Medical Staff: Stress - Burnout - Fatigue. From Neurobiological Basics to Prevention and Therapy

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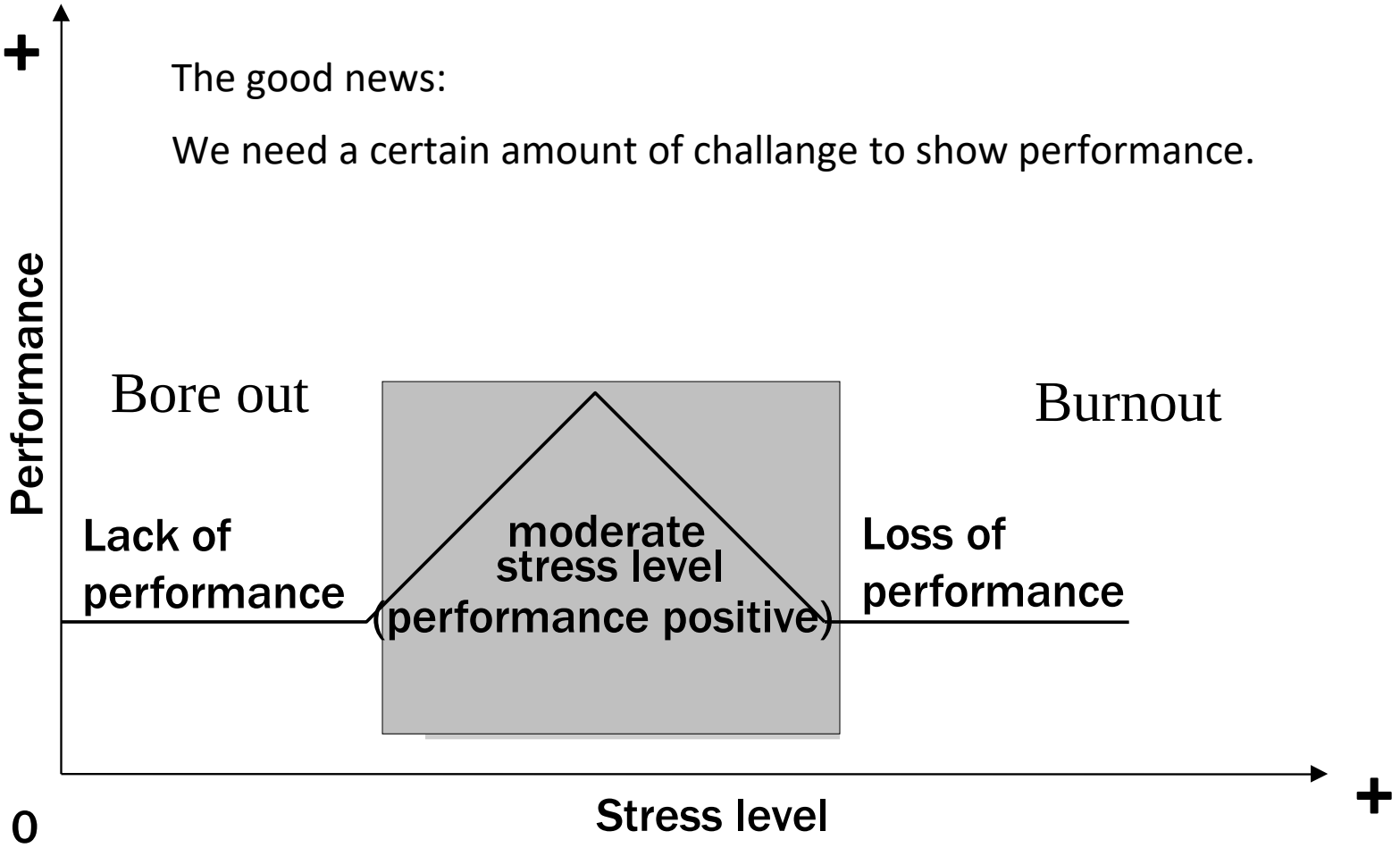
stress level & performance

The good news:

We need a certain amount of challange to show performance.



Quelle: F. Richter, 2009

Neurobiological basics

Sable tooth tiger reflex

stress reaction – a basic instinct to save oneself from danger

Jensen, M.; Hoffmann, G. u. a.: Diagnosenübergreifende Psychoedukation. © Psychiatrie Verlag 2014

Our old enemy when we climbed down from the trees

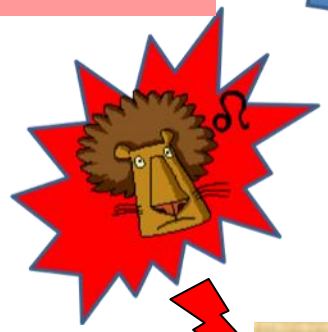
Automatic stress response

Frontal lobe:
Our minds realize we are safer in the cave

Amygdala:
Our center for hazard detection?

