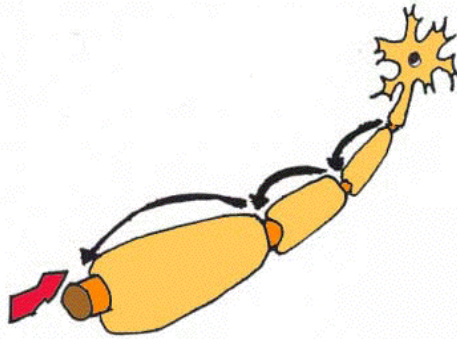


Physiology of Cooling

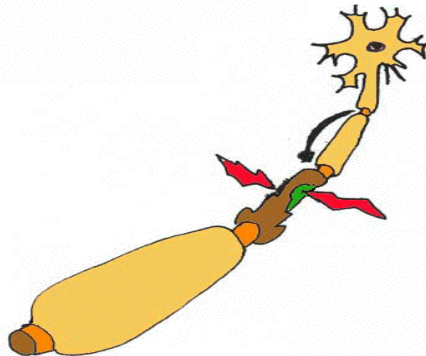
How does cooling and lowering body temperature restore function in damaged nerves and improve the symptoms of MS?

A Healthy Nerve



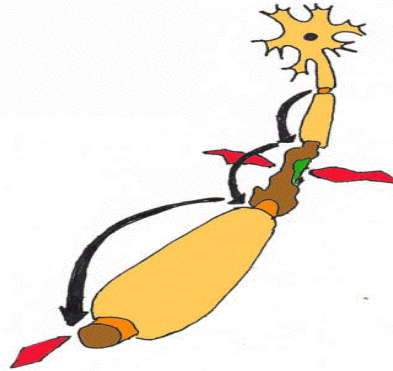
In a normal nerve with healthy myelin insulation, the electrical signal jumps easily from node to node. The myelin insulation keeps the signal from shorting out as it travels to its destination.

A Damaged Nerve



In nerves damaged by MS, current escapes through the damaged myelin insulation and cannot reach the next node efficiently. The nerve signal slows or stops completely. Small increases in body temperature can block current flow even further.

**A Damaged
Nerve
After Cooling**



If the damaged nerve is cooled slightly, the speed of the electrical signal is slowed down and the duration of the signal is lengthened. This effect can allow the signal to jump over the damaged area. If this jump is successful, current flow can be restored in this nerve.

The encouraging result is that with even small decreases in temperature, the electrical current flow can often be restored producing dramatic improvements in vision, fatigue, spasticity, cognitive function, and other typical symptoms of MS.