SWISSBIONIC SOLUTIONS
LIFESTYLE

Burnout

Disease of the Hardworking

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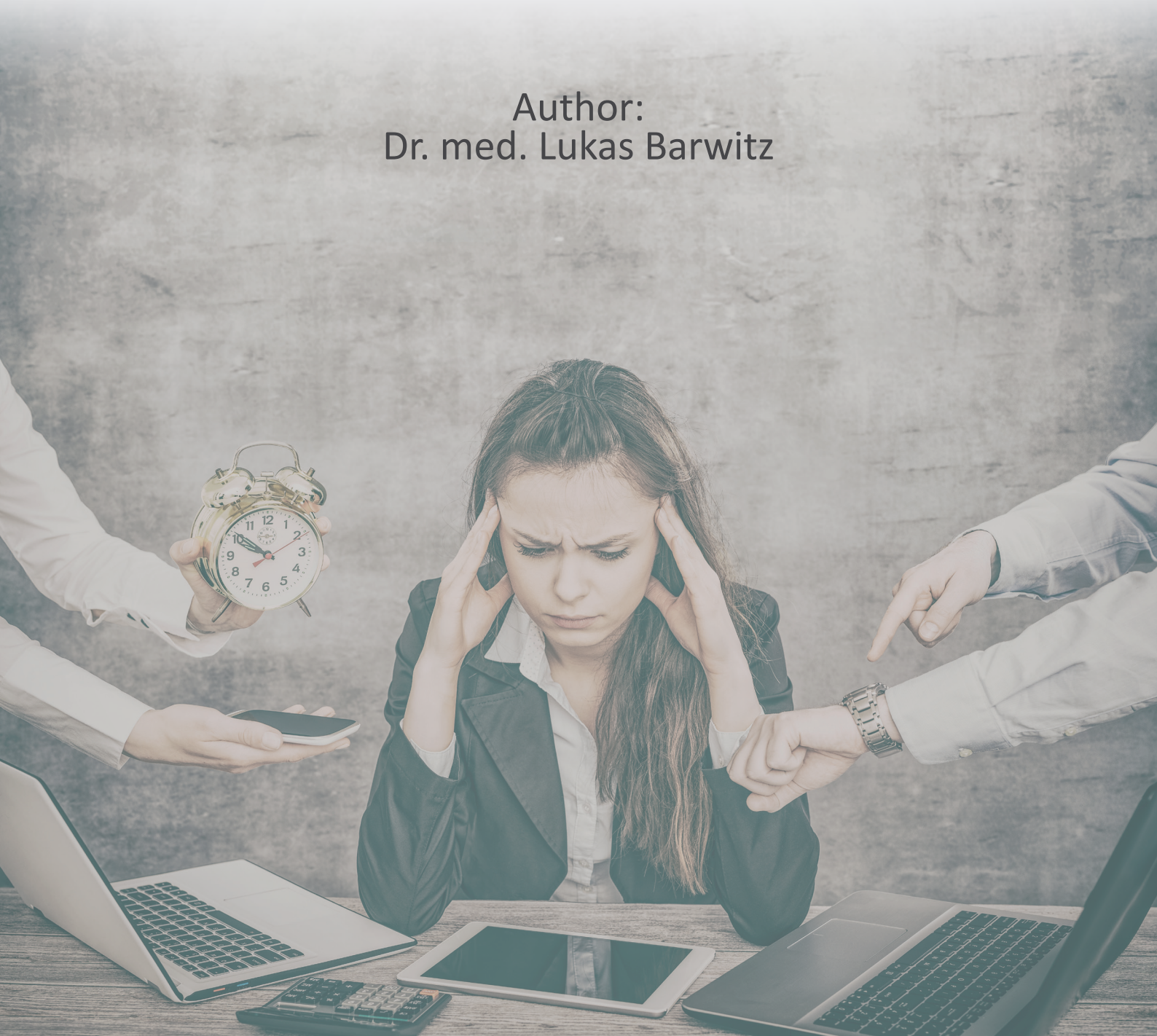

What is Burnout?

«Burnout» is a collective term that refers to an emotional, mental and physical state of exhaustion characterized by a lack of drive and performance, typically at the end of a month or even after years and is a long lasting vicious cycle of overwork.

