

## News Articles Related to MS

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### Multiple Sclerosis in Genetically Susceptible Twins is Augmented by Northern Environment

A new study of twins suggests that living farther north of the equator significantly increases risk of developing Multiple Sclerosis (MS) among those with genetic susceptibility due to some environmental factor. The concordance (both twins being diagnosed with MS) among identical twin pairs born in the north was nearly twice as high as among those born elsewhere (18.6 % vs. 9.5%).

Locations categorized as “northern” included Canada or states at or above 42 degrees north, including Alaska, Oregon, Washington, Idaho, Montana, Nebraska, North Dakota, South Dakota, Wyoming, Michigan, Minnesota, Wisconsin, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont.

“This study suggests there’s more concordance among identical twins, which means there is some environmental exposure and it is interacting with the genes.” says Thomas Mack, professor of preventive medicine at the Keck School of Medicine of USC and lead author of the study. Northern residence also contributed significantly to earlier onset of the disease. The researchers suggest that an early onset in the North could represent an early environmental deficit in protection, such as by less opportunity for early exposure to the sun, or for unknown reasons to an unrecognized causal factor, such as a virus. “It may even be that exposure to the sun interrupts whatever effect a virus has,” says Mack.

### DIRECT-MS Comments

This study adds further support to the interpretation that vitamin D supply is a key causal factor for MS. Dr Mack came to the obvious interpretation of these findings that “exposure to the sun interrupts whatever effect a virus has”. As detailed in various Direct-MS publications, MS is primarily due to a low level of vitamin D (“lack of sun exposure” in Mack’s words) at the time of a cross reactive viral infection (“whatever effect a virus has” in Mack’s words) mainly in childhood (“an early environmental deficit” in Mack’s words).

