

Let's Talk Greyhounds

Issue 2#

The Newsletter with News, Views and Practical Advice

From the **Editor**.....

We received numerous emails in appreciation of our very first issue of Let's Talk Greyhounds from both trainers and owners. It was rewarding to know that the information provided was of practical benefit to trainers. We thank you for your comments.

There are a lot of very dedicated owners and trainers who seek regular and up-to-date information on common problems which may affect their greyhounds. A couple of emails requested more information on Post Race Distress Syndrome which was reviewed in brief in the last issue. Research is still being carried out to determine the underlying cause and how to manage the acutely distressed animal after an extreme physical effort in a race. While the immediate and acute symptoms may include nervous signs, muscle twitches, an elevated heart rate, the 'thumps' and a staggering gait prior to collapse in affected greyhounds within 1-5 minutes, which pose a problem in the choice of emergency therapy at trackside or on return to the kennels, many other greyhounds develop signs of physical distress within the following few days after a hard race.

In this issue, we discuss some of the other stress related conditions which can occur in the 24-48 hours after a hard race.

And of course, we feature a number of handy hints providing practical advice.

We trust that you will continue to enjoy reading 'Let's Talk Greyhounds' as a source of useful information on the animal and sport we all have a passion for when racing greyhounds.

Good racing,

Dr. John Kohnke BVSc RDA



In this Issue:

- **Post-Race Stress Related Problems- A Review**
- Plus Helpful Hints and Much More**

Helpful Hint 1: Supplementing Milk to New Born Puppies

As a 'Rule of Thumb', if a bitch whelps down more than 7 puppies in a litter, or has small milk glands, then daily supplementation of the puppies, especially to smaller less vigorous puppies, is warranted.

There are 2 alternative milk formulae which can be made up to feed or supplement hungry puppies by bottle feeding.

Alternative 1.

Gently heat 500ml cows milk to boiling.

Allow to cool until warm to touch.

Add 2 tablespoonfuls of human baby milk formula and mix well.

Add 2 drops of infant's multi-vitamin syrup and stir thoroughly.

Warm milk to blood heat (37°C) - squeeze a drop onto the inside of your wrist - if you cannot sense hot or cold, then the milk is at blood temperature.

Sieve the milk into a sterilised feeding bottle.

Feed each puppy until it no longer wishes to suck with a pet nursing bottle and teat.

Alternative 2.

Pour condensed cows' milk into to a feeding bottle

Add 1 drop of infant multi-vitamin syrup per 200ml.

Warm to blood heat and feed with a pet nursing bottle and teat.

Puppies often 'suck' air when nursing from a bottle. Hold puppy upright in your hand with its belly cupped in your palm and gently tap it on its back with your finger until it burps. Do not overfeed as this can lead to digestive overload and diarrhoea.

Handy Hint 2: Weak Hips in Racing Greyhounds

Hip dysplasia is not a common hereditary condition in greyhounds or their ancestral Saluki hounds, as compared to breeds, such as German Shepherds and Labradors. However, injury to the hip joint due to a fall in a race, can result in arthritic changes to the hip joint structure which has similar signs of ongoing lameness, inability to run and jump, loss of control of the hind quarters and dragging the affected hind limb(s) to those of hip dysplasia. If you are concerned about hip dysplasia developing in a particular animal or a bloodline of pups, then seek advice and a standard hip dysplasia X-ray diagnosis on the animal from your vet.

Helpful Hint 3: Building Up Weak, Slower Growing Pups

If 6-12 month old saplings are down in body weight and lack muscle development for their age, then a supplement of concentrated whey protein isolates, as contained in the product Sprinter Gold Muscle Pro, at 1g per kg body weight, will help improve muscle bulk and strength in conjunction with light lead walking for 10 minutes per day. Continue this daily supplement for 2- 3 weeks, but reduce it to alternate days once the pups have filled out. Also feed a good quality dry food formulated for growing puppies to provide energy, protein and fat, along with vitamins and minerals, such as in Sprinter Gold Veteran, to supply the nutrients necessary for muscle and bone development. Do not attempt to catch up their growth or body weight gain too quickly, as this can result in bone and joint over loading and long term joint and bone problems. Aim for an average weight gain of around 300 grams per week initially, combined with daily exercise to facilitate body development, rather than let them become over weight relative to their size and age.

Did you Know That.....

When a muscle injury results in tearing of the muscle sheath or internal muscle fibres, the 'hole' in the muscle body can be felt by careful examination. During the healing process, internal microscopic changes are taking place to heal the injured tissue.

