What can be done to manage my sensitivity to the heat?

Studies have shown that cooling the body can help lessen the negative effects of heat and improve the quality of life of people with MS.

According to a 2010 research study, Dr. George Kraft found that "...after body temperature had dropped about one degree... participants improved on tests of coordination, balance, and in the ability to sustain physical activity. **We concluded that cooling is an appropriate therapy for people with MS heat sensitivity."**[3]

"Cooling therapy is generally well-tolerated, and limited research studies have shown possible benefits for some MS-associated symptoms," says Dr. Allen C. Bowling. "The symptoms that may improve from cooling include weakness, spasticity, tremor, incoordination, walking difficulties, fatigue, visual difficulties, speech disorders, cognitive difficulty, urinary difficulties, and sexual difficulties."[4]

Each person's MS is unique and there is no "one size fits all" choice for body cooling. There are many different types of body cooling garments available, and the best choice for you depends on YOU, your environment and your individual needs. Read this guide to learn more!

***COOL TIP:** Lightweight accessories target key arteries. Look for wrist, ankle and neck wraps!*

Cool & Fit

Exercise is not just an essential tool to remain healthy; it can also help alleviate MS symptoms.

In a University of Utah study published in 1996[1], individuals that participated in 40 minutes of aerobic exercise three times a week benefited from:

- Better cardiovascular fitness
- Improved strength
- Less fatigue and depression
- Increased participation in social activities
- Better bladder and bowel function
- A more positive attitude

Visit the following websites for additional information:

1. nationalmssociety.org/Living-Well-With-MS/Health-Wellness/Exercise
2. ncbi.nlm.nih.gov/pubmed/8619521

Keeping Cool While Staying Fit

Our goal at Polar is to keep you cool and comfortable during your fitness and sports activities.

Take a look at Polar's top five cooling garments for fitness & sports:

1. CoolFit® Kit
2. Cool Comfort® Performance Full and Half Vests
3. Wheelchair Cooling Seat Cushion
4. Cool58® Phase Change or Cool Comfort® Baseball Cap
5. Kool Max® and Cool58® Wrist and Ankle Wraps

Visit **polarproducts.com** to see our sports and fitness products!

Polar Products Inc. is a family-owned company with 30+ years of experience manufacturing high-quality, effective & affordable body cooling systems & hot/cold therapy products. Visit us at www.polarproducts.com.

Heat Sensitivity and Multiple Sclerosis

An Educational Guide to MS and Body Cooling

Each person's MS is different...

Why should people with multiple sclerosis (MS) be concerned with heat and temperature?

A rise in temperature can cause some people with MS to experience a temporary worsening of symptoms. This can happen when physical or environmental factors cause a rise in body temperature.

Symptoms may include blurred vision, fatigue, dizziness or a weakness in one or both legs. Although this temporary worsening of symptoms (known as pseudo-exacerbation) may feel like a real MS attack, symptoms will usually improve as the body temperature returns to normal.[1]

Why does temperature affect people with MS?

Nerve fibers allow messages controlling different parts of the body to move around the brain and spinal cord in the form of electrical impulses.

In the brain or spinal cord, nerve fibers or their protective outer layer (myelin) damaged by MS find it harder to conduct these electrical impulses. Body warming further inhibits nerve conduction, so some damaged nerve fibers stop working entirely. A reduction in body temperature may allow more signals to be transmitted across the damaged nerve.[2]

Sources:

1. Frankel, Debra and Hettie Jones. "Living with MS, Newly Diagnosed." National MS Society. p26. 2014.

2. Roberts, Adam and Judith Harper-Bennie. "Multiple Sclerosis and Cooling." 3rd edition. Multiple Sclerosis Association of America. 2004.

3. Kraft, George. "Rehab News: Beat the Heat!" Momentum 3.4 (2010). National MS Society. July-Aug. 2010.

4. Bowling AC. Complementary and Alternative Medicine and Multiple Sclerosis. New York: Demos, 2007, pp. 76-79

5. Momentum, "Warming Up to Winter," Winter 2015. National MS Society. 6. MSFocus, "Making Your Cold Sensitivities Manageable," Fall 2015. MS Foundation.

