RCVS KNOWLEDGE

SURGICAL
SAFETY
CHECKLIST
MANUAL

Contents

RCVS Knowledge's mission is to advance the quality of veterinary care for the benefit of animals, the public, and society. We meet this mission by championing the use of an evidence-based approach to veterinary medicine, inspiring a culture of continuous quality improvement in practice, and making our resources available to the professions and wider public. RCVS Knowledge is the charity partner of the Royal College of Veterinary Surgeons.

We are committed to providing the professions with quality improvement resources to strengthen a culture towards continuous quality improvement in practice and to enhance the awareness and dispersion of quality improvement skills in the professions.

For more quality improvement resources, visit
rcvsknowledge.org/quality-improvement

Introduction

The surgical safety checklist (SSC) was introduced in human healthcare in 2008 after its success within the aviation and construction industries was observed. Since then the uptake of the checklist in veterinary medicine has increased, with many veterinary hospitals designing and using their own. The implementation of the checklist in practice is important and relies on careful management to ensure that it becomes a valuable resource and not a monotonous, tick-box exercise.

DEVELOPMENT AND SUCCESS

The goal of the surgical safety checklist is to improve the safety of surgical care around the world by defining a core set of safety standards. Surgery continues to be the most dangerous part of acute care in England, due to the occurrence of adverse events[1]. The NHS has a list of 'never events'; events that, by following protocol and guidelines, should never happen, including wrong site surgery, retained foreign bodies (swabs and instruments) and administration of the wrong medication. Despite these guidelines, a never event occurs in one in every 20,000 procedures[1].

Atul Gawande suggests that at least half of all surgical complications can be avoided[2], and in *The Checklist Manifesto* he proposes that the process of using a checklist before, during and after surgery would reduce errors.

The World Health Organization (WHO) developed a surgical safety checklist that identified a set of checks that can be performed in any operating theatre in the world. The aim of the list is to introduce a safety culture within the operating room that will reinforce safe practice, and improve communication and overall outcomes.

The checklist has three main stages:

1   **Sign in (before surgery)**
2   **Time out (during surgery)**
3   **Sign out (after surgery)**

These three stages are considered to include the most crucial points within a surgical procedure, and represent stages where missing a point could have the most significant consequences. Studies looking at the WHO Surgical Safety Checklist have reported improvements in surgical outcomes during the perioperative period.

IMPROVEMENTS IN SURGICAL OUTCOMES

47%
Reduction in deaths[3]

36%
Reduction in post-operative complications[4]

48%
Reduction in infections[3]

FEEDBACK FROM TEAMS USING THE WHO SURGICAL SAFETY CHECKLIST

78%
say it has prevented an error[4]

93%
say they would want it used if they were a patient undergoing surgery[5]

The WHO Surgical Safety Checklist is required for every person undergoing a surgical procedure in the NHS[6], and more than 4,000 hospitals worldwide are registered as users – covering 90% of the world's population[7].

The implementation of the surgical safety checklist in human hospitals reduced not only errors but also cost, injuries and mortalities[4]. Based on this experience, checklists have the potential to reduce post-operative complications and mortality within veterinary hospitals.

USE IN VETERINARY MEDICINE

Given that the surgical safety checklist has positive effects in human medicine, it is logical to infer that the same actions will improve patient safety in veterinary medicine.

Initial studies in 2014 at a veterinary teaching hospital showed that the implementation of four interventions before anaesthesia significantly reduced breaches in safety[8]. Follow-up studies in 2016 within a university hospital in Sweden tested the effects of the checklist on 520 patients (dogs and cats) undergoing major soft tissue or orthopaedic surgery, a total of 119 different procedures. The use of a surgical safety checklist reduced the number of post-operative complications by 10%. Complications included unexpected additional surgery, surgical site infection and wound complications without infection, such as dehiscence. Comparatively, human studies have shown a reduction in surgical site complications by 36–66%[9].

Success of the checklist was attributed to allowing the team to pause and debrief in a busy setting, thus ensuring correct perioperative antibiotic administration, and confirmation of instrument sterility and instrument/swab counts. The study observed the overall improvement of communication between team members using the checklist, and the progression of the safety culture.

Practical Use

Implementation and compliance are imperative to the success of a surgical safety checklist[9]. Reminders and discussions can be used to improve compliance, but the team should also be given the opportunity to question the list, and make changes to further benefit the patient and the team.

HOW TO CREATE AND IMPLEMENT A SURGICAL SAFETY CHECKLIST

Highlight an area of practice that requires improvement

A surgical checklist needs to be tailored to the needs of a specific practice or team, often by approaching a particular area that has been identified as requiring improvement. There are numerous ways to identify such an area, such as through the audit of practice data, by learning of potential issues while carrying out CPD, or as a result of a significant event that has occurred in practice.

A client brought her pet Chihuahua in for a routine spay. The operation went smoothly, other than a reasonable amount of bleeding from the ovarian stump. A few months later the client returned to the practice, stating that her pet had lost her appetite and was lethargic. Following examination, radiographs and an ultrasound, a suspicious mass was found in the abdomen. An exploratory laparotomy revealed a retained surgical swab. Once removed, the patient made a full recovery. The veterinary team involved completed a significant event audit, which suggested that this issue, as well as many others, could be avoided with the introduction of a surgical safety checklist.

Hold a meeting to engage the team

The practice team met to discuss the crucial steps to carry out in every surgery, specifically pre- and post-operative checks that are essential for ensuring safe surgery. One nurse noted that steps such as counting swabs in and out, or ensuring that the swabs are radio-opaque, are occasionally missed due to human error – such as lapses and mistakes – but also due to external factors, such as time constraints and unexpected complications during surgery.

In order to ensure that the implementation of the checklist is successful, it is important to involve the team members who will be using it (or those affected by its use) in the design of the document. This will ensure that it is practical and feasible for them, and will help to ensure that the team use the document as it is intended to be used.

Select a checklist champion

The Deputy Head Veterinary Nurse was nominated as the checklist champion as he was present for most of the surgeries that occurred.

Having a checklist champion is crucial to the success of a checklist. Since the operating theatre and preparation room are normally busy, with a large number of people coming and going, there is potential for the use of the list to be forgotten.

The checklist champion can be anyone within the practice who is passionate about the role and committed to its success. The checklist champion also needs to be able to hold the role without alienating the team.

Create and circulate the checklist

While improvements within practice rely on good communication[10], communication errors are the second most-commonly reported error type in veterinary hospitals. This highlights the importance of teamwork[11]. Change must be widely adopted in order for a difference to be made.

Discuss the checklist

Once the checklist has been in place and everyone has had a chance to use it, a second meeting should be held to discuss its successes and shortcomings. Any changes suggested should then be implemented. It is helpful to emphasise at this meeting that the checklist is not just a box-ticking exercise, but a communication tool to ensure that a list of critical tasks is performed before a procedure continues.

> The team's concordance with the list improved, because they knew it could be changed and they felt it was their own.

Audit the checklist

A process audit should be completed to ensure that the checklist is being used by all members of the team, and to identify reasons if it is not being used. This can help to alert the team to any changes that need to be made. Re-auditing will measure ongoing use of the checklist, with further auditing to ensure that the checklist is in line with the most up-to-date evidence or requirements.

> The team all agreed that surgeries were more streamlined with the checklist.
> New members of the team felt more confident in their abilities and provision of care.

CRITICAL STEPS TO COVER IN A SURGICAL SAFETY CHECKLIST

Pre-anaesthetic checks

Confirm the patient name, owner consent and the procedure

It is vital to be sure of who the patient is to prevent the wrong procedure being carried out on the wrong patient. Consent should also be confirmed, especially for any additional treatments that are required, or have been requested.

