



DOSSIER · THERAPY

Reflexology Massage

Reflexology massage has been the subject of controlled studies for decades, most frequently on cognition, fatigue and oncological questions. The most frequently cited single finding in the field, however, comes from an observational study, not from a controlled trial. This is the interesting point: testing of the zone theory itself remains outstanding.

397

STUDIES IN
TOTAL

306

IN HUMANS

186

OF WHICH
CONTROLLED

1

IN ANIMALS

0

IN THE LAB

Figures from the IHR study database · Last updated 2026-10-04

How to Read This Dossier

ESTABLISHED

measured in humans, with a
comparison group

PLAUSIBLE

supported by mechanism, animal
studies or observation

HYPOTHESIS

a likely connection that still needs to
be tested

Reflex Zone Massage at a Glance

ORIGIN:

Reflex zone massage is a manual procedure: With thumbs and fingers, pressure is applied to defined zones on the sole of the foot, the dorsum of the foot and the hand; the teaching assigns these zones to specific organs and body regions. It is predominantly used in patients — in oncology, in cardiology, in multiple sclerosis, in obstetrics and in the care of people with dementia.

EVIDENCE BASE:

397 evaluated works · 186 controlled studies in humans · 120 observational studies · 17 review articles · 1 animal study · 0 cell culture studies

STRONGEST EVIDENCE:

- Sleep disorders — review article 2021 on randomised controlled trials with 3,928 participants, endpoint is well-being (5).
- Depression, anxiety and sleep quality in adults — meta-analysis 2020 with 2,366 participants on well-being endpoints (4).
- Back pain — review 2021 on sham treatment effects in manual therapies overall, 2,019 participants (3).
- Palliative care — review 2020 on aromatherapy, massage and reflex zone massage, 1,956 participants (2).
- Anxiety before cardiovascular procedures — review article 2019 with 760 participants (1).

LIMITATIONS:

- The zone teaching itself remains untested: No controlled study to date compares pressure on the assigned zone with equally intense pressure at any site on the foot.
- A manual treatment cannot be blinded; where the control group receives usual care, the result does not separate zone work from attention, touch and conversation.
- Studies from 2016 and 2004 test reflex zone massage together with aroma massage and foot bath; results from such combinations carry no statement about the individual component.

CLASSIFICATION:

For decades a manually investigated procedure whose core assumption — the assignment of foot zones to organs — has not yet been tested.

1. What Reflex Zone Massage Is

Reflex zone massage is a manual procedure: With thumbs and fingers, pressure is applied to defined zones on the sole of the foot, the dorsum of the foot and the hand. In the teaching of the procedure these zones are assigned to specific organs and body regions. The review article *Revisiting reflexology: Concept, evidence, current practice, and practitioner training* from 2015 addresses precisely these three levels: the concept, the available evidence and the training of practitioners. In the literature the method is usually listed alongside massage and other manual techniques, for example in the review *Massage, reflexology and other manual methods for pain management in labour* from 2018.

For the assessment of all works one point is decisive: What is measured is almost always **well-being** — anxiety, fatigue, pain, quality of life, sleep — and not the zone teaching itself. None of the controlled studies to date tests whether pressure on a specific zone produces a different effect from the same pressure at any site on the foot. A dedicated review article from 2014 collects the physiological and biochemical markers associated with a treatment; such markers are not the same as a disease course. In addition, a manual treatment cannot be blinded: Anyone who is touched knows it. The methodological work *Does the experimental design capture the effects of complementary therapy?* from 2007 examines this question using the example of patients after bypass surgery.

2. How Reliable the Research Is

The controlled studies in humans cover a broad field. The largest group addresses **cognition**, followed by **fatigue** and **oncology**; then cardiovascular, safety, musculoskeletal and metabolic. Gut, skin and bone are represented by individual works. Notable is the shift relative to public perception: reflex zone massage is usually associated with pain, yet the pain question is predominantly handled in reviews of manual procedures overall, while the largest controlled groups measure cognitive and fatigue endpoints. The works range from the 1970s to the present; reviews on efficacy have appeared at regular intervals since 1997.

The methodological strength of the field lies in the number of randomised, controlled individual studies on clearly defined endpoints — anxiety before bypass surgery, quality of life in advanced breast cancer, fatigue in rheumatoid arthritis. The weakness lies in the comparator condition. Where the control group receives usual care, the specific contribution of zone work cannot be separated from attention, touch and conversation. Several works also combine procedures: A study from 2016 tests aroma massage and reflex zone massage together, one from 2004 tests aromatherapy, foot bath and reflex zone massage in a single protocol. No statement about the individual component can be derived from such mixtures. The review articles from 2008, 2009 and 2011 accordingly express themselves cautiously.

