

# Treatment and rehabilitation of a patient with small fiber polyneuropathy (SFPN) in the Gastein Healing Gallery – a case report

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## Context

The Gastein valley (GV) in Austria offers Health Resort Medicine (HRM) with a variety of elements (e.g. climatic factors), modalities (e.g. physical therapy) and agents (e.g. radon thermal water) to treat and rehabilitate patients with chronic diseases. The Gastein Healing gallery (GHG) - part of the HRM in the valley - combines several treatment factors such as **low-level radon exposure, high humidity & mild hyperthermia** in a moderate altitude above sea level. Marked clinical effects in a variety of diseases and domains (e.g. symptoms, reduction of medication, physical functioning and quality of life) are reported regularly by the patients. Our objective is **to report the treatment effects in a patient suffering from SFPN.**



Pic 1: Gastein Healing Gallery Clinic.



Pic 2: Treatment area in the Gallery.

## Methods

A 27 year old male patient took 8 one hour sessions (at 37° , 75% humidity and radon radiation of 44kBq/m<sup>3</sup>) in the GHG within 2 weeks. He was encouraged to increase his physical activities (walking, hiking) on the days free of gallery session. He had been suffering from **SFPN** (positive intraepidermal nerve fibre density test) for 2 years with burning pain with red skin (erythromelalgia) in feet, legs, hands & face and abdominal pain, severe constipation and postural orthostatic tachycardia syndrome. During the course of his disease, he tried several medications including anti-epileptics (i.a. gabapentin), antidepressants (i.a. duloxetine), opioids (i.a. tilidine) and ketamine with no noteworthy effects on his symptoms.

The patient was assessed with **pain items (VAS) and pain distribution** [sum of 24 bodily regions; each region rated on a Likert scale (0-5)] and questionnaires [Fibromyalgia Impact Questionnaire Revised (FIQ-R), Perceived Stress Scale (PSS)] at predefined intervals before and after the gallery sessions (before/directly after/4 weeks/16 weeks).

## Results:

**Pain levels dropped clinically relevant by 20%** (abdominal pain) and 30% (overall pain in other areas) after 8 sessions and sustained for 16 weeks. **Pain distribution decreased** from 37 to 18 after 16 weeks. Improvements were also observed in subscales of FIQ-R (higher numbers denote more severe functional limitations, less well-being higher symptom expression, higher stress levels): physical functioning (19/5/7/9), overall well-being (16/6/11/9), symptoms (27/9/15/14) and the PSS (24/15/15/19). The patient reported a significant improvement of his burning (erythromelalgia) and abdominal pain.

## Conclusions:

The sessions in the GHG and the stay in the GV had **considerable subjective and objective positive effects** on the patient. Overall and abdominal pain levels dropped significantly and stayed on a lower level for 16 weeks. Also **functional limitations, overall well-being and symptom expression as well as perceived stress improved markedly**. To conclude, the mild radon hyperthermia in the GHG and other components of HRM in the GV offered a therapeutical and rehabilitative alternative for this patient suffering from severe SFPN.