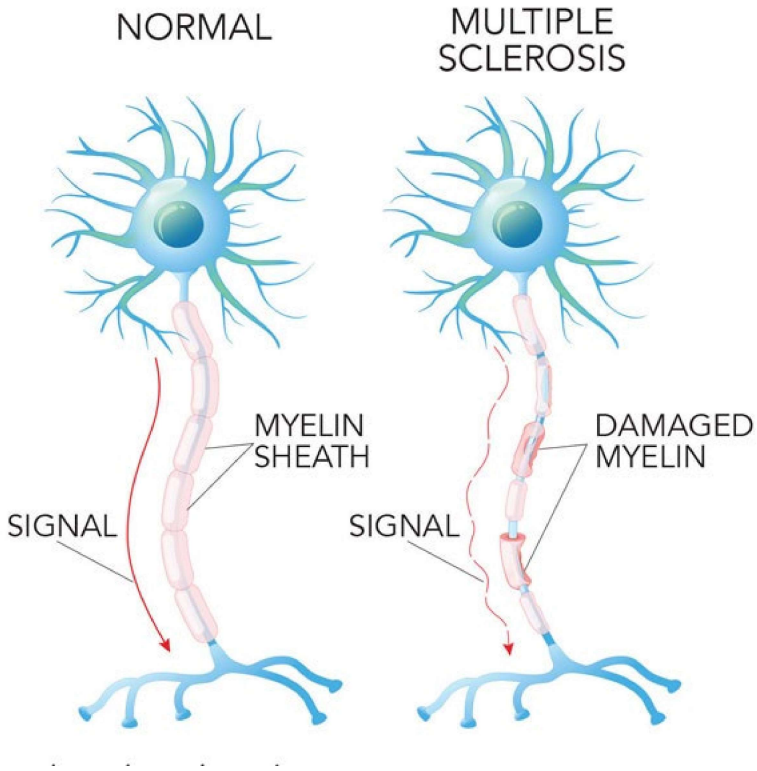
Cryotherapy for People with Multiple Sclerosis

Research Results and Suggestions for Use

What is Multiple Sclerosis

Multiple sclerosis (MS) is a potentially disabling disease in which the immune system attacks the protective sheath (myelin) covering nerve fibers. The resulting nerve damage disrupts communication between the brain and the body. Eventually, the disease can cause permanent damage or deterioration of the nerves.



The disorder is untreatable at its root cause, but the symptoms can be effectively managed. Much data has reported that COLD is perceived as providing relief and slowing disease progression in multiple sclerosis patients. Cold applications can improve their general well-being.

Numerous clinical observations have now been published that underline the positive effect of cooling and, particularly, whole-body cryotherapy in people diagnosed with multiple sclerosis.

Symptoms

Multiple Sclerosis is characterized by **various symptoms** that frequently change in incidence and intensity over the course of the disease depending on the location of affected nerve fibers. They can occur in bouts, also with regression of symptoms, or they may continuously grow in intensity unabated.

The symptoms can include tingling or pain in different parts of the body, impaired coordination, dizziness, fatigue, slurred speech or loss of vision.

Exercise, although highly recommended, can alleviate hyperthermia.

The below quoted studies show that **whole body cryotherapy can ease symptoms, while pre-workout cooling can also reduce exercise-induced overheating of the body**.

Studies of Whole-Body Cryotherapy Effects on People with Multiple Sclerosis

There is evidence that multiple sclerosis is not only characterized by immune mediated inflammatory reactions but also by neurodegenerative processes. Therefore, researchers have studied the ways of not only reducing inflammation but also neutralizing oxidative stress and excitotoxicity, thinking that it might represent a therapeutic approach to provide neuroprotection.

Oxidative stress is the result of an imbalance of free radicals in the body. They damage proteins, lipids and nucleic acids, which in turn causes inflammation. The inflammation results in demyelination of the central nervous system and has a bearing on how severe a patient's multiple sclerosis is.

In several consecutive studies, researchers compared changes in total antioxidative status (TAS) and activity of chosen antioxidative enzymes, such as SOD (superoxide dismutase), in patients with MS before and after using whole body cryotherapy.

The results demonstrated that **two weeks of cryotherapy once daily resulted in a significant increase of total antioxidative status** in comparison to the reference group that did not use whole body cryotherapy. There was also statistically significant increase of the activities of SOD in erythrocytes obtained from the whole-body cryotherapy study group.

It was concluded that expositions to extremely low temperatures used in cryo-stimulation improve the antioxidant capacity of the body; therefore, whole body cryotherapy might be a solution to suppress oxidative stress in MS patients.

Another study demonstrated that **cooling before exercise improved multiple sclerosis patients' functional and exercise capability**, as it reduced the damaging effect of post-exercise hyperthermia.

Treatment suggestion

Zimmer MedizinSysteme reports that the clinics that followed the researchers' suggestions and started applying whole body cryotherapy in people with multiple sclerosis observed the following results:

- The status after whole body cold action was described by most as pleasant
- The entire spectrum of complaints was relieved
- Patients felt stronger, fatigued less quickly and were mentally more active
- Spasms were reduced, gymnastic exercises could be carried out more precisely
- The motor system, perambulation and mobility were improved, and disturbances in equilibrium were reduced
- Pains were eased or even eliminated (this mainly concerned secondary pain that primarily came from postural troubles of the spine, muscular straining and inordinate stressing of the joints)
- The afflicted individuals referred to the state achieved after the cold therapy as a clear increase in quality of life

According to previous experience, whole body cryotherapy should be given twice a year for two to three weeks, with one to two exposures per day, mainly in association with gymnastic exercises that specifically take into account the individual symptomatology.

Due to the complex nature of the disease, it is of KEY IMPORTANCE to determine the individually required and tolerable dose of whole-body exposure to cold depending on the ability to adequately react to the extreme stimuli. **An open cooperation of the patient with the doctor about whether and how to use it is an absolute requirement.** Other treatments that were already applied before should also be continued. Any changes, if at all, should only be carried out with the doctor's consent.

The recommendation for the therapeutic course should be based on the acquired knowledge that the improvement in state is approximately linearly related to the duration of therapy. Although cold treatments for a shorter period than the described above 2-3 weeks can also produce already good success, they do not achieve all that is possible. Numerous studies have concluded **that the results start showing after 10 consecutive treatments but are most sustainable after 20**.

It must also be ensured that upon improvement in condition the physical load does not exceed the range of well-being. The reduction in symptoms under whole body cryotherapy can unfortunately induce such urge.

Sources:

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