Initially, during the first 4-6 hours, small blood vessels supplying the injured tissue allow protein and fluid to leak into the injury site which results in the swelling that we can see and feel. This also causes nerve tension and sensation of pain. The cellular responses involving the migration and congregation of white blood cells then begin.

Within 6 hours, infection fighting cells or leucocytes, and scavenging cells, called phagocytes, are attracted by chemical messengers in the blood and tissue fluid to the injury area. They accumulate in large numbers to control infection and remove damaged tissue.

If there is damage and tearing of muscle or tissue cells, other scavenging reinforcement cells, called monocytes are marshalled to the injury site. Monocytes are much larger specialised cells which can engulf tissue and infective cells. They either digest them on site or transport them to the immune stations in the lymph nodes or spleen for further dissolution via enzyme action.

One of the most fascinating responses to injury is the branching and growth of small blood vessels or capillaries which invade the injury site. This occurs about 48 hours after the injury, about the time the ice packing to reduce bleeding from larger vessels and limit swelling is completed. These branching networks of feeder vessels deliver oxygen, more white cells and nutrients to the battle zone. Once these vessels have brought in the reinforcements and nutrients, they shut down and regress and their structural cells are cleared away by the large monocytes.

Post-Race Stress Related Problems- a review

Many stress related conditions, such as subclinical cramping, post-race urinary shutdown and respiratory distress can occur with obvious external physical signs within 1-6 hours after a hard race. However, a number of less common metabolic and other conditions related to extreme physical exertion, often without visible symptoms, can also affect greyhounds over the 6-72 hours during the post-race recovery period.

These conditions are not always relative to the fitness level of the greyhound, although well-conditioned and prepared greyhounds are less likely to develop signs of metabolic stress. In many cases, these conditions are caused by over-exertion on a particular day, the influence of the weather, as well as interference or checking in a race where a keen greyhound attempts to make up lost ground and exceeds its physical limit. As most of these conditions can have severe physical metabolic or life threatening consequences, prompt recognition is paramount to avoid long term complications.

Post -Race Dysuria

Male greyhounds, in particular, can have trouble urinating freely within the 12-36 hours following a hard race. There are varying degrees of the syndrome, referred to as Post Race Dysuria, meaning lack of urination, ranging from a mild form where a greyhound is unable to open its bladder and passes a thin pulsing stream of urine, to complete shutdown of the bladder exit muscle (sphincter) in total spasm for 36 or more hours. It is thought to be caused by nervous spasm of the normal spinal-bladder nerve loop control, where impulses to relax the bladder exit 'valve' are ineffective due to neurological stress in the post-race period. Often the mild form corrects itself with rest and relaxation in a quiet, warm kennel for a few hours after a race. However, where a greyhound exhibits an inability to pass urine, it can result in increased bladder fill and uncomfortable distention, as well as kidney damage resulting from back pressure on the kidneys themselves. There are drugs which can be prescribed by your vet to relax the bladder sphincter muscle and neurological block. However, in acute bladder distention, the bladder will require emptying by a catheter passed up the urethra to relieve the pressure. In some cases, the catheter may need to be left in place for up to 48 hours to drain urine until the neurological pathways recover from the spasm. Consult your vet for advice as soon as it is apparent that a greyhound is unable to 'pee' freely following a hard race. Do not give a diuretic drug under any circumstances as it will risk severe back pressure build-up and permanent damage to the kidneys.

Racing Thirst

The symptoms of 'racing thirst' or 'water diabetes' are usually apparent within 6-12 hours following a stressful race or physical over-exertion in an effort to regain lost ground. A mild form may develop in a previous race and not be noticed until the greyhound starts to obviously drink excessive amounts of water (polydypsia) and urinate copious quantities of weak, colourless urine (polyuria.) As a consequence, the greyhound can rapidly develop a severe fluid deficit and dehydration, with 1-2 kg loss of body weight over 24-26 hours. Acutely affected greyhounds can drink 2-3 litres of water within a few hours after a race and even resort to licking up their own weak urine in a desperate attempt to satisfy their insatiable thirst. Racing thirst is well recognised as a stress-related hormone imbalance. It is triggered by the suppression of anti-diuretic hormone (ADH) which normally acts in the kidneys to limit urinary outflow. Mild cases can be treated by complete kennel rest and careful management of the diet with supplements of body salts and limited access to water to allow recovery from this largely stress-induced condition over a 2-3 day period.

However, in more severe forms, particularly when a greyhound may have suffered an earlier sub-clinical form of the condition with an increased but not excessive thirst, the loss of fluid and leaching of salts and other vital metabolic compounds through the kidneys, can result in body weight loss, severe dehydration, weakness, collapse and subsequent organ damage. If a greyhound does not respond within 6-12 hours with kennel rest and reduces its extreme thirst, then your vet will be able to manage the recovery process by prescribing ADH replacement therapy, and managing food, body salt and water intake over 5-7 days. Most cases recover well within 7-10 days, but there is an increased likelihood that the condition will recur if a greyhound is not rested during the recovery phase before it is returned to fully competitive racing.

