



Rehabilitation for post-COVID-19 patients - study on balneology

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STAATSBAD PYRMONT
Gesundheit und Lebensfreude

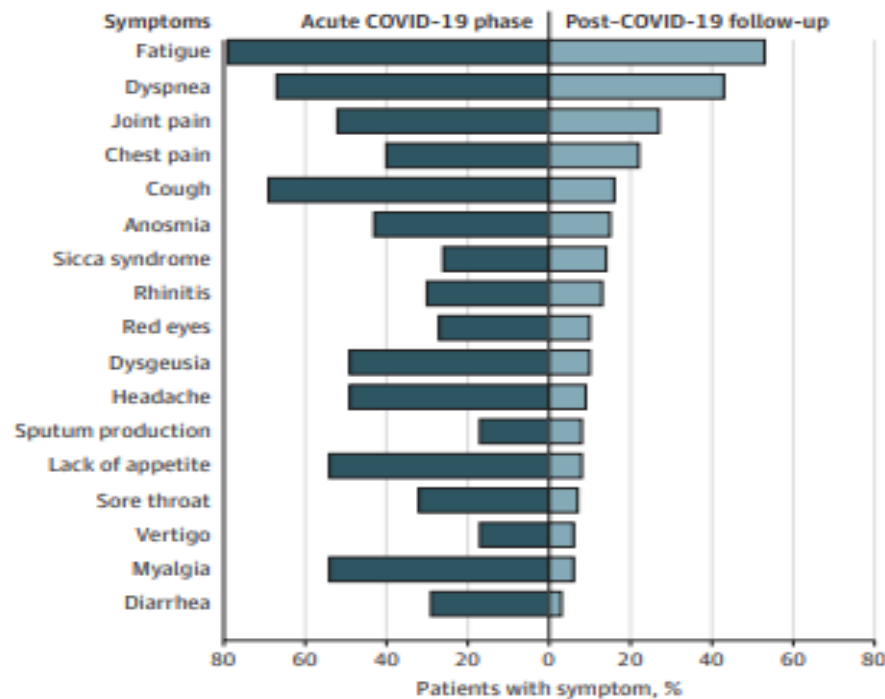
No conflict of interest



Post COVID-19 Syndrome

Definition: The persistence of **at least 1 symptom**, particularly **fatigue** and **dyspnea**, was reported by **87.4%** of the patients who had recovered from COVID-19.

Figure. COVID-19-Related Symptoms



Carfi A et al. JAMA August 11, 2020 Volume 324, Number 6



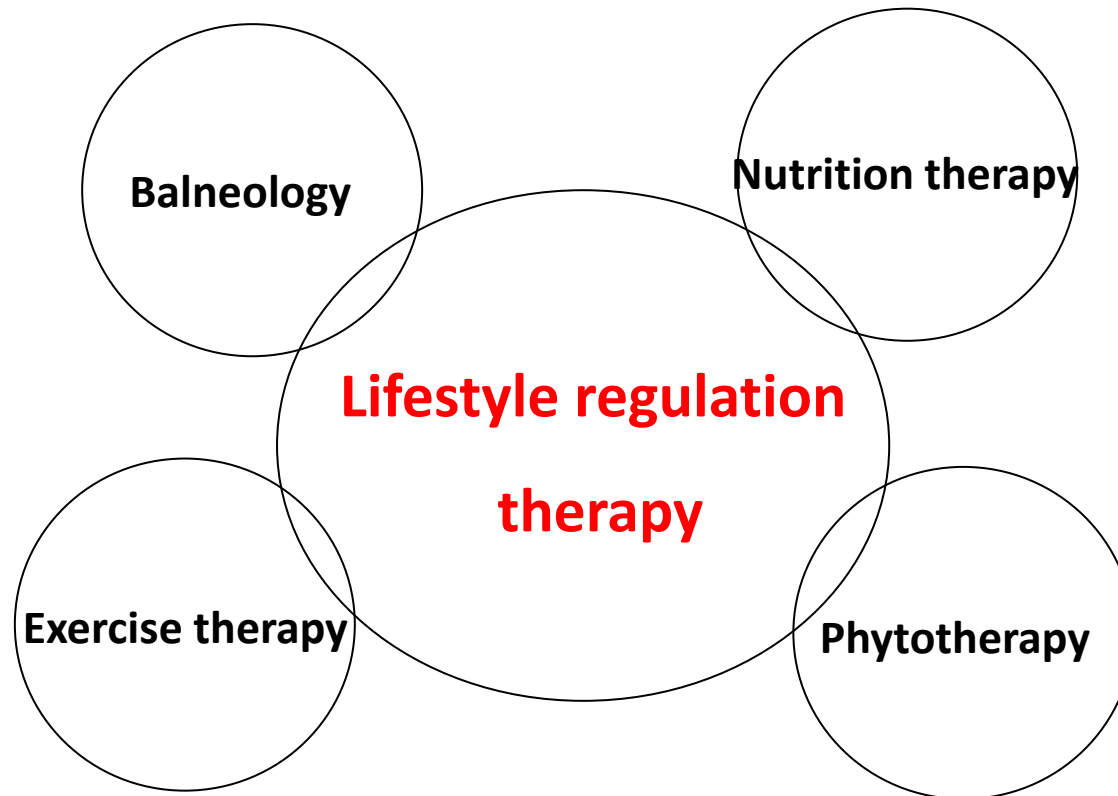
Clinical features of post COVID-19 patients and rheumatic diseases