Gefahr?

Limbic system
Life Library



Stress response
Fight or flight

Hippocampus:
Registers movement and exhaustion of the muscles

Amygdala reaction

fight or flight

Made possible by a specific reaction of the autonomic nervous system

Focus on the danger

(Concentration, attention)

muscular apparatus

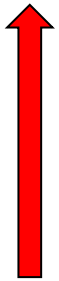
(Optimization of power development)

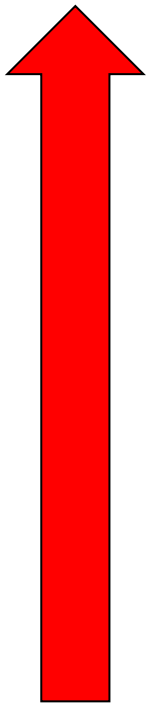
Breathing

Pulse rate

Glucose

Sweating





Sympathetic nervous system

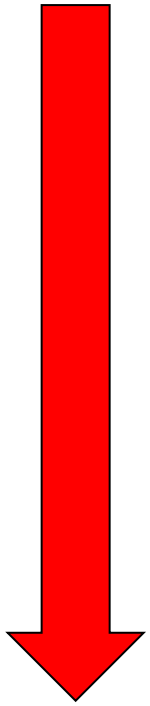
Amygdala reaction

fight or flight

Made possible by a specific reaction of the autonomic nervous system

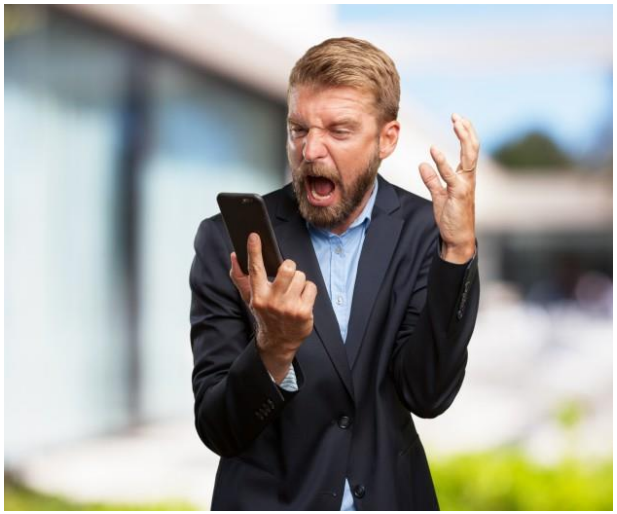
reduced to save power for defense reaction:

- Rest, repair, sleep
- Gastrointestinal tract, digestion, food utilization
- Sexual organs, reproductive ability
- Specific immunesystem, structure, orientation



parasympathetic nervous system

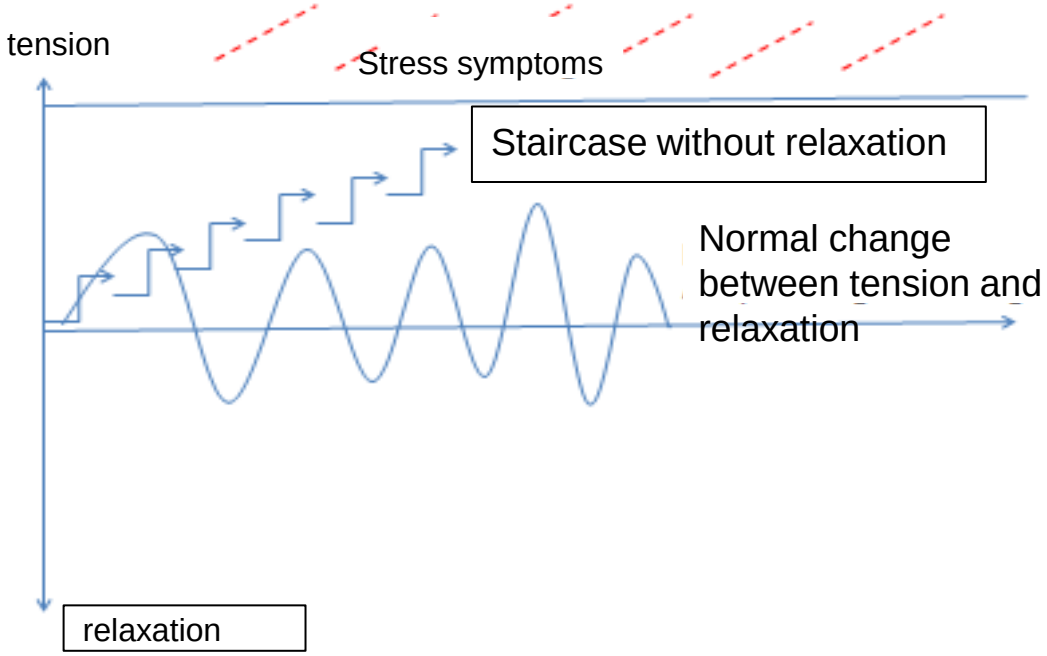
The world today



The same automatic stress response, but today unconsciously with a tendency for chronification.