Lung Bleeding

Although this is often a 'hidden' form of over-exertion without visible external signs in the majority of racing greyhounds, surveys have indicated that up to 21% of racing greyhounds running in distance races from 500-700 metres, are likely to suffer haemorrhage of the minute capillaries which surround the airsacs within the lungs.

Certainly, the incidence of lung haemorrhage in racing horses, referred to as Exercise/Induced Pulmonary Haemorrhage or EIPH, where up to 90% of horses bleed to varying degrees each time they race, is well documented. In horses, despite the high incidence of lung bleeding, only about 2% of the horses actually show blood at the nostrils during, or within, 36 hours of a hard race. Very few greyhounds also exhibit possible evidence of a lung bleed by coughing up blood after a race.

Passing a thin fibre-optic endoscope down the windpipe of greyhound after a hard race, indicates that minor lung haemorrhages can be present, even in a well performed greyhound. Although horses show blood at their nostrils, or cough after a race, because they are unable to breathe through their mouth, affected greyhounds can occasionally cough up clots of blood tinged mucus following a more severe level of lung bleeding.

In horses, a number of theories have been developed based on examination of the lungs after hard exercise, and measuring blood pressures in the pulmonary arteries during peak or sustained fast exercise on a high speed treadmill. The most common link between lung bleeding and physical exertion is thought to be the generation of very high measurements of 120-140mm of Mercury of blood pressure within the lung supply arteries. However, greyhounds peak at 40mm Mercury pressure, but sustained galloping in distance races may increase the risk of over-stretching and weakening of blood capillary walls as the lung airsac expand and contract about 80-90 times per minute at the gallop.

In horses, concurrent airway disease with erosion of the airsac walls is thought to have a major influence on the incidence of lung bleeding. This is often related to dust in bedding and feed. Galloping a horse into cold early morning or night air, which is also a common practice during night racing of greyhounds, can constrict lung bronchioles (broncho-constriction) and increase the potential bursting pressure within the small arteries within the airsac walls of the lungs.

Although lung bleeding is thought to occur in greyhounds over staying race lengths, there are no standard management procedures recommended. However, it is important to avoid galloping a greyhound whilst it is recovering from respiratory disease, removing dusty straw kennel bedding and replacing it with a comfortable foam mattress, as well as warming a greyhound up by walking it briskly in the trap area prior to a late night race, may reduce the risk of bleeding in the lungs.

Heart Arrhythmias

Abnormally fast heart beats, or missing beats due to blocks in the nervous control of the heart muscle contraction process, can adversely affect the performance of a racing greyhound. The most common is atrial ventricular block syndrome, often found in older greyhounds following earlier viral infections. Unfortunately, these are difficult to pinpoint when examining the heart beat and rhythm in a resting greyhound. However, if a greyhound is examined immediately after a gallop, atrial nerve blocks can be identified. Although therapy has been attempted with a combination of rest and drugs to improve heart nerve transmission, often the condition recurs when the stress of racing is repeated.

Exercise-Induced Asthma

Greyhounds have around a 2-3% risk of developing asthma-like symptoms after a hard race, particularly when raced under cold conditions. The most common symptoms are a distinctive 'husky' cough, attempts to 'cough up' mucus and wheezing after a race. Many trainers consider it to be a sign that a greyhound has inhaled sand down its throat during a race. However, attempts to cough and bring up mucus, especially related to respiratory distress and obvious restricted breathing and 'wheezing', are most commonly a result of an exercised-induced asthma attack. Some greyhounds appear to be more prone to the condition, which often occurs in related bloodlines, suggesting an inherited risk of asthma. Resting a greyhound with asthma symptoms, and a couple of 'puffs' of a human broncho-dilating agent such as Salbutamol in a 'puffer', with a mask made from a polystyrene drinking cup, under your vet's supervision, will help to relieve the condition. In fact, as a vet, I often use the 'puffer' as a means of diagnosing the risk of asthma in a greyhound which shows a history of respiratory distress 10-30 minutes after racing. Greyhounds which exhibit breathing difficulties for 6-12 hours after a hard race, should be examined by your vet to evaluate their lung function and the presence of lower airway disease.

