

Master Thesis or Internship @ Balgrist Campus

The impact of placebo on autonomic responses

- Supervision:** Florin Allmendinger, PhD candidate
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- Type:** Master Thesis or Internship (min. 6 months)
- Description:** The autonomic nervous system reacts to pain, for example by adapting the heart rate or increased sweat output at the hands. Such pain-autonomic responses have been shown to be increased in chronic pain patients with a sensitized nociceptive system (Scheuren et al., 2023). However, pain-autonomic responses can also be influenced by positive and negative expectations (Aslaksen et al., 2008; Rhudy et al., 2018). Therefore, we aim to disentangle the effects of expectations and sensitization on pain-autonomic responses. For this reason, we will conduct a study in healthy participants, using experimentally induced sensitization and a placebo paradigm.
- Training:** You will be involved in planning and conducting an experimental study involving healthy participants. You will learn electrophysiological techniques, such as recordings of ECG and electrodermal activity, sensory testing, statistical data analysis and interpretation.
- Profile:** Bachelor in Biology, Biomedicine, Health Science and Technology, Medicine. Able to communicate in German.
- Beginning:** Immediately
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- Literature:** Aslaksen PM, Flaten MA. The roles of physiological and subjective stress in the effectiveness of a placebo on experimentally induced pain. *Psychosom Med.* 2008. 70: 811-8.
Rhudy JL, Güereca YM, Kuhn BL, Palit S, Flaten MA. The Influence of Placebo Analgesia Manipulations on Pain Report, the Nociceptive Flexion Reflex, and Autonomic Responses to Pain. *J Pain.* 2018. 19: 1257-1274.
Scheuren PS, De Schoenmacker I, Rosner J, Brunner F, Curt A, Hubli M. Pain-autonomic measures reveal nociceptive sensitization in complex regional pain syndrome. *Eur J Pain.* 2023. 27: 72-85.