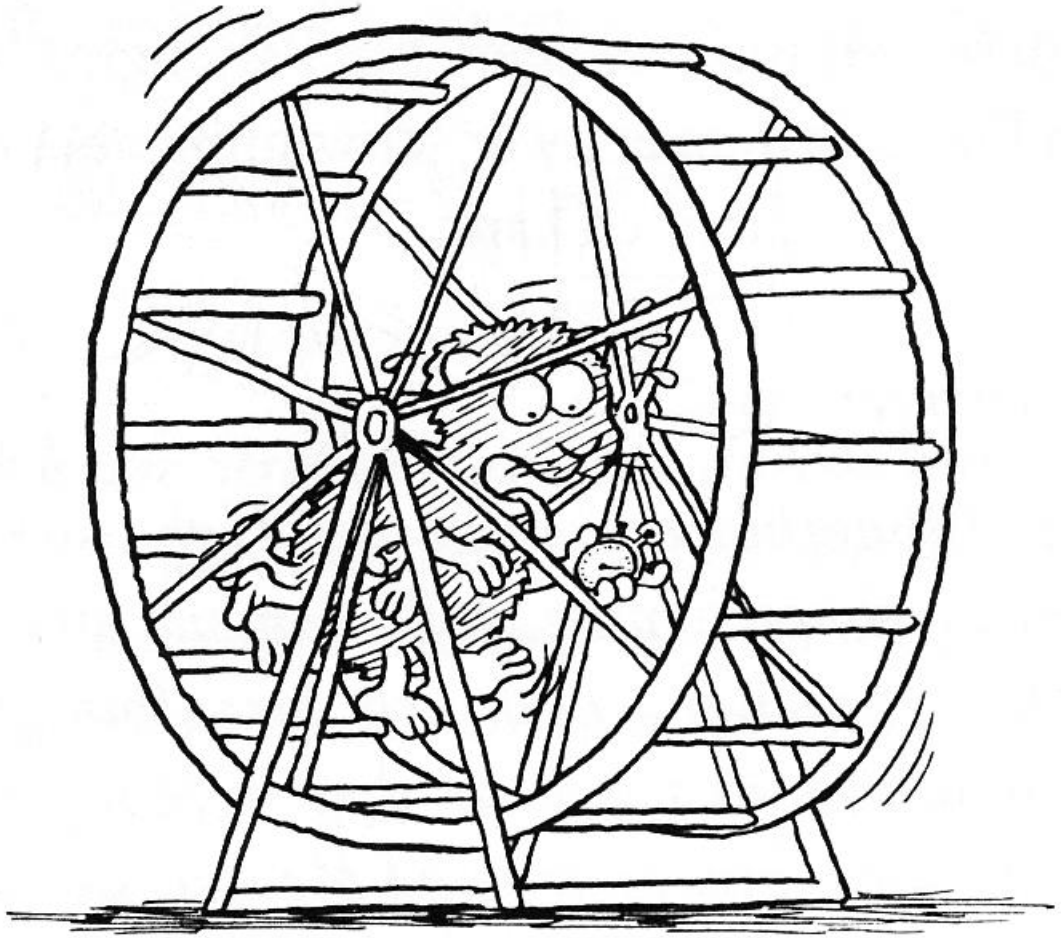
The model of the stress staircase

Missing recovery phases increase the basic tension



Graphik: Stresstreppe

chronic stress



Quelle: F. Richter, 2009

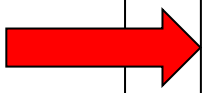
Amygdala reaction

Chronification of the regulatory disturbance of the sympathetic nevous system

Focus on the danger
(Concentration, attention)

Muscular apparatus
(Optimization of power development)

- Breathing
- Pulse
- Glucose
- Sweat formation



Cognitive overload
(Concentration, memory, multitasking)

Pain syndrome, limbs, fascia, head, tension

- Breathing problems, Asthma
- Blood pressure fluctuation, dizziness
- Weight problems, diabetes
- Atopic dermatitis sensitivities

Amygdala reaction

Chronification of the reduced parasympathetic nervous system functioning

Rest, repair, sleep	Troubled sleep, unrefreshing sleep
Gastrointestinal tract, digestion, food utilization	Irritable bowel syndrome, digestive problems, metabolic disorder
Sexual organs, reproductive ability	Menstrual problems, erectile dysfunction, loss of libido
Speficic immunesystem, Structure, orientation	Specific immune system, structural disorders, orientation

Burnout as a Process

3 Characteristics

- Burnout starts with tensions that result from the discrepancy between the individuals‘ expectations, intensions, strivings and ideals, and the demands of the harsh reality of everyday life
- Stresses resulting from such an imbalance develop gradually and they may be consciously experienced by the individual or remain unnoticed for a long time
- The way in which an individual copes with these stresses is crucial for the development of burnout

Source: Schaufeli & Enzmann 1998

Why burnout?

