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Weather Affects Children's Injury Rate: Each 5-Degree Temperature Rise Boosts Kids' Hospital Admissions for Serious Injury by 10 Percent

Every 5 degree Celsius rise in maximum temperature pushes up the rate of hospital admissions for serious injuries among children, reveals one of the largest studies of its kind published online in Emergency Medicine Journal.

Conversely, each 5°C drop in the minimum daily temperature boosts adult admissions for serious injury by more than 3%, while snow prompts an 8% rise, the research shows.

The authors base their findings on the patterns of hospital treatment for both adults and children in 21 emergency care units across England, belonging to the Trauma Audit and research Network (TARN), between 1996 and 2006.

Any patient requiring hospital admission for more than three days, a transfer to another hospital or critical care, or who subsequently died after being injured, was included in the analysis in a bid to see if clear temporal patterns emerged, which were linked to prevailing weather conditions.

These criteria applied to just under 60,000 patients, whose average age was 48 (adults) and 10 (children). The data analysis indicated strong seasonal trends.

Among adults, every 5°C rise in maximum daily temperature and each additional two hours of sunshine increased the admission rate for serious injury by just under 2%.

But an even stronger pattern was seen among admissions for children, with equivalent temperature rises prompting a 10% increase in admissions and extra sunshine a 6% increase.

The authors calculate that the rate of children's admissions between the months of April and September may be up to 50% higher than average.

At the other end of the scale, each 5°C drop in the minimum daily temperature, boosted adult admissions for serious injury by more than 3%, while snow prompted an 8% rise. Admissions peaked at weekends.

"The results of this extensive study, covering many trauma units of varying size and location over an extensive period of time, show strong and intuitively convincing relationships between recorded weather and trauma admissions," say the authors.

They conclude that this analysis could be used to predict daily admission rates, and therefore staffing levels and the planning of other resources.

Editor's Note: This article is not intended to provide medical advice, diagnosis or treatment.