

# **Cold Intolerance: Why is This a Problem for Many of Us?**

*By Linda Wheeler Donahue*

Cold intolerance is a major problem for many polio survivors. Why do we feel the cold more than people who did not have polio do? This may be a question perplexing you. I would like to share what the polio experts tell us about why we have the difficulty of cold intolerance. Then I would like to explore some practical suggestions to help you obviate this problem. Fortunately, the major polio physicians and researchers are quite consistent in their appraisal of this issue. Let's take a look at what they have to say.

Dr. Julie K. Silver, Director of the International Rehabilitation Center for Polio in Framingham, Massachusetts, explains that polio survivors' sensitivity to cold is due to atrophied muscles that do not contract adequately, and are therefore unable to assist blood vessels in bringing warming blood to the extremities. Dr. Richard R. Owen, Emeritus Medical Director of the Sister Kinney Institute, is one of the first experts to describe "polio feet"; in fact, he coined that phrase. People who had polio often have blue, red, or violet feet. Part of the explanation for our colorful tootsies is that the poliovirus not only attacked our motor neurons, resulting in paralysis of our muscles, but also attacked sympathetic nervous system neurons within the spinal cord. When it did that, we lost our ability to control the blood flow into our veins and arteries. When our veins are unable to contract, they become too open. Blood then "pools" in the feet, giving the skin a bluish tint and causing puffy swelling. Our "polio feet" get colder than the feet of someone who did not have polio, since our sympathetic neurons are damaged. At the time of the original infection, the poliovirus damaged the sympathetic nerves, explains Dr. Lauro S. Halstead, pre-eminent polio author and director of the post-polio program at National Rehabilitation Hospital in Washington, DC. These nerves were part of the autonomic nervous system and their damage caused malfunctioning of the sympathetic nerves. Richard Bruno, Ph.D., clinical psychophysicologist, noticed that the skin on the affected arm of his first polio patient was cold to the touch. This suggested a problem of blood flow to the limb. As Dr. Bruno studied more patients, he discovered the same thing. He deduced that the size of the polio survivor's skin blood vessels could not be regulated properly because the poliovirus killed off the sympathetic neurons in the spinal cord. These are the ones responsible for making the muscles around blood vessels contract.

People who did not have polio may also experience coldness, but Dr. Silver explains that we polio survivors feel this unpleasant sensation even indoors in a warm room. This sets us apart from others. We are often cold even at room temperature because those peripheral nerves that supply the muscles surrounding our blood vessels were damaged when we contracted polio. These small muscles play a major role in warming the extremities.

What can we do to keep warm? Our polio experts all agree on this. The management of cold intolerance is largely symptomatic, that is, all we can do is treat the symptoms. There is no known cure.

How do we treat the symptoms? There are a number of easy lifestyle adjustments you can make. One of the most important things you can do is to stay warm from the moment you wake up in the morning. Your body will be warm and cozy at that time of the day. So hold on to your body heat with warm socks and layers of clothing. Three thin layers will keep you warmer than one thick layer. Go to a camping store and purchase clothing made of polypropylene. Polypropylene is comprised of a thin plastic film woven into a soft fiber and is excellent at insulating your skin from the cold. Outdoorsmen have known of its warming properties

for years. It is sold under various brand names such as Thinsulate and Gore-Tex. Skiers and outdoor enthusiasts use a resourceful clothing technique called layering. This is an efficient way to stay warm and comfortable in cold weather by protecting and preserving your core body temperature. One of the advantages of layering is that you can add or remove clothing to adjust to changing conditions.

Here is how layering works. The first layer is the thermal base layer. The fabrics used for this layer are generally stretch knits, often made of synthetic fibers. They are typically lightweight, machine washable, and fast drying. Special occasions sometimes present a warmth-dilemma for women. I recommend silk as a first layer. Silk is non-bulky with a luxurious feel and has impressive thermal properties. It is light enough to be nearly invisible underneath blouses or slacks, yet insulating enough to provide that extra layer of warmth. With a thin silk layer worn as an undershirt, ladies will look trim even in evening clothes. Fancy dress situations no longer have to mean women are freezing!

The second layer is called the mid layer. This is a thicker, cozy layer that really locks warmth in next to your body. Fleece, in various thicknesses, is an excellent mid layer insulator. My favorites are Polarfleece 100 and Polarfleece 200. This space age fabric brings comforting warmth, softness, and lightness. The characteristics of warmth and lightweight are particularly important to polio survivors. We need warmth yet our bodies cannot tolerate dragging around excess weight in the form of heavy clothing. Polarfleece offers a dynamic warmth-to-weight ratio, compared to traditional fabrics. Its tiny springy fibers create multiple air cells to trap warmth inside. This gives excellent protection from the cold. It does not retain moisture and facilitates evaporation so the fabric remains dry and comfortable. If there is no Polarfleece in your closet, I suggest you head out on a shopping trip. You can shop either in a brick and mortar building or in cyberspace.

The third layer is referred to as the shell layer. This layer must be breathable for the layering system to function. If it is not breathable, condensation will form causing chilling. The top layer, or shell, is often windproof and waterproof. It should be loose fitting to allow for movement. Polarfleece 300 as your third layer will keep you warm no matter what Mother Nature delivers.

It is wise to even layer your socks. Sock liners made of polypropylene are superior heat retainers. They are designed to be worn as a base layer under athletic socks. You may want to try battery operated heated socks. I did not have luck with them as they had uncomfortable seams and hot spots, but they may work for you.

Remember, your entire body must be insulated in order to stay warm, especially in bitterly cold weather. Your neck region is very important. Wear a turtleneck style top to warm that area. In addition, do include a hat, mittens or gloves, warm socks, and a scarf when you venture out of doors.

At the GINI Conference in June of 2000, I purchased a fantastic product from one of the many vendors there. These were heat-activated neck warmer and heat activated booties. You place them in the microwave for 3 minutes, then put them on and savor the rejuvenating deep heat for over 20 minutes of warmth. I have since seen these in various home health mail order catalogs.

Many of us PPSers spend most of our time indoors, but we still have trouble staying warm. I suggest that throughout the day you take several breaks from your daily activities. Sit in your favorite chair or recliner with your feet elevated as high as possible. I have an old twin size electric heating blanket draped on my recliner ready to warm me up like nothing else. If you do not need that large a covering, try using a warm

heating pad and a cozy lap blanket as you rest and enjoy the feeling of your extremities warming up to a comfortable temperature. When your muscles are warm, you not only feel better, but you also move and function with more ease and efficiency.

Many of us suffer with the uncomfortable sensation of feeling cold. The foremost polio physicians offer a clear explanation for why this happens. The good news is that we can make lifestyle changes to remediate this troubling post-polio problem.

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