A man with short brown hair and a light beard, wearing a blue V-neck sweater, is sitting at a desk. He is holding a white envelope in his right hand and looking directly at the camera with a slight smile. On the desk in front of him are several papers, including one with a blue circular graphic. The background is a blurred office setting with a whiteboard and a blue folder on a shelf.

medi

Back pain caused by stress

Causes and help for patients

Backache

Almost every second German citizen consulted a doctor because of pain in the back and spine in 2015. In concrete figures, this means: 36.7 million patients in Germany have back pain, of whom 22.1 million suffer from a disorder of the spine and the back. These figures were taken from the latest statistics published by the German National Association of Statutory Health Insurance Physicians (KBV)¹ on the incidence of widespread conditions - which means that back pain is and remains the No. 1 illness in Germany.

It is then no surprise that more employees are off work with back pain than with any other condition. According to “Health Report 2016 – Health between occupation and family” published by the Techniker Krankenkasse, disorders of the musculoskeletal apparatus count as the second most common diagnosis on employees’ sick notes. According to the report, employees were written off sick on an average of three days last year, because of disorders of the locomotor apparatus.²

Men of higher working ages are particularly affected. According to “Stada Health Report 2016”, the age-group of 50- to 59-year-olds suffers most often from spinal disorders.³

However, it is astonishing that only few cases of back pain are attributable to a pathological physical change. In most cases, stress at work, loading the back incorrectly and lack of physical exercise are responsible for back pain.³

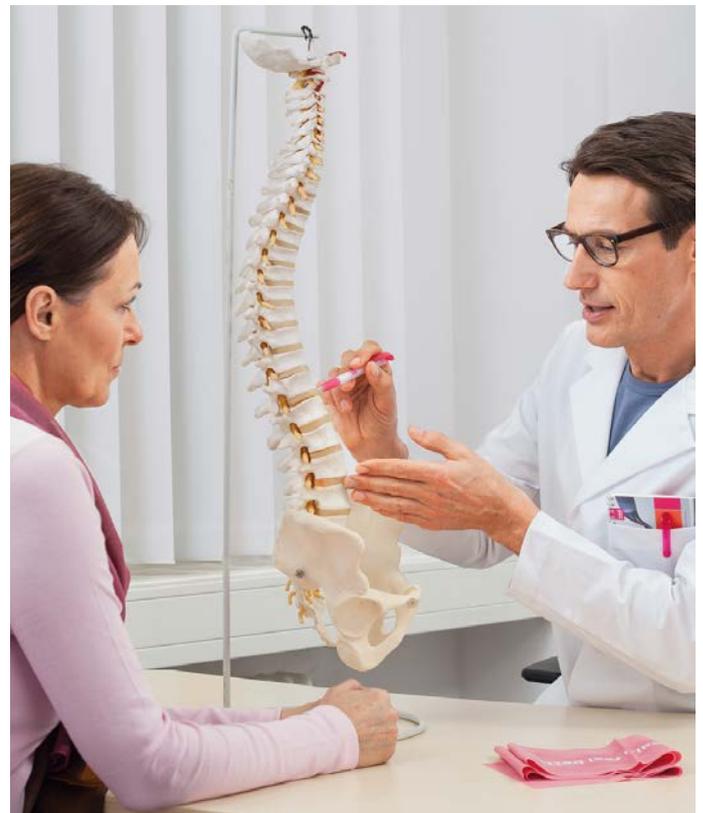
The anatomy of the back

Back pain is usually caused by overworked muscles and ligaments or wear and tear of the spine and the intervertebral discs. It is worth looking at the anatomy of the back, in order to understand this more exactly.

The spine⁴ has a double-S shape: in the cervical and lumbar regions, it is curved forwards (lordosis), while in the dorsal and sacral-coccygeal areas, it is curved backwards (kyphosis). It is made up of 24 vertebrae, which are connected by 23 intervertebral discs that permit them to move relative to one another. Besides the spine itself, we also have the sacrum and the coccyx, which consist of eight to ten fused vertebrae. This special shape of the spine serves to absorb loading caused by our upright gait.

Anterior and posterior longitudinal ligaments also run up along the spine in the back. These guarantee the stability and mobility of the spine. Six ligaments, or ligament systems, also ensure a stable and mobile spine. These are supported thereby by numerous back muscles.

There are the superficial trunk muscles and deeper-lying (autochthonous) back muscles. The latter insert directly on the spine and hold it upright. The abdominal muscles also supplement and support the back and trunk muscles for stability and during movement. The abdominal muscles are an important counterpart to the deeper-lying back muscles.



Specific or non-specific back pain?

We talk about non-specific back pain when there is overloading of tendons, muscles and ligaments. If the pain is caused by a spinal disorder, it is called specific back pain.

Specific back pain

Back pain caused by disorders or deformities of the spine, certain inflammatory muscle and connective tissue diseases or other conditions, is called specific. Specific back conditions include prolapsed intervertebral discs, sacroiliac joint problems, osteoarthritis, chronic arthritis or osteoporosis. All the types of specific back pain have one thing in common: they all have a specific physical precipitating factor.