Prepare and place the intravenuous cannula

The Association of Veterinary Anaesthetists (AVA) recommends that an intravenous catheter is placed for all patients undergoing anaesthesia, where practical.

This is to allow intravenous drugs to be given, and to facilitate fluid therapy and emergency drugs if required. To avoid perivascular injection of induction agent, the cannula placement should be confirmed by flushing saline first.

Check airway equipment is available and functioning properly

The patency of endotracheal tubes and other airway devices should be checked before use. A selection of sizes should be available, as well as other equipment, such as local anaesthetic spray, non-irritant water-based lubricants, syringes to inflate ET tube cuffs and laryngoscopes.

ET tube cuffs should be checked prior to use to ensure that they do not spontaneously deflate. This ensures that the equipment is suitable for intermittent positive-pressure ventilation (IPPV) if required.

Check anaesthetic machine

A check of the anaesthetic machine and equipment should be performed at the start of each day or use of anaesthetic. Specific checks to perform before each procedure:

- Check that there is enough oxygen to support the patient during the procedure.
- Check that the anaesthetic breathing system is working and correctly connected.
- Check that the adjustable pressure limiting (APL) outflow valve is open.

Assign a person to monitor the patient

An appropriately trained person should be available to monitor the patient's physiological parameters. Multi-parameter machines should not be a replacement for a person.

Communicate and identify risks

Any potential complications and their interventions should be highlighted and discussed before the anaesthetic takes place. Any emergency interventions should be easily accessible.

Pre-procedure checks

Confirm patient name and procedure

The patient's identity and the procedure that is taking place should be confirmed. This is especially important if the patient is in the same kennel as its sibling.

The procedure should be checked with the clinical notes, veterinary team and the patient. For example, the patient booked in to be spayed should be confirmed as female before they are clipped and prepped, or the correct leg to operate on should be confirmed.

Check the depth of anaesthesia

It is important to allow the patient time to be under the appropriate plane of anaesthesia for the planned procedure, before making any incision.

Communicate safety concerns

Effective communication between all members of the team is vital for patient safety. Any existing concerns or changes within the patient's physiological parameters should be highlighted and intervention plans should be put in place.

Recovery checks

Communicate safety concerns

Clear information about the patient's parameters should be communicated to all members of the team responsible for the recovery area. This should include:

- the procedure the patient underwent
- any complications that occurred during anaesthesia
- existing clinical parameters
- any potential complications.

Confirm assessment and intervention plan

Plans for interventions that are required during the recovery period should be made. This should include the parameters that need to be monitored and what should happen if complications arise. Analgesia and any other required medication should also be discussed.

Assign a person to monitor the patient

Although patients may be handed over to more than one team member, there should be one person assigned to directly monitor the patient during recovery. This person should be suitably trained, and confident in this ability.
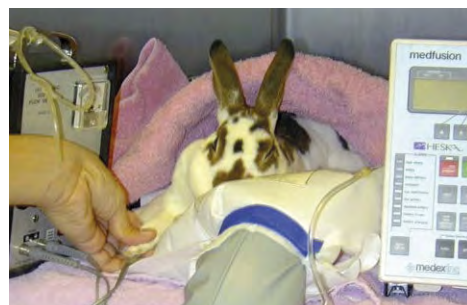
Templates and Examples

RCVS KNOWLEDGE TEMPLATES

The two following surgical safety checklist templates have been developed by RCVS Knowledge and the RCVS Knowledge Quality Improvement Advisory Board.

Practices can use these templates as a baseline to create their own checklists, and include or exclude steps that are pertinent to their practice, taking into account the points raised in this manual.

Your surgical safety checklist can take any form that works for your team and your practice. Some teams choose to have standard forms for all procedures, while others develop individual forms for different procedures. We have supplied these surgical safety checklist templates for you to trial, with an editable version on our website.

CHECKLIST EXAMPLES

On subsequent pages you can find experiences of introducing and using checklists, contributed by the practices listed below.

The practices are a combination of small and large animal, corporate and independent practices, and first opinion, referral and charity practices. We would like to thank them for their time and contributions to this resource.

Animal Health Trust
Independent Vet Care: Bath Veterinary Group
Bransgore Vets
Bright Side Vets
CVS Group plc
Goddard Veterinary Group: Wanstead Veterinary Hospital
Greenbay Vets Ltd
Newnham Court Veterinary Hospital
PDSA
Vets4Pets
Vets Now
VetPartners: Westpoint Farm Vets

Each practice has described their implementation of the checklist, how it was received and their overall conclusions drawn from using it.

The checklist in use is also displayed as an example. If you would like your checklist to be added to our resources, or your practice to be used as an example in further publications, please email **ebvm@rcvsknowledge.org**

RCVS KNOWLEDGE

Patient name:

Patient ID:

PRE-ANAESTHETIC

Patient name & procedure confirmed ☐
Owner consent confirmed ☐
IV cannula placed & patent ☐
Airway equipment available & functioning ☐
    ET cuffs checked ☐
    Anaesthetic machine checked ☐
    Enough oxygen to support patient ☐
    Breathing system working & correctly connected ☐
Person assigned to monitor patient ☐
Risks identified & communicated ☐
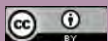Emergency interventions available ☐

PRIOR TO CLOSURE

Instrument count ☐
Swab count ☐
Needle count ☐

POST CLOSURE

All planned procedures performed ☐
Mouth packs/ rectal swabs removed ☐
Assessment & intervention plan confirmed ☐
Analgesic plan confirmed ☐

PRE-PROCEDURE

Patient name & procedure confirmed ☐
Monitoring equipment attached ☐
Depth of anaesthesia appropriate ☐
Surgery site prepped ☐
Safety concerns communicated ☐
Instrument count ☐
Swab count ☐
Needle count ☐

RECOVERY

Safety concerns communicated ☐
    Airway ☐
    Breathing ☐
    Circulation ☐
    Body temperature ☐
    Pain ☐
Assessment & intervention plan confirmed ☐
Analgesic plan confirmed ☐
Person assigned to monitor patient ☐

Patient ID	ASA Score	1 2 3 4 5 E
Patient name	Client name	
Species	Breed	
Age	Weight	

Pre-anaesthetic

	☒ ☑
Patient name, owner consent and procedure confirmed	
Intravenous cannula placed and patent	
Airway equipment available and functioning	
ET Cuffs checked	
Anaesthetic machine checked	
APL Valve OPEN	
Person assigned to monitor patient	
Risks identified and communicated	

Pre-procedure

	☒ ☑
Patient name and procedure confirmed	
Depth of anaesthesia appropriate	
Safety concerns communicated	

Recovery checks

	☒ ☑
Safety concerns communicated	
Assessment and intervention plan confirmed	
Person assigned to monitor patient	

Pre-anaesthetic notes

Recovery notes

ANIMAL HEALTH TRUST

We are the leading veterinary and scientific research charity dedicated to the health and welfare of animals. Within our small animal referral hospital we take patient care very seriously and strive to develop new techniques to minimise harm in the surgical setting. In November 2008 we modified the World Health Organization Surgical Safety Checklist for use within our theatres. We felt it was a useful tool to improve communication of theatre teams and put patient safety first. Today the Surgical Safety Checklist is used to ensure the safety of each and every one of our surgical patients.