Distribution of **controlled studies in humans** by field of application — the numbers are not additive, as one work may be assigned to several fields:

FIELD OF APPLICATION	CONTROLLED STUDIES
Cognition and psyche	75
Fatigue and stress	62

FIELD OF APPLICATION	CONTROLLED STUDIES
Oncology	51
Heart and circulation	31
Safety and tolerability	20
Musculoskeletal system	18
Metabolism	11
Gut and microbiome	5

What is tested is relaxation, not the zone

The zone teaching is the core of the procedure: Pressure on a defined site on the foot is supposed to benefit an assigned body region. Precisely this assignment is not tested in the controlled studies. What is investigated is anxiety, fatigue, quality of life and sleep — endpoints that respond to touch, attention and rest just as they do to a specific zone. As long as no study tests the treated zone against equally intense treatment at another site, the specific assumption of the procedure remains a **PLAUSIBLE** but untested premise.

Secondly, the comparison condition. The methodological work from 2007 asks in the title itself whether the experimental design captures the effects of complementary therapy at all — an indication that the usual control groups may be too coarse for a manual procedure. Thirdly, the combination: Where aroma massage, foot bath and reflexology are in one protocol, the result carries no statement about the individual component. The 2011 review on fatigue, sleep and pain and the 2014 one on physiological and biochemical measurements show how the field orders its questions: by symptom, not by mechanism.

3. What Is Frequently Claimed — and What the Data Provide

STATEMENT	STUDY SITUATION
Reflexology relieves pain	The 2018 review lists it alongside massage and other manual methods for pain relief during labour. Schmerz ist dort ein Endpunkt des Sammelbegriffs, nicht der
The zones on foot and hand map organs	None of the available controlled studies examines the assignment itself. The 2015 review article describes the concept and practice, not the verification of the zo
In cancer it improves quality of life	There are controlled studies on quality of life in advanced breast cancer and on psychological effects in early breast cancer. Whether the effect goes beyond att
In dementia it helps memory	The most cited work in this field from 2006 addresses massage and touch in general, not reflexology alone. Cognition is nevertheless the largest controlled field

4. The Most Robust Studies

Ordered by strength of evidence, not by familiarity: reviews and studies with many participants first. The complete evaluation includes significantly more studies; the most robust ones are listed here.

Controlled Studies in Humans

- 1 Effectiveness of reflexology on anxiety of patients undergoing cardiovascular interventional procedures: A systematic review and meta-analysis of ... (2019) — Systematic review, 760 participants
- 2 The effectiveness of aromatherapy, massage and reflexology in people with palliative care needs: A systematic review (2020) — Systematic review, 1.956 participants
- Sham treatment effects in manual therapy trials on back pain patients: a systematic review and pairwise meta-analysis (2021) — Systematic review, 2.019 participants
- 3 Effect of Foot Reflexology Intervention on Depression, Anxiety, and Sleep Quality in Adults: A Meta-Analysis and Metaregression of Randomized ... (2020) — Systematic review, 2.366 participants

