

# DNA methylation in adulthood linked to season of birth

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(HealthDay)—DNA methylation in adulthood is associated with season

of birth and may influence the effect of season of birth on allergy, according to a study published online March 12 in *Allergy*.

Gabrielle A. Lockett, Ph.D., from the University of Southampton in the United Kingdom, and colleagues examined whether DNA methylation could underlie the correlation between season of birth and allergy. The risks of [birth season](#) on allergic outcomes were estimated in a subset of 18-year-old participants from the Isle of Wight birth cohort (367 participants).

The researchers found that, compared with spring birth, autumn birth correlated with increased risk of eczema. In the epigenome-wide association study, methylation at 92 CpG sites showed association with season of birth. Significantly more CpGs had the same directionality than expected by chance in a validation cohort; four CpGs reached statistical significance. Among networks relating to development, the cell cycle, and apoptosis, season-associated methylation was enriched. Nominal associations were seen for 20 CpGs with allergic outcomes; two were marginally on the causal pathway to allergy. In newborns, season-associated methylation was largely absent.

"This study demonstrates that DNA methylation in adulthood is associated with season of birth, supporting the hypothesis that DNA methylation could mechanistically underlie the effect of season of birth on [allergy](#), though other mechanisms are also likely to be involved," the authors write.

**More information:** [Abstract](#)  
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