

ARE STANDARD FEEDS CRAMPING YOUR STYLE?

As the number of top trainers changing onto Australian Formula continues to grow we are pleased to be able to try and answer one of the questions we are more commonly asked.

What is cramping, and can scientific nutrition help?

When we were developing Australian Formula we took it as read that the unbalanced addition of supplements and feeds too high in cereals and lacking key electrolytes were important factors in many cramps.

Cramping is a fairly common and complex problem of the racing greyhound and both veterinary and human sports scientists agree that they have much to learn about this problem.

The most recent thinking in human sports science is that the cause and prevention of both cramps and the stitch still remain a puzzle, however there are several factors that scientists believe have a major influence on this condition.

In both humans and greyhounds they appear most likely to occur when the athlete exercises to near exhaustion, is less well trained, becomes dehydrated or has an electrolyte imbalance.

FIVE TYPES OF CRAMP

Veterinary science recognises five different types of cramp these can broadly be described as follows:

- 1) **Metabolic cramp** - caused by a deficiency of a trace element.
- 2) **Circulatory cramp** - caused by an injury to the blood vessels supplying the muscle.
- 3) **Nervous cramp** - caused by an injury to the nerves controlling the action of the muscle.
- 4) **Calcium deficiency cramp** - caused by insufficient calcium or vitamin D in the diet.
- 5) **Dehydration cramp** - caused by a loss of body fluids and or salts.

HEAT CRAMPS

Modern thinking about human athletics defines heat cramps as involuntary muscle spasms that occur during or after intense physical activity, usually in the specific muscles exercised.

The thinking is that the principle cause is

an imbalance in hydration levels and electrolyte concentrations.

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This means that giving electrolytes after a race is too late, the athlete needs to be on an effective electrolyte regime days before the race.

Australian formula has a built in electrolyte package and this is one of the main reasons that trainers using standard feeds are at a disadvantage compared to those using Australian.

The reality is often that more than one of the above 5 causes of cramp come into play together for example; dehydration causes a decrease in blood volume.

This reduces the blood flow to the muscle. A minor injury could compound this by causing the contraction of muscles around the injury site (they act as a splint).

An electrolyte imbalance caused by a poor diet compounds the other factors by decreasing the electrical activity in the muscle.

There is little doubt that a poor nutritional status will contribute to cramping in a dog that is prone to this problem.

Kohnke (1994) reported a clinical impression that excess carbohydrates in the diet may result in cramping.

He found that greyhounds put on a diet high in bread and cereals started to show

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clinical signs of cramping a couple of weeks after these dietary conditions had been instituted.

This was often just a tightening of the muscles in the greyhound's back immediately after a race. Reduction of the carbohydrate

in the diet appeared to reverse the problem.

Australian Formula may help dogs prone to cramping in the following ways:

- Trainers using Australian Formula are not adding minerals, vitamins, trace elements and other substances in an unbalanced way.

(Remember that too much of some vitamins and minerals can interfere with the absorption of other nutrients which over time can lead to deficiencies.)

- Australian Formula contains a high specification electrolyte package meaning that the greyhound has a strong electrolyte status before the challenge of hard exercise.
- Australian Formula contains correct levels of available calcium and vitamin D. Cramp causing mineral deficiencies are therefore unlikely.
- Australian Formula will help to achieve a nutritional status that helps to avoid the minor injuries that contribute to a cramping problem. Muscle protein is broken down in training. To compensate, protein synthesis is increased post exercise.
- Australian Formula has a top quality antioxidant package which help to control the damaging post exercise free radicals that are a cause of muscle damage and inflammation.
- Australian Formula fed correctly is a complete and scientific nutrition system which avoids the harmful effects of an imbalanced diet, for example too much carbohydrate and too little available calcium.

We must however stress that nutrition is only one factor involved in the complex problem of cramping and we cannot over stress the importance of a correct level of fitness and of injury detection.

Persistent or severe cramp requires a veterinary clinical examination as it may be indicative of muscle or bone damage or disruption in the blood supply.

IT COSTS APPROX. £4.50 PER WEEK TO FEED A DOG ON AUSTRALIAN FORMULA

Australian formula®

Scientific Greyhound diet

- Advanced high performance scientific racing diet
- Creatine enhanced and with high grade vitamins
- Chelated trace minerals for improved bio-availability
- Contains premium quality chicken, fish, rice, corn and selected vegetables
- Formulated to give supreme quality and performance

DEHYDRATION

CLINICAL SIGNS

- Skin is parchment like and lacking in tone. It does not spring back into position when lifted and released.
- Hair coat is dry.
- Body weight is lost with the loss of fluid.
- Performance is reduced, varying from 3 to 10 lengths.
- Mucous membranes (gums) are dry to the touch and have a red, congested appearance.
- Eyes are sunken and dull with advanced dehydration.
- Appetite is reduced. The dog will often pick at the food.
- Thirst may or may not be present depending on the cause of dehydration. Courtesy Care of the Racing Greyhound

Thirst is basically caused by an increase in the concentration of salts in the dogs blood.

THIRST IS A VERY POOR INDICATOR OF DEHYDRATION

This happens when there is a reduction of blood volume i.e same amount of salts in less blood causes the sensation of thirst.

To fully understand this is to realize that once a dog has the sensation of thirst then it is already dehydrated.

As blood volume decreases and body temperature rises there is an extra strain placed on the heart, lungs and circulatory system which means that the heart has to pump harder to pump the blood around the body.

When this happens there is a drop in performance.

DEHYDRATION IS CUMULATIVE

A dog can easily become dehydrated over a few days of trialing or racing. This is a subject of concern for all trainers.

Remember, a greyhound is made up of about 60% fluids, a significant amount of which are lost in the faeces particularly if the dog suffers from loose motions.

Australian Formula fed correctly should result in firm motions and that combined with its built in electrolyte package is a major development in the control of dehydration.

Enquiries from BRITAIN & IRELAND: Steve Clarke Tel (00 353) 86 0507039
Ireland (086) 0507039 Or manufacturers Gilbertson & Page Tel: 01707 367900