FACTSHEET

Non-specific back pain

Most frequent cause of incapacity for work and early retirement

Back pain is one of the most common complaints in the population: Around three quarters of all Germans suffer from back pain at least once in their lives.[1] 70-80 % of back pain is pain in the lower lumbar region (lumbar low back pain [LBP]).[2] Back pain affects more women than men and its frequency increases with age.[1] Because back pain is the most common reason for incapacity and the second leading cause of early retirement after mental illness and behavioral disorders, the economic impact is also significant.[1]

According to its cause, back pain is divided into specific and non-specific back pain. In 80 % of cases, non-specific back pain is present, which must be differentiated from back pain due to a specific cause, such as herniated discs, infections, fractures, or tumors, among others, with a targeted history and physical examination. If there are no accompanying neurological symptoms, no extravertebral causes, and no red flags, the diagnosis of non-specific back pain can be made.[1]

Pathophysiological duo: Trunk muscle insufficiency and kinesiophobia

Non-specific back pain is usually caused by muscular imbalances such as muscle tension or insufficient trunk muscles[3] as well as degenerative changes in the facet joints of the spine. Incorrect loading due to prolonged sitting in the same position, one-sided or heavy physical work, but also psychological stress such as stress at work, financial or family worries, pronounced anxiety or self-doubt can promote the development of non-specific back pain.[4] The pathophysiological association of insufficient trunk musculature with non-specific back pain leads to a vicious circle: patients with lumbar complaints avoid movement, due to the underuse the trunk-stabilizing musculature degrades, the load on the degenerative facet joints and the complaints increase and lead to an increased avoidance of movement by the affected person (kinesiophobia).[5] For this reason, the national and European guideline recommends active exercise and stopping for regular physical activity as the most effective measure in the treatment of non-specific back pain.[1]

Therapy: The challenge of chronification

Non-specific back pain often becomes chronic: on average, two thirds of those affected (42-75 %) report persistent symptoms after 12 months. Accordingly, the prevention of chronicity is a declared therapeutic goal in the treatment of non-specific back pain. Risk factors for chronicity include sedentary work, low physical condition, stress, smoking and obesity, but also psychosocial, workplace-related or iatrogenic factors.[1]

The treatment of non-specific back pain is symptomatic and is based on the quality and severity of the pain, the degree of functional impairment and the time course of the symptoms (acute [< 6 weeks], subacute [6-12 weeks] and chronic [> 12 weeks] non-specific back pain). In addition to maintaining physical activity, analgesic, medicinal and non-medicinal therapy options such as acupuncture, relaxation methods, functional training, manual therapy, heat therapy, etc. can be used initially. The evaluation and addressing of any risk factors and the knowledge transfer of health-conscious behaviour also play an essential role in the treatment of non-specific back pain. According to the national and European guidelines, if the complaints persist or threaten to become chronic or already exist, a multimodal treatment programme tailored to the individual patient should be implemented, consisting of physiotherapy, physical therapy, psychotherapy, occupational therapy and education.[1]

This program, which can be performed in both outpatient and inpatient settings, is currently considered the gold standard for treating nonspecific back pain - but it is very time-intensive. A more time-efficient but, according to study data, comparably effective method for treating non-specific back pain is Whole-body Electromyostimulation (EMS). For example, a prospective, controlled non-randomized clinical trial showed equivalent efficacy in treating non-specific back pain for Whole-body EMS compared to the gold standard multimodal therapy approach - and with a time commitment of 20 minutes per week.[5]

Prevention = time spent?

Exercise, especially strengthening and stabilization exercises of the trunk muscles, prevents non-specific back pain. Regular training is essential to strengthen the muscles in the long term.[1] With conventional training methods, it is necessary to train several times a week. This is not only more time-consuming, but also more stressful for the joints. Whole-body Electromyostimulation, on the other hand, takes only 20 minutes a week - and has been proven effective in various studies. Whole-body EMS is therefore an innovative, effective, particularly joint-friendly and time-efficient treatment concept for the long-term prevention and treatment of non-specific back pain.

References: **1** National health care guideline: Non-specific low back pain; long version. 2nd edition, 2017, AWMF register no: nvl-007 **2** Bork H. Non-specific low back pain. Orthopaedics and Trauma Surgery up2date 2017; 12(06): 625-641 **3** Chibuzor-Hüls J, Casser H-R and Geber C. When back pain becomes chronic. Pain Medicine 2020; 36 (4): 40-48 **4** Back and low back pain. Institute for Quality and Efficiency in Health Care (IQWiG); available at https://www.gesundheitsinformation.de/rueckenschmerzen.2378.de.html (last accessed 24 Feb 2021) 5 Konrad KL et al. The effects of whole-body electromyostimulation (WB-EMS) in comparison to a multimodal treatment concept in patients with non-specific chronic back pain - a prospective clinical intervention study. PLoS ONE 2020; 15(8): e0236780.