> *Communication is essential in the theatre environment in order to prevent avoidable complications. I have found the Surgical Safety Checklist to be the scaffold on which better communication and teamwork are built between colleagues, thus facilitating greater efficiency and accuracy of veterinary interventions.*
>
> Registered Veterinary Nurse

> *The SCC ensures that patient-specific problems are identified and discussed, facilitating individualised care both in theatre and in the recovery period. All team members are empowered to voice their procedure- or patient-related concerns.*
>
> Veterinary Surgeon BVetMed CertVA DipECVAA MRCVS RCVS and EBVS® Specialist in Veterinary Anaesthesia and Analgesia

> *The implementation of SSCs at the AHT has been overwhelmingly positive, helping to ensure that all vital information regarding the patient and the procedure are transferred between all the attendant personnel. Its use brings unity to a work environment where multiple specialist teams are often working independently.*
>
> Theatre Manager

> *I think the Surgical Safety Checklist is paramount to gold-standard theatre practice: it has been proven to reduce the incidence of human error in the theatre setting, is quick and easy to perform, and allows all staff the opportunity to verbalise any concerns, questions or worries.*
>
> Veterinary Surgeon BVM&S DipECVS FHEA PGCert MRCVS RCVS and EBVS® European Veterinary Specialist in Small Animal Surgery

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Conclusions

Designate a checklist coordinator:
A single person should be made responsible for performing the surgical safety checklist. In practice this will often be a circulating nurse; they should feel empowered to ensure that all team members listen and participate attentively in the checklist so that communication is effective.

Brevity:
The checklist may be modified to suit individual practices, but should remain brief with each stage taking no longer than 60 seconds.

Real time:
The checklist should never be performed retrospectively.

AHT Animal Referral

Surgical Safety Checklist

v2019

PATIENT DETAILS

NAME

CLIENT

CASE NO

1. SIGN IN (To be read out loud)
Before induction of anaesthesia

Has the patient had their identity confirmed, procedure verified and signed consent checked? ☐

Is this patient being barrier nursed? If yes, discuss why and appropriate PPE ☐

Is the surgical site identified and agreed as a team?
☐ Yes/not applicable

Is the anaesthesia machine and medication check complete?
☐ Machine
☐ Breathing system and vaporiser
☐ Ventilator
☐ Drugs
☐ Emergency drugs

Does the patient have a known allergy?
No ☐ Yes ☐
Difficult airway or aspiration risk?
No ☐ Yes ☐
Risk of > 15% blood loss?
No ☐ Yes , adequate IV access/fluids planned ☐

☐ Patient position in theatre known ....
☐ Antibiotics at induction? ....
☐ Estimated surgery time is ....
☐ **Team discusses perioperative plan & designates roles**

Any concerns?

2. TIME OUT (To be read out loud)
Before start of surgical intervention, for example, skin incision

Does everyone in the room know each other?
Yes ☐ if no, individuals should announce their name and role

Surgeon, Anaesthetist and Theatre practitioner verbally confirm:
☐ What is the patients name?
☐ Procedure, site and position are confirmed?

Anticipated critical events: Surgeon:
☐ How much blood loss is anticipated?

☐ Are there any specific equipment requirements or special investigations?
☐ Discuss planned procedure and highlight any critical or unexpected steps you want the team to know about?

Anaesthetist:
☐ What is the patients ASA grade?

☐ Are there any patient specific concerns?

☐ What monitoring equipment and other specific levels of support are required, e.g. blood?

Nurse/Theatre practitioner:
☐ Has sterility of instrumentation been confirmed?
☐ Are there any equipment issues or concerns?

Has the surgical site infection (SSI) bundle been undertaken?
☐ Antibiotic prophylaxis within the last 60 mins
☐ Patient warming (state temperature)
☐ Hair removal
☐ Antisepsis

Is essential imaging displayed?
☐ Yes/not applicable
☐ **Have any events occurred that are reportable to the team?**
☐ **Is everyone happy to proceed?**

3. SIGN OUT (To be read out loud)
Before any member of the team leaves the operating room

Theatre Practitioner verbally confirms with the team:
☐ Has the name of the procedure been recorded?

☐ Has it been confirmed that instruments, swabs and sharps counts are complete (or not applicable)?

"SHOW ME" = THE FINAL COUNT

☐ Have all throat packs, purse strings and rectal swabs been removed?
☐ Have any equipment problems been identified that need to be addressed?
☐ Have the specimens been labelled (including patient name)? (read aloud samples obtained and which test)

Surgeon, anaesthetist and nurse discuss:
☐ What are the key concerns for recovery and management for this patient?
☐ Have any events occurred that are reportable to the team?

INDEPENDENT VET CARE: BATH VETERINARY GROUP

We are a busy multi-disciplinary small animal hospital with eight branches and over 150 employees. Our group has its own in-house Clinical Care Committee as well as holding a seat on the Independent Vetcare Clinical Board and Patient Safety working party, so we felt it was really important to ensure that we led the way with this initiative.

The surgical safety checklists were developed after seeking feedback from clinical staff. They were then trialled and refined accordingly to produce the definitive document. The checklists are now a part of Bath Vet Group's standard general anaesthetic and surgical protocols and are used in every branch, every day in every procedure.

> " *The checklists are really helpful; they frequently help me to remember things that otherwise would be forgotten, like checking to see if pre-anaesthetic bloods have been run and also reminding me to do those little extra procedures – like nail clips.*
>
> Veterinary Surgeon (Referral)

> " *The checklists are great for prompting us when we are preparing for surgery – especially for things like ensuring that the equipment we are about to use is in good working order.*
>
> Registered Veterinary Nurse (Referral)

> " *The checklists have been incredibly useful in assisting us with our peri-operative planning and also assessment prior to GA. Just having them there as a prompt is very reassuring – even for an experienced vet like me.*
>
> Veterinary Surgeon (Referral)

> " *The checklists are a fantastic way of remembering to ensure we have all the equipment we need for a procedure. I am much more confident that I am completely prepared for a procedure as a result of using the checklists. They are a really useful tool to have.*
>
> Veterinary Surgeon (newly graduated)

Conclusions

Initially there was some opposition to use of the checklists from senior vets. However, as soon as they began to see the benefits, use of the checklists was quickly accepted and easily implemented. The checklists are now considered a fundamental part of our anaesthetic protocol. Our Clinical Care Committee monitor post-operative complications and can already see a significant reduction in adverse events following the introduction of the checklists.

IVC EVIDENSIA

BATH VETERINARY GROUP

THEATRE/GA CHECKLIST

Patient		Date	
Procedure(s)		Vet	Nurse

SIGN IN (read out loud, before induction)
- Patient ID and ID collar verified
- Procedure specified/marked
- Consent form checked
- Clinical records checked
- Anaesthetic machine checked
- Intubeaze ready
- Monitoring equipment
- Medication   Analgesics [ ]   Antibiotics [ ]   Other [ ]
- Known allergy?
- Difficult airway/aspiration risk
- Pre anaesthetic bloods checked
- Fluid Therapy
- Special equipment
- Laryngoscope
- ASA score

TIME OUT (prior to first procedure)
- Procedure and site
- Introduction of staff (new/inexperienced)
- Particular anaesthetic concerns, e.g haemorrhage
  Nurse [ ]   Vet
- Medication requirements
- Confirm sterility of kit

SIGN OUT
- Are all procedures complete
- Confirm instruments, swabs, sharps
- Significant blood loss documented
- Samples taken labelled
- Special risk for recovery
- Hospital sheet/post-operative medications
- Equipment problems identified

ASA SCORING

Class I

Minimal Risk

Normal healthy animal, no underlying disease

Class II

Slight risk, minor disease present

Animal with slight to mild systemic disturbance, animal able to compensate

Neonate or geriatric animals, obese

Class III

Moderate risk, obvious disease present

Animal with moderate systemic disease or disturbances, mild clinical signs

Anemia, moderate dehydration, fever, low-grade heart murmur or cardiac disease

Class IV

High risk, significantly compromised by disease

Animals with preexisting systemic disease or disturbances or a severe nature

Severe dehydration, shock, uremia, or toxemia, high fever, uncompensated heart disease, uncompensated diabetes, pulmonary disease, emaciation

Class V

Extreme risk, moribund

Surgery often performed in desperation on animal with life threatening systemic disease

Advance cases of heart, kidney, liver or endocrine disease, profound shock, sever trauma, pulmonary embolus, terminal malignancy

"E" denotes emergency

BRANSGORE VETS

We are a small independent veterinary practice based in a large village location. Our team consists of two vets, two veterinary nurses and one receptionist. We treat small domestic pets, as well as chickens and the odd lizard.

