

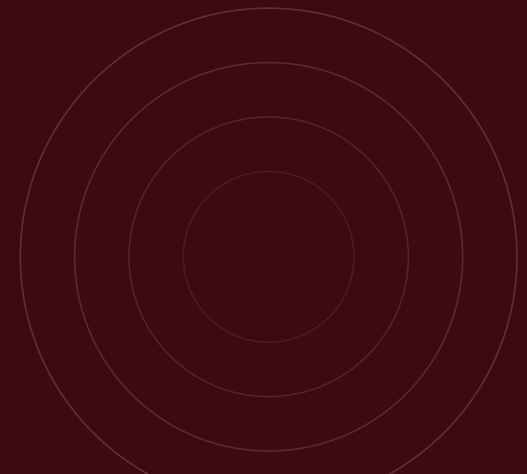
RITUAL RED

Calibrated by Science.

Every Ritual Red protocol is dosed to the wavelength and intensity ranges studied in published photobiomodulation research — never just maxed out and hoped for.

"Come Back to Yourself"

The Science Behind Your Session



Not All Red Light Beds Are Built the Same

Most beds offer one generic, full-power setting for every person and every goal. Published photobiomodulation research says that isn't how this technology works best.

X The Generic Approach

One intensity. One wavelength mix. One session length — whether you're there for skin, soreness, or stress relief.

Maximum output is treated as maximum benefit — which photobiomodulation research does not support.

✓ The Ritual Red Approach

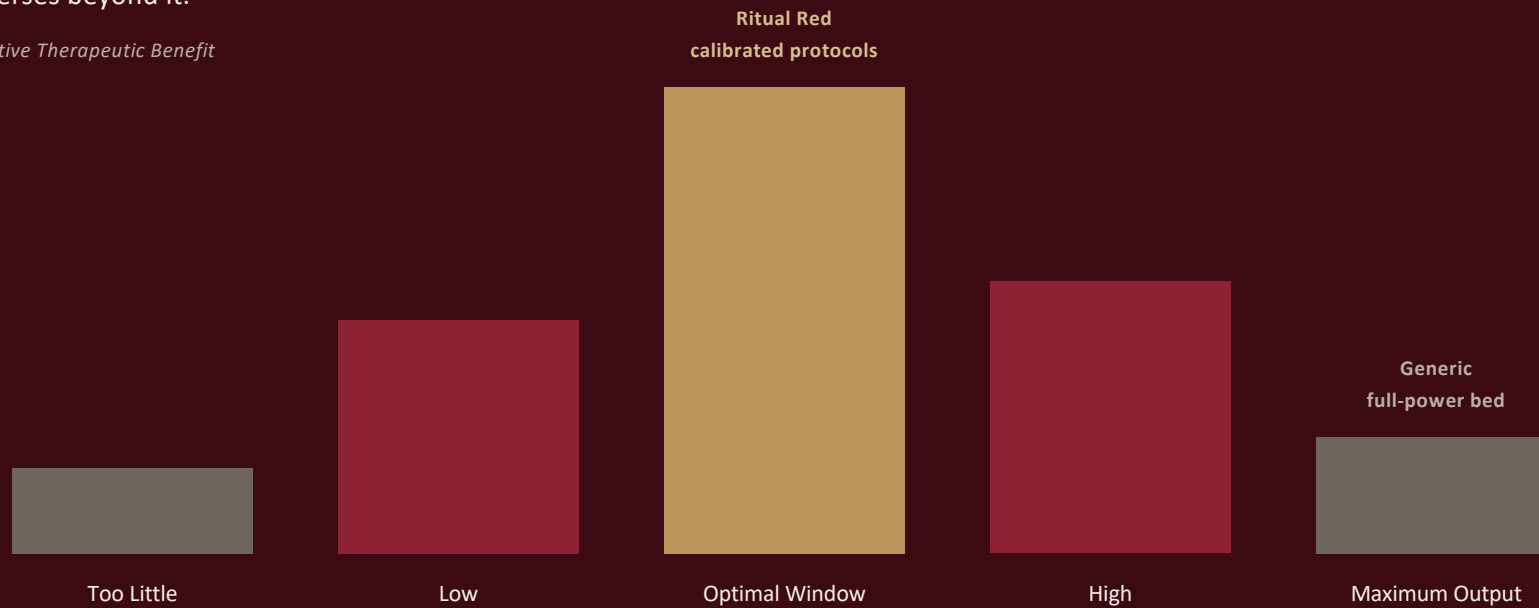
A distinct red / near-infrared protocol for every goal — skin, soreness, inflammation, recovery — each its own recipe.