It is completely normal to be exhausted after hard work, whether physically or mentally. Everybody knows that - and everyone has his or her own way of dealing with it and how to recharge the batteries: perhaps by sleeping in, relaxing, having a long weekend, a vacation or engaging in a sport... But once these methods no longer work and recovery is no longer possible, it becomes dangerous.

Burnout can strike anyone, not only working people, but also housewives, the unemployed, retirees or students. Above all, the duty-conscious, people who are committed and for whom good results are important and who take what they are doing seriously, are particularly at risk.

Famous burnout cases among athletes (Anthony Ervin, Jax Mariash Koudele), popstars (such as Mariah Carey, Eminem) or actors (Owen Wilson, Renee Zellweger) have made headlines and these people either quit their career or temporarily put them on hold. Burnout syndrome increasingly attracts public attention and the media's focus.

According to representative studies[1] around 7% of all workers are affected by a burnout syndrome, and many are at risk of burnout. In certain occupational groups (such as managers, business consultants, teachers, social workers, doctors, nurses, self-employed, etc.) the frequency of occurrence is significantly higher than in others. One in ten athletes suffers from burnout symptoms[2]. The decisive factor for a burnout syndrome, however, is not the number of working hours or the type of professional tasks, but complex interactions of working conditions and individual characteristics that lead to persistent stress and finally to complete exhaustion.

A burnout syndrome should not be taken lightly. The consequences can be serious. It starts with a temporary reduction in performance for those affected, but can certainly lead to early retirement (disability) or even suicide. And as the severity of the burnout increases, so does the likelihood of depression or addiction as the disease progresses.

However, the consequences of burnout are not limited to those affected and their immediate social environment, but also have economic implications: increased absenteeism, higher turnover and reduced productivity in the organization.
In 2000, the Swiss State Secretariat for Economic Affairs estimated that the economic costs of

1 As an example, here are two representative studies: the BIBB / BAuA Employment Survey 2005/2006 and an epidemiological cross-sectional study of the working population of Finland.

2 https://www.aerztezeitung.de/medizin/krankheiten/neuro-psychiatrische_krankheiten/depressionen/article/876151/druck-burn-out-trifft-jeden-10-leistungssportler.html

lost production due to stress were just over CHF 4 billion, or about 1.2% of GDP[3]. For Germany, a 2008 study of company health insurance funds estimates the economic costs caused by work-related mental stress at around 6.3 billion euros per year.

In such calculations, however, the additional social costs (divorces, behavioral problems of children), which can arise in the family environment of burnout sufferers, are not yet included. With the numbers mentioned above the demand for stress prevention rises. However, these demands are being implemented only hesitantly - in many cases there is still a lack of awareness of the close relationship between stress and environmental and working conditions and economic consequential costs.

Symptoms

The symptoms of burnout are varied and individual. Not infrequently they are similar to the symptoms of depression, a common concomitant or consequential disease of physical, emotional and emotional burnout:

- **Chronic fatigue and mental fatigue** that does not disappear even after a rest period (such as a vacation).
- **Distancing from work**, i.e. the loss of the inner relationship to work, which manifests itself in a diminished need for success at work, in pejorative and cynical thoughts about work, and the desire to change jobs.
- **Physical complaints**, such as sleep disorders, increased susceptibility to infection, loss of appetite, indigestion, head and back pain, dizziness, instability of blood pressure, tachycardia, and tinnitus.
- **Mental changes**, such as heightened irritability, inner restlessness, the inability to switch off after work, restlessness, inner emptiness, listlessness, fear, boredom, despair, resignation, frustration, feelings of futility, blunting.
- **Cognitive performance limitations**, such as concentration disorders, inability to decide, self-doubt, loss of performance.
- **Changes in behavior**, such as social withdrawal, hyperactivity, consumption of addictive substances, neglect of leisure activities.

3 Ramaciotti, J Perriard (Gruppe für angewandte Psychologie der Universität Neuenburg & ERGOrama AG, Genf) im Auftrag des SECO: Die Kosten des Stresses in der Schweiz. SECO, 2003.

Causes

«I've done too much for too many for too long with too little regard for myself.»
(Quote from a person affected)[4]

This quote clarifies briefly and pointedly what can lead to burnout. Fatal is almost always the creeping development - the first signs of burnout are neglected for a long time by those affected.

