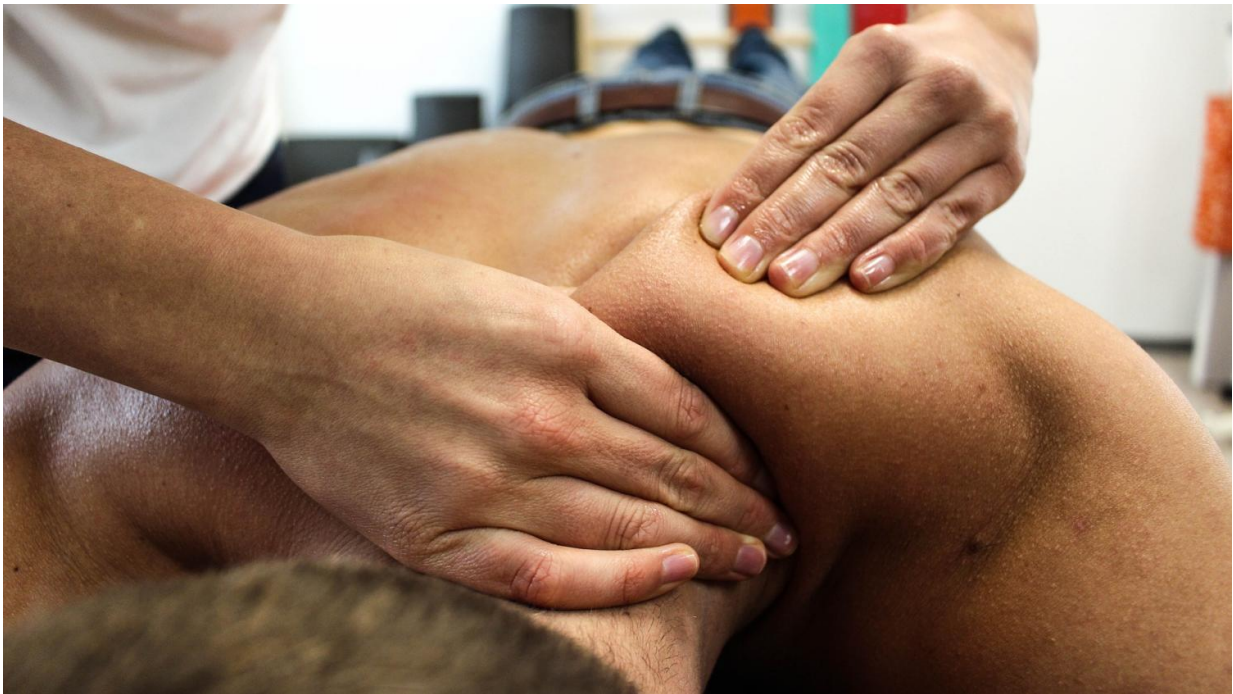


# Ten minutes of massage or rest will help your body fight stress: study

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Credit: CC0 Public Domain

Allowing yourself a few minutes of downtime significantly boosts mental and physical relaxation. Research by psychologists at the University of Konstanz observed higher levels of psychological and physiological relaxation in people after only ten minutes of receiving a massage. Even ten minutes of simple rest increased relaxation, albeit to a lesser degree than massage. The findings, reported on 8 September 2020

in the journal *Scientific Reports*, provide the first indication that short-term treatments can robustly reduce stress on a psychological and physiological level by boosting the body's principal engine for relaxation—the parasympathetic nervous system (PNS).

Stress is known to have negative consequences for health and disease. However, our bodies have an inbuilt regenerative system, the PNS, to ward off [stress](#) during times of threat. Launching a relaxation response is thus key to protecting our health and restoring balance in our body. Massage has been used to improve relaxation, yet no systematic approach exists to robustly confirm its effect on the PNS and whether or not this could be used as rehabilitation for patients suffering from stress-related disease.

## **Boosting the body's engine for relaxation**

This study indicates that massage is an easy-to-apply intervention that can boost the body's principal engine for relaxation—the PNS—and also lead to a reduction in perceived mental stress. The discovery that massage is effective on the level of both psychology and physiology via the PNS will pave the way for future studies on understanding the role of relaxation on stress.

"To get a better handle on the negative effects of stress, we need to understand its opposite—relaxation," says Jens Pruessner, head of the Neuropsychology lab and Professor at the Cluster of Excellence "Center for the Advanced Study of Collective Behavior" at the University of Konstanz. "Relaxation therapies show great promise as a holistic way to treat stress, but more systematic scientific appraisal of these methods is needed."

## **Standardized testing approach**

Researchers from the Department of Psychology in Konstanz developed a standardized approach for testing if tactile stimulation could improve mental and physical relaxation. They applied two different ten-minute massages on [human subjects](#) in the laboratory to test: A head-and-neck massage was designed to actively stimulate the PNS by applying moderate pressure on the vagal nerve, which is the largest nerve running to the PNS. Then a neck-and-shoulder massage with soft stroking movements was designed to examine whether just touch can also be relaxing. Finally, a control group of participants sitting quietly at a table was tested for the effect of rest without tactile stimulation. Physiological relaxation was gaged by monitoring the heart rate of participants and measuring [heart rate variability](#) (HRV), which indicates how flexibly the PNS can respond to changes in the environment. The higher the HRV, the more relaxed is the body. Psychological relaxation was gaged by asking participants to describe how relaxed or stressed they feel.

Ten minutes of resting or receiving either massage resulted in psychological and physiological reduction in stress. All participants reported that they felt more relaxed, and less stressed, compared with before the treatments. Further, all participants showed significant increases in heart rate variability, which demonstrates that the PNS was activated and the body physiologically relaxed just by resting alone. The physiological effect was more pronounced when participants received a massage. It was, however, not important whether the [massage](#) was soft or moderate—tactile contact in general seemed to improve the relaxation of the body.

## **Small moments with big impact**

"We are very encouraged by the findings that short periods of disengagement are enough to relax not just the mind but also the body," says Maria Meier, a doctoral student in the lab of Neuropsychology and first author on the study. "You don't need a professional treatment in

order to relax. Having somebody gently stroke your shoulders, or even just resting your head on the table for ten minutes, is an effective way to boost your body's physiological engine of relaxation."

By developing a standardized method for robustly testing and validating relaxation therapies, the study allows further experiments to test the effects of additional relaxation interventions that could be used in prevention or rehabilitation programs for people suffering from stress-related diseases such as depression.

"Massage, being such a commonly used relaxation therapy, was our first study," says Meier. "Our next step is to test if other short interventions, like breathing exercises and meditation, show similar psychological and physiological [relaxation](#) results."

**More information:** Maria Meier et al. Standardized massage interventions as protocols for the induction of psychophysiological relaxation in the laboratory: a block randomized, controlled trial, *Scientific Reports* (2020). [DOI: 10.1038/s41598-020-71173-w](https://doi.org/10.1038/s41598-020-71173-w)

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