadone and buprenorphine for perioperative analgesia in dogs undergoing ovariohysterectomy. *The journal of small animal practice,* 59(9), pp. 436-436.

Warne, L. N., 2014. Evaluation of the perioperative analgesic efficacy of buprenorphine, compared with butorphanol, in cats. *Journal of the American Veterinary Medical Society,* 245(2), pp. 195-202.

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