The ignoring or downplaying of corresponding exhaustion symptoms belongs to a certain extent to the clinical picture. Many are reluctant to admit to burnout because they are scared of being labeled weak and unreliable.

The specific triggers for a burnout syndrome in individual cases may be very different. In general, however, scientists agree that burnout syndrome is the **result of chronic stress**, in which two-level factors become mutually effective.

At the first level, there are **external stressors** that cause stress. In the professional context, the influencing factors can be at an organizational level, for example, certain characteristics of the hierarchical structure, a lack of resources, certain reward mechanisms in the company or administrative constraints. Other potential stressors are in the social environment, such as in interaction with colleagues and supervisors, or with family and partners. Among others, the following external factors are burnout favoring:

- High workload, deadline pressure, high responsibility and lack of resources (in personnel capacity, financial resources or even necessary know-how).
- Lack of control or self-determination, lack of room for maneuver, lack of participation in decision-making processes.
- Lack of or too little positive feedback, inadequate pay (especially in some low-paid social workers, where lack of pay signals a disregard for the work done).
- Bad teamwork, lack of communication, lack of social support from family, colleagues and supervisors.
- Role and value conflicts
- Threatening job loss

On the second level, there are individual **personality factors** that provide a breeding ground for the burnout syndrome. These include personality traits that often initially prove to be quite career enhancing for the individual and are popularly referred to as «doer», as «burners» or as «high performers». These personality traits typically include:

4 Bergner, T. (2004): Burn-out bei Ärzten. Lebensaufgabe statt Lebens-Aufgabe. Deutsches Ärzteblatt, 101, 33, A-2232 / B-1866/ C-1797.

- A high demand on oneself, idealism and perfectionism and, as a result, high fears of failure.
- High or unrealistic job-related expectations (for example, the misconception of fundamentally cooperative and grateful clients), the intense desire for achievement-related recognition, great ambition and the need to prove oneself.
- The difficulty of saying no (fear of rejection, for example); the desire to please everyone.
- Lack of distancing ability or over-identification with work.
- Distrust of other people and overconfidence of one's own abilities.
- Tendency to ignore one's own (regeneration) needs in the long term, to deny annoyance and dissatisfaction, and to ignore the warning signs.

When certain constellations converge on both levels and continue over a longer period of time, a downward spiral of congestion and excessive (self-) demand is set in motion, ultimately resulting in collapse. Only then does it come to an explosive mixture, which can lead to complete exhaustion - but does not have to.

Trigger factor stress

Biologically speaking, a stress response has the purpose, in the perception of an acute danger from the release of stress hormones (including epinephrine, norepinephrine and cortisol), to activate a reflexive attack or escape mechanism and thus to ensure survival.

Hormonally, this reaction takes place on two main axes in the body, which differ in terms of their duration of action and thus in their potential for damage to the organism. The stress hormones epinephrine and norepinephrine play an important role on the first axis, and the stress hormone cortisol on the second one. The following (simplified) explanation provides a rudimentary understanding of the role of these hormones in the development of symptomatic side effects of stress.

Constant stress has fatal consequences for the organism

The stress hormone **epinephrine** is released directly in an acute stress situation and increases the energy supply of the body for a certain time. Organs such as the heart are encouraged to work harder, while other energy-consuming organ activities, such as digestion, are held back for a while. The heart, brain and muscles get more blood and thus better supply of oxygen by increasing circulation. We can respond faster and more powerful in a threat situation.

The stress hormone **norepinephrine**, which is also released directly, acts primarily as a neurotransmitter in the amygdala, a part of the limbic system and to a certain extent the brain's anxiety center. By better connecting the nerve cells in this area, norepinephrine supports the development of anxiety in stress and, by linking the situation with emotions, provides a better reminder of the situation.

Overall, however, the epinephrine/norepinephrine reaction has a rather short-term effect, since the binding capacity of the corresponding receptors for epinephrine and norepinephrine is greatly reduced after the first linkage. Sustained stress thus leads to a reduction in the effects of epinephrine and norepinephrine and finally ends its effectiveness on a biochemical path by itself.