Handy Hint 4: Observe the Way a Greyhound Corners When Racing

A galloping greyhound will tend to drift out on the corners, increasing sideways force on the right legs on coming out of the corner, particularly if the race track has poorly banked curves with a shifting dirt surface. If a greyhound is already sore on the right hind side, particularly a high hip support muscle injury, when running to the left on a bend (anticlockwise), there is more chance that it will drift out on the corner. If a greyhound with a right hind injury is in the lead at the first turn, it may not only slow-up as it corners, but tend to drift out and risk colliding and bringing any adjacent greyhounds down as well. Conversely, greyhounds which are sore on the left or "railing" side, tend to "cut" into the corner, and if running on the outside, can move across the front of the field, causing an interference and collide with other greyhounds running with them on the inside. Many of these track collisions can be seen easily on the replay of the race track video. Any greyhound which does not take the corner smoothly, should be checked for a muscle or limb injury within 12 hours of the race. It is best to check for minor injuries when the greyhound has cooled down after the race, preferably the following morning before the greyhound is let out into a yard or turn-out pen. Consult your vet for advice and a thorough examination of the greyhound.

Handy Hint 5: Prompt First Aid is Essential

In more severe cases of muscle injury, the surrounding sheath or body of the muscle may split open, allowing the internal fibres to bulge out into the surrounding muscle area. If the blood vessels associated with the muscle fibres are also stretched beyond their elastic limit, they may rupture, with bleeding into the damaged area. A pool of blood can quickly build-up as the heart rate is elevated after a race, to form a "blood blister" or "haematoma" at the site of injury. This can easily be located by a "squelchy" feel to the general consistency of the muscle. The greyhound usually exhibits discomfort when examined carefully, even immediately after the race, but a change in consistency is often the only clue to injury when the animal is hot from racing. Prompt first aid is helpful in minimising the long term effects on ruptured and bleeding muscle tissue. An icepack applied to the area will help to restrict the amount of bleeding, and reduce blood clot formation and bruising at the site of injury. This should be held in place for up to 5 minutes at a time over the area where bleeding or deep bruising is suspected, repeat the ice at 30 min intervals.

Generally, the gap in the muscle area caused by the ruptured fibres and blood vessels, fills up with blood as the vessels leak into the area. The blood clot so formed from the seepage of blood, is a "foreign body" to the actual muscle fibres, interfering with their ability to rejoin and repair. Unfortunately, the blood clot formed is likely to mature to fibrous tissue, which creates a weak spot in the muscle itself. Therefore, it is most imperative to locate these injuries quickly and icepack the area under a pressure bandage to reduce the blood seepage and haemorrhage.

Handy Hint 6: Schooling and Breaking-in a Young Greyhound

It is generally safe to school greyhound pups at 12 months of age because the growth plates in their major limbs close at 9-10 months. However, if a pup is overweight for its age, care must be taken to avoid long gallops over 300 meters as the joint cartilage in the wrists and hocks may be stressed by excessive loading, particularly when cornering. It is also important to introduce young greyhounds to circle galloping in a step-wise manner to avoid the development of metacarpal or 'shin' soreness caused by overloading of the lower limb bones before they have time to model and thicken to withstand the increased weight loading on the circle. Therefore, it is usually safer to school young greyhounds on a straight gallop track for this reason. Some training schools educate the pups to the lure over a 2-3 week period and then give them 2 to 3 months rest period before introducing them to a full racing preparation at 15 months of age. Although X-rays can be taken of the major limb bones to evaluate the stage of closure of the epiphyses or growth plates, a careful schooling program should not cause any undue damage to the muscle and skeletal structures. If a greyhound has prominent growth plates, examination by your vet is advised prior to sending the youngster away for schooling. It is also important to ensure that the young greyhound is given a diet adequate in calcium, vitamin D and trace-minerals, such as a daily supplement of Sprinter Gold Results Plus with additional calcium, or Sprinter Gold Veteran, which contains calcium, to facilitate the development of strong bones and joints.

Handy Hint 7: Racing the Aged Greyhound

In most cases, an aged greyhound over 3-4 years of age, until 5-6 years of age, will enjoy an occasional competitive race against greyhounds of its own age, over a medium distance, without causing any major stress or damage to its body. It is important to ensure that the older greyhound receives a higher protein diet with an adequate intake of calcium and bone minerals, such as 8 grams of Sprinter Gold Veteran each day, to provide these essential nutrients to maintain bone and muscle strength. It is also essential that you have the greyhound thoroughly checked out after each run for joint and muscle injuries to avoid running the greyhound when it is carrying any injury, as even minor injuries are slower to heal as compared to a younger animal. You may also wish to purchase a magnetic field therapy cage, as these are very helpful in maintaining bone strength and assisting recovery from racing. It is prudent to space the races out to intervals of at least 14-21 days with long walks and straight line gallops between each race to maintain a reasonable degree of fitness.

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