***COOL TIP:** Stay active! Try pre-cooling before an activity and post-cooling after exercise.*

Testimonials

what people with MS are saying

"I can finally leave the house during the summer! I was diagnosed with MS almost 5 years ago. I'm VERY sensitive to extreme heat. During the summer where I live it's nearly impossible to safely or comfortably leave the A.C. cooled environments. This cooling vest has solved all of that!"
– Mike in California

"Having a cooling pack vest changed my life! I ride horses, and I was actually able to show on an 85 degree day! Now I don't have to plan around the weather to compete. Thank you!"
– Carolyn in Maine

"One of the worst things about having MS is feeling like a prisoner to the AC in the summertime. I am very active bike riding, gardening, etc. and it's all thanks to this cooling vest! Love it!"
– Becky in Illinois

"The cooling vest is great. I can now function better. Today it was 106 degrees in the shade and I felt so much better, less like melted jello."
– Ray in California

"I absolutely love my vest! It allows me to go outside and enjoy life more than I did before."
– Kayla in South Dakota

"Wow! What a difference the cooling vest has made in my life! So many things that I can do now… gardening, craft shows, church events, family barbecues… The cooling vest has bought me a new lease on life with MS!"
– Nancy in Texas

Types of Body Cooling for MS

There are many different types of cooling products available. This guide may help you choose the most effective products and best value for your individual needs.

Please note: The information in this brochure is a guide and should not take the place of a medical consultation. Always discuss symptom management with your healthcare provider.

Frozen Water-Based Cooling Pack Garments

Frozen water-based cooling packs fit into insulated pockets in vests and accessories.

How long does it cool? Will cool for up to 3-4 hours in any climate.

How much does it weigh? 1.5 lbs. to 5.5 lbs.

Best for: Any environment with access to a freezer. Highest level of cooling for its cost.

The most common choice for MS cooling!

Limitations: Requires access to a freezer and time for the cooling packs to freeze.

Cost? $139.95 - $249.00

COOL TIP: Some manufacturers offer a "one size fits all" vest but cooling vests should fit snug to the body for optimal cooling. Find a vest that varies the amount of packs in proportion to the wearer's size.

"Phase Change" Cooling Pack Garments

Cooling packs freeze at a moderate temperature (around 58°F / 14.4°C) and cool at this constant temperature.

How long does it cool? Will cool for up to 2-3 hours in any climate.

How much does it weigh? 2 lbs. to 5.5 lbs.

Best for: Travel or situations without access to a freezer. Packs can be activated in ice water or the refrigerator. Safe for pediatrics.

Limitations: Generally higher cost and less cooling energy than frozen water-based cooling packs.

Cost? $199.95 - $370.00

COOL TIP: Consider a garment with pockets that are compatible with both phase change and frozen water-based cooling packs for flexibility!

Water-Activated Evaporative Garments

Garments are designed to be briefly soaked in water, causing a natural cooling effect as it evaporates.

How long does it cool? Many hours of evaporative cooling in lower humidity.

How much does it weigh? Control the weight by limiting the time soaked in water.

Best for: Outdoor activity. Inexpensive and lightweight choice. No freezer required.

Limitations: Less effective in high humidity. Less cooling energy than cooling pack systems.

Cost? $32.00+

COOL TIP: Look for "hybrid" vests made with water-absorbing crystals that can be frozen for additional cooling.

Circulating Cool Water "Active" Cooling Systems

Ice water is pumped from a cooling reservoir through insulated water lines sewn into a vest or accessory.

How long does it cool? Extended periods of time; add ice to reservoir as needed.

How much does it weigh? Vests weigh less than 1 lb. with water in the lines.

Best for: The highest level of deep core body cooling. Ideal for therapy applications.

Use only under the guidance of a medical professional.

Limitations: Most expensive cooling system. Requires power and a connection to a cooling reservoir.

Cost? $695.00+

COOL TIP: Financial assistance is available for select cooling garments through MS non-profit cooling programs
mymsaa.org
msfocus.org

This brochure is provided by Polar Products Inc. For more information on their body cooling garments, please visit www.polarproducts.com or call 800-763-8423.