As a team we have weekly meetings to discuss cases, CPD events, new drugs, mistakes and how to prevent them in the future. A surgical safety checklist was introduced 12 months ago following a CPD event that a team member had attended. Implementation was led by the nurses and initially it was used by all team members.

❝ *I like the idea of a checklist, but tend to rely on the nurse to actually use it. I write my own checklist of drugs and procedures on the pet's consent form during my admit appointment. I then rely on my surgical nurse to get everything ready for the actual operation.*

Veterinary Surgeon

Conclusions

Surgical Safety Checklist implementation is clearly a good idea and should help to prevent errors going forward. However, in a close-knit team the checklist is easily forgotten, as we trust one other to carry out the tasks we have always done.

If a new member is present, a checklist helps to ensure that the new person is in step with everyone else. One negative is the repetitive nature of the list, which feels like it is stating the obvious, so it's easy to believe you have it all covered and then potentially forget one item.

Pre-op check list

- ☐ Check consent form
- ☐ Check anaesthetic machine and select circuit
- ☐ Surgical scrub and spirit for animal
- ☐ Hand scrubbing brush
- ☐ Surgical kit
- ☐ Surgical gloves
- ☐ Drapes
- ☐ Scalpel blade
- ☐ Suture material
- ☐ Biopsy pots
- ☐ Dental chart
- ☐ Primapore pad / bandage materials
- ☐ Clippers
- ☐ Intubeze
- ☐ Spirit swab
- ☐ Mocropore tape
- ☐ Induction agent: propofol / sedation
- ☐ Spare needles
- ☐ ET tube with tube tie
- ☐ Tube cuff syringe
- ☐ Eye lube
- ☐ Pain relief injection (if not given at premed)
- ☐ Local anaesthetic injection
- ☐ Anitibiotic injection
- ☐ IV fluids

BRIGHT SIDE VETS

We are an independent practice based in South Derbyshire that sees a variety of small animals including exotics, reptiles and birds. We are also a student training centre. We are a dynamic and progressive practice and last year became an RCVS accredited practice, which helped us to overhaul some of our processes and policies, including introducing checklists. Checklists were introduced by our senior managers, but road-tested by the entire team. They were then adjusted, based on how effective and user friendly they were.

> **I find the checklists are very easy to use. Initially it was hard to get into a routine to use them but now it feels automatic. It has helped to avoid missed procedures and added extras.**
>
> Veterinary Surgeon

> **A good way to ensure protocols are consistently applied but it must become embedded as culture otherwise it's something else to remember.**
>
> Theatre Manager

> **I feel the 'saying out loud' of the checklist has been helpful so that mistakes don't happen, but currently we have a wipe-able checklist on the back of each anaesthetic clipboard. It would be better to have a printed-out paper copy to be archived with each animal record as well. The principle of closed loop communication is key, and something used widely in other industries to great effect.**
>
> Registered Veterinary Nurse

> **The checklists work, but only if they are easy, succinct and to the point. If they are over-inflated or over-complicated, then they can have an opposite effect.**
>
> Registered Veterinary Nurse

Conclusions

The anaesthetic checklist has assisted in making sure that the correct procedure is being carried out on the correct patient. It is also preventing added-on procedures from being missed, such as nail clips and microchips requested by the owners at admission.

We have also introduced a checklist for end-of-day shutdown, in-patient monitoring and anaesthetic machine set-ups. Checklists can form an essential part of practice culture for patient safety or for general 'housekeeping' procedures, such as closing the practice for the evening. This makes sure that essential procedures are completed, such as switching off electrical appliances or making sure emergency doors are secure.

The checklist needs to be embraced by all staff members to be embedded. It also needs to be uncomplicated, so that it adds to efficiency rather than making the team inefficient.

BrightSideVets.com

Anaesthetic Safety Checklist

Please ensure this list is completed before induction and recorded on monitoring form

☐ Patients name, owner consent and procedure confirmed.

☐ Has anything significant been identified in history / clinical exam?

☐ What complications are anticipated during anaesthesia?

☐ Airway equipment available and functioning

☐ Anaesthetic machine checked today

☐ Adequate oxygen and Isoflurane for procedure

☐ Person assigned to monitor patient

☐ Risks identified and communicated

☐ Emergency interventions available

BrightSideVets.com

Anaesthetic Machine Daily Checklist

Complete this checklist at the start of every day and initial once complete on the daily task sheet

☐ Primary oxygen source checked (Machines plugged in and turned on)

☐ Back up oxygen checked and turned on?

☐ Is O2 cylinder within expiry date?

☐ Flowmeters working

☐ Vaporiser full

☐ Anaesthetic circuit passes leak test

☐ Scavenging checked

☐ Available monitoring equipment functioning

Date completed: _____

Initials:

CVS GROUP plc

We are one of the largest integrated veterinary service providers in the UK, treating all species. Our learning culture is to harness errors as the driving force behind continuous improvement, cultivating a positive culture and providing support when things do go wrong. Errors are viewed as learning opportunities; there is an emphasis on error prevention and sharing this information for the benefit of the individual, the larger group and the professions.

We developed a surgical safety checklist and introduced it to improve patient safety and to prevent critical points from being missed, inspired by positive outcomes from the aviation and human healthcare industries.

Implementation was led by the central quality improvement team. The challenge was delivering the message to such a large number of people. To overcome this, quality improvement leaders were nominated in every practice and each of them were given training in quality improvement, which included the use of checklists.

> *We do occasionally use our safety sheet in a big first opinion op but not routinely for routine procedures, as generally the op would be finished before we had finished filling in the safety sheet. For referrals we use it in all cases and we laminate the sheets and then wipe them off the next day ready to reuse. The nurses and anaesthetist love them!*

Registered Veterinary Nurse

> *I introduced the checklist in practice as I really like it, but often find myself leaving the last stage of it out. Compliance amongst the rest of the team has been mixed, but I like it when preparing for a GA as often it triggers me to remember the bubble wrap!*

Registered Veterinary Nurse

> *I'm all for checklists and this CVS one has replaced the one that I had designed and used in referral. Compliance is varied, especially when it comes to the smaller points towards the end of the list. "Introduce yourself" has been removed as no-one took it seriously in a practice this size so was instantly causing those new to checklists to think it was a joke. We find it fairly long, but people seem to be getting into it more. I would probably move a few bits around to be checked at different points, such as moving blood work and NSAIDs earlier over with allergies.*

Registered Veterinary Nurse

Conclusions

Surgical safety checklists can at first seem lengthy and unnecessary to team members, but when the benefits are known, compliance improves once people realise that patient safety is improved.

We have seen a decrease in errors in specific areas that we are auditing, for example, a decrease in reported retained swabs after abdominal surgery or dentals.

It is important that practices can adapt the checklist so that it addresses areas that are relevant to them. If they can't make it their own, they are less likely to use it.

Accept that there may be many revisions over time but this will only lead to a more valuable working document that staff will be invested in. An advocate is useful to have in practice to promote its use and lead by example.

