



## Facts Concerning Greyhounds and Anesthetic Protocols

With any species of animal, the greatest risk in elective or non-elective surgery is the anesthetic. The Greyhound can be considered an exception because of their physiologic adaptions for stamina and speed. The following is a brief summary of why Greyhounds are "unique" when it comes to choosing a safe and effective anesthetic regimen.

Anesthetic techniques should allow for prompt pain-free recovery. Greyhounds are performance animals that rely on intact muscle and skeletal systems and therefore long excitable recoveries from anesthesia could result in bruises, cuts or other serious injuries.

Because of their small amount of body fat, thin hair coat and large body surface area, Greyhounds are prone to low body temperatures during anesthetic procedures. This can prolong the post-op recovery period due to lengthened anesthetic duration.

Most anesthetic agents result in a slowed cardiovascular system which can lead to low blood pressures during anesthesia. Because the Greyhound's cardiovascular system is adapted to strenuous exercise their blood pressure at rest are higher than other breeds of dog. Therefore, anesthetic agents that cause a drop in blood pressure have a more pronounced effect on Greyhounds. This is also true of certain tranquilizing and sedating drugs. Reduced doses of these agents are adequate to achieve the same effect as compared to other breeds.

A commonly-used anesthetic regimen incorporates a thiobarbiturate followed by gas anesthesia. Using thiobarbiturates in sighthounds can be potentially dangerous, even fatal. Thiobarbiturates are extremely soluble in fat therefore they are absorbed almost immediately into fat after an injection into a vein. Secondly, they are then broken down by the liver and excreted in urine. Lastly, any remaining thiobarbiturate will redistribute to fatty tissues where it "retires" and the animal then recover from anesthesia. Because Greyhounds have little or no fat, thiobarbiturates remain in their bloodstream causing lengthy, prolonged states of anesthesia. Sometimes full recovery is not obtained for up to 24 hours. In addition it seems the liver of Greyhounds is unable to effectively metabolize thiobarbiturates as other breeds.

One very potentially life-threatening condition called Malignant Hyperthermia can result in Greyhounds under anesthesia. This can be fatal and is associated with a rapid rise in body temperature that their body is unable to regulate. The rapid onset of changes in their metabolism as a result can lead to a shock-like state. Aggressive treatment with steroids, fluids and methods to reduce core body temperature as needed. Fortunately, this is a rare problem But one that should not be ignored or overlooked.

Greyhounds are quite normally very quiet, cooperative, tractable dogs that rarely need deep levels of sedation for restraint and control. Clinically, they appear to respond normally to anesthetic agents (other than thiobarbiturates) as long as hypotension and hyperthermia are prevented.

In summary, one should be aware of these differences between Sighthounds and other breeds of dogs concerning which anesthetic protocol to use. For practitioners in general, using those agents which are most familiar, in which we have confidence and which are known to be safe for use in Greyhounds is of utmost importance.

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