The stress hormone **cortisol**, also acts as a stimulant for the body, but has rather long-term effects. In an acute state of stress, it is released from the adrenal cortex into the blood and transported via the blood vessels to different regions of the body. If the stress-inducing conditions remain, a long-term increase in cortisol level is the result. This leads to a permanently higher blood sugar level and an increasing insulin resistance - one feels less or no hunger. Likewise, cardiovascular performance is increased by increased heart rate and resource-consuming activities (such as bone growth, intestinal calcium uptake, skin maintenance, and glucose storage in the cells) are reduced. The immune system is weakened by lowering the activity of T-helper cells (so-called «natural killer cells») and the susceptibility to infections increases. The need for sleep is supressed, the sensation of pain is lowered. In certain areas of the brain (especially in the cerebral cortex necessary for complex and associative thinking as well as in the declarative memory) there is a block of thought.

Such reactions of the body were undoubtedly essential to survival in earlier times, yet they made it possible to avoid hesitation in combat or escape situations. In today's civilization, however, they are rather harmful, since the released energies are directed at constant stress against the body and its health. For example, if the body is deprived of sleep, it cannot regenerate sufficiently. A permanently elevated heart rate leads to increased susceptibility to cardiovascular disease. Numerous studies found that patients with subjective chronic stress and work overload had an above-average increase in cortisol concentrations[5,6,7]. A long-term increased cortisol level inhibits the formation of neurons in different brain regions and even leads to the death of neuronal interconnections in the brain. Thus, constant stress can lead to memory and appetite loss, libido and sleep disorders, increased fat accumulation, muscle atrophy and depression[8].

5 Pruessner, M., Hellhammer, D., Pruessner, J. & Lupien, S.J. (2003): Self-reported depressive symptoms and stress levels in healthy young men: Associations with the cortisol response to awakening. In: Psychosomatic Medicine, 65, S. 92-99.

6 Steptoe, A., Siegrist, J., Kirschbaum, C. & Marmot, M. (2004): Effort-Reward Imbalance, Overcommitment, and measures of cortisol and blood pressure over the working day. In: Psychosomatic Medicine, 66, S. 323-329.

7 Schulz, P., Kirschbaum, C., Pruessner, J. & Hellhammer, D.H. (1998): Increased free cortisol secretion after awakening in chronically stressed individuals due to work overload. In: Stress Medicine, 14, S. 91-97.

8 Rensing, L., Koch, M., Rippe, B. & Rippe V. (2006): Mensch im Stress: Psyche, Körper, Moleküle. München: Spektrum Akademischer Verlag

Trigger factor modern working world

At a rapid pace, the world of work and working conditions has changed in the last 20 years. The industrial society was replaced by the information and service society. Work has become increasingly scarce, but productivity has increased immensely. Changing working conditions has also changed the demands on employees and, above all, the physical strain.

Globalization and the electronic age with its tools such as smartphones and laptops in connection with the ubiquity of an internet connection contribute to that, not even on the train or in the airport lounge, let alone on the home sofa or on vacation, we cannot get a real break from our job. Permanent accessibility is seen as necessary and therefore taken for granted in many places.

Trigger factor role expectation

The obvious self-exploitative labor-structural factors are joined by subliminal influencing factors in the form of central social values and role expectations. Social norms influence our attitude to work, and thus our commitment to work.

In the Western world, the meritocracy applies: whoever accomplishes something is respected, recognized and valued. Anyone who does nothing or in the eyes of society too little will gain incomprehension and contempt. Work becomes a creation of identities. Scientific studies on the value orientations of young professionals show how closely their own identity is linked to the nature of the success of gainful employment[9,10].

Above all, for the more highly qualified, work is no longer just a chance for self-development and the realization of one's own claims, but the self-representation through work becomes a social compulsion, which results in high demands on oneself. Anyone who takes long training periods expects that such «investments» have to pay off later in their professional biography, be it in the form of income, job prestige, career progression, self-fulfillment or reputation.

Course

The early phase of a burnout syndrome is characterized by the fact that the person hardly allows oneself rest, but strongly identifies with his work and places it permanently on the top of his priority list. He expects 100% performance from himself and has to keep himself under constant control to deliver it.

9 Baethge, M. (1994): Arbeit und Identität. In: U. Beck & E. Beck-Gernsheim (Hrsg.): Riskante Freiheiten. Individuali sierung in modernen Gesellschaften, Frankfurt/M: Suhrkamp, S. 245 - 261.

