

## RISK OF MULTIPLE SCLEROSIS INHERITED FROM STEPPE PASTORALISTS

A recent study on ancient DNA by Barrie et al. (1) suggests that genetic variants associated with the risk of multiple sclerosis (MS) were introduced to Europe approximately 5,000 years ago by herders, known as the Yamnaya, migrating from western Eurasia. These variants, which increased in prevalence over time, are believed to have conferred an evolutionary advantage, possibly by helping ancient populations combat pathogens. The study compared ancient DNA from Mesolithic and Bronze Age samples, as well as Medieval genomes, with modern DNA from the U.K. Biobank. The researchers propose that the MS-associated variants may have protected Yamnaya herders from diseases carried by their livestock. While these variants may have been advantageous in the past, they are now linked to an increased risk of MS, possibly due to changes in disease dynamics and advancements in healthcare over the millennia. The findings contribute to understanding the historical origins of MS and the impact of ancient migrations on genetic diversity in western Eurasia.

This is an additional example of “mismatch diseases”. As humans have transitioned from hunter-gatherer societies to modern, industrialized societies, certain genetic variants that provided advantages in the past may now contribute to health issues in the current context.

1. <https://www.nature.com/articles/s41586-023-06618-z>