CVS Group plc

Passionate about animal care

Small animal patient safety checklist

CVS Group plc
Passionate about animal care

Patient Safety Checklist

Before Induction of Anaesthesia
(With Nurse)

PATIENT and PROCEDURE CONFIRMATION
☐ Identity & Consent (estimate signed)
☐ CPR status confirmed _____
☐ Procedure site
☐ Additional procedures confirmed _____

ANAESTHESIA SAFETY CHECK COMPLETED
☐ IV CANNULA placed and patent
☐ Anaesthetic machine and ventilator checked
☐ AIRWAY EQUIPMENT available and functioning
☐ Endotracheal tube CUFFS checked
☐ Adequate OXYGEN for proposed procedure
☐ BREATHING SYSTEM leak checked and APL valve open
☐ Monitoring equipment checked
☐ Heat support prepared
☐ TPR and blood results been checked

ANY KNOWN ALLERGIES?
☐ No ☐ Yes _____

DIFFICULT AIRWAY/ASPIRATION RISK?
☐ No ☐ Yes:- Is equipment and assistance available?

IS THERE A RISK OF SIGNIFICANT BLOOD LOSS?
☐ No ☐ Yes:-   ☐ Type (dog) + cross-match (cat)
                   ☐ Are blood products available?

☐ Other RISKS identified and emergency interventions available

PATIENT POSITIONING CONFIRMED WITH CLINICIAN
☐ No ☐ Yes: Describe _____

PRE-OP IMAGING REQUIRED? ☐ No ☐ Yes: _____

Before Skin Incision
(With Nurse and Surgeon)

☐ **CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE**

SURGEON AND NURSE VERBALLY CONFIRM
☐ Patient Identity
☐ Incision Site
☐ Procedure(s)
☐ Blood work results
☐ Currently being treated with steroids ☐ No ☐ Yes
☐ Currently being treated with an NSAID ☐ No ☐ Yes

HAS ANTIBIOTIC PROPHYLAXIS BEEN ADMINISTERED IN THE LAST 60 MINS if required? ☐ Yes ☐ Not applicable

IS IMAGING DISPLAYED? ☐ Yes ☐ Not applicable

ANTICIPATED CRITICAL EVENTS
To Surgeon:
☐ Critical steps _____
☐ Anticipated surgical time _____
☐ Anticipated blood loss _____
To Nursing Team
☐ Patient specific concerns communicated
☐ Sterility confirmed (including indicator results)?
☐ Equipment issues or concerns communicated
☐ Swab count confirmed
☐ Blade and needle count confirmed

☐ **DEPTH of anaesthesia appropriate before skin incision**

Before Patient Leaves Procedure
(With Nurse and Surgeon)

NURSE VERBALLY CONFIRMS
☐ Name of the procedure(s)
☐ Completion of instrument, swab, sharps counts
☐ Communicated equipment concerns

IS POSTOPERATIVE IMAGING REQUIRED?
☐ No ☐ Yes: Describe _____

HAVE SAMPLES BEEN COLLECTED
☐ Nurse verifies they have sample(s)
☐ Samples have been appropriately labelled
☐ Submission form completed & submitted

REVIEW CONCERNS FOR RECOVERY & POST-OP CARE
To be written on recovery section of GA sheet for wards handover

☐ SAFETY CONCERNS COMMUNICATED
(Airway, Breathing, Circulation, Body Temperature)
☐ Analgesia plan confirmed
☐ Antibiotics
☐ Intravenous fluid rate and catheter care
☐ Sedation
☐ Other medications
☐ Express bladder, remove purse string, remove throat pack etc.
☐ Contraindicated medications communicated
☐ ASSESSMENT & INTERVENTION PLAN confirmed
☐ Person assigned to MONITOR the patient

Patient Information or sticker:

Name: «Animal_Name» «Last_Name»

Age: «Age»

Breed: «Breed»

Sex: «Gender» «Spayed_Neutered»

Date: _____

Nurse: _____

Surgeon: _____

Equine pre-anaesthesia checklist

CVS Group plc
Passionate about animal care

Pre-Anaethesia Check List

Date: ……………….Horse Name: …………………Owner Name: …………………………..

Anaesthetist: ……………………………….Procedure: ………………………………………

Anatomical Location: ……………………………………………………………………………………

Anaesthetic Machine	**Pre-Induction**	
Primary oxygen source checked	☐ Patient name, owner consent and procedure confirmed	☐
Back-up oxygen available	☐ Surgical risks discussed with owner	☐
Oxygen alarm working	☐ Anaesthetic risks discussed with owner	☐
Flowmeters working	☐ IV cannula placed and patent	☐
Vaporiser attached and full	☐ Airway equipment available and functioning	☐
Scavenging checked	☐ Anaesthetic machine checked	☐
Monitoring equipment functioning	☐ Adequate oxygen for proposed procedure	☐
Emergency equipment and drugs checked	☐ Breathing system connected and leak free	☐
Anaesthetic machine passes leak test	☐ Risks identified and communicated	☐
	Emergency interventions available	☐

Drugs / Equipment

	Pre-Procedure	
Endotracheal tubes (cuffs checked)	☐	
Demand valve checked	☐ Patient name and procedure confirmed	☐
Epinephrine/adrenaline available	☐ Depth of anaesthesia appropriate	☐
Atropine available	☐ Safety concerns communicated	☐
Antagonists available	☐	
Intravenous cannulae available	☐ **Recovery**	
Isotonic crystalloid solutions available	☐ Safety concerns communicated (airway, breathing, circulation, body temperature and pain	☐
Fluid adminstration sets available	☐ Assessment and intervention plan confirmed	☐
	Analgesic plan confirmed	☐
	Person assigned to monitor patient	☐

GODDARD VETERINARY GROUP: WANSTEAD VETERINARY HOSPITAL

We work to the highest clinical standards to provide a first opinion, emergency, critical care and referral service to clients and a local network of 20 branches.

As part of our clinical governance, we nurture a culture of continuous learning and quality improvement. The theatre and surgical safety checklist was introduced to ensure surgical procedures are set up appropriately, potentially reducing anaesthetic time for patients. The implementation was led by the Head Nurses at the hospital, ensuring compliance at a floor level.

> *The checklist has made a significant difference to the surgical set-up. The process of getting into theatre has been streamlined with fewer hold-ups due to missing/faulty equipment. It also encourages discussion about ASA scoring and has reduced time under anaesthetic in prep.*

Senior Veterinary Surgeon

> *Implementation of the surgical checklist was received with mixed reviews initially from nursing staff as it was a change to their working practice. Initially compliance was challenging to manage, however this quickly improved. It has allowed us to follow up any delays in surgical procedures or anaesthetic complications promptly and effectively.*

Head Registered Veterinary Nurse

> *I feel that the pre-GA checklists have made a huge difference in helping students and RVNs set up correctly, reducing surgical time as equipment has been thoroughly checked before the patient is anaesthetised. I feel it encourages nurses to look into the clinical history of the patient, taking into account anaesthetic considerations and their ASA score. I feel it encourages nurses to talk to their vets in regard to any concerns they may have about the anaesthetic, putting the patient's welfare first.*

Registered Veterinary Nurse (Surgical)

> *The checklists are good for ensuring you have not forgotten anything when preparing for an anaesthetic. They also assist with nurse handovers as you can see which tasks are outstanding.*

Student Veterinary Nurse

Conclusions

Use of the surgical safety checklist has improved practice standards by ensuring that relevant checks were carried out prior to the patient being anaesthetised, improving consistency and decreasing anaesthetic time.

It has also encouraged the anaesthesia team to consider the patient holistically, ensuring safer anaesthetic protocols for patients. Initially staff were non-compliant and believed the forms were a waste of time; at this stage an audit revealed a compliance rate of 22%.

Time was spent on educating staff on the impact that safety checklists have on the patient's welfare and highlighting their benefits. A further review was completed two months later and compliance had improved to 70%. Further audits will continue to be conducted.

