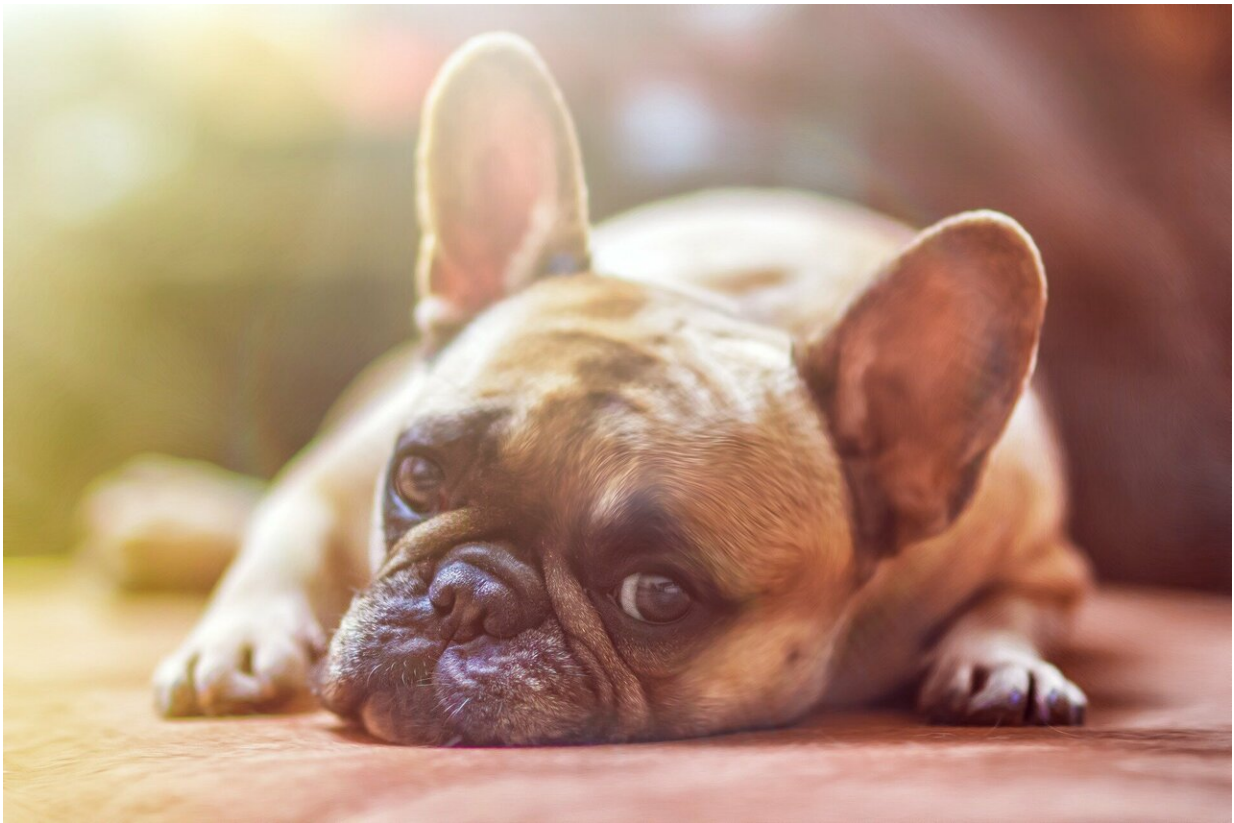


London dogs at greater risk of heatstroke, latest research suggests

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Researchers in dog welfare at Nottingham Trent University and the Royal Veterinary College found that dogs in the capital had up to double the chance of getting heat-related illness than in some other regions.

Heatstroke, also called heat related illness, is a potentially fatal condition in dogs which is expected to become even more common as global temperatures rise.

As part of the study, the team investigated [risk factors](#) for heatstroke by analyzing anonymized clinical veterinary records of more than 900,000 U.K. dogs from the VetCompass program at the Royal Veterinary College.

Across the U.K., dogs that were older and heavier were most at risk of developing severe heatstroke, and when it came to the risk of dying it was older dogs and flat-faced breeds such as pugs and bulldogs that were at most risk.

Interestingly, the researchers found that the average temperature in which dogs became ill from heatstroke was 16.9°C. This is much lower than previously believed and which the researchers say busts the myth about dogs only becoming high-risk for heatstroke in scorching temperatures.