10 M. (1999): Subjektivität als Ideologie. Von der Entfremdung in der Arbeit zur Entfremdung auf dem (Arbeits-) Markt? In: G. Schmidt (Hrsg.): Kein Ende der Arbeitsgesellschaft. Arbeit, Gesellschaft und Subjekt im Globalisie rungsprozess, Berlin: edition sigma, S. 129 - 157.

At the beginning there is enthusiasm, in the end there is exhaustion

At the beginning of the development of a burnout syndrome there are commitment, enthusiasm and high, often unrealistic job-related expectations. The wording is often used: «Whoever has not burned, cannot burn out.»

At some point inevitably the **first symptoms of fatigue** follow, but the person concerned ignores them continuously, as well as the disappointments and the frustration that certain expectations of work are not fulfilled. The attempt to achieve the desired results through even greater commitment leads to a creeping and unstoppable **exhaustion**, which is not noticed by the person concerned for a long time. Private needs are postponed until later, so that their renunciation is hardly perceived as such.

The exhaustion is followed by an **emotional retreat**. Anxiousness and a clearly distant or cynical attitude towards colleagues, patients, clients etc. creep into the thinking and feeling of the person concerned.

Finally, in an advanced phase, there is a **loss of perception for one's own person**. Those affected suffer from disorientation, feelings of anxiety and helplessness, disinterest, apathy and physical symptoms (for example back pain, sleep and digestive disorders). Behavioral changes become visible, followed by **emotional withdrawal**.

The person concerned develops a defensive attitude towards criticism, loses his capacity, suffers from lack of concentration, and only practices his work with great effort. From here it is not far up to a complete collapse and total exhaustion with sometimes life-threatening consequences.

Therapy and prevention

Prevention and treatment of burnout syndrome are primarily aimed at reducing stress. However, the therapy methods and treatment options discussed in science and practice vary widely.

There are two main approaches to stress reduction:

1. Eliminate external stressors
2. Change the way stressors are handled

Stress reduction

The stress-causing factors that can lead to burnout are both internal and external. Not every person deals with external stress factors (such as time pressure, task diversity or conflicts in the social environment) in the same way. Some people become more stressed and mentally challenged by one and the same external stressor than others.

The individually different levels of mental stress (how much a person feels stressed out by a stressor) is comparable to the basic principle with the different degree of physical stress, for example, the lifting of a 65lbs dumbbell. Depending on age, gender, body shape, health or physical integrity and level of training (plus the right technique), this task is much easier for people with favorable physical conditions and resources than those with an unfavorable physical starting position.

Analogously, psychological requirements, resources and human abilities play an important role in coping with mental stress. For example, those who have a high self-efficacy expectation, a high level of basic self-esteem and an overall positive attitude to life with realistic goals and expectations - Aaron Antonovsky would speak of a strong sense of coherence[11] - have a much better mental starting position for coping with stress than one person with self-doubt, great uncertainty, distrust of other people and excessive expectations and demands.

Since the stress response to external stressors is individually different, many treatment approaches target not only a reduction in external stress factors but also an improvement in subjective stress management strategies, the so-called coping strategies. It is assumed that people can improve their individual ability to cope with stress, much as they can increase their physical resilience through targeted and well-dosed physical training.

Coping with stress

Stress management strategies that reduce or eliminate the cause of stress naturally work best in the long run. But that is not always successful, and just certain external stress factors cannot be turned off easily and quickly. It is therefore important to develop individual coping strategies that reduce the duration and intensity of a person's stress response. Here, a distinction can be made between short-term and long-term «coping» strategies.

Short-term coping strategies are particularly relevant if the cause of the burden itself cannot be changed at present and the stress is acute or immediate foreseeable. Examples of short-term strategies include[12]:

11 see Newsletter SBS Medical Department September 2018: «What does health mean?» On the principle of saluto genesis according to Aaron Antonovsky and the handling of stressors

12 Litzcke, S. M. & Schuh, H. (2007): Stress, Mobbing, Burn-Out am Arbeitsplatz: Umgang mit Leistungs- und Zeitdruck. 4. vollst. überarbeit. Aufl., Berlin, Heidelberg: Springer.

