

# Vet's Corner

## Metabolic problems in greyhounds

Racing greyhounds suffer from a variety of metabolic problems brought about by the type of athletic performance required of them. As a rule these problems would be unlikely to occur in retired greyhounds but it could happen under certain circumstances.

### Exertional Rhabdomyolysis – otherwise known as Acidosis

This condition is caused by two events: one, is a build up of lactic acid in the muscles, especially in dogs that are not sufficiently fit for the distance they are required to run; and two, is a whole-body potassium deficiency.

Excess potassium is lost from the body via the kidneys, in the urine when dogs pass very acid urine. Acid urine is common in racing greyhounds due to the type of exercise they do and the diets they are on.

Most potassium in the body is inside muscle cells. When a muscle contracts, potassium moves outside the muscle cell and sodium moves in. As the muscle relaxes, potassium moves back inside and sodium moves outside. As the body's potassium stores are depleted there is not enough potassium to fully restore the levels inside the muscle cells so sodium replaces it. This causes a disruption to the normal muscle function as well as attracting excess water inside the muscle cells. This causes discomfort and swelling of affected muscles and if allowed to go unchecked can result in destruction (lysis) of muscle tissue, hence the name "rhabdomyo"-of skeletal muscle, & lysis-destruction of.

Although this is unlikely to happen to a pet greyhound, an unfit dog on a hot day going for a longer than usual run on the beach could be at risk.

### Water Diabetes

This is a problem almost unique to racing greyhounds and often precedes an attack of acidosis.

Essentially, the kidneys lose their urine-concentrating ability so large volumes of urine are passed, and as compensation, the dog drinks excessive amounts of water.

A normal greyhound will drink only 100-600ml of fluid daily, but a dog with water diabetes may drink up to 6 litres in a day. Again, it is unlikely to occur in a pet greyhound except under the conditions outlined above.

### Bald Thigh Syndrome

This is more of a problem for owners and trainers than it is for the affected greyhound. Although the exact cause of the syndrome is still debatable, we do know that at least two hormones can be involved.

The first is thyroxin, the hormone produced by the thyroid gland. Many, (but not all) dogs with bald thigh syndrome have lower than normal levels of circulating thyroid hormones. When taken out of training and supplemented with thyroxin, many of these dogs will regrow their hair.

The second hormone involved is hydrocortisone, the hormone produced by the adrenal gland in response to "stress". Affected dogs are presumed to be under chronic stress in their training environment, leading to chronic overproduction of hydrocortisone (Cushing's Syndrome.) When rested and freshened, the hair tends to regrow and the dogs racing performance will generally improve as well.

Interestingly, in the UK, greyhounds are no longer allowed to race on thyroxin supplements. The authorities there have decided that racing greyhounds simply have a lower level of circulating thyroxin than other breeds, and therefore do not need supplementing. So far, in New Zealand and Australia it is still legal to supplement affected dogs. Some affected dogs, when taken out of racing, still do not regrow hair and the reasons for this are still not known.