Calibrated within the dose ranges studied in published PBM research — not the bed's absolute maximum.

Why More Power Isn't Better

Photobiomodulation follows a well-documented “biphasic dose response”: benefit rises with dose, peaks at an optimal window, then flattens or reverses beyond it.

Relative Therapeutic Benefit



Source: Huang, Chen, Carroll & Hamblin, “Biphasic Dose Response in Low Level Light Therapy,” Dose-Response, 2009.

Evidence: The Right Dose Wins

2024 randomized, double-blind, placebo-controlled PBM trial · 904 nm laser · three doses compared head-to-head

The finding. Researchers compared three active laser doses — 4, 8 and 10 J/cm² — against placebo. All three active doses helped. But the highest calibrated dose, 10 J/cm², produced the strongest and most durable result.

The takeaway. It wasn't the most light overall — it was the right amount of the right wavelength, held to a studied range. That's the same logic behind every Ritual Red protocol setting.

4 / 8 / 10

J/cm² doses compared head-to-head

10 J/cm²

produced the strongest, longest-lasting result

60%

achieved the best outcome at the calibrated top dose — not an uncapped maximum

Source: Cardoso et al., "Dose-response and efficacy of 904 nm photobiomodulation on diabetic foot ulcers healing: a randomized controlled trial," Lasers in Medical Science, 2024.

Evidence: Wavelength Mix Matters Too

2024 randomized controlled trial · red vs. infrared vs. combined LED photobiomodulation

4 arms

Red LED, infrared LED, combined LED, and control, each treated daily for 12 weeks

Both

red and infrared groups outperformed control, with large effect sizes

Infrared

was the single most effective wavelength for deeper-tissue outcomes

Why this matters for you. Red and near-infrared light behave differently in the body — red is absorbed closer to the skin's surface, while near-infrared travels deeper into muscle and joint tissue.

That's why Ritual Red protocols lean red-dominant for skin and contouring goals, and shift toward red + near-infrared for inflammation and deep-tissue recovery — matched to what each goal actually needs.

Source: Borges et al., "Photobiomodulation using red and infrared spectrum light emitting-diode (LED) for the healing of diabetic foot ulcers: a controlled randomized clinical trial," *Lasers in Medical Science*, 2024.

Meet the Ritual Red Protocols

Seven purpose-built protocols. Every one calibrated to published PBM research — see the evidence on the pages that follow.

1

Pain Management

Supports temporary relief of muscle and joint discomfort and comfortable movement.

3

Skin Management

Red-light-dominant protocol supporting healthy-looking skin, collagen and fewer visible fine lines.

5

Body Contouring

Red-light-focused protocol based on clinical PBM research evaluating changes in body circumference.

7

Manual / Custom

Trained staff customize wavelength, dose, and time within Ritual Red's evidence-based PBM protocol library.

2

Inflammation Support

Red + near-infrared protocol supporting the body's normal inflammatory and recovery processes.

4

Injury & Tissue Recovery

Deeper red + near-infrared protocol supporting recovery of muscles and soft tissue after activity or minor injury.

6

Recovery

Whole-body red + near-infrared protocol for post-workout or general physical recovery.

1

Pain Management

A red + near-infrared protocol designed to support temporary relief of muscle and joint discomfort and promote comfortable movement.

Why This Protocol

Pain-relief protocols draw on a red + near-infrared mix and a session dose calibrated to the ranges studied in published PBM pain research — never the bed's uncapped maximum, and never a one-size-fits-all setting.

The Research

14 RCTs

reviewed across chronic pain conditions

Favorable safety

13 of 14 trials reported no adverse events

Analgesic potential

shown even in pain resistant to conventional treatment

Source: Ferreira et al., "Photobiomodulation in chronic pain: a systematic review of randomized clinical trials," Frontiers in Integrative Neuroscience, 2026.

Inflammation Support

A red + near-infrared protocol designed to support the body's normal inflammatory and recovery processes.

