

## Heatstroke- Every second counts

The weather is always a topic of conversation and even more so after the recent heat wave which may become a regular occurrence in the future.

Most people are aware of the dangers from heatstroke, and take precautions to protect themselves. Dogs are reliant on their owners protecting them from being in a situation which could result in this extremely distressing potentially fatal condition. A dog's normal body temperature is around 37.8---38.9 degrees centigrade. To maintain the body temperature a dog will instinctively shiver when it falls below this, if the dogs body temperature increases this will stimulate the dog to pant as the normal cooling function. Dogs do not sweat if overheated as the sweat glands they have are on the paw pads which are not a significant aid to heat loss.

### Regulating Body Temperature

The dog's respiratory system controls the body temperature by way of panting. By taking rapid breaths in and out air passes over the extended tongue increasing moisture evaporation of saliva, mucus membranes of the nasal passage, mouth and lungs. The evaporation of water exchanges hot air from the lungs with cooling external air taking heat away from the body. The evaporation of moisture during panting uses large amounts of water which must be replaced for the dog to maintain effective body cooling, therefore a plentiful supply of cool drinking water is vital .Shade with unobstructed air flow and a low humidity are also necessary for the evaporation process through panting to lower the body temperature for any length of time. In normal situations this cooling system works well, as a dog will instinctively take frequent drinks of water, not exert themselves and find a cool place to lay down, stretching out to contact his less hairy underside with the cool surface.

### Heatstroke risk

The danger of heatstroke occurs when a dog is in an environment or situation where he can no longer self regulate his body temperature loosing the ability to remove excess heat.

If he is unable to cool himself his body temperature will very quickly increase to a dangerously high level. In the failed attempt to cool his body the dog will become more and more agitated, generating more heat and humidity to the surrounding temperature. Panting becomes faster , the short quick breaths are not effective in filling and emptying the lungs with air. With insufficient oxygen circulating the dog's body it will become unable to function and gradually shut down. The neurological and multi organ failure can be fatal in as little as 10 minutes.

### Risk Situations

The most frequent situation resulting in heatstroke is leaving a dog shut in a car in the sun even if the windows are partly open, it does not have to be a particularly hot day for the temperature inside the car to reach dangerous levels for the dog. The more agitated the dog becomes

moving around and panting the heat and humidity within the car will rise until the dog's natural cooling mechanism is overwhelmed. There are other risk circumstances which can lead to heat stress which could progress to heatstroke. A dog confined for a prolonged time in a covered cage can overheat due to poor ventilation and reduced airflow, being left in the sun without shade and water, taking the dog for his walk during the hottest part of the day, prolonged physical activity during hot weather will all generate excess body heat. If the German Shepherd is very old, or very young, or has underlying health issues, or is overweight this will add to the risk factors.

## Recognising Signs of Overheating

The first moments of a dog showing signs of overheating to developing heatstroke can progress alarmingly quickly. Recognising the early signs and taking immediate action is vital, it is not a wait and see situation. The dog will be restless and in obvious distress. Panting will become excessive and prolonged. The affected dog will try to stretch out and start to drool thick saliva. If left untreated in the challenging situation the condition will worsen. The dog's tongue will become tacky as the saliva dries from the continual panting and the lack of water to drink. His heart rate will increase, he will stagger unable to walk, he may vomit, become unresponsive to you. In the later stages he will have muscle tremors, seizures and as his condition deteriorates he will eventually collapse, unless he has emergency treatment he will become unconscious and will die. If this sounds distressing it's because it is, especially as most cases are highly preventable. Action must be taken at the very first signs of heat stress, delay can be fatal.

## Take Action Now

The dog's body is overheating so the first goal is to lower his body temperature by moving him to a shaded cool place, if possible with a cool breeze, cool air flow from a fan or an air conditioned room. Keep him calm and give him a drink of water. Cool water sponged or poured gently concentrating on his head, neck, and groin areas will be beneficial in cooling him. If in the early stages of overheating or a mild case of heat stress he should gradually start to recover with this treatment. Keep him quiet and cool offer him frequent small drinks of water allowing him to fully recover.

A dog already in the advanced stages of heatstroke may have collapsed or even be unconscious IMMEDIATELY remove him from the hot environment and lay him on his side (a cool surface such as a tiled floor or shaded grass if available is ideal) If he is unconscious make sure his airways are clear. Open his mouth and pull his tongue forward, keep his head extended. Bringing his body temperature down is now an acute emergency. As with the early stages cool water is needed. Use a hose set on gentle shower or pour water if a hose is not available on his head (make sure to avoid his nose and mouth) neck, groin and lower back. Don't use iced water

as this will cause the blood vessels in the skin to contract restricting blood flow and cooling, (but if that is all that is available use it carefully its better than doing nothing) Keep the water treatment up until his breathing starts to settle but not so long that the dog starts to shiver (shivering is the body trying to increase the temperature) offer him a drink of cool water as he begins to recover. Depending on the severity of his condition he should be transported as quickly as possible, preferably in a vehicle with air conditioning set on chill to continue cooling him to the nearest veterinary surgery, make a phone call before to let them know you are on your way, while asking them if any additional first aid is required for the dog. A dog that has been affected by a severe case of heatstroke may need intravenous fluids to treat the dehydration and cool the body, oxygen to aid his breathing and ongoing monitoring and treatment for any internal damage. Even a mild case of overheating when the dog appears recovered monitor his condition for a few days after in case of any internal complications.

### **Prevention is better than cure.**

Never leave your German Shepherd unattended in a parked car even in cooler spring sun. Remember if your car is in the shade when you leave it the sun does not stay in the same position and the car may soon be in full sun. Leaving the dog in the car “for just a minute” can be too long on a hot day. When your dog is travelling in the car on a sunny day, provide a cool pad for him to lie on, good ventilation, shaded windows and plan regular breaks to give him a drink of water. Avoid taking him for a walk, chasing a ball, prolonged exercise during the warmest part of the day. Early morning or evening will be cooler and the best time for his exercise, but when it is very hot do not over do it. Do not leave your German Shepherd in a hot room, garage, kennel, or conservatory. Close curtains or blinds to keep the sun out, Trees or an open sided canopy can provide shade without restricting the air flow. Because water evaporation is vital for body cooling provide several water bowls for your dog placed out of direct sunshine to keep the water cool in case one should get knocked over or emptied.

### **Rescuing a dog in a hot car**

If you see a dog in distress shut in a hot car, ask someone to stay with the car while you try to locate the owner. Make a note of the type, registration and colour of the car. If in a public place or a supermarket car park ask for an announcement to be made over the stores PA system. Breaking into a car to get the dog out could be classed as criminal damage unless you believe you have a lawful excuse because the owner would consent knowing the circumstances. If you see the dog is in danger of dying and must be rescued immediately, phone the police and tell them what you are doing so that it is recorded. Take names and contacts of any witnesses and ask them to take photos or video the dog in the car and you gaining entry into the car. Take care when removing the dog from the car it may be scared and disorientated. Quickly follow the advice to

treat heatstroke and wait for the dog's owner and advise them to urgently take the dog to their vet incase of internal damage.

## Raising Awareness

Dogs can be affected by overheating and heatstroke in a variety of situations. When the weather heats up you must be especially careful and do everything you can to protect your German Shepherd because as you can see the body cooling system for a dog relies on certain conditions to be effective. Familiarising yourself and other dog owners with this knowledge could prove invaluable.

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