

Smoking increases the risk of MS progression

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A new study by Dr Cullen O’Gorman and Professor Simon Broadley of Gold Coast Hospital and Griffith University in Queensland, has shown that secondary progressive MS can develop, on average, four years earlier in people with MS who have smoked compared with those who have never smoked.

The new study was published in the *Journal of Neurological Sciences*, in October. The research examined the clinical records of 646 people with MS who were followed at the Gold Coast Hospital MS

Clinic. A variety of demographic, clinical and environmental factors, including treatments that people had been on, were examined and when taking all of these factors into account, smoking emerged as the most significant factor in developing progressive disease.

The findings are aligned with [results published in 2015](#) by a Swedish group who found that quitting smoking even after a diagnosis of MS was associated with a delay in the development of secondary progressive MS by an average of eight years.

It has been known for some time that smoking increases the risk of developing MS, including evidence from the MS Research Australia-supported [AusImmune study](#) that has revealed many of the controllable risk factors that contribute to the development of MS. However, these more recent studies also reveal that smoking influences the subsequent risk of developing progressive disease following an initial diagnosis of relapsing remitting MS.

An earlier study, suggested that smoking slightly increased the risk of disease progression in people with MS in Tasmania. However, the Queensland and Swedish studies found the influence of smoking to be much stronger suggesting that the change to MS risk may be greater or lesser depending on the strength of other risk factors, such as those associated with the latitude at which you live (distance from the equator).

Having the results of these studies from different populations and locations around the world is important confirmation that the findings are real. It also helps researchers to piece together the different combinations of risk factors that influence the development and progression of MS in different circumstances.

Exactly how smoking contributes to MS progression is not yet clear. The authors of the study discuss the possibility that it may be through direct effects on the immune system or through an increase in the cardiovascular health problems that may contribute to MS progression. Other studies have shown higher levels of brain inflammation and brain atrophy in people with MS who smoke compared to non-smokers, both of which can influence the development of disability in MS. Cigarette smoke also contains thousands of chemicals, many of which have been shown to be directly toxic to brain cells or influence immune function.

Regardless of the mechanism, the authors conclude that smoking both increases the chance of getting MS and contributes to a worse outcome in terms of disease severity and developing secondary progressive disease in those with relapsing remitting disease. This means it is never too late to quit – even after a diagnosis of MS.