

# Hot dogs – Which dog types have highest risk of heat related illness in the UK?

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## Objectives

Heat related illness can result when dogs are trapped in hot environments or exercised beyond their cooling capacity. As environmental temperatures increase due to climate change, heat related illness cases are likely to increase in frequency. This study aimed to identify risk factors for heat related illness, helping clinicians to identify clients with at-risk dogs for targeted prevention strategies.

## Methods

Heat related illness cases were identified from clinical records of primary-care practices participating in VetCompass during 2016. Demographic data were extracted, and risk factors analysis used multivariable logistic regression modelling.

## Results

The study identified 390 heat related illness cases during 2016 from 905,543 dogs overall (incidence 0.04%, 95% CI 0.04-0.05%). Compared to the most common UK breed (Labrador Retriever), breeds at highest odds were Chow Chow (odds ratio [OR] 16.17, 95% CI=6.05-43.21) and Bulldog (OR 13.54, 95% CI=7.81-23.50).

French Bulldog, Dogue de Bordeaux, Greyhound, Cavalier King Charles Spaniel, Pug, Springer Spaniel and Golden Retriever also showed increased odds. Brachycephalic dogs had increased odds compared to mesocephalic dogs (OR 2.1, 95% CI=1.68-2.64). Dogs weighing at or above their breed mean had increased odds compared to dogs below the breed mean (OR 1.42, 95% CI=1.12-1.8). Dogs weighing >50kg had increased odds compared to <10kg (OR 3.42, 95% CI=1.54-7.57).

## Statement (conclusion)

This study identifies breeds with increased heat related illness risk, using big data to highlight brachycephaly and increased bodyweight as additional risk factors. Veterinarians should advise caution when exposing dogs of these predisposed breeds, giant breeds, brachycephalic types, and possibly obese dogs to hot environments or strenuous exercise in warm weather.