



# Massage for Diabetes

Research Indicates How Educated Touch Helps Manage this Disease

By Andrea Winzer, MSc, LMT, CST-D

**D**iabetes mellitus is a serious public health concern, currently affecting more than 422 million people globally.<sup>1</sup> This chronic metabolic disease is characterized by consistently elevated blood glucose levels caused by an inability of the body to either effectively produce or utilize the hormone insulin.

Over time, increased blood sugar levels can lead to serious, potentially life-threatening complications, including

heart disease, stroke, kidney failure, blindness or amputations of legs and feet.<sup>2</sup> In the U.S., more than 37 million people live with diabetes, and another 96 million adults are affected by prediabetes. Diabetes is currently the eighth leading cause of death in the U.S.; and the prevalence rates have been steadily rising over the past 20 years due to risk factors such as poor nutrition, high-calorie diets, obesity, sedentary

lifestyles and prolonged stress.<sup>3</sup>

In addition, recent research suggests that the COVID-19 pandemic may also have caused a rise in diabetes risk. One study found that 28% of individuals recovering from COVID-19 infection

was correlated with the severity of the COVID-19 infection, as patients in need of hospitalization showed triple the risk in comparison to a control group.<sup>5</sup>

No matter what reasons eventually lead to a diabetes diagnosis,

In the U.S., more than 37 million people live with diabetes, and another 96 million adults are affected by prediabetes.

were more likely to develop diabetes in the month after the infection.<sup>4</sup> Another research study conducted with veterans in Germany found that individuals were about 40% more likely to develop diabetes up to one year after their COVID-19 infection compared to a control group. The likelihood of being diagnosed with diabetes

massage therapists need to be aware of the high prevalence rates of this chronic disease and learn to recognize associated symptoms and complications with which clients may present. November is Diabetes Awareness Month, and in this article we will look at the research on massage or bodywork for diabetes management.

1 World Health Organization. (2023). Diabetes. Health Topics. [who.int/health-topics/diabetes#tab=tab\\_1](https://www.who.int/health-topics/diabetes#tab=tab_1).

2 Centers for Disease Control and Prevention. (2022). Diabetes Report Card 2021. Diabetes Data and Statistics. [cdc.gov/diabetes/library/reports/reportcard.html](https://cdc.gov/diabetes/library/reports/reportcard.html).

3 Centers for Disease Control and Prevention. (2022). Diabetes Fast Facts. Diabetes Basics. [cdc.gov/diabetes/basics/quick-facts.html](https://cdc.gov/diabetes/basics/quick-facts.html).

4 Harvard Medical School. (2022, July 1). Diabetes risk increases after COVID-19 diagnosis. Harvard Health Publishing. [health.harvard.edu/diseases-and-conditions/diabetes-risk-increases-after-covid-19-diagnosis](https://health.harvard.edu/diseases-and-conditions/diabetes-risk-increases-after-covid-19-diagnosis).

5 Watson, C "Diabetes risk rises after Covid, massive study finds." Nature. 2022. [doi.org/10.1038/d41586-022-00912-y](https://doi.org/10.1038/d41586-022-00912-y).

Using evidence-based therapies and current research to inform their clinical practice, massage therapists can play an important role in offering services to their diabetic clients that support them in managing their condition and achieving a better quality of life.<sup>6</sup>

When it comes to working with clients affected by diabetes or prediabetes, massage therapy has been shown to potentially provide numerous benefits. A systematic review of available research data conducted in 2001<sup>7</sup> suggests that Swedish massage supports the decrease of blood glucose levels in different client populations, both children and adults.

In addition, clients reported reductions in anxiety, depression, stress and headaches and improvements in sleep and overall well-being. HbA1c levels (the average blood glucose levels over the past three months) decreased in most patients unless their glycemic control was influenced by other risk factors, such as extreme obesity or

## MTF Delivers Massage to Underserved Diabetes Patients

Through community grants, the Massage Therapy Foundation is committed to bringing therapeutic massage to people in need, including to those suffering from diabetes who cannot afford massage therapy treatments.

