

“Pearls”
of
Veterinary Medicine



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Anesthesiology

Reducing anesthetic risks

Common errors in small animal anesthesia and pain management stem from technical failures (e.g., uncalibrated vaporizers, infusion pumps; lack of standardized monitoring like pulse oximetry, capnography, blood pressure); human lapses (**generic protocols** ignoring species/breed/age; dosage miscalculations from poor weight estimates or drug accumulation; wrong-route/patient administration; **poor recovery monitoring when most complications occur**); and organizational issues (staff shortages, distractions, alarm fatigue, **sleep deprivation**). 17-19 hours without sleep is equivalent to a blood alcohol level of 0.05% or higher.

Pain management errors include underestimating pain (especially in cats), not employing multimodal analgesia (opioids, NSAIDs, locals and non-pharmacological techniques), **premature discontinuation of analgesia**, and not using validated scales such as the Short Form of the Glasgow Composite Measure Pain Scale [ref, ref, ref].

Environmental/social factors exacerbate risks: multitasking, hierarchy, poor communication. The European Association of Veterinary Anaesthetists advises safety checklists and

anaesthesia records (this one uses European spellings), personalized plans, **dedicated anesthetists**, advanced monitoring, temperature/fluid/ventilatory support, annual CPR training, and guaranteed IV access.

Non-technical skills that have recently been recognized as essential to mitigate risks are termed the Anaesthetists' Non-Technical Skills (ANTS) system and include task management, teamwork, situational awareness, decision-making, promoting civility, providing feedback, and simulation training.

Prevention emphasizes **checklists, customized protocols, double-checks for high-risk drugs**, supporting a non-punitive safety culture, and continuous education to reduce morbidity and mortality proactively.

The author summarizes the lecture with 2 quotes: “The error of the moment becomes the sorrow of whole life,” and “To err is human... To cover up is unforgivable, and to fail to learn is inexcusable.”

Carolina Palacios Jimenez, Southern European VC 2025 Cap Rep (2026).44(4):1



Clinical Pathology – Endocrinology

Portable blood glucose monitors

Portable blood glucose monitors (PBG) are useful, fast, and inexpensive, but their enzymatic test-strip systems (hexokinase, glucose oxidase, glucose dehydrogenase) and detection methods (photometric, amperometric, coulometric) are vulnerable to multiple error sources, with **glucose dehydrogenase/coulometric** systems generally the most accurate.

Environmental factors include temperature, humidity, strip age, storage/transport issues, and, for glucose oxidase meters, oxygen tension may alter readings (e.g., oxygen therapy, altitude, **hypoxemia (falsely elevates** glucose oxidase tests)).