

Surgical and Anesthetic Considerations for Scottish Deerhounds

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SURGICAL CONSIDERATIONS

Two inherited blood clotting disorders can occur in Deerhounds: Factor VII (FVII) Deficiency and Delayed Postoperative Hemorrhage (DEPOH). Both disorders require preparatory steps when surgery is planned.

FVII Deficiency

- Presentation: Unexpected or excessive bleeding DURING surgery, which can be mild or severe.
- Genetics: Inherited as an autosomal recessive trait—only homozygotes are at risk, and even many of them have major procedures without incident. A genetic test is available [at several labs](#).
- Function test: Prolonged PT may indicate bleeding risk in homozygotes or dogs of unknown genetic status.
- Treatment: Fresh frozen plasma should be available at the time of surgery and used as needed.

DEPOH (Delayed Post-operative Hemorrhage)

- Presentation: Unexpected or excessive bleeding a few hours to a few days AFTER surgery. Dogs with DEPOH form normal blood clots, but the clots break down prematurely. Bleeding may appear as peri-incisional bruising, seeping from the incision, and/or internal bleeding from cut tissues. Often fatal if not treated.
- Genetics: Inherited as an incompletely dominant trait. Heterozygotes 28 times more likely to bleed, but many have major procedures without incident. Homozygotes 1235 times more likely to bleed. [A genetic test is available](#).
- Function test: None.
- Prevention/Treatment: For homozygotes, **aminocaproic acid or tranexamic acid** should be given either IV or orally at a **dosage of 20 mg/kg** beginning the day of surgery at least three hours prior to the procedure and then three times daily for five days. For heterozygotes and dogs of unknown genetic status, one of these drugs should be available and used as needed. The drugs may increase thrombosis risk in genetically normal dogs.

ANESTHETIC CONSIDERATIONS

Slow Drug Metabolism can occur in Deerhounds.

- Genetics: Thought to be partly heritable, but mechanism is not yet fully understood. Research is ongoing.
- Presentation: Affected dogs are slow to wake up and may have episodes of flailing and excitement while recovering from anesthesia.
- Treatment: Supportive care that may include warming, padding, intravenous fluids, etc., until the drug wears off.
- Prevention: For affected dogs, **acepromazine and hydromorphone are safe** for sedation and premedication, and **propofol and gas anesthetics are safe** for induction and maintenance, but **trazodone, ketamine, and thiobarbiturates can be unsafe**.

Hyperthermia can occur in Deerhounds. To date, cases have been milder than classic Malignant Hyperthermia.

- Genetics: Unknown. Research is ongoing.
- Presentation: Unexpected rapid increase in body temperature to more than 105°F, panting, and deep-red mucous membranes during anesthesia or recovery.
- Treatment: Rapid cooling and administration of fluids and sedatives. Most cases recover with appropriate cooling. Dantrolene is also effective but usually unnecessary.
- Prevention: For affected dogs, **Ketamine/diazepam, tiletamine/zolazepam (Telazol), and possibly butorphanol may increase hyperthermia risk**. Dexmedetomidine, propofol, alfaxalone, and isoflurane have not been associated with increased risk. Temperature should be monitored throughout anesthesia and recovery. Affected dogs often exhibit excessive pre-anesthetic anxiety, fear, or stress from an office visit. Anxiety (and risk) can be reduced by administration of an anti-anxiety drug (acepromazine or gabapentin) at home or at hospital before anesthesia.