Non-specific back pain⁵

Non-specific back pain often plagues the 50- to 59-year-old age-group. The most common cause is muscular tension. A sedentary occupation is usually responsible for this. Lifting and carrying heavy loads, excessive sport or lack of exercise in everyday life can also lead to back pain. In fact, about 85%⁶ of all back pain is classed as non-specific, i.e. the doctors cannot find any one single cause for the pain in the locomotor apparatus.

Effects of stress on back health

Emotional tension such as stress at the workplace or strife with the partner can cause tension to increase in the body. As a result, our muscles lose their normal elasticity and become hard and painful and a vicious circle of stress, tension and pain begins.

“Physical and emotional health are closely related. Besides a spinal disorder, emotional factors can also be the cause of back pain. The pressure of work, long working hours and little relaxation in day-to-day life often lead to muscular tension that can, in turn, permanently affect back health”.

Frank Schulte, physiotherapist

But what exactly is stress? In general, stress is seen as a natural response of our body to tension, pressure or change, which has its roots in the Stone Age. Thus, from the evolutionary-biological point of view, stress is an alarm response to sudden dangerous situations that ensures our own survival. Our body's response to stress essentially goes through three phases:

1. **Alarm phase:** as soon as a stress situation occurs, the body secretes the hormones adrenalin and cortisol. These activate the body's own resources, which, in terms of evolution biology, makes a person prepared for fight or flight. The result: more rapid breathing, raised blood glucose levels, a faster heartbeat and higher blood pressure.
2. **Resistance phase:** the stress reaction has now reached its peak. The body mobilises resistance forces to lower the high energy consumption. During this second phase, the bronchi constrict again and we produce more saliva. Gastrointestinal and bladder activity are stimulated.

3. **Exhaustion phase:** the body's resources are now exhausted, our performance is sharply impaired and resistance collapses. The immune system is weakened and we become more susceptible to infections. Burnout syndrome may develop.

The clinician Hans Selye⁷ distinguishes between two types of stress: eustress (positive stress) and distress (negative stress). Eustress leads to a feeling of increased zest for life and of well-being. In contrast, distress has negative effects on our physical and emotional health. Whenever we talk about stress, we usually mean distress, i.e. negative stress. People, who are under heavy pressure to bring results at work and who are dedicated to their jobs, are particularly affected by this. The result: they often suffer from stress-induced back pain.



Effects on psyche and quality of life

A connection between back pain and depression is considered proven.⁵ Patients who constantly live with the fear that the pain is going to get worse assume postural guarding. This makes the body weaker, our coordination skills fade and the interplay between muscles, tendons and bone deteriorates. In turn, postural guarding can lead to fearful behaviour that may cause the patient to withdraw from social life. According to

the “Stada Health Report 2016”⁸, every fifth patient with back pain sacrifices certain leisure activities, while 30% of persons affected sleep badly due to pain in the locomotor apparatus. On the other hand, some people only react to pain once it has grown intolerable. Both of these traits as well as severe physical impairment also lead to a diminished quality of life.

Self-help for back pain

What many people do not know: back pain can often be averted before it even begins with a healthy diet, regular physical exercise and sporting activities. For instance, patients can easily control back pain associated with obesity. Autogenic training, yoga or massage also help reduce stress and relax the body. Dr Johannes Wimmer, a doctor at Hamburg-Eppendorf University Medical Centre,⁷ says: “Many forms of back pain could be avoided by prevention. I can understand that many

people can't motivate themselves to physically exercise or undertake sporting activities to prevent back pain, but I still find it shocking. I suspect that they underestimate the effects that back pain can have on the body and soul, also long-term, while they are still healthy”. Buying ergonomic office furniture (dynamic office chairs and adjustable height desks) can also help prevent muscular tension.

Learn here how to set up your ideal ergonomic workplace to prevent or relieve back pain (link: <http://www1.medi.de/en/setting-up-an-ergonomic-workplace>).



Physiotherapist Frank Schulte gives ten simple tips on how you can prevent and relieve back pain:

Back pain: how to help yourself

- Bend, lift and carry properly
- Physical exercise and sport
- Special exercises for back pain
- Avoid protective postures
- Set up an ergonomic workplace
- Relaxation exercises and meditation
- Heat treatment with buckwheat cushions or a hot water bottle
- Soothing massages
- Take a hot bath

Summary

Many people with back pain only notice it when it gets worse or persists for a longer period. But the body starts sending the first warning signals very early on. Take note of symptoms such as fatigue, tense muscles or stiff joints.

Although most cases of acute back pain improve on their own after a few days' rest, relaxation exercises or tried-and-tested household remedies, many types of back pain can be averted before they even begin with the right preventative measures.

Would you like to order free guides on the subject of back health? We at medi's Service-Centre will be pleased to advise you: **+49 (0) 921 912-0**



Further information:

<https://www.medi.de/en/health/diagnosis-treatment/back-pain/>

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Please note our disclaimer at <https://www.medi.de/en/exclusion-of-liability/>

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