

Is cooling beneficial for MS?

In MS, damage to nerve fibres causes the messages which pass along them to slow and become blocked. This can result in a variety of symptoms associated with MS. Cooling nerve fibres has been shown in laboratory based models and in some small studies of people with MS to improve the speed of messages passed along nerves, and consequently improve symptoms. However the effect of cooling nerves has not been studied in a controlled way in people with MS. This study aims to evaluate the effect of a single 1-hour cooling session (acute cooling), and daily cooling over a four-week period (chronic cooling).

A cap and vest were used to provide high and low doses of cooling. The effects on leg and arm function, vision and cognition were monitored before and after each acute treatment. During chronic treatment participants were asked to self-rate their fatigue, strength and cognition. This was compared to symptoms reported during a four-week period without wearing the cooling equipment.

High dose acute cooling was shown to produce small improvements in timed walking and vision, with low dose cooling producing less of an effect. Chronic cooling was rated by three quarters of participants as improving energy levels, with beneficial effects lasting from midmorning into the evening. However, improvements in fatigue were also reported by 40% of people with MS over the four-week period without cooling.

This study has shown small improvements with acute cooling, and also underlines the impression of the participants that long term cooling was beneficial. This finding is consistent with previous, smaller, studies reporting a benefit of cooling on a variety of symptoms of MS. The lack of side effects and small improvements in limb function and vision are highlighted and the authors suggest long-term cooling could be considered as an additional therapy to existing treatments.

This report was published in Neurology, June 2003, vol 60, pages 1955 - 1960.

Marianne Miles PhD, Research Manager