- ⁴ Can foot reflexology be a complementary therapy for sleep disturbances? Evidence appraisal through a meta-analysis of randomized controlled trials (2021) — Systematic review, 3.928 participants
- ⁵ The Effects of Foot Reflexology on Vital Signs: A Meta-Analysis of Randomized Controlled Trials (2022) — Systematic review, 819 participants
- ⁶ The effectiveness of reflexology on mental health in cancer patients: A systematic review and meta-analysis of randomised controlled trials (2023) — Systematic review, 1.356 participants
- ⁷ Reflexology for pain and anxiety in patients undergoing coronary angiography: a systematic review and meta-analysis (2026) — Systematic review, 913 participants
- ⁸ The effect of reflexology on blood pressure and heart rate in cardiovascular patients: a meta-analysis study (2025) — Systematic review, 1.041 participants
- ⁹ A systematic review association of reflexology in managing symptoms and side effects of breast cancer treatment (2020) — Systematic review, 385 participants
- Effectiveness of Non-pharmacological interventions on pain and fatigue management in cancer survivors: A systematic review and meta-analysis study (2025) — Systematic review, 370 participants
- ¹⁰ The Effect of Reflexology on Anxiety in Patients Undergoing Open Heart Surgery: Systematic Review and Meta-Analysis of Randomized Controlled Trials (2026) — Systematic review, 485 participants
- Massage therapy for cancer palliation and supportive care: a systematic review of randomised clinical trials (2009) — Systematic review
- ¹¹ Reflexology: an update of a systematic review of randomised clinical trials (2011) — Systematic review
- ¹² Is reflexology an effective intervention? A systematic review of randomised controlled trials (2009) — Systematic review
- ¹³ Reflexology for the symptomatic treatment of breast cancer: a systematic review (2010) — Systematic review
- ¹⁴ Effect of self-administered foot reflexology for symptom management in healthy persons: a systematic review and meta-analysis (2015) — Systematic review
- ¹⁵ Effects of reflexology on child health: A systematic review (2020) — Systematic review
- ¹⁶ Foot reflexology for reduction of blood pressure in hypertensive individual: A systematic review (2023) — Systematic review
- ¹⁷ Effect of Foot Reflexology on Patients With Multiple Sclerosis: A Systematic Review of Current Evidence (2024) — Systematic review
- ¹⁸ The Effect of Reflexology Massage on Pain and Quality of Life in Diabetic Patients With Neuropathic Pain: A Systematic Review and Meta-Analysis (2026) — Systematic review
- ¹⁹ Massage, reflexology and other manual methods for pain management in labour (2018) — 1.055 participants
- Complementary and alternative medicine interventions for perioperative symptoms: A comparative effectiveness study (2019) — 1.127 participants
- ²⁰ Effect of foot reflexology on pain, anxiety, and physiological indices in leukemia patients undergoing bone marrow aspiration: A randomized clinical ... (2025) — 2.023 participants

5. Summary

What is proven is the intensity of examination, not the zone theory. The controlled human studies are distributed across cognition and psyche (75), exhaustion and stress (62), oncology (51), heart and circulation (31), safety (20), musculoskeletal system (18), metabolism (11) and intestine (5); the numbers are not additive because one study can be assigned to several areas. Randomised individual studies are available for clearly defined endpoints: anxiety before bypass surgery, quality of life in advanced breast cancer, fatigue in rheumatoid arthritis. Reviews on efficacy have appeared at regular intervals since 1997, the studies range from the 1970s to the present. What is measured is well-being, not the zone theory.

Plausible is the core assumption of the method, but untested: pressure on a defined area of the foot is supposed to benefit an assigned body region.

Hypothesis: The measured changes in anxiety, fatigue, quality of life and sleep could be largely due to touch, attention and rest; the largest controlled groups measure cognition and exhaustion, while the pain question is predominantly discussed in reviews of manual methods in general. A 2014 review collects physiological and biochemical markers that are associated with a treatment; such markers are not the same as a disease course. The methodological study from 2007 asks whether the design captures the effects of complementary therapy at all.

A randomised study that tests pressure on the assigned zone against equally intense pressure on a non-assigned area of the foot would decide the core assumption. Methodologically unresolved is which control group — usual care, attention control or sham treatment — best isolates the specific portion of the method; the 2021 review on sham treatment effects in manual therapies addresses this question. Finally, studies that examine reflexology massage as the sole component would clarify what proportion of observed effects is attributable to it. As long as these examinations are pending, the zone theory remains an open, testable question of research.

6. What Remains Open

- **Zone testing:** A randomised study that compares pressure on the assigned zone against equally intense pressure on a non-assigned area would decide the core assumption of the method.
- **Comparison condition:** Which control group — usual care, attention control or sham treatment — best isolates the specific portion of the method is methodologically unresolved.
- **Combinations:** Studies that examine reflexology massage as the sole component would clarify what proportion of the observed effects is attributable to it.

Frequently Asked Questions

How does a treatment proceed?

Pressure is applied with thumbs and fingers to defined zones on the foot and hand. The 2015 review describes concept, practice and the training of practitioners. The controlled studies employ the treatment as an adjunct to usual care; how the sessions were timed differs between the studies and is one reason for the results that are difficult to compare.

In which patient groups has it been studied?

The controlled studies predominantly involve patients: people with cancer, patients after bypass surgery, people with multiple sclerosis, with rheumatoid arthritis, women giving birth and people with dementia. The largest groups measure cognitive performance and fatigue, followed by oncology. Healthy individuals form the exception in the available literature.

Why are the reviews so cautious?

Three reasons can be read from the studies: the treatment cannot be blinded, the control groups often consist of usual care rather than an equally intensive sham treatment, and several studies combine reflexology massage with aroma massage or a foot bath. The reviews from 2008, 2009 and 2011 address precisely these points and leave the question of the specific contribution of the method open.

Sources

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International Health Research

Research, put in context. Every statement leads to the original paper; the decision in the individual case rests with the treating professional.
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