Why This Protocol

Near-infrared wavelengths penetrate deeper to reach joint and soft-tissue structures. Published PBM research links this red + near-infrared combination to reduced release of inflammatory mediators — the biological basis for this protocol's wavelength mix and dose.

The Research

↓ Mediators

reduced release of prostaglandins and pro-inflammatory cytokines observed across reviewed RCTs

Moderate certainty

for disability improvement in knee osteoarthritis, per a 2025 umbrella review of 204 PBM trials

Sources: Ferreira et al., Frontiers in Integrative Neuroscience, 2026; Son et al., "Effects of photobiomodulation on multiple health outcomes," Systematic Reviews, 2025.

3

Skin Management

A red-light-dominant protocol designed to support healthy-looking skin, collagen-related processes and reduction in the appearance of fine lines.

Why This Protocol

Red wavelengths in the 611–650 nm range are the most closely studied for dermal collagen stimulation — so this protocol favors red light over near-infrared, at a session cadence modeled on the published trial below.

The Research

136-person RCT

prospective, randomized, controlled trial

+5.75–6.40 pts

collagen density increase in treated groups vs. a 0.26-pt decline in controls

69–75%

of treated subjects showed improved wrinkle status on blinded evaluation

Source: Wunsch & Matuschka, "A Controlled Trial to Determine the Efficacy of Red and Near-Infrared Light Treatment...", Photomedicine and Laser Surgery, 2014.

4

Injury & Tissue Recovery

A deeper red + near-infrared protocol designed to support recovery of muscles and other soft tissues following physical activity or minor injury.

Why This Protocol

This protocol favors near-infrared for deeper penetration into muscle tissue, at doses matched to the post-exercise recovery windows identified in the meta-analysis below — not the bed's maximum intensity.

The Research

72–96 hrs

soreness (VAS) significantly reduced in this post-exercise window — moderate effect

24–48 hrs

muscle strength recovery significantly improved — large effect

Source: Tsou, Chang & Chang, "Effects of Photomodulation Therapy for Delayed Onset Muscle Soreness: A Systematic Review and Meta-Analysis," Journal of Functional Morphology and Kinesiology, 2025.

5

Recovery

A whole-body red + near-infrared protocol designed for post-workout or general physical recovery.

Why This Protocol

Recovery applies the same evidence-based dosing across the whole body rather than a single joint or limb — timed to the post-exercise recovery windows shown to matter in the published research.

The Research

Large effect

on muscle strength recovery at 24–48 hrs post-exercise

Moderate effect

on soreness reduction at 72–96 hrs post-exercise

Source: Tsou, Chang & Chang, Journal of Functional Morphology and Kinesiology, 2025.

6

Body Contouring

A red-light-focused protocol based on clinical PBM research evaluating changes in body circumference.

Why This Protocol

This protocol uses the 635 nm red wavelength and session structure closest to the published circumference-reduction trial below — red-light-dominant, not near-infrared-heavy, matching the study's design.

The Research

Double-blind RCT

randomized, placebo-controlled trial design

3.51 in.

combined reduction across waist, hips & thighs vs. 0.68 in. in the control group

$p < 0.01$

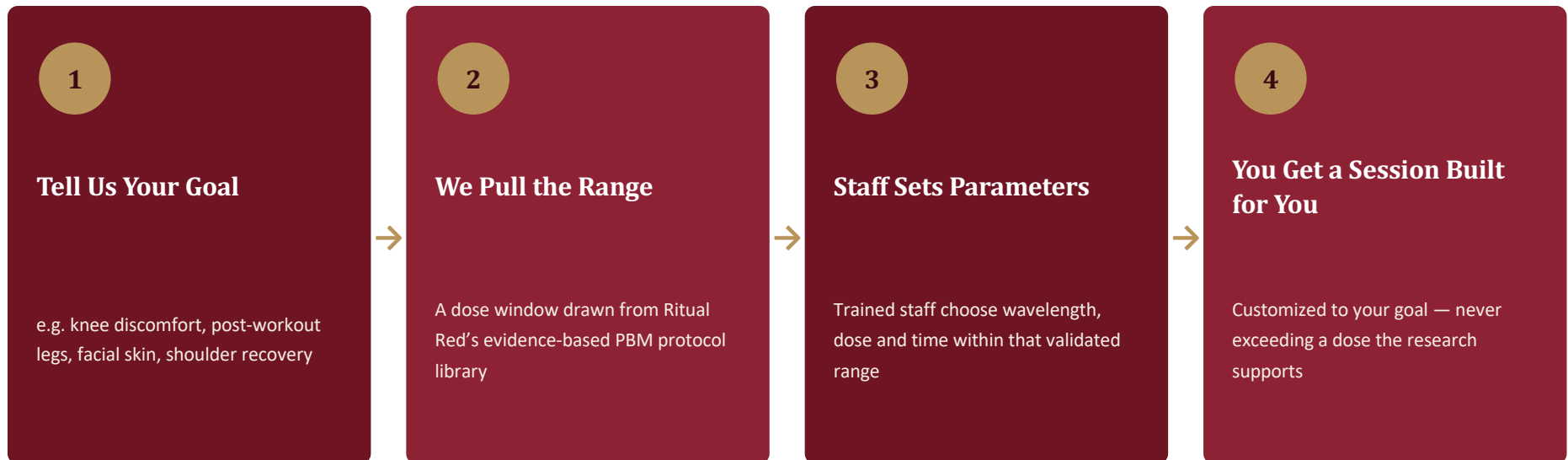
statistically significant at every site measured

