



THINKSTOCK

The Science Behind **Reflexology**

by David Allan, D.C.

The popularity of reflexology has been on the rise for the past two decades. Reflexology is featured on the menus at thousands of spas, in addition to being practiced by trained massage therapists in private practice and certified reflexologists at medical facilities around the globe.

Research on reflexology continues to shape the essence of the profession. Let's take a closer look at the emerging validation process, and learn about some new discoveries and key research findings that provide a glimpse into reflexology's future.

The validation process

When reflexology grew in popularity in the 1980s, there was a desire among reflexologists to

build the validation process beyond anecdotal evidence and establish reflexology as a legitimate profession. A flurry of actions helped create state, national and international reflexology associations, as well as an independent national certification board, and establish a viable definition of reflexology.

As stated by the American Reflexology Certification Board (www.arcb.net), reflexology is not massage, and is defined as "a non-invasive,

complementary practice involving thumb and finger techniques to apply alternating pressure to reflexes shown on reflex maps of the body located on the feet, hands, and outer ears." While administrative actions took place in the 1980s and 1990s to build and support the network of a budding profession, more questions emerged about the lack of scientific research.

Reflexology has a definition, but how do we explain how it works? Where is the scientific evidence that explains how we can press a tender spot on the big toe and bring relief to a headache? What's the real meaning behind tender points or deposits in the feet?

The research game

In the movie *Thank You for Smoking*, lobbyists for the tobacco industry had a scientific research team that pumped out research to document the benefits of smoking. The point is, research can be skewed one way or another, depending on who funds the research. Often, the enterprise with the deepest pockets wins, and it's called a money game.

Although interest in reflexology is notable worldwide, the available funding for reflexology research compared to multibillion-dollar giants in the medical industry who would just as soon eliminate their competition is miniscule. (With respect to the time game, consider it took nearly 100 years to scientifically prove the mechanisms behind aspirin and other nonsteroidal anti-inflammatory drugs such as ibuprofen and indomethacin.) Although the financial odds are stacked against the reflexology profession compared to those medical giants, time is beginning to paint a brighter future as more research trickles in, coupled with our ability to access information via the Internet.

Before we discuss reflexology and science, let's review the basic tenets of the scientific method. This is the process of using science to prove or disprove the efficacy of, in this case, reflexology. Topics for consideration could include reflex mapping, reflexology charts, tender spots and deposits, and treatments used independently or combined with other therapies to help demonstrate an improvement in quality of life or relief from pain or other symptoms.

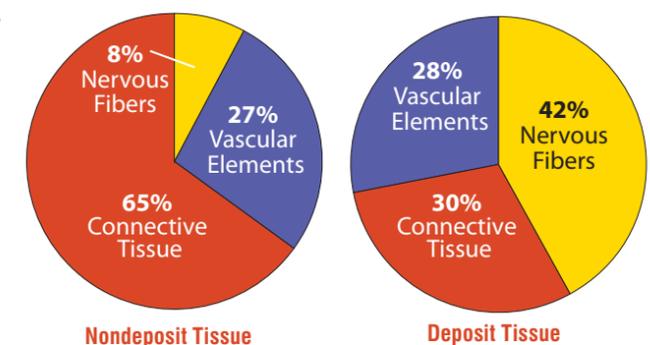
A common sequence involves formulating a question or objective, followed by a hypothesis, or a tentative assumption made in order to draw out and test its logical or empirical consequences. Next, a prediction is made, followed by testing, then analysis of the testing data and concluding statements.

When you review research, ask these questions to gain more insight and knowledge of the validity of the research:

- Who funded the study?
- What is the purpose or objective?
- What is the quality of the study?
- What are the credentials of the person who set up the methods or protocols?
- What is the environment and setup of the testing area?

The first known scientific study on reflexology presented in a peer-review journal, *Obstetrics and Gynecology*, was authored by Terry Oleson, Ph.D., and William S. Flocco, of the American Academy of Reflexology, in 1993. This was a randomized controlled study of premenstrual symptoms treated with ear, hand and foot reflexology that demonstrated a significantly greater decrease in premenstrual symptoms for the women given true reflexology treatment versus women in the placebo group.

Proportionate variances between tissue with deposits and nondeposit biopsies



A research study revealed the neurobiochemical character of reflexology by determining the anatomical characteristics and tissue composition of tender points, or deposits, and nondeposit tissue, taken from the feet.

The research study concluded reflexology is indicated for women suffering from PMS.

Flocco and his affiliates have continued to lead the way in reflexology research with their second-edition text, *Reflexology Research: Anatomy of a Reflexology Research Study*, along with a website (www.reflexologyresearch.net) assembling the most compelling collection of more than 380 research studies from around the world.

In a recent, more substantial study that spanned a five-year period (2005 to 2010), the National Institutes of Health (NIH) awarded a \$3.1 million grant to Michigan State University to study the effects of reflexology on

Massage Excellence

Deepen your knowledge with our master instructors.



