



## **Skin Temperatures and Pulse Strength: How They Relate to Improved Circulation**

by Dennis Cochrane 2/15/2012

### **Summary**

The differential between skin temperatures of a patient's right side extremities and left side extremities is an accurate diagnostic which classifies the patient with reference to systemic arterial vasodilation or vasoconstriction. Warmer left side body temperatures have been shown to accurately indicate systemic vasodilation, otherwise known as vasomotor hypotonicity, and warmer right side body temperatures have been shown to accurately indicate vasoconstriction.

In accordance with Erdman therapy, a patient classified as vasoconstricted and who also exhibits symptoms indicating poor circulation can achieve improved blood flow to body tissues by the use of relaxing therapies such as application of heat, massage or ultrasound treatments. A patient classified as vasodilated can achieve improved blood flow by the use of cooling applications on specific portions of spine, adjacent to particular vasomotor nerve centers.

### **Background**

To understand the significance of the discovery herein presented it is necessary first to be aware of the physiological discovery made by Frederick Erdman more than ninety years ago. An extensive description of the physiology underlying his discovery can be accessed at the website of the Frederick Erdman Association: [www.erdman.org/Overview.htm](http://www.erdman.org/Overview.htm) This physiology is described more briefly by Dr. Wesley Ulrich, MD who for a time became an understudy of Frederick Erdman's youngest son, Dr. William James Erdman III who continued the practice of "Erdman therapy" on thousands of patients over a period of several decades. (It is noteworthy that Dr. Erdman became a physician of eminent stature who for 33 years chaired the Department of Physical Medicine and Rehabilitation at the University of Pennsylvania School of Medicine. The last ten of those years he also served as Medical Director of the Hospital of the University of Pennsylvania.)

Here is Dr. Ulrich's abbreviated description of the physiology of Erdman therapy:

*"There are two broad classes of circulatory types:*

- 1. Those who react to stress, trauma and irritant substances by lowering the arterial tone.*
- 2. Those who react by increasing arterial tone. (These make up a much larger class.)*

*An example of the first class is individuals who faint under stressful group situations, are intolerant of heat, react adversely to medications and experience weakness after exercise. Those in the second class react to stressful situations by becoming agitated and plethoric. The reactions are neurologically mediated and result in the first class in profound vessel dilation, and in the second instance constriction. The medical treatment, of course, for anxiety induced syncope as opposed to anxiety induced agitation are quite different.*

*It appears that patients who have low vasomotor tone live to some degree in a perpetual faint (which they may or may not perceive) and respond poorly to conventional medical therapies because the therapies inadvertently have a vasodilating effect. One of the reasons this subset of*

*patients is not recognized is because they comprise only a small percentage of the population.*

*The evaluation of the two classes of circulatory types depends upon manual palpation of the radial pulses to evaluate vasomotor tone. Western medicine has not given attention to pulse analysis even though physicians have casually observed that the two radial pulses of a patient are often quite different. It has been assumed that it was an anatomic variation rather than a variable physiologic one.*

*While the radial pulses are both physiologically under central control they are in particular supplied by different sets of paraspinal ganglia. And it appears that the afferent fibers supplying those ganglia for the right and left limbs do not symmetrically arise from the same sites, especially within the splanchnic circulation. This is important because it may explain why patients with low vasomotor tone have gastrointestinal, as well as peripheral symptoms, and that both resolve when proper tone is restored.*

*The hallmark of patients who suffer from low vasomotor tone is a strong left pulse (especially after a gentle challenge of the appropriate spinal nerves with cooling). Pulse strength is characterized by pulse volume, pulse amplitude, and perceptible "push." Persons with low vasomotor tone need gentle and persistent cooling of the paraspinal nerve reflex until the right pulse becomes dominant and both pulses have improved in tone.*

*The most frequent medical syndromes in which low vasomotor tone is a major component are multiple sclerosis, severe chronic headache syndromes including migraine, insulin dependent diabetics, and hyperactivity in children. Many juvenile asthmatics are also in this category. The most frequent medical syndrome in which excessive vasomotor tone is a major component is idiopathic hypertension.*

