

Hot Dogs?

This article is in response to a question about wetting down dogs to cool them off while sledding.

Water is an excellent conductor of heat. Air is an excellent insulator. Water in the coat replaces the air pockets that would normally insulate the dog. Therefore, the water will definitely not be trapping the heat in, but will instead be conducting it out. This is why it is so critical to get dried off right away if you, the musher, go through overflow in the winter. The water just sucks the heat away from your body so much faster than air. Dogs can get frozen feet from overflow even though they may happily run barefoot through the snow for hours at twenty below with no sign of cold feet.

On the other hand, water will also absorb heat from the sun. If you are running a wet dog in direct sunlight, and especially if it is a black dog, it will be absorbing more heat than a dry dog. In cool weather, this would still be less than the amount of heat being conducted out of the body by the wet coat. But in really hot weather and high sun angles, the dog might absorb more heat than he gives off. I have no idea at what temperature this happens, and it would also vary with coat color. So, it would seem advisable to not wet down the top of the dog but just soak the belly, chest and underside of neck and perhaps a bit of the sides.

Wetting the top of a dog will likely not add much appreciable cooling anyway, since dogs do not have lots of blood vessels close to the skin as humans do. The blood vessels are what carry the heat to the outer surface of the body, and since dogs cool themselves mostly from the tongue, pads of the feet, and belly and armpit region, this is where the blood runs closest to the surface. This lack of many blood vessels close to the skin over so much of their body is what allows even short-coated dogs to swim comfortably in frigid water for a length of time that would cause a human to freeze to death.

The issue of humidity is also an important one. Dogs cool themselves by evaporation (i.e., panting), so humid air makes it harder for them to cool themselves, just the same as for humans. For a running dog, being wet does not create any humidity problems because the moist air is being whisked away by the brisk wind the dog is creating. In fact, the wind causes increased evaporation of water from the wet dog, resulting in increased cooling.

A wet dog in an enclosed space WILL be humidifying his air, so he will have a harder time cooling himself. Therefore, DO NOT EVER put a hot wet dog in a dog box. In fact, a hot dog will humidify the air from his own panting, even if he is otherwise dry. This is why you must always let your dogs cool down before putting them in the boxes.

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