- **Abreaction and distraction:** taking a short walk, leaning back in the chair and looking out of the window, thinking about your last vacation, getting up and loosening your muscles and taking a deep breath, just focusing attention on something else - no matter what you do looking for spontaneous relaxation: the activity should be stress-free and immediately feasible; Furthermore, it is important to treat them consciously and not to have a guilty conscience.
- **Stop thinking and positive self-instruction:** consciously interrupting negative thought-spirits and musings and preventing their recurrence and imagining possible difficulties as manageable (for example, with «I'll give it a try.»). This is mainly due to the fact that one realizes one's own realistic performance possibilities and previous successes and thereby eliminates or relativizes any doubts in one's own thoughts.
- **Create inner distance:** a well-established way to create an inner distance from stress-enhancing thoughts in acute stress situations is to write down these thoughts. By writing a distance is created, seemingly overarching uncertainty thoughts, brooding or fear of failure appear suddenly on a manageable sheet of paper much more manageable.
- **Creating satisfaction:** consciously performing activities that are not based on considerations of usefulness but on personal inclinations and promoting well-being; this can be e.g. To be leisure hobbies, to get together with familiar people, to read an entertaining book, to have a particularly meaningful or fulfilling activity, etc.; Again, anyone who secretly devalues such activities or can only treat them with a guilty conscience, for whom they have no stress-reducing effect, but on the contrary can increase the sense of stress.

All mentioned coping strategies have in common that they can only provide short-term relief in acute stress situations. They are, so to speak, the small drinking breaks during the desert crossing. They do not solve the basic problem, so the stress-inducing conditions continue to exist. In order to avoid a burnout risk in the long term in a permanently onerous working environment, effective long-term coping strategies are needed. These cannot be built up overnight. They often include cherished habits or over years developed inner attitudes and perspectives, which is, why their change costs those affected much more effort and patience.

Sustainable help against the threat of burnout offers long-term stress management strategies:

- Taking off the victim role
- Checking your own expectations and private / professional goals
- Building physical and mental resources
- Acquisition and implementation of knowledge about methods of time management, self-management, conflict management and relaxation

Taking off victim role

Burnout sufferers often see themselves as victims of adverse circumstances. Repeated offences and disappointments such as lack of appreciation for their work eventually lead to feelings of exhaustion, loss of control and helplessness. The subjective perception of loss of control, in turn, represents an additional source of stress that complicates a targeted problem solving and finally solidifies the victim role[12].

Typical inner beliefs of people who have assumed the role of victims are e.g. «I cannot change that anyway,» «I'm never lucky,» «You just cannot do anything,» etc. The **secondary benefit**[13] of taking the victim role is that it's comfortable and the responsibility for solving the problem is shared with others, to outsiders or inextricably delegated to circumstances or personal fate.

However, sustaining this condition for a long time has fatal negative consequences for one's self-esteem, general mood and motivation.

In order to get out of this state, a change in attitudes is necessary: from the «victim» to the «actor», from passive endurance to active change, from the supercritical focus and generalization of failures to the sober consideration of their actual frequency followed by analysis which starting points for own actions they provide. Only when the person concerned is ready to take matters into his own hands and recognize his or her own role of the alleged purely external stress-causing circumstances, a fundamental change or new ways of coping with stress factors can begin.

Such an attitude change is anything but easy - especially not if you are already in a more advanced stage of fatigue and overworking. In some cases, the help of a therapist may be necessary to regain confidence in the ability to influence things.

Check goals

Excessive and unrealistic expectations are a certain source of long-term stress. The same is true for far too high professional or private goals. The nominal-actual comparison of current situations and own (unattainable) perfection claims can only be negative.

One possible way out of this perfectionist trap is to become aware of own expectations and goals, and then critically put them to the test. Which of these so stubborn pursued goals are - when soberly considered - simply not realistic? Which can only be realized by accepting the greatest burdens and expenditures? Are they really worth it? What price are you willing to pay?

Checking expectations and goals works well if you feel disappointed about something. Disap-

13 Unconscious gain within the reaction to a problem behavior. For example, secondary gain of self-prolonged illness is the attention and attention of others.

pointments are basically nothing but unfulfilled expectations. They provide the opportunity for reviewing and, if necessary, revising these expectations. Excessive expectations often speak of deep inner needs, e.g. the need for recognition, for control or for social inclusion, to be liked. So, self-examination is not about downsizing your own needs, goals, setting expectations to zero, or giving them up completely, and putting oneself in a kind of resigned satisfaction. But the purpose of the critical review is to cherish ambitious yet realistic goals and expectations. This usually also changes the current situational assessment to learns to react more calmly in stressful situation and to be happy about partial success again.

