



Liste de verificare in anestezia veterinară

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De ce discutăm despre siguranța în anestezie ?

Species	Number of anaesthetic and sedation-related deaths	Number anaesthetised and sedated	Risk of anaesthetic-related death (95% confidence interval)
Dog	163	98,036	0.17% (0.14–0.19%)
Cat	189	79,178	0.24% (0.20–0.27%)
Rabbit	114	8209	1.39% (1.14–1.64%)
Guinea pig	49	1288	3.80% (2.76–4.85%)
Hamsters	9	246	3.66% (1.69–6.83%)
Chinchilla	11	334	3.29% (1.38–5.21%)
Rat	8	398	2.01% (0.87–3.92%)

Table 2

Risk of anaesthetic and sedation-related death in healthy and sick dogs, cats and rabbits in CEPsAF (Brodbelt et al., in press-a)

Species	Health status ^a	Number of deaths ^b	Estimated number of anaesthetics and sedations	Risk of anaesthetic-related death (95% confidence interval)
Dog	Healthy (ASA 1–2)	49	90,618	0.05% (0.04–0.07%)
	Sick (ASA 3–5)	99	7418	1.33% (1.07–1.60%)
Cat	Healthy (ASA 1–2)	81	72,473	0.11% (0.09–0.14%)
	Sick (ASA 3–5)	94	6705	1.40% (1.12–1.68%)
Rabbit	Healthy (ASA 1–2)	56	7652	0.73% (0.54–0.93%)
	Sick (ASA 3–5)	41	557	7.37% (5.20–9.54%)

^a ASA 1–2: no/mild preoperative disease, ASA 3–5: severe preoperative disease.

^b Only deaths where detailed information was available were included here.

Momento critique

Timing of death in dogs, cats and rabbits in CEPSTAF (Brodelt et al., in press-a)

Timing of death	Dogs	Cats	Rabbits
After premedication	1 (1%)	2 (1%)	0
Induction of anaesthesia	9 (6%)	14 (8%)	6 (6%)
Maintenance of anaesthesia	68 (46%)	53 (30%)	29 (30%)
Post-operative death ^a	70 (47%)	106 (61%)	62 (64%)
0–3 h post-operative	31	66	26
3–6 h post-operative	11	9	7
6–12 h post-operative	12	7	13
12–24 h post-operative	13	12	9
24–48 h post-operative	3	10	3
Unknown time	0	2	4
Total ^b	148 (100%)	175 (100%)	97 (100%)

^a Post-operative deaths were additionally categorised by time after anaesthesia.

Guidelines for Safer Anaesthesia



1.

Patient Safety

- 'AVA recommended procedures and safety checklist' incorporated in to every case.



2.

Anaesthetic Case Planning

- Anaesthesia plan considered for each individual patient, covering patient risk factors, procedure risk factors, suitable anaesthesia drugs, fluids and monitoring aids.
- Consideration given to the limits of anaesthesia care that can be provided, and outside assistance sought or case referral to specialist anaesthesia facilities arranged when required.



3.

Analgesia

- Analgesia should be a top priority of care.
- A range of analgesic therapies should be available and utilised, including full opioid agonists, local anaesthetics, NSAIDs, adjunctive drug therapies and non-drug therapies
- An analgesic plan should be made for each case recognising the expected level and modality of pain.
- Patients should be actively assessed using validated pain scores and results responded to appropriately.
- Patients with known or expected pain should be prescribed ongoing analgesia at discharge and the owners should be informed of pain related behavioural signs.



4.

Staff

- Qualified veterinary staff, who have received anaesthesia training, to monitor every anaesthetic.
- Veterinary students to be supervised by a qualified member of veterinary staff when monitoring an anaesthetic.
- Use of advanced anaesthesia trained staff whenever available or required.



5.

Monitoring

- Dedicated anaesthetist monitoring each case.
- Additional monitoring equipment of pulse oximetry, capnography and blood pressure monitors available and utilised.



6.

Patient Support

- Active temperature monitoring and temperature support, including preventative measures and active warming devices available and utilised.
- Fluid therapy considered for every anaesthetic and goal directed administration provided where indicated. Availability of fluid pumps and/or syringe drivers to ensure accuracy.
- Blood Pressure support considered from outset and managed where appropriate through anaesthetic drug selection, fluid therapy and appropriate drug administration.
- Requirement of ventilation support considered from outset. Availability of manual or mechanical means of positive pressure ventilation utilised when necessary.



7.

Emergency Ready

- All staff to have received CPR training and CPR simulations, to be practiced in house during each year.
- All patients to have IV access during anaesthesia via an IV catheter
- Emergency equipment to be available at all times.