How do I treat...

- ...**Fatigue** ?
- ...**Pain** in joints, muscles, bones?



Naturopathic medicine by Sebastian Kneipp



Hentschel HD. Naturheilverfahren Grundlagen, Möglichkeiten, Grenzen. Dt Ärzteb 11995; 92: A-2635-2646 [Heft 40]



How do I treat Fatigue?

- Activation of the Sympathetic nerve during the first half of the day
- Reduced stimulation of the Sympathetic nerve in the second half of the day
- Stimulation of the Parasympathetic nerve in the evening



Activation of the sympathetic nerve during the first half of the day

- Exercises outside in the **Spa gardens** (Daylight exposure to improve the circadian rhythm, natural environment and biodiversity to improve the mood....)
- **Climatotherapy**
- **Hydrotherapy by Kneipp** (12 -16° C)
- **Cryotherapy/Cold chamber**
- **Two main meals** (breakfast + lunch)

Lange U, Uhlemann C, Berg W, et al. Physical Medicine in Rheumatology – Differential Indicative Prescription in Collagen Diseases and Vasculitides. Akt Rheumatol 2007; 32: 281–286. DOI 10.1055/s-2007-963494



Reduced activity of the Sympathetic nerve during the second half of the day

- Patient's **education**
- **Relaxation methods**
- **Moor pack**
- Sodium chloride **brine bathtub**



Stimulation of the Parasympathetic nerve in the evening

- Small dinner
- Reduced to moderate physical activity
- Avoid exposure to blue light 2 hours before sleeping (TV, PC...)
- Medical herb tea (hop + lavender tea)
- Increasing-temperature Footbaths

- Shechter A, Kim EW, St-Onge MP et al. Blocking nocturnal blue light for insomnia: A randomized controlled trial. *J Psychiatr Res.* 2018 Jan;96:196-202..
- Schilcher H. *Leitfaden Phytotherapie. 5. Auflage. München: Urban und Fischer Verlag. 2016.*



How do I treat pain in joints, muscles and bones?

- Alternating active and passive therapeutic applications
- Outdoor activities: usage of spa gardens as much as possible for exercises.
- Passive applications: usage of moor packs, CO₂ baths, brine baths



Effects of serial mud baths on inflammatory rheumatic diseases (1)

- **Design:** prospective study
- **Objective:** effects of serial mud baths on parameters of functional health, on pain perception and at the molecular level in patients with inflammatory rheumatic diseases
- **Intervention:** 9 serial mud baths within 21 days in addition to a multimodal physical rehabilitative complex treatment (**n= 21**)
- **Control:** physical rehabilitative treatment only (**n=21**)