Such a review can take place through an internal dialogue. However, it often turns out to be even more helpful to consult friends or family, or to seek the help of a specialist like a psychotherapist. They can help organize thoughts and feelings, uncover previously unimagined aspects, and balance conflicting goals and desires.

Build resources

Physical and psychological resources act as a buffer against objective stress. They are diverse and individually different – some talk for hours with their friends about stressful experiences and then feel emotionally and mentally strengthened. Other prefer to go fishing alone all day to free the mind.

Self-observation is required when establishing or strengthening own resources: what works well? What do I need to feel recovered, freed and recharged again? As a measure against constant stress, it can be very helpful to expand the resource repertoire and pick up those recovery strategies that work best for you in the long term.

Work-life balance - finding a balance between work and relaxation

Every competitive athlete knows that he has to reckon with serious injuries and illness if he does not take any breaks between intensive training sessions. Just as in sports little performance improvement can be achieved when the muscles do not get rest and relaxation in between. Mental and emotional performance is lost if you do not take resting periods. Regularly scheduled time windows in everyday working life, which are free from performance requirements and exclusively serve their own rest and recovery, are indispensable especially under continuous load. However, very high-performing people with a tendency to self-exertion find it incredibly difficult to accept breaks as equally important for the long-term quality of their work, the will to live up to high standards, and the desire to become better and better.

Let’s take an analogy from the sport. As a rule of thumb for marathon runners, the following training should be greatly reduced by half a day for each race kilometer that has been run (after a marathon of around 26 miles, that means roughly three weeks of significantly reduced

running activity). The same can be said for professional high performers and exhausting working people: two working days with high workloads or a high psychological stress of the individual justify half a day with reduced activity or targeted mental recovery, otherwise the performance will be permanently damaged.

Nice request, but no time to implement it? This is a common thought among burnout-endangered people. But permanently ignoring basic physical and mental needs sooner or later leads to physical or mental collapse, not infrequently even both at the same time. Who does not want to risk this, must first take care of a corresponding compensation.

The reduction of the stress hormone cortisol in the body takes place through sports activity much faster. Regular exercise (3 times a week, at least 20 min.) before or after work is therefore a healthy way of stress prevention or stress management, but only if it is done without high performance. For those who put themselves under pressure not only in their professional work, but also in recreational sports, it can be another and new source of disappointing performance expectations.

Nutrition

Stress resistance can also be influenced and improved by the diet. This does not just mean the composition of the food itself, but also the time and the dining environment. Anyone who pushes greasy processed food or fast food to go, possibly even in front of the screen or at the desk, should not be surprised if he feels tired, dissatisfied and unfocused. It is equally unfavorable when meals are waived, and food needs are satisfied with large amounts of coffee and cigarettes rather than actual meals.

So how can nutrition be improved in terms of stress prevention? It is well known that ongoing stress weakens the body's immune system. For the permanent production of millions of immune cells, the human body needs building blocks from the diet, especially vitamins, minerals and secondary plant substances with anti-oxidative properties. A clever choice of food, a vitamin-rich and calorie-conscious diet based on the Mediterranean model with lots of fresh fruit, lettuce, vegetables, whole meals and fish, low alcohol and nicotine free, is therefore one of the best ways to prevent stress.

Social relationships

Supportive social relationships (with a partner, family, friends, colleagues, etc.) have the greatest buffering effect against the damaging effects of stress. This can be considered scientifically proven.

It is supposed that social support increases self-esteem, motivation, the expectation of success and the availability of one's abilities. It reduces disabling emotional arousal and positively alters the assessment of stress and own abilities, positively influences problem-solving behavior and

directly increases wellbeing making it easier to endure and manage negative events[14].

Social support is an essential resource for coping with stress and is therefore also referred to as a «social resource». Unfortunately, burnout sufferers are at risk of completely neglecting this type of stress management resource. First maybe because of time constraints, because they identify strongly with their work and make it more important than anything else and because they feel exhausted, tired and overwhelmed and start to retreat socially.