GODDARD VETERINARY GROUP

WVH Theatre & Surgical Safety Checklist
MUST BE COMPLETED FOR *EVERY* SURGERY

Patient		Vet		Date	
Client		Nurse		Theatre	
Procedure		Induction Area			

Patient information (to be read aloud and confirmed with vet)		
	Please give details	**Initials**
Patient and client name		
Confirm procedure (including left/right, if relevant)		
Any extras? (claw clip etc.)		
ASA score – *see below*		
Peri-operative medication (Analgesia, antibiotics)		
GA equipment, patient monitoring and prep		
Check GA machine, Iso and O_2 (in prep and theatre)		
Choose appropriate circuit		
Calculate fresh gas flow rate (TV x RR = MV, MV x CF = FGFR)		
Leak test circuit (prep and theatre)		
Scavenging plugged in/working		
Induction equipment and medications		
Skin prep (chlorhexidine or iodine as appropriate)		
Patient monitoring equipment (set up and working) eg. Pulse ox, capnography, BP, thermometer, stethoscope, surgivet		
Appropriate bedding		
Patient warming eg. Bair Hugger, heat mat, hot hands, Thermovent, bubble wrap		
Pre op TPR taken		
Theatre set up, kit and surgical equipment		
Surgical kit and equipment (including suture) (use set up folder and discuss with VS)		
Appropriate bedding		
Diathermy (monopolar/bipolar) and suction		
Dental unit checked and working		
Endoscope checked and working		
Medical air checked and full		

ASA scoring	Details
I. A normal healthy patient II. A patient with mild systemic disease III. A patient with severe systemic disease IV. A patient with severe systemic disease that is a constant threat to life V. A moribund patient who is not expected to survive without the operation	*(Have you discussed the GA plan with the vet?)*

*bedding should be at least 2cm thick. If using a positioning aid, heat mat should be placed under aid with bedding on top (at least 1cm thick).

Refer to WVH SET-UP BOOK for comprehensive guide to setting up theatre for individual procedures
Failure to ensure that the above is carried out will lead to delays & may compromise the safety of your patient
Contact Head Nurse or senior member of staff if you have any questions
Self-Reflection: please use overleaf to document any peri-operative near misses, no harm or noteworthy events

GREENBAY VETS

We are a small independent practice, with 4 FTE Veterinary Surgeons and two sites. Our Head Veterinary Nurse is passionate about anaesthesia and auditing in this area. We introduced the checklist following feedback from CPD. We had considered it for a while, but the safety stream at BSAVA congress had compelling evidence.

The implementation was led by one of the practice owners (vet) and an RVN. Concerns were raised about extra paperwork/lack of efficiency, but the team couldn't deny that use of a checklist could prevent complications and the human medicine evidence is strong. We introduced paper checklists for all GA procedures in July 2019. We print four forms on one piece of A4 and staple a list to each anaesthetic monitor form. Our head nurse is going to audit use of the checklists to ensure they are being used.

> **I think the checklists are really good at prompting people and checking everything is set up ready to go, however only if they are actually completed. If they are done routinely, they should decrease the risk of human error contributing to any crisis, or the incorrect drug/volume administration.**
>
> Veterinary Surgeon

> **In most cases the checklist may seem pointless as everything is fine and the team are well trained, but having seen cases with retained throat packs, or where the anaesthetic machine hasn't been checked before a procedure, I feel it is a habit worth getting into.**
>
> Head Registered Veterinary Nurse

> **So far we haven't seen a big impact of using the checklist. Sometimes the checklist has not been completed, so we need to audit this and continue to remind all team members of the importance.**
>
> Veterinary Surgeon

Conclusions

It is early days for us, but I am pleased we finally overcame the barriers and implemented a checklist. If it means we prevent the occasional complication, I would hope the extra few minutes filling it in is time well spent, and I expect if and when an issue is noticed thanks to the checklist, the team will appreciate the benefits more.

Greenbay Vets

Safety Checklist.

Patient name/ I.D:

Vet: Nurse:

Date:

Procedure:

Pre op/ Induction:

☐ Patient and procedure confirmed

☐ I.V Placed/ Fluids run through and connected

☐ Medication doses confirmed and drawn up

☐ Anaesthetic machine checked today

☐ Adequate oxygen for procedure

☐ Circuit connected, leak free and APL valve open

☐ Surgical kit checked/confirmed

☐ Intubation equipment and E.T. tubes ready (cuffs checked)

☐ Surgical/clip site confirmed

☐ Emergency interventions available/ready if required

☐ Concerns/complications discussed

Pre incision:

☐ Monitoring equipment placed

☐ Fluid rates confirmed

☐ CRI's confirmed

☐ Anaesthesia depth adequate

☐ Critical steps discussed

Post op/recovery:

☐ Swabs/sharps/instruments counted

☐ Extra procedures/requests performed

☐ Safety concerns discussed

☐ Throat swabs/packing removed

☐ Purse string/other temporary sutures removed

☐ Analgesia plan in place

☐ Post op care/monitoring discussed

☐ Ties/position aids removed

NEWNHAM COURT VETERINARY HOSPITAL

We are an RCVS tier three accredited small animal practice based in Maidstone, Kent. We are driven by our desire to provide the best possible care for our patients and their owners. The clinical team consists of 20 vets and 42 nurses. Due to the size of the team and multiple procedures carried out per day, a checklist was introduced to improve communication between the surgical and the patient recovery teams, to minimise errors and adverse events, and to allow auditing to be carried out.

The checklists were designed by the directors and implemented by the nursing managers. Feedback is provided to the team with the audit results, and targets are set to provide continuous momentum and engagement.

> **The checklists do not replace good communication but are there to make sure that the communication happens every time.**
>
> Veterinary Surgeon

> **It is a good systematic prompt to make sure we are conducting safe anaesthesia.**
>
> Registered Veterinary Nurse

> **They are user friendly, not too time consuming, short, sharp and to the point whilst covering all the basics, which can be easily forgotten. However, the extra paper makes them less environmentally friendly.**
>
> Registered Veterinary Nurse (Surgical)

> **It allows the team to collect thoughts before anaesthetising the patient and then realising the wrong circuit is set up. Potentially lifesaving.**
>
> Nursing Manager RVN Dip AVN Medicine Cert Anaes

Conclusions

The checklist ensures consistency and standardisation for every procedure, improved communication, and promotes a safety culture. It is very important to create the buy-in from your team as it can be seen as just a tick-boxing exercise that can be quickly dismissed, making the checklists obsolete. Negativity normally arises from a lack of understanding or knowledge of why it is important. By communicating the purpose effectively and providing adequate training, negativity can be eliminated.

Success can also be achieved by involving the team to design a checklist specific to the practice, rather than enforcing a particular checklist. We have found that asking the team what changes need to be made has helped. So far we are on version four. Complacency is dangerous and the checklist allows that momentary pause to check yourself and others around you. By allowing the nurses to feel comfortable and confident in questioning the operating veterinary surgeon, it has empowered them as a team. This has created a greater team ethos overall.

Surgical Safety Checklist

Animal Name: Client Surname:

Completed by: Date:

Before anaesthetic induction:

GA machine and circuit checked (as per SOP on machine): Y/N

Patient identity confirmed: Y/N

Patient weight and pre-med dose checked: Y/N

Procedures verified as per consent form: Y/N

Any known allergies: Y/N

Pre op blood screen seen and interpreted: Y/N

Intravenous fluids required: Y/N

Anaesthetic risk graded: Y/N

Anaesthetic monitoring aids identified and available: Y/N

Surgical kit and instrumentation confirmed and sterile: Y/N

Prophylactic antibiotics required: Y/N

At time of surgery/dentistry:

Nerve blocks given: Y/N

Adequate analgesia on board: Y/N

Swabs/mouth packs counted **IN**: Y/N

Procedure or procedures completed as per consent form: Y/N

Swabs/mouth packs counted **OUT**: Y/N

All needles and blades accounted for: Y/N

Biopsy specimens placed in labelled pots: Y/N

Any additional medication required/ recorded on GA sheet: Y/N

Post op temp recorded: Y/N

Recovery Plan recorded: Y/N

PDSA

We have a network of 48 pet hospitals/clinics across the UK, employing more than 300 veterinary surgeons and 600 nurses. In 2014, the Clinical Scope and Quality team at PDSA introduced an adapted WHO checklist to help reduce the incidence of preventable mistakes (e.g. wrong patient or the wrong surgical site), to increase patient safety (e.g. highlighting known allergies or adverse reactions) and to help avoid unnecessary complications following surgery (e.g. a retained swab or instrument). The checklists have become part of PDSA's clinical governance framework; clinicians are expected to complete surgical safety checklists for any animal undergoing any surgical or dental procedure, however minor.

