

Wet Cupping in Diabetic Wound Healing: Enhancing Blood Flow, Angiogenesis, and Cholesterol Modulation

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INTRODUCTION

Wet cupping is a traditional therapy which has been practiced for thousands of years across Egypt, Greece, China, and Islamic tradition for general health and pain relief. It was also recommended for blood purification and removal of harmful substances, which is why Muslim scholars describe it as a form of preventative and therapeutic medicine. Moderation was emphasized and excessive bloodletting was discouraged; it was done safely and within limits. Indications include but are not limited to: musculoskeletal pain, headaches, migraines, respiratory issues, skin conditions, and even conditions like autoimmune disorders have been explored.

MECHANISM

- Negative pressure draws blood to the skin, creating local hyperemia.
- Capillaries and small vessels expand, improving oxygen and nutrient delivery.
- Suction stretches vessel walls, activating endothelial cells and signaling increased blood supply.
- Superficial cuts trigger localized inflammation and growth factor release, promoting angiogenesis.
- Endothelial cells multiply and form new capillaries, enhancing microcirculation, nutrient delivery, and tissue oxygenation.

PURPOSE

This review aims to summarize current evidence on wet cupping's physiological effects and explore its potential to support wound healing in patients with diabetes, PAD, or hyperlipidemia, highlighting areas where clinical trials are needed.

METHODS

In order to explore potential complementary approaches, a structured literature-based review was conducted to evaluate the vascular effects of wet cupping therapy and its possible relevance to diabetic wound healing. Published experimental and clinical studies were identified using PubMed as the primary database and analyzed qualitatively to assess proposed physiological mechanisms and clinical relevance.

DISCUSSION

- **Skin blood flow response:** Higher suction (-300 mmHg) for 5 min increased peak blood flow ~16× baseline; flow responds to both pressure and duration. (*Effect of Pressures and Durations of Cupping Therapy...*)
- **Vasodilation & circulation:** Cupping triggers nitric oxide release, improving circulation and tissue perfusion. (*The medical perspective of cupping therapy...*)
- **Angiogenesis signals:** Lab study: vacuum + non-thermal plasma increased VEGF-A expression via NO and HIF-1 pathways → supports blood vessel formation. (*Plasma cupping induces VEGF...*)
- **Blood lipid effects (hyperlipidemic patients):** Wet cupping reduced total cholesterol and LDL; improved LDL/HDL ratio; HDL & triglycerides mostly unchanged. (*Effect of Wet Cupping on Serum Lipids...*)
- **Blood lipid effects (healthy young men):** Weekly wet cupping decreased LDL and improved LDL/HDL ratio; total cholesterol slightly decreased, HDL slightly increased. (*The effect of wet cupping on serum lipid concentrations...*)

SIGNIFICANCE

Patients with **diabetes and PAD** often experience:

- Poor **microcirculation**
- Reduced **angiogenesis**
- Delayed **wound healing**

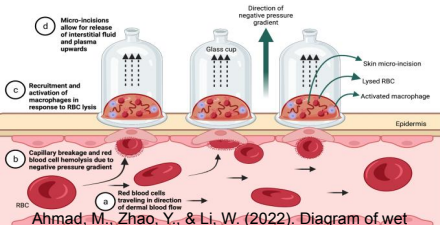
Wet cupping may potentially:

- Increase **local perfusion**
- Stimulate **VEGF signaling**
- Promote **capillary formation**
- This could support healing in **diabetic foot ulcers**.

CONCLUSION

While wet cupping increases perfusion, stimulates VEGF, and modulates lipid profiles, its direct effect on wound healing remains untested. Future clinical studies are needed to determine if these mechanisms translate into real-world healing benefits. It may seem counterintuitive to use wet cupping (which causes minor skin injury) in patients whose wound healing is impaired, the therapy may jump-start key healing mechanisms. Suction increases blood flow, and micro-injury stimulates VEGF and angiogenesis signals, which are often underactive in diabetics. However, careful application and clinical testing are essential to confirm safety and efficacy.

Diabetic patients are disproportionately affected by PVD, compounding impairments in blood flow and delaying wound repair. By potentially enhancing local perfusion, reducing atherogenic lipid burden, and activating angiogenesis-related signaling pathways, wet cupping therapy may address key pathophysiological barriers to wound healing. From a clinical standpoint, these findings highlight the potential role of wet cupping as a useful intervention aimed at improving tissue perfusion in carefully selected/screened patients. While current evidence supports improvements in vascular signaling and microcirculation, further well-designed clinical trials will help establish the safety, efficacy, and clinical role of wet cupping therapy in diabetic wound management, building on the promising preliminary data.



Ahmad, M., Zhao, Y., & Li, W. (2022). Diagram of wet cupping therapy [Illustration]. *Gland Surgery*. <https://gs.amegroups.org/article/view/126805/html>