We carry more than 40 Massage Training DVDs
ORDER NOW! 888 505-5511
WWW.REALBODYWORK.COM

women with breast cancer undergoing chemotherapy. Barbara A. Brower, a nationally certified reflexologist, set up the reflexology protocols and teamed up with chief investigator Gwen Wyatt, R.N., Ph.D., and Alla Sikorskii, Ph.D., co-investigator and statistician.

The participants who received reflexology treatments cited a significant improvement compared to the control group in their ability to walk, carry groceries and climb stairs. Women in the reflexology group had less trouble breathing compared to women in the control group, and also compared to women who received sham reflexology. The study, titled “Health-related quality-of-life outcomes: a reflexology trial with patients with advanced-stage breast cancer” and published in 2012 in *Oncology Nursing Forum*, concluded reflexology used in conjunction with standard medical care is beneficial to the patient.

During the study, there were no reports of any negative or adverse side effects to the use of reflexology. Due to the study’s success, NIH is currently funding another grant to Michigan State University to further investigate the efficacy of reflexology alongside standard protocols for breast cancer treatment, via a study titled “Home-Based Symptom Management via Reflexology for Breast Cancer Patients.”

The reflexology connection

A research article, “Activity in the primary somatosensory cortex induced by reflexological stimulation is unaffected by pseudo-information: a functional magnetic resonance imaging study,” published this May in *BMC Complementary and Alternative Medicine*, notes how researchers employed the use of magnetic resonance imaging (MRI) to investigate how reflexological stimulation of the reflex area is processed in the primary somatosensory

cortex when correct and pseudo-information about the reflex area is provided.

Thirty-two Japanese volunteers participated in the study. Half of the subjects were told the base of the second toe was the eye reflex area and were also given pseudo-information that the base of the third toe was the shoulder reflex area. The other half of the subjects were told the opposite information.

As the experimenter stimulated the reflex areas, an MRI was used to record brain activity and measurements were taken. When the eye reflex area was

▶ Read “Access Clients’ Life Cycles with Reflexology,” by Pacific College of Oriental Medicine’s Ariel Talmor, Ph.D., at www.massagemag.com/reflexologylife.

stimulated in either foot, there was corresponding activity in the left middle postcentral gyrus, the area to which tactile sensation to the face projects, as well as the foot representation area. Also, this activity was not affected by pseudo-information.

Conclusions suggest a robust relationship exists between neural processing of somatosensory percepts to the reflex being stimulated and the tactile sensation of a specific reflex area.

New discoveries

Spanish researcher and reflexologist Jesus Manzanares, M.D., who developed the Manzanares Method of Reflexology (www.manzanaresmethod.com), began reflexology research in 1980. He created a study that spanned a period of time from 1989 until 2002. His aim was to study biopsies of deposits taken from human foot tissue; to analyze anatomical characteristics and tissue composition of the deposits to understand the relation to pathologic conditions in the body; and demonstrate the role of the nervous system in reflexology.

Deposits can be located throughout the feet in reflex areas that correspond to specific organs, glands and body parts.

The results revealed a difference exists between nondeposit biopsy and subcutaneous cellular tissue in an area where deposits exist.

This anatomical-pathological study reveals the neurobiochemical character of reflexology. Other items to note regarding the study: deposits are formed by a net of hypodermic connective tissue with abundant neurovascular elements; the presence of abundant nervous fibers in tissue with existent deposits supports the relationship between reflexology and the body’s neurological system; and the mechanism of action of reflexology has a neurobiochemical basis.

Manzanares also discovered deposits are located in the hypodermis, or subcutaneous cellular tissue, where existent Pacini and Golgi receptors are extremely sensitive to pressure. Deposits reflect the imbalance—anatomical or functional—of the organ or body part represented in the corresponding reflex area in the foot.

Physical characteristics of deposits depend on the organ imbalance, the zone of the foot where that organ is reflected and the pathology phase. Deposits are palpable for size, consistency and sensitivity. In this research study, Manzanares was able to determine to what areas of the foot referred to, as deposits in reflexology have an organic

composition as opposed to previous theory of inorganic matter, calcification crystals or toxins.

The future of reflexology

There is no question reflexology has a bright future—and although there are countless articles coming out daily in its support, not enough peer-review studies have been published to bring the evidence needed to fully validate the profession.

A peer-review study published in 2010, “Reflexology: an update of a systematic review of randomized clinical trials (RCT),” found the best clinical evidence does not demonstrate convincingly reflexology to be an effective treatment for any medical condition. The message here is if RTCs published in peer-review journals are the gold standard for establishing credibility, then the reflexology field has to keep pushing for the recognition it deserves.

David Allan, D.C., is a master bodyworker, chiropractor and internationally known teacher and lecturer for more than 30 years. He is also a musician, videographer and writer, and maintains a wellness practice in Los Angeles, California. Allan is the founder of 1-2-3 Wellness (www.123wellness.biz) and Dr. Allan’s Global Institute of Integrated Touch.

Exclusive Online Special!

MASSAGE Magazine

Only \$1.25 Per Issue

> CLICK HERE <

For Expedited Service

FREE if You Act Now!

Order now and get a music CD for **free!**

CD contains 74 minutes of soothing massage music on 16 tracks



Save 75%

Call **888-883-3801**

Order online: www.massagemag.com