> *At first there was a general feeling of it being a tick-box exercise in our hospital. Focusing on the reasons why the checklist was brought in has really helped changed those mindsets and our team are now actively engaged with it. It takes pressure off one person as it's a team effort to complete it properly. It makes total sense that we should be taking steps to make things as safe as we can, as we know how stressful it can be when things go wrong. Addressing near misses is much less stressful than dealing with a clinical incident.*

Senior Veterinary Surgeon

> *The surgical safety checklist ensures that there is clear communication between the operating vet and their assistant at key points throughout the procedure, so that all involved are aware of the clinical condition and risks relating to that case; can give a clear account of the instruments and swabs used during the procedure; and can identify and list any post-op risks and requirements.*

Senior Veterinary Surgeon

> *The benefits to the patient of a surgical safety checklist are obvious. Less obvious, especially to new users, are the benefits to forming a cohesive, well-oiled operating team. Communication and support both show improvement when using a checklist, as the team have to talk to one other. This is invaluable and also increases the safety of a procedure as much as the checklist itself.*

Head Registered Veterinary Nurse

Conclusions

When introducing the checklist, it is crucial that you demonstrate how to use it effectively. The checklist in isolation is not going to have an impact on patient safety, it is the behaviours and communication it stimulates which will have a positive impact. Helping staff to understand this will really help them realise its value and that it is not just a tick box exercise.

Once embedded, it is important to continually review its use to ensure all members of the team are engaged. Taking time to reflect on the benefits of the checklist, i.e. near misses, will help to remind staff of its value over time.

PDSA SURGICAL SAFETY CHECKLIST:

Contact ID: Animal ID: Animal: Owner: Breed: Age: Weight:	Surgeon: _____ Support Staff: _____ Date of operation: _____ Operation/Procedure: _____

Risks Identified: _____

Allergies:
Seizures: Y / N

Conditions/Warnings:

Current meds: _____

IV Catheter: _____   **Saphenous / Cephalic:** _____

Pre-Med: _____   **Route: S/C I/M   I/V**

Time: _____

SIGN IN Time: _____   **Signed By:** _____

Before Induction Confirm:
1. Patient id - id collar   Yes/No
2. Consent form is fully complete   Yes/No
3. Procedure confirmed   Yes/No
4. Confirm surgical site   Yes/No
5. Case Specifics e.g. allergies, current medications, risk factors   Yes/No/NA

TIME OUT Time: _____ **Signed By:** _____

Prior to surgical intervention confirm:
1. 'Sign in' completed (see section above)   Yes/No
2. Monitoring form is present and used for any GA over 15 minutes   Yes/No/NA
3. All prep/instruments ready to commence surgery   Yes/No/NA
4. Swabs/instruments/sharps counted in   Yes/No/NA

SIGN OUT Time: _____ **Signed By:** _____

Prior to wound closure confirm:
1. Instruments/swabs/sharps all accounted for   Yes/No/NA
2. Specimens collected and labelled   Yes/No/NA
3. Surgeon confirm all listed procedures completed   Yes/No
4. Spcial recovery instructions   Yes/No/NA
5. Further medications   Yes/No
6. Ensure all checks are documented on anaesthetic monitoring form   Yes/No/NA

VETS4PETS

We are a group of over 450 small animal first opinion practices. Each practice is owned locally by a Joint Venture Partner (JVP) who manages the practice on a day-to-day basis and has complete clinical freedom. Practices vary widely in size, but most practices are relatively small. Developing a surgical safety checklist is part of our commitment to promote quality improvement and encourage a learning culture throughout the group.

Our Clinical Advisory Board felt that neither the WHO or Bergström checklists quite fitted the way that we work, so we set about making our own. The aim was to have a checklist that is quick, simple, and catches the most common and most serious errors. We debated long and hard about what should be included and what shouldn't and an initial prototype was trialled in a number of practices and modified several times based on feedback from colleagues using it.

> *I have to admit I hit a bit of a wall when first introducing the surgical safety checklist to my practice. However, after explaining the purpose, everyone agreed to give it a go. Once the team got used to it they actually really liked it (even the JVPs!), especially as we did pick up a few errors after only using it for a couple of weeks.*
>
> Feedback 1

> *I personally really liked the checklist and the nurses in my practice agreed to use it after just a couple of tweaks. My JVP agreed to trialling the checklists as well, however, when it came to his operating day he refused to try it. Interestingly, in just one morning of ops where the checklist wasn't used we found three errors which could have been avoided.*
>
> Feedback 2

> *As the JVP, it would have been easy for me to force the team to just start using the checklists, but I knew that it was important they understood the reason for using checklists and the evidence behind it, so we discussed it in both the vet and nurse clinical meetings. However, the uptake was slow and trialling the checklist did actually identify some compliance issues within the team. It does need reinforcing regularly but I'm keen to keep trying.*
>
> Joint Venture Partner

> *The main hurdle with implementing the checklist was remembering to complete it for every patient every day, not missing out any steps and remembering the different parts: pre-cut, pre-close etc. We often find we get to the end of a surgery and realise we haven't ticked off half the boxes!*
>
> Feedback 3

Conclusions

Where the checklist has been implemented successfully, errors have been prevented, including: retained swabs, operating with an unsterilised kit, missed procedures and poorly planned post-op care. The biggest barriers to using checklists in practice were implementation and compliance. It helps if the checklist isn't just enforced 'from above' but discussed with the whole team. No checklist is universal, so we do encourage practices to trial the checklist and then modify it to suit their workflow and team if required.

Surgical Safety
Checklist

PRE-INDUCTION confirm:

☐ ANAESTHETIC MACHINE check performed today
☐ Equipment STERILE
☐ SPECIAL EQUIPMENT required
☐ Patient ID, owner CONSENT, STARVED
☐ PROCEDURE, GENDER
☐ ASA SCORE, any anaesthetic concerns
☐ INTRAOPERATIVE MEDS
☐ PLAN for   ☐ temperature   ☐ fluids   ☐ diagnostic imaging
☐ PROCEDURE SITE (left/right and area)
☐ AREA and TYPE of clip/prep required
☐ IV CANNULA placed & patent

PRE-CUT confirm:

☐ SURGEON PREPPED appropriately
☐ PROCEDURE and SITE
☐ FINAL PREP
☐ SUTURE MATERIAL required
☐ COUNT IN   ☐ swabs   ☐ instruments   ☐ needles
☐ Diagnostic IMAGES required

PRE-CLOSE:

☐ COUNT OUT   ☐ swabs   ☐ instruments   ☐ needles

POST-CLOSE check:

☐ CORRECT SURGERY and ALL PLANNED PROCEDURES performed
☐ Remove PHARYNGEAL PACK/RECTAL SWAB
☐ COUNT OUT   ☐ swabs   ☐ instruments   ☐ needles
☐ BLADES off
☐ SAMPLE LABELLING
☐ RECOVERY plan
☐ Post-op MEDICATION
☐ EQUIPMENT PROBLEMS to be addressed

Vets4Pets
Putting your pet first

VETS NOW

We are the largest small animal first opinion out-of-hours provider in the UK, seeing approximately 120,000 cases each year. Emergency surgery is performed each night and there has been a positive correlation drawn between the urgency of surgery and complication rates. A surgical safety checklist was established to improve surgical safety in the emergency setting to reduce intraoperative and post-operative complications within Vets Now.