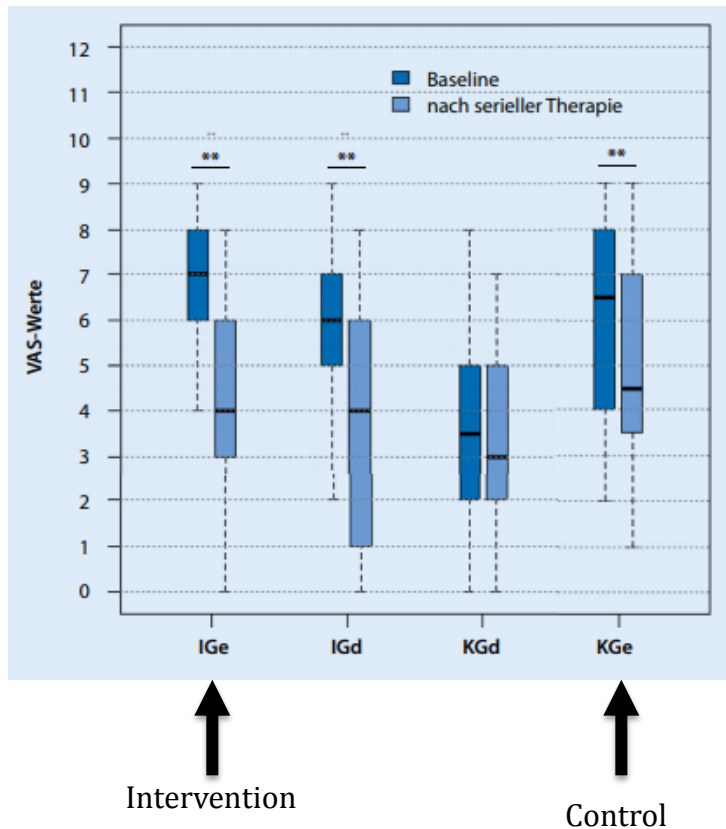


Dischereit G et al. Z Rheumatol 2019 · 78:143–154

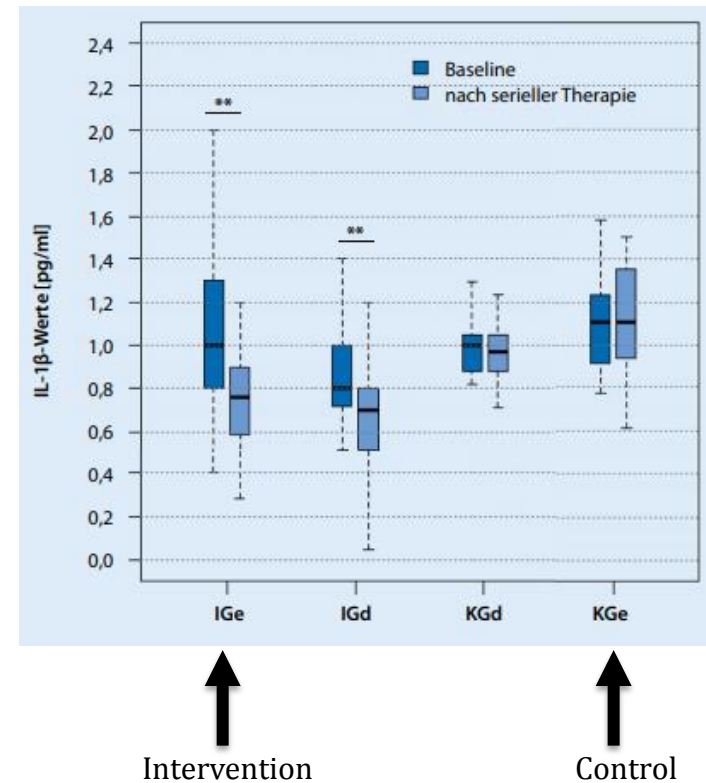


Effects of serial mud baths on inflammatory rheumatic diseases (2)

Pain (VAS)



Inflammation



Dischereit G et al. Z Rheumatol 2019 · 78:143–154



Thank you



Dr. Martin Gehlen