*Unfortunately, the treatment is not a method which is trivial to learn inasmuch as the parameters involved in pulse evaluation are often not clear. Another reason is that many clinical syndromes have mixtures of components in them and treatment obviously can only effectively address the component that is, in fact, a result of altered vasomotor tone. In the patients in which altered vasomotor tone is a dominant problem, however, there can be a tremendous improvement of symptoms."*

As noted in the above article, pulse evaluation is often not clear. In fact the required manual palpation of the radial pulses has proven to be an Achilles heel in achieving popular success in the use of Erdman therapy. Correct comparison of right and left pulse strength has been critical to determining correct treatment; yet measurement of pulse strength has proven too difficult for many patients to master. As a result they have given up on the therapy even after having experienced remarkable help when they were under the care of experienced therapists. Their own follow-up self-treatment proved too difficult and it was impractical for them to be wholly dependent on the help of geographically distant therapists.

For years the practitioners of Erdman therapy have known that a more objective means of measuring pulse strength was needed, to provide greater objectivity in classifying the circulation status of patients. Mr. Frank Erdman of the Frederick Erdman Association, eldest son of Frederick Erdman, has developed a technology to meet this need. He has created a device now patented which measures the rate of blood flow into and out of a patient's hands, using hand coloration to make this determination. Details of his patent and an explanation of its purpose and uniqueness can be found under U.S. Patent 5,542,421. The device appears to be a reliable means of classifying the circulation status of a patient. It is, however, quite complicated in its makeup and application, using computer technology and requiring skilled technicians for its operation, necessarily requiring significant expense to patients who receive diagnosis by this method.

### **Specifications of the discovery and its physical application**

As of this date and to my knowledge no previous invention or proposed therapy has claimed to determine vasoconstriction or vasodilation by contrasting the temperatures of right versus left physical extremities. Pulse strength comparisons have historically been the only means for making that determination. But as noted above, measurement of pulse strength has been difficult or impossible for many.

The uniqueness of this discovery is this: Comparative pulse strength equates with comparative warmth of right side and left side body extremities (such as hands and feet). There is now ample evidence showing that a stronger left pulse produces a warmer left hand/extremity. Conversely a stronger right pulse produces a warmer right hand/extremity. Furthermore, when Erdman therapy is properly applied and the dominant pulse has changed from the left to the right side, hand warmth also changes from a previously warmer left hand to a warmer right hand.

The temperature measuring device used thus far is composed of two thermometers which measure skin temperature rather than internal body temperature. The modus operandi has been to hold a sensor between the thumb and forefinger of each hand, maintaining light contact between thumb and sensor. Within minutes it becomes obvious which of the hands is warmer than the other. A warmer left hand indicates vasodilation. Application of appropriate Erdman therapy will in time produce vasoconstriction, whereupon the right hand will become warmer than the left.

Since these temperature measurements are completely objective in nature and easily measureable, this invention and discovery now provides a simple and inexpensive means by which persons using Erdman therapy can achieve success that previously proved unattainable for them. By the use of a simple instrument for measuring temperatures of hands/extremities, patients can quickly and easily determine whether they are in a state of vasoconstriction or vasodilation and can then proceed with correspondingly appropriate therapy. This can be done without need for expensive diagnostic equipment or frequent trips to some geographically distant location where such equipment and skilled technicians are available.

An additional important value of this discovery and invention is this: It enables Erdman patients to avoid wrong classification of their vascular condition. A wrong classification can cause patients to worsen their symptoms by using therapy opposite to what is needed. Wrong classification and consequent worsening symptoms have been commonplace among patients attempting to use Erdman therapy. In recent months Erdman patients who at my invitation have been experimenting with these thermometer devices have found themselves significantly more successful in maintaining consistently proper vascular tone, resulting in their improved health. We have not yet encountered any instance in which the thermometers proved inaccurate in their diagnosis.

It is important to note that although the thermometers are accurate in their diagnosis, in the case of vasodilated patients the thermometers do not indicate which segment of the spinal nerves require cooling applications for the purpose of achieving vasoconstriction. That determination still requires pulse evaluation. However if temperature measurements do nothing more than enable patients to avoid wrong classification, that in itself is a great achievement because incorrect therapy based on incorrect classification has been a serious impediment to success in the use of Erdman therapy.