In 2010 and 2019, the MTF funded a project that delivered massage therapy for diabetes to underserved urban and rural indigenous regions and local indigenous communities in Mexico. The goal of the project was to enhance the skills of local massage therapists and to teach self-care massage techniques to clients and their families.

According to Leslie Korn, PhD, MPH, the director of this project, massage tailored to individuals affected by diabetes combined with education for continuous self-care significantly enhances overall well-being of individuals in these communities.

To learn more about the benefits of medical massage for diabetes and the project supported by the MTF of bringing massage therapy to indigenous communities in Mexico, visit [cwis.org/massage-treatment-of-diabetes](http://cwis.org/massage-treatment-of-diabetes).

—Andrea Winzer, MSc, LMT, CST-D

insulin injections. Diabetic neuropathy of the lower extremities and associated symptoms of numbness, tingling, itching, pain or restless legs improved in most clients after applying massage therapy

specifically focused on the lower extremities.

Another systematic review from 2020<sup>8</sup> evaluated the effects of bodywork therapies on changes in blood glucose levels (both fasting glucose levels

and long-term glucose levels), improvements in clinical symptoms such as neuropathic pain, foot ulcers, back pain, or range of motion in joints as well as overall quality of life. Many of the reviewed studies show improvement in all areas and the authors concluded that bodywork can most definitely play a major role in relieving diabetes-related symptoms; however, more research needs to be conducted to further determine the influence of the type of bodywork, the length of treatment and the intensity of pressure as well as the client's unique condition and diabetes diagnosis.

Additional studies have shown the effectiveness of Swedish massage in reducing blood glucose levels in children with diabetes<sup>9</sup> as well as the benefits of reflexology treatments to the reduction of blood glucose levels in elderly clients with type 2 diabetes.<sup>10</sup>

Chatchawan, et al.<sup>11</sup> conducted a study on how Thai foot massage affected the balance of diabetic clients suffering from peripheral neuropathy. Due to the

- 6 Hawk, C, Ndetan, H, Evans, MW, Jr. „Potential role of complementary and alternative health care providers in chronic disease prevention and health promotion: an analysis of National Health Interview Survey data.” *Preventive Medicine*, 54(1), 18–22. 2012. doi.org/10.1016/j.ypmed.2011.07.002.
- 7 Ezzo, J, Donner, T, Nickols, D, Cox, M. “Is massage useful in the management of diabetes? A systematic review.” *Diabetes Spectrum*, 14(4), 218–224. 2001. doi.org/10.2337/diaspect.14.4.218.
- 8 Bayat, D, Mohammadbeigi, A, Parham, M, Mehrandasht, A, Hashemi M, Mahlooji, K, Asghari, M. “The Effect of Massage on Diabetes and its Complications: A Systematic Review.” *Crescent Journal of Medical and Biological Sciences* Vol. 7, No. 1, Jan. 2020, 22–28. [cjmb.org/uploads/pdf/pdf\\_CJMB\\_413.pdf](http://cjmb.org/uploads/pdf/pdf_CJMB_413.pdf).
- 9 Sajedi, F, Kashaninia, Z, Hoseinzadeh, S, Abedinipoor, A. “How effective is Swedish massage on blood glucose level in children with diabetes mellitus?” *Acta Medica Iranica*, 49(9), 592–597. 201.
- 10 Sari, LT, Wibisono, W, Renityas, NN. “The effectiveness of reflexology massage to the reduction of blood sugar level of elderly with type 2 diabetes mellitus.” *Journal of Ners and Midwifery*, 9(2), 142–147. 2022. doi.org/10.26699/jnk.v9i2.art.p142-147.
- 11 Chatchawan, U, Eungpinichpong, W, Plandee, P, Yamauchi, J. “Effects of Thai foot massage on balance performance in diabetic patients with peripheral neuropathy: a randomized parallel-controlled trial.” *Medical science monitor basic research*, 21, 68–75. 2015. doi.org/10.12659/MSMBR.894163.

loss of sensations on the plantar surfaces, diabetic patients frequently experience difficulties with body balance and the perception of movement. In this randomized parallel-controlled trial, the authors could show that by applying pressure along the Thai meridian lines of the foot and leg, range of motion of the feet, sensations as well as balance significantly improved. The study therefore suggests that this treatment approach could offer a viable alternative method used in home health care as well as in clinical settings when treating diabetic clients.

