

PinPrick Stimulators

MRCs PinPrick stimulators are used for quantitative sensoric testing (QST) of pain and perception thresholds. They allow a reproducible measurement and documentation of nociceptor activation of the skin. Thus, they enable a better diagnostic of symptoms of neuropathologic pain that are connected e.g. with chronic pain.

The tactile stimulators have been developed and introduced by Prof. Rolf-Detlef Treede and PD Dr. Walter Magerl (Department of Neurophysiology, Medical Faculty Mannheim, University of Heidelberg). They are used by the members of the German Research Network on Neurophathic Pain (DFNS) and validated by the European Federation of Neurological Societies.



Applications

Pinprick stimulation ...

- is used to assess gain and loss of mechanical sensory functions
- is one important contribution to characterize the somatosensory phenotype of patients with neuropathic pain
- provides quantitative data for mechanical detection and pain thresholds as well as stimulus/response functions
- provides quantitative data for pain summation to repetitive stimuli
- is an important step towards mechanism based treatment of pain syndromes
- is a reproducible method to diagnose changes of pain sensitivity like mechanical hyperalgesia or dynamic mechanical allodynia
- is used to investigate the central sensitization to A-fibre nociceptor input
- enables the validation of paint treatment concepts by standardized protocols and absolute reference values

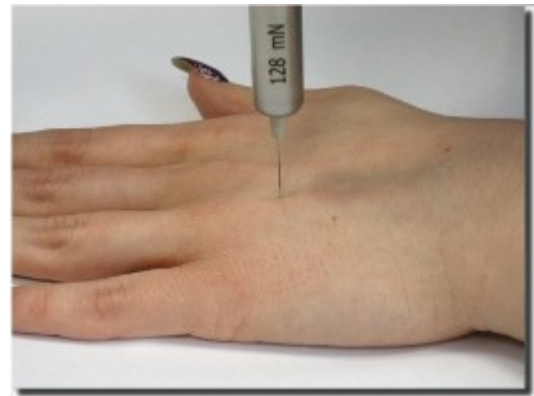
Special Features

- Fast and safe application in clinical routine
- Approved tip geometry
- Calibrated forces
- User-independent sensoric stimulation levels

- No damage to skin tissue
- Age- and gender-matched reference values are available
- Recommended by German Research Network of Neuropathic Pain (DFNS)
- Recommended by European Federation of Neurological Societies
- Compact and robust design
- Patented technology
- Applicable during MRI, fMRI, and PET imaging

Product description

- One set includes seven weighted pinprick stimulators for different pressures (between 8 and 512 mN)
- Tips have a flat contact area of 0.25 mm in diameter with a controlled edge curvature



References

- T. Klein, W. Magerl, A. Hanschmann, M. Althaus, R.-D. Treede: Antihyperalgesic and analgesic properties of the N-methyl-D-aspartate (NMDA) receptor antagonist neramexane in a human surrogate model of neurogenic hyperalgesia. *European Journal of Pain*, 12 (2008), 17-19 (Weblink)
- R. Rolke, W. Magerl, K.A. Campbell, C. Schalber, S. Caspari, F. Birklein F, R.-D. Treede: Quantitative sensory testing: a comprehensive protocol for clinical trials. *Eur J Pain* 10(1) (2006), 77-88 (Weblink)
- R. Rolke, R. Baron, C. Maier, T.R. Tölle, R.-D. Treede, A. Beyer, A. Binder, N. Birbaumer, F. Birklein, I.C. Bötefür, S. Braune, H. Flor, V. Hüge, R. Klug, G.B. Landwehrmeyer, W. Magerl, C. Maihöfner, C. Rolko, C. Schaub, A. Scherens, T. Sprenger, M. Valet, B. Wasserka: Quantitative sensory testing in the German Research Network on Neuropathic Pain (DFNS): Standardized protocol and reference values. *Pain* 123 (2006), 231-243 (Weblink)
- W. Magerl, P. N. Fuchs, R. A. Meyer, R.-D. Treede: Roles of capsaicin-insensitive nociceptors in pain and secondary hyperalgesia. *Brain* 124 (2001), 257-268 (Weblink)
- E. A. Ziegler, W. Magerl, R. A. Meyer, R.-D. Treede: Secondary hyperalgesia to punctate mechanical stimuli. *Brain* 122 (1999), 2245-2257 (Weblink)

Links

- Department of Neurophysiology, Mannheim, University of Heidelberg
- German Research Network on Neurophathic Pain (DFNS)

Manual

- Manual Pinprick Stimulator Set
- Product information

Back to [top](#)

Work in progress. Subject to change without prior notice.

MRC Systems GmbH

Hans-Bunte-Str. 10
69123 Heidelberg
Germany

Phone +49-6221-13803-00
Fax +49-6221-13803-01
info@mrc-systems.de
www.mrc-systems.de