Time management

Another approach to coping with stress is the affirmation - and above all implementation - of knowledge about methods of time management, self-management, conflict management and relaxation.

Methods for the right prioritization of goals and tasks, the skillful distribution of tasks, the minimization of time guzzlers, the ability to say no and to set boundaries, the systematic and constructive development of problem solutions and the targeted relaxation.

Which of these methods and techniques work best and can be used regularly in everyday life, everyone ultimately has to find out for him or herself.

PEMF, entrainment and stress

PEMFs and brainwave entrainment can help with stress in three basic ways:

- Reduction of the brain's response to stress
- Elimination of neurotransmitters and hormones produced by ongoing stress
- Protecting the cells and tissues of the body from the physical changes caused by stress hormones

In terms of reducing the brain's reaction or reactivity to stress, PEMF therapy acts positively in the functional state of the nervous and endocrine system as well as on tissue metabolism. The heart rate and blood pressure decrease and the cardiovascular system are less reactive to epinephrine. The relaxation part of the nervous system (parasympathetic) is activated and production cortisol is reduced[15].

PEMF stimulation of the kidneys can accelerate the excretion of produced stress hormones. The same thing happens with the hypothalamus in the brain, which has a central role in controlling the brain's responses to stress.

14 Wolf, I. A. (1998): Effekte von Stress, sozialer Unterstützung und Persönlichkeitsvariablen auf psychisches Befinden. Dissertation Universität Marburg.

15 Vasilev IuM, Iakovleva SD. Magnetotherapy in cardiology (a review of the literature). Vrach Delo (3):42-47, 1990.

In many individuals, the brain is in a heightened state of expectancy for stress. Stimulating the brain in these situations would be expected to decrease the stress response, whether perceived or real. Often individuals suffering from posttraumatic stress disorder (PTSD) are in a chronic state of hyper-responsiveness to even small stimuli. Repetitive transcranial magnetic stimulation (rTMS) of the right forehead reduces core symptoms (re-experiencing and avoidance) and markedly improves anxiety symptoms, primarily at 10 Hz[16,17].

Anxiety is another condition predisposing individuals to exaggerated responsiveness to stressors. Alpha brainwaves appear to be lacking in these individuals. Alpha entrainment is effective in helping people with anxiety[18]. Treated individuals had positive results with reduction of multiple measures of psychological symptoms including anxiety when compared to prior to entrainment therapy.

Stress clearly causes significant disruption in normal brain rhythms. Research in Germany found that 10 Hz PEMF stabilized circadian rhythms[19]. Use of this frequency can restore jet lag and other sleep disturbances. Circadian rhythms control the hormone balance of the body and when they are out of alignment or not in their proper phase, many problems begin to show up in the body. Stress is a clear example of how circadian rhythms and brainwave frequency patterns can become disrupted. So, PEMF and Brainwave Entrainment can be useful for reducing many of the physical effects of stress, circadian disruption and tissue regeneration.

Generally speaking, the PEMF application offers not only the physiological effects but also a welcoming time-out: by integrating it into the daily routine, it provides a firm break and can help to consciously tune out, for example, for 2 to 8 minutes a day.

16 Cohen H, Kaplan Z, Kotler M, et al. Repetitive transcranial magnetic stimulation of the right dorsolateral prefrontal cortex in posttraumatic stress disorder: a double-blind, placebo-controlled study. Am J Psychiatry. 2004 Mar;161(3):515-524.

17 Boggio PS, ROcha M, Olivieira MO, et al. Noninvasive brain stimulation with high-frequency and low-intensity repetitive transcranial magnetic stimulation treatment for posttraumatic stress disorder. J Clin Psychiatry. 2010 Aug;71(8):992-999.

18 Hardt JV. Alpha brain-wave neurofeedback training reduces psychopathology in a cohort of male and female Canadian aboriginals. Adv Mind Body Med. 2012 Fall;26(2):8-12.

19 Wever RA. The electromagnetic environment and the circadian rhythms of human subjects. In: Grandolfo M, Michaelson SM and Rindi A (Eds.), Biological Effects and Dosimetry of Static and ELF Electromagnetic Fields, Plenum Pressm New York, NY. 1987.

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