8.

Recovery

- Patient recovery from anaesthesia to be adequately monitored and recorded.
- Recovery to take place in a suitable location.



9.

Training

- All clinical staff involved with anaesthesia to receive regular CPD on anaesthesia and analgesia.
- A dedicated member of staff to oversee practice policies and standards of care.



10.

Records

- Professional records of anaesthesia kept, including; patient details, procedure details, staff involved, drugs, monitoring and recovery.
- Records should be reviewed for morbidity and mortality issues.



Anaesthetic Safety Checklist



Pre-Induction

- ☐ Patient NAME, owner CONSENT & PROCEDURE confirmed
- ☐ IV CANNULA placed & patent
- ☐ AIRWAY EQUIPMENT available & functioning
- ☐ Endotracheal tube CUFFS checked
- ☐ ANAESTHETIC MACHINE checked today
- ☐ Adequate OXYGEN for proposed procedure
- ☐ BREATHING SYSTEM connected, leak free & APL VALVE OPEN
- ☐ Person assigned to MONITOR patient
- ☐ RISKS identified & COMMUNICATED
- ☐ EMERGENCY INTERVENTIONS available

Pre-Procedure — Time Out

- ☐ Patient NAME & PROCEDURE confirmed
- ☐ DEPTH of anaesthesia appropriate
- ☐ SAFETY CONCERNS COMMUNICATED

Recovery

- ☐ SAFETY CONCERNS COMMUNICATED
Airway, Breathing, Circulation (fluid balance), Body Temperature, Pain
- ☐ ASSESSMENT & INTERVENTION PLAN confirmed
- ☐ ANALGESIC PLAN confirmed
- ☐ Person assigned to MONITOR patient

Recommended Procedures



Pre-Anaesthesia

- ★ Has anything significant been identified in the history and/or clinical examination?
- ★ Do any abnormalities warrant further investigation?
- ★ Can any abnormalities be stabilised prior to anaesthesia?
- ★ What complications are anticipated during anaesthesia?
- ★ How can these complications be managed?
- ★ Would the patient benefit from premedication?
- ★ How will any pain associated with the procedure be managed?
- ★ How will anaesthesia be induced & maintained?
- ★ How will the patient be monitored?
- ★ How will the patient's body temperature be maintained?
- ★ How will the patient be managed in the post-anaesthetic period?
- ★ Are the required facilities, personnel & drugs available?

Anaesthetic Machine

- ☐ PRIMARY OXYGEN source checked
- ☐ BACK-UP OXYGEN available
- ☐ OXYGEN ALARM working (if present)
- ☐ FLOWMETERS working
- ☐ VAPORISER attached and full
- ☐ Anaesthetic machine passes LEAK TEST
- ☐ SCAVENGING checked
- ☐ Available MONITORING equipment functioning
- ☐ EMERGENCY equipment and drugs checked

Drugs / Equipment

- Endotracheal tubes (cuffs checked)
- Airway aids (e.g. laryngoscope, urinary catheter, lidocaine spray, suction, guide-wire/stylet)
- Self-inflating bag (or demand valve for equine anaesthetics)
- Epinephrine/adrenaline
- Atropine
- Antagonists (e.g. atipamezole, naloxone/butorphanol)
- Intravenous cannulae
- Isotonic crystalloid solution
- Fluid administration set

Drug charts & CPR algorithm
(<http://www.acvecc-recover.org/>)

Funcționează ?

Vet Surg. 2018 Sep 24. doi: 10.1111/vsu.12964. [Epub ahead of print]

Effect of implementation of a surgical safety checklist on perioperative and postoperative complications at an academic institution in North America.

Cray MT¹, Selmic LE¹, McConnell BM¹, Lamoureux LM¹, Duffy DJ¹, Harper TA¹, Philips H¹, Hague DW¹, Foss KD¹.

- Faza inițială = 267 intervenții chirurgicale, fără “listă de verificare (LDV)”, urmate de 75 intervenții cu un observator prezent în sală
- Faza post-implementare = 58 intervenții chirurgicale cu LDV și un observator, urmate de încă 277 intervenții doar cu LDV
- Rezultate: mai multe complicații perioperatorii atunci când NU s-a folosit LDV (140/342 [40.9%]) față de (98/335 [29.3%])

**“ Bifarea casetelor pe lista de verificare nu va reduce complicațiile perianestezice, dar reacția la întrebarea de pe listă și măsurile luate vor face diferența” –
Lucian Leape, 2014**