> *I think they are much easier to use now that they are on the GA form rather than a separate form to complete. As mentioned above their use is only positive and triggers reminders for a safe and well conducted surgery, despite what other stresses the case may be throwing at us!*

Registered Veterinary Nurse

> *I think the implementation of the checklists has been great. I think it is a great opportunity for all involved in a case to reflect on a patient before beginning a procedure. I think it is a simple and effective way of safeguarding. I think there is great 'buy in' from vets and nurses.*

Veterinary Surgeon (Diplomate)

> *I was concerned about having another piece of paper to complete, but the process actually makes us communicate better as a team and I feel our patients are safer now.*

Veterinary Surgeon

> *I have found the checklist positive. On several occasions it has triggered actions I had forgotten, such as administering peri-operative antibiotics at the correct time. Their use is now routine and not onerous.*

Theatre Manager

> *I've been a vet for a long time and never needed a checklist – so I thought. Going through a checklist takes time and we're all busy clinicians and nurses. However, if it saves just one life, it is time well spent. Essentially it helps avoid missing crucial steps in highly pressurised situations, which helps reduce complications. Since starting to use them some four years ago, I have become an enthusiastic convert and see checklists as an essential tool in patient safety. They help to change the work culture, making it more transparent, improving quality of care that's delivered and making teamwork more effective.*

Veterinary Surgeon (Diplomate)

Conclusions

We do not have any statistically significant data to support the reduction of major surgical complications in intra-abdominal surgeries relating to human error, as even across such a large caseload they are fortunately rare. However, since the checklist was introduced in 2013, the reported incidence of such errors has been reduced to zero, in cases where the checklist has been completed.

Surgical Safety Checklist

Pre-anaesthetic checks

ASA grade (circle)   1   2   3   4   5
Known allergy?   Y/N
Pre-oxygenation required?   Y/N
Difficult airway or aspiration risk?   Y/N
Has analgesia been given?   Y/N
Adequate IV access/fluids prepared?   Y/N
Suction prepared?   Y/N
Is antibiotic prophylaxis planned?   Y/N
❑   Confirm crash kit prepared
❑   Confirm emergency drugs calculated

Pre-surgical checks

Anticipated critical events?   Y/N
Detail:_____
Have antibiotics been given?   Y/N
❑   Confirm multi-parameter monitor
     attached?
❑   Confirm anaesthetic machine check
     complete
Confirm anticipated blood loss
    ❑   Minimal <5%
    ❑   Moderate 5-10%
    ❑   Severe >10%
Are blood products/colloids available? Y/N
Is animal blood typed?   Y/N
Is essential imaging displayed   Y/N

❑   Confirm swab count complete
Number small swabs __
Number lap pads   __

❑   Confirm instrument count complete
Number artery forceps __

Post-surgical checks

❑   Confirm swab count complete
Number small swabs __
Number lap pads   __

❑   Confirm instrument count complete
Number artery forceps __

Equipment issues   Y/N
Detail:_____

End of Checklist

✓ *Checklists reduce errors and save lives*

VETPARTNERS: WESTPOINT FARM VETS

We are a large group of production animal practices belonging to the VetPartners group. To keep vets up to date with clinical knowledge and provide quality care, we have a clinical board made up of working groups that focus on specific areas of practice.

The surgical working group has developed a checklist in order to prevent avoidable issues occurring, to improve our patient care and outcomes. The surgical checklist was created recently and altered based on initial feedback from multiple vets within the business.

The implementation can be adapted for each local practice; some practices have expressed interest in using it as a laminated sheet on top of a surgical box and photographs taken before leaving the farm. The hope is this will improve compliance by making sure it is completed on farm, ensuring critical stages are not forgotten. Keeping an electronic version also means less paper waste. The checklist and implementation process is likely to be refined over time once we see how well it works and what could be improved.

❝ *We hope that with the use of a surgical checklist, we can stop potential errors in their tracks, and provide a much more uniform service to our clients. With animal welfare at the heart of these decisions, a checklist helps a busy vet ensure that they are adhering to best practice.*

Chelmsford Branch Practice Principal

❝ *Having a checklist is great, both to ensure that I provide the best clinical care, but also to allow the practice to audit procedures and work to improve our clinical service.*

Leighton Buzzard Branch Practice Principal

Conclusions

There is a concern from some vets that the checklist is just another piece of paperwork which will take time to complete. It was designed to be practical and include questions which, if completed at the time, should make vets more consistently thorough in their approach, in a foolproof way. Hopefully once vets begin to use the checklist regularly it will become second nature, and they will see what they might have forgotten otherwise.

Surgical Safety Checklist

Farm Name:

Animal ID:

Vet Name:

Date:

Procedure:

Comments:

Before Skin Incision

☐ Confirmed patient ID, procedure and anatomical location (if applicable)?

☐ Informed consent?
Written if non-emergency

☐ Off licence medicines consent?
Written if non-emergency

☐ Animal restrained? Sedation accessible if required?

☐ Animal clipped, prepped and anaesthesia adequate?

☐ Analgesia & Antibiotics given pre-operatively?

☐ All required surgical equipment accessible and sterility checked?

☐ Addressed any equipment concerns including appropriate lighting?

Count of swabs ☐ & sharps:

Before Leaving the Farm

☐ Swabs & sharps accounted for?

☐ Sharps disposed appropriately?

☐ If emergency, written consent for surgery and any off licence medicines now obtained?

☐ Post-op care explained & medications administered/left with farmer?

☐ Docket with batch numbers and withdrawals left with farmer

☐ Samples labelled appropriately?

☐ Made a note of any equipment issues/malfunctions?

Completion

☐ Acted on equipment issues including replaced blunt needles?

☐ Surgical kit dealt with and replaced with sterile kit?

☐ Arranged follow up?

☐ Consent forms filed & recorded in billing?

☐ Restocked medicines and consumables?

Fill out entire form, or fill out laminated sheet and photograph 1st two columns before leaving the farm and use completion list as a reminder once returned to the practice

Next Steps Checklist: Your Journey

STEP	✓
Take our checklist CPD course oncourse.rcvsk.org	
Read our checklist case examples rcvsknowledge.org/quality-improvement/tools-and-resources/checklists	
Download our checklist templates rcvsknowledge.org/quality-improvement/tools-and-resources/checklists	
Discuss checklists in a practice meeting	
Encourage others to read this manual rcvsknowledge.org/quality-improvement/tools-and-resources/checklists	
Share the CPD course with your colleagues oncourse.rcvsk.org	
Complete our audit CPD courses oncourse.rcvsk.org	
Audit whether your existing checklists are being used by the team (process audit) rcvsknowledge.org/quality-improvement/tools-and-resources/clinical-audit	
Audit whether your existing checklists are having the desired outcome (outcomes audit) rcvsknowledge.org/quality-improvement/tools-and-resources/clinical-audit	
Complete our guidelines CPD course oncourse.rcvsk.org	
Share your QI initiative in a case example bit.ly/SubmitYourQIExample	
Enter the Knowledge Awards rcvsknowledge.org/grants/available-grants	
Follow us on Facebook and Twitter for new resources @RCVSKnowledge	

For help creating your own checklists, clinical audits, significant event audits, benchmarking and guidelines, visit
www.rcvsknowledge.org/quality-improvement

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