


Somatosensory Rehabilitation Method for treating allodynia

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Neuropathic pain

Definition IASP: pain initiated or caused by a primary lesion or dysfunction in the nervous system.


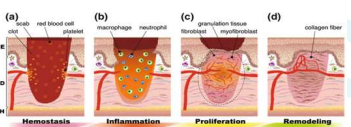

1. 450 milion people world wide
2. Somatosensory systeem involved
3. Spontaneous pain
4. Diagnosing is possible using the skin



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Pain as bodily protection

1. Warning of getting injured or to regulate normal woundhealing when injured
2. Noxiceptors adjust level of alertness
3. Healing takes place
4. Level of alertness adjusts back to normal

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developing neuropathic pain

1. Pain as bodily protection
2. Nociceptors adjust level of alertness
3. Changes in Dorsal Root Ganglion
4. Increase of spontaneous firing
5. Change of phenotype, response to new stimuli
6. Body responding more protective

Shift from low to high responsiveness to mechanical stimuli is associated with the experience of allodynia.

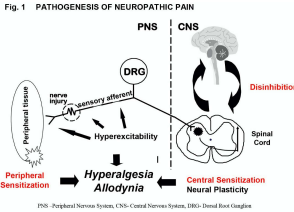



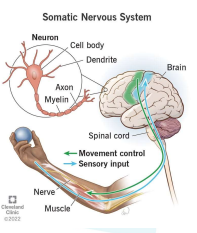

Fig. 1 PATHOGENESIS OF NEUROPATHIC PAIN



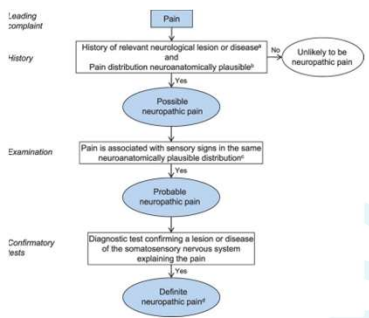
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Allodynia


- Definition IASP: pain due to a stimulus that does not normally elicit pain.
- When touch elicits pain, this effects normal use of the affected limb.
- Leading to abnormal and more protecting moving patterns.
- Mistaken or misdiagnosed for mechanical problems
- Treatment with best intentions can make it worse.

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Finnerup 2016



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Somatosensory rehabilitation

Claude Spicher, Swiss certified hand-occupational therapist

More than just a test:

1. Listen to your patient describing his pain, using the Mc Gill pain questionnaire
2. Map the pain using the skin and Semmes Weinstein monofilaments
3. Treat, using bodily relearning/neuroplasticity
4. Evaluate using assesment tools



Two types of neuropatic pain: hypoaesthesia, allodynia

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Case report

1. 24 year old female, flexor tendon injury involving a digital nerve 4 years ago
2. Two additional surgeries: neurolysis and Trigger finger release.
3. Extensive hand therapy after initial trauma and additional surgeries
4. Wearing a MCP blocking splint for dig 5 and using silicone patches for the sensitive scar
5. Not able to use her hand in activities of daily life, especially playing Hockey was limited.



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McGill pain questionnaire

1. Developed McGill university by Melzak in 1971.
2. Self-report questionnaire
3. 78 words related to pain in 20 sections
4. Modification by Spicher to use in Somatosensory rehabilitation
5. Score from 0-100, distinguish sensory and affective



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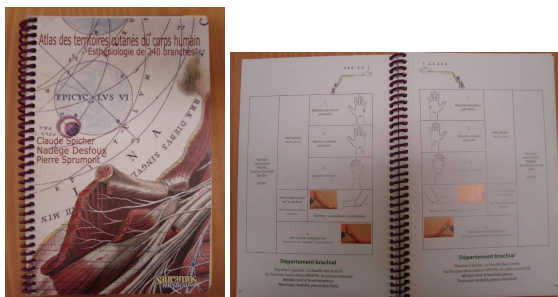
McGill Pain Questionnaire-DLV

