

Massage could be used to aid recovery of damaged limbs

1 November 2017

Massage could increase the regrowth of muscle after muscle loss, according to new research published in *The Journal of Physiology*. The researchers showed that muscle grew faster after a massage because protein manufacture in cells was improved, and that when one leg was massaged, the other non-massaged leg also grew faster.

Muscle is lost very quickly during periods of disuse, like bed rest or a hospital stay, and it is extremely difficult to grow [muscle](#) back, especially in older people. Massage has been used in the past to lessen pain, decrease anxiety and stress, increase flexibility, improve immunity, and increase blood flow.

This study indicates that an easy to apply intervention such as massage, with very few side effects can aid regrowth of muscle after [muscle loss](#). In addition, the discovery that this faster regrowth is also observed in the non-massaged muscle means that massage could potentially be used in an undamaged limb to aid in the recovery of a damaged limb.

The researchers from University of Kentucky and Colorado State University, used rats that had undergone a period of inactivity to decrease [muscle mass](#) but were allowed to recover muscle mass after disuse. During the recovery period, the rats were massaged by a device that applied force to the muscle in a highly controlled manner. Massage was applied every other day for a week and muscle was analysed for the size of [muscle fibres](#), the manufacture of proteins, the presence of other cells (for example, [muscle stem cells](#)), and the communication in the cells that program it to grow.

The experiments are yet to be replicated in humans. The intervention was only used during recovery after muscle loss, and not a period of inactivity. The researchers used massage every

other day, since this is what is used in a clinical situation, but it is unknown whether more frequent massage would see increased results. In addition, the work was only performed in healthy adult animals and it is important to see if it will also work in older animals or in animals with disease.

Esther E. Dupont-Versteegden, one of the lead investigators said: 'We foresee that [massage](#) could be used in situations where other treatments, such as exercise, can't be applied: in the [intensive care unit](#) and in patients who are under non-weight-bearing orders after orthopaedic surgeries.'

More information: Benjamin F. Miller et al, Enhanced skeletal muscle regrowth and remodelling in massaged and contralateral non-massaged hind limb, *The Journal of Physiology* (2017). [DOI: 10.1113/JP275089](https://doi.org/10.1113/JP275089)

Provided by The Physiological Society

APA citation: Massage could be used to aid recovery of damaged limbs (2017, November 1) retrieved 30 October 2020 from <https://medicalxpress.com/news/2017-11-massage-aid-recovery-limbs.html>

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