During the single year of the study, 390 dogs needed veterinary care for heatstroke, including 72 in London.

The risk for heatstroke for dogs living in London was double that found in Yorkshire, and almost double that in the North West and East of England.

Exploring the specific triggers for heatstroke events, the researchers found that exertion, or exercise, was responsible for 68% of heatstroke cases in London and [hot weather](#) 14%.

Dogs that were confined to a hot building accounted for eight percent of cases in London, which was more than double that of the wider U.K.

figure of three percent. The researchers suggest that this could be due to a higher proportion of apartments than in rural locations, and because the ambient temperature in cities such as London can be about 5°C warmer than in the countryside.

Conversely, just one percent of heatstroke cases in London were linked to a dog being left in a hot car, compared to six percent nationally, which the researchers suggest may in part be due to a difference in transport preferences in London as well as the success of the longstanding campaign "Dogs die in hot Cars."

The team is urging owners to remember that while dogs certainly do die in hot cars, far more dogs develop heatstroke on hot walks, and for dogs that are older, or flat faced, even mild heat can be deadly.

Across the U.K., advancing age was associated with both severe and fatal heatstroke, with dogs aged 12 years or older having the greatest odds of both.

Heavier dogs which weighed between 40–50kg were at greater risk of developing severe heatstroke and flat-faced, or brachycephalic, dogs affected by heatstroke were three times more likely to die than other dogs.

As summer approaches, the researchers are warning owners to look out for early signs of heatstroke in their dogs, such as excessive panting, red or darkened gums and tongue, confusion and unsteadiness leading to collapse, diarrhea, vomiting and even seizure leading to coma. If the dog is not cooled immediately and veterinary advice sought quickly, the condition can be fatal.

Emily Hall, a veterinary surgeon at the Royal Veterinary College and main author of the paper, said: "As global temperatures continue to rise,

better understanding of the combined risk factors for heatstroke will support more targeted owner education to improve canine welfare.

"Whilst the most common trigger overall was exercise, our findings highlight the increased risk of severe and fatal heatstroke associated when dogs cannot escape the heat source or have reduced capacity to thermoregulate, such as older dogs and brachycephalic breeds.

"Both flats and terraced housing are generally located within the warmest parts of cities and are associated with an increased risk of overheating. Whilst it does not explain all the additional heatstroke events in London, a significantly greater percentage of cases in London were triggered by confinement in a hot building compared to the rest of the U.K."

Dr. Anne Carter, a canine scientist in Nottingham Trent University's School of Animal, Rural and Environmental Sciences and co-author of the paper, said: "The relatively low temperatures at which heatstroke often happens in U.K. dogs could result from a lack of acclimatization opportunities with the U.K.'s variable climate.

"It again highlights the importance of educating dog owners to recognize the early signs and to be aware that it can occur even in relatively mild weather conditions. One dog suffered heatstroke in winter while exercising, when the temperature was just 3.3°C."

Dr. Dan O'Neill, Associate Professor Companion Animal Epidemiology at the Royal Veterinary College and co-author of the paper said: "These results emphasize the double whammy risk of heatstroke that dogs face in built-up areas: rising global temperatures everywhere combined with the concrete cooking effects from living in city environments.

Awareness of these extra risks can help owners take steps to protect their dogs, especially as we approach the summer months.

"Based on this new VetCompass research on heatstroke in dogs, the U.K. has now launched a new national campaign 'Dogs die on hot walks' that alerts owners to the risks of exercising dogs during warmer parts of the day. These risks are exacerbated for dogs in built-up areas of the U.K."

Paula Boyden, Dogs Trust Veterinary Director, said: "Dogs Trust's Canine Welfare Grants program provides funding for vital research projects which positively impact dog welfare and we are delighted to be supporting the VetCompass work."

"Dogs Trust has campaigned for many years on the 'Hot Dogs' issue, providing guidance to owners to help them look after their dogs in hot weather. Every new piece of evidence on this issue helps to increase owners' awareness and understanding and will, hopefully, result in far fewer cases of [dogs](#) becoming severely ill or dying of [heatstroke](#)."

The paper is published in *Veterinary Sciences*.

More information: Emily J. Hall et al, Risk Factors for Severe and Fatal Heat-Related Illness in UK Dogs—A VetCompass Study, *Veterinary Sciences* (2022). [DOI: 10.3390/vetsci9050231](https://doi.org/10.3390/vetsci9050231)

Provided by Nottingham Trent University

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