Source: Jackson, Dedo, Roche, Turok & Maloney, "Low-level laser therapy as a non-invasive approach for body contouring: a randomized, controlled study," Lasers in Surgery and Medicine, 2009.

7

Manual / Custom

Your Custom Protocol, Built on Evidence — not a free-for-all “everything at 100% for 30 minutes,” but a guided session within a studied range.



Evidence-Based, Not Overhyped

We'd rather tell you the truth about the research than oversell it.

204

randomized trials

9,000+

participants

35

health outcomes assessed

A 2025 umbrella review of published PBM research found real, moderate-certainty evidence for several outcomes — and lower-certainty, still-developing evidence for many others. No outcome yet reaches “high certainty.”

That's why you won't hear us say “clinically proven.”

Every Ritual Red protocol is “evidence-based” — developed from parameters studied in published clinical PBM research. That's a claim we can stand behind, and it's the same standard we hold every setting on this bed to.

Source: Son et al., “Effects of photobiomodulation on multiple health outcomes: an umbrella review of randomized clinical trials,” Systematic Reviews, 2025.



Find Your Protocol.

Ask your Ritual Red specialist which of our seven evidence-based protocols matches your goal — and why it's calibrated the way it is.

"Come Back to Yourself"

Sources

1. Huang, Y-Y., Chen, A.C-H., Carroll, J.D. & Hamblin, M.R. "Biphasic Dose Response in Low Level Light Therapy." Dose-Response, 2009.
2. Cardoso, V.S., et al. "Dose-response and efficacy of 904 nm photobiomodulation on diabetic foot ulcers healing: a randomized controlled trial." Lasers in Medical Science, 2024.
3. Borges, N.C.S., et al. "Photobiomodulation using red and infrared spectrum LED for the healing of diabetic foot ulcers: a controlled randomized clinical trial." Lasers in Medical Science, 2024.
4. Ferreira, L.M.A., et al. "Photobiomodulation in chronic pain: a systematic review of randomized clinical trials." Frontiers in Integrative Neuroscience, 2026.
5. Wunsch, A. & Matuschka, K. "A Controlled Trial to Determine the Efficacy of Red and Near-Infrared Light Treatment..." Photomedicine and Laser Surgery, 2014.
6. Tsou, Y-A., Chang, N-J. & Chang, W-D. "Effects of Photomodulation Therapy for Delayed Onset Muscle Soreness: A Systematic Review and Meta-Analysis." Journal of Functional Morphology and Kinesiology, 2025.
7. Jackson, R.F., Dedo, D.D., Roche, G.C., Turok, D.I. & Maloney, R.J. "Low-level laser therapy as a non-invasive approach for body contouring: a randomized, controlled study." Lasers in Surgery and Medicine, 2009.
8. Son, Y., Lee, H., Yu, S., et al. "Effects of photobiomodulation on multiple health outcomes: an umbrella review of randomized clinical trials." Systematic Reviews, 2025.

Ritual Red protocols are designed using PBM parameters modeled on the published research above; Ritual Red devices themselves have not been independently clinically trialed. Individual results vary. Ritual Red does not diagnose, treat, or cure any medical condition — for medical concerns, please consult a physician.