1. Developed McGill in 1971.
2. Self-report questionnaire
3. 78 words related to pain in 20 sections
4. Modification by Spicher to use in Somatosensory rehabilitation
5. Score from 0-100 and affective



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Find the affected nerve



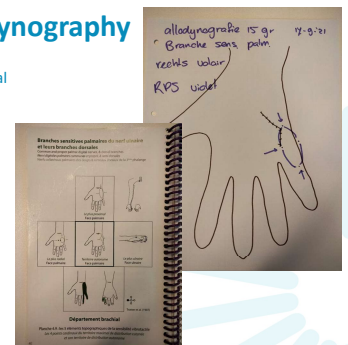
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Allodyngraphy

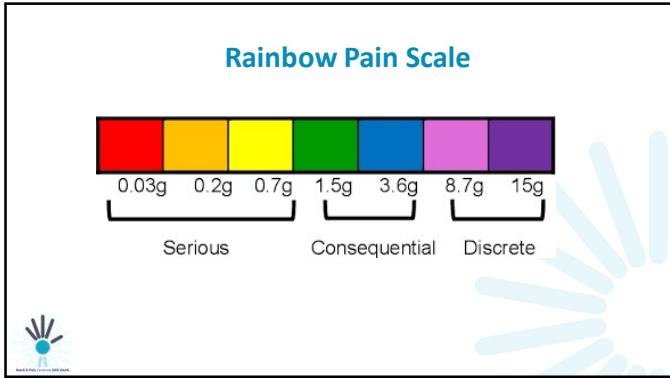
In SSR: touch evoked pain or Statical Mechanical Allodynia

Touch defined as 15 gram/... aesthesiometer from Semmes Weinstein monofilaments

Search for territory where the 15 gram monofilament elicits pain



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Treating Allodynia

Do not touch!

- PLEASE DON'T TOUCH!
- LOOK BUT PLEASE DON'T TOUCH!
- DON'T TOUCH (with hand symbol)
- DON'T TOUCH! (on a red circular sticker)

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Treating Allodynia

Distant Vibrotactile Counter stimulation

red = do not touch !!
 orange = be careful to touch
 green = zone of comfortable counter stimulation

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Treating Allodynia

Educate using metaphors

NO TRESPASSING
GUARD DOG ON PREMISES

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Evaluating Allodynia

Mapping

McGill

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Evidence of somatosensory rehabilitation

- Nedelec et al, Somatosensory Rehabilitation for Neuropathic Pain in Burn Survivors: A Case Series (J Burn Care Res: 2016)
- 17 burn survivors with neuropathic pain, 2 with hypoaesthesia, 15 with allodynia
- McGill pain Questionnaire and mapping of affected nerve territory
- Evaluation after 2 and 3 months
- Results: the majority of patients (13/17 or 76%) showed substantial improvements after somatosensory rehabilitation

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Evidence of somatosensory rehabilitation

1. Packham et al, Somatosensory rehabilitation for allodynia in complex regional pain syndrome of the upper limb. (Journal of Hand Therapy: 2018)
2. Retrospective cohort study using independent chart review of all client records (May 2004-August 2015) in the Somatosensory Rehabilitation Centre (Fribourg, Switzerland)
3. 48 persons meeting the Budapest criteria for CRPS of 1 limb who had undergone assessment and treatment
4. McGill pain Questionnaire, mapping of affected nerve territory and RPS
5. Results: The average duration of treatment 81 days. Average McGill score declined from 48 to 20. Allodynia completely resolved in 27 persons (56% of the total sample where only 58% completed treatment)



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Take home message

- Listen
- Always treat allodynia first
- Help your patient to explore, not to overstep



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Learn More?

Full course in Switzerland

<https://www.neuropain.ch/somatosensory-rehabilitation-neuropathic-pain-1>

Or follow the short introduction January 12, 2024

<https://info.ergotherapie.nl/scholingen>



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Thanks for listening!



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