According to the American Diabetes Association,<sup>12</sup> diabetes disproportionately affects disadvantaged racial and ethnic minorities, socioeconomically underserved populations as well as uninsured individuals in the U.S. African Americans, Native Americans and Hispanics all suffer from higher levels of health burdens caused by diabetes and associated comorbidities and generally exhibit poorer glycemic control and more serious adverse diabetes-related health outcomes.

In the first pilot study of its kind conducted with African Americans suffering from diabetes, Edwards & Palmer<sup>13</sup> utilized

## What the MTF Does for You

The Massage Therapy Foundation is a 501(c)3 providing support to the massage therapy profession. Since 1990, MTF has provided over \$1 million in research grants studying the science behind therapeutic massage.

MTF founded and publishes an open-access, peer-reviewed scientific journal and provides many educational resources for massage therapists, educators and students. MTF also provides community service grants to populations in need of therapeutic massage who would otherwise lack access.

Learn more, donate, or apply for a community service grant at [massagetherapyfoundation.org](http://massagetherapyfoundation.org).

a combination of massage therapy and acupressure to examine the effects of bodywork on blood pressure, heart rate, blood flow, skin temperature, oxygen saturation, HbA1c (long-term blood glucose levels), and insulin level as well as overall well-being. The authors observed immediate effects on blood pressure, skin temperature and heart rate even though not all measures reached clinical significance.

Despite the promising results, larger randomized controlled studies are needed to further assess the health benefits of massage therapy as a useful adjunct to allopathic care for this population. Summarizing results from


several research studies, we can identify several key benefits of massage therapy for the diabetic client to guide our clinical practice<sup>14</sup>:

- Increased blood flow and overall circulation may support the cellular intake of glucose from the bloodstream into the cells, affecting glycemic control on both fasting glucose and HbA1C.
- Myofascial stimulation can help increase tissue elasticity and reduce fascial restrictions, thereby increasing a client's mobility and range of motion.
- Manual stimulation of the tissues can

also contribute to an increased blood flow in the tissues, supporting the healing process of wounds, including foot ulcers.

- Neural manipulation can support a decrease in pain and may help restore nerve functionality and sensation for diabetic clients suffering from neuropathy.
- Relaxation can help reduce anxiety and depression associated with diabetes and support clients in an overall sense of increased well-being and health. **M**

Andrea Winzer, MSc, LMT, CST-D, holds a master's degree in ecology and is a board certified massage and bodywork therapist. She practices CranioSacral Therapy and offers a variety of holistic treatment modalities with a focus on the integration of body-mind-spirit, release of physical and emotional trauma from the body, and supporting mental health therapies through trauma-sensitive bodywork. She wrote this article on behalf of the Massage Therapy Foundation ([massagetherapyfoundation.org](http://massagetherapyfoundation.org)).

 **Read "This is How Massage Research Validates Your Work," by Andrea Winzer, on [massagemag.com](http://massagemag.com).**

12 Meneghini, LF, Fortmann, AL, Clark, TL, Rodriguez, K. Making inroads in addressing population health in underserved communities with type 2 diabetes." *Diabetes Spectrum*, 32(4), 303–311. doi.org/10.2337/ds19-0010. 2019.

13 Edwards, BG, & Palmer, J. "Effects of massage therapy on African Americans with type 2 diabetes mellitus: A pilot study." *Complementary Health Practice Review*, 15(3), 149–155. doi.org/10.1177/1533210110390024. 2010.

14 Gialelis, J. "Five Ways Massage Improves Diabetes Care." [massagemag.com/5-ways-massage-improves-diabetes-care-33522](http://massagemag.com/5-ways-massage-improves-diabetes-care-33522). 2015.