Understanding Burnout

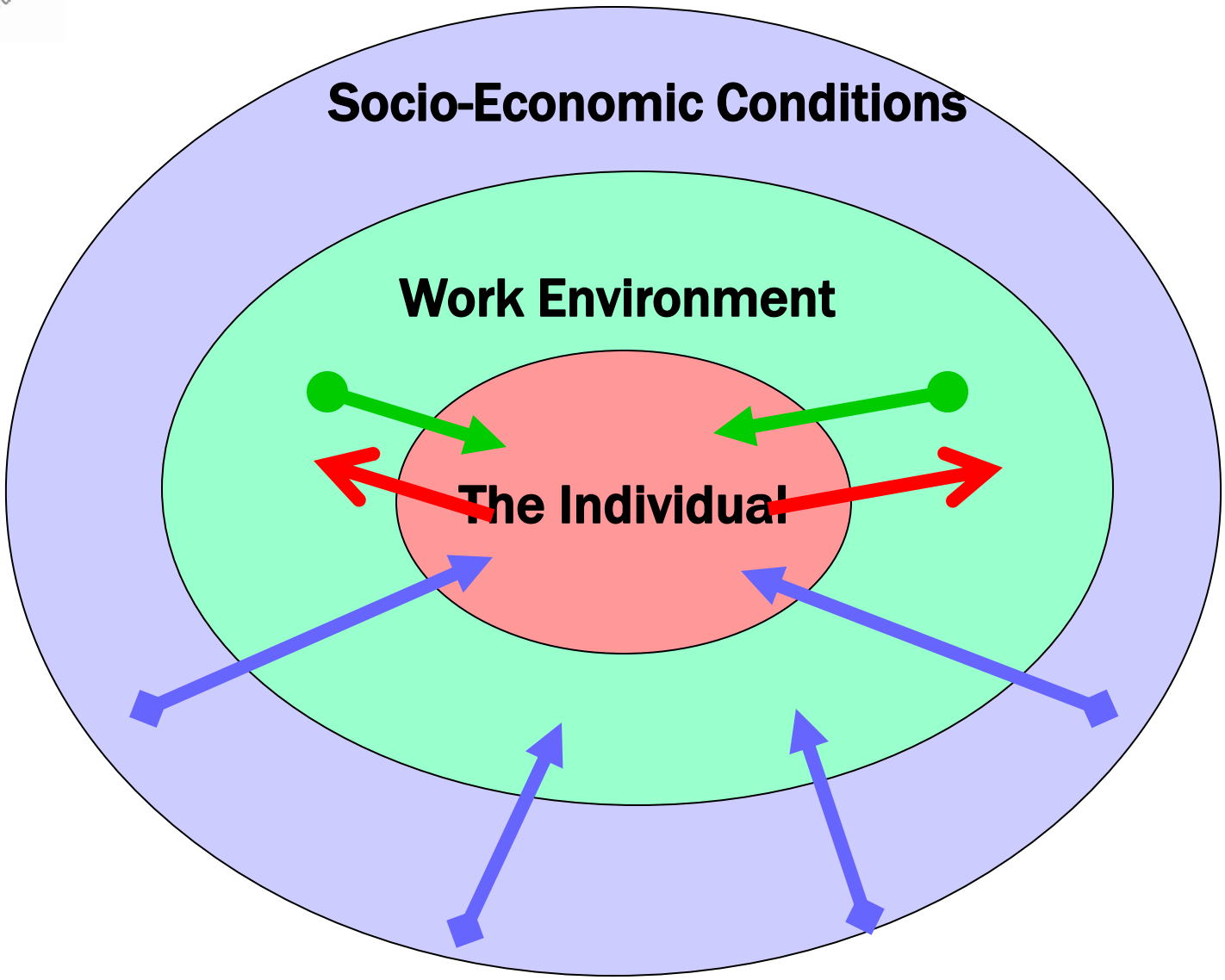
Summary

Burnout emerges in a social context that consists of 3, mutually interacting levels:

- Interpersonal,
- Organisational,
- Societal

Burnout is the result of unproductive coping with professional stressors, resulting in a depletion of resources

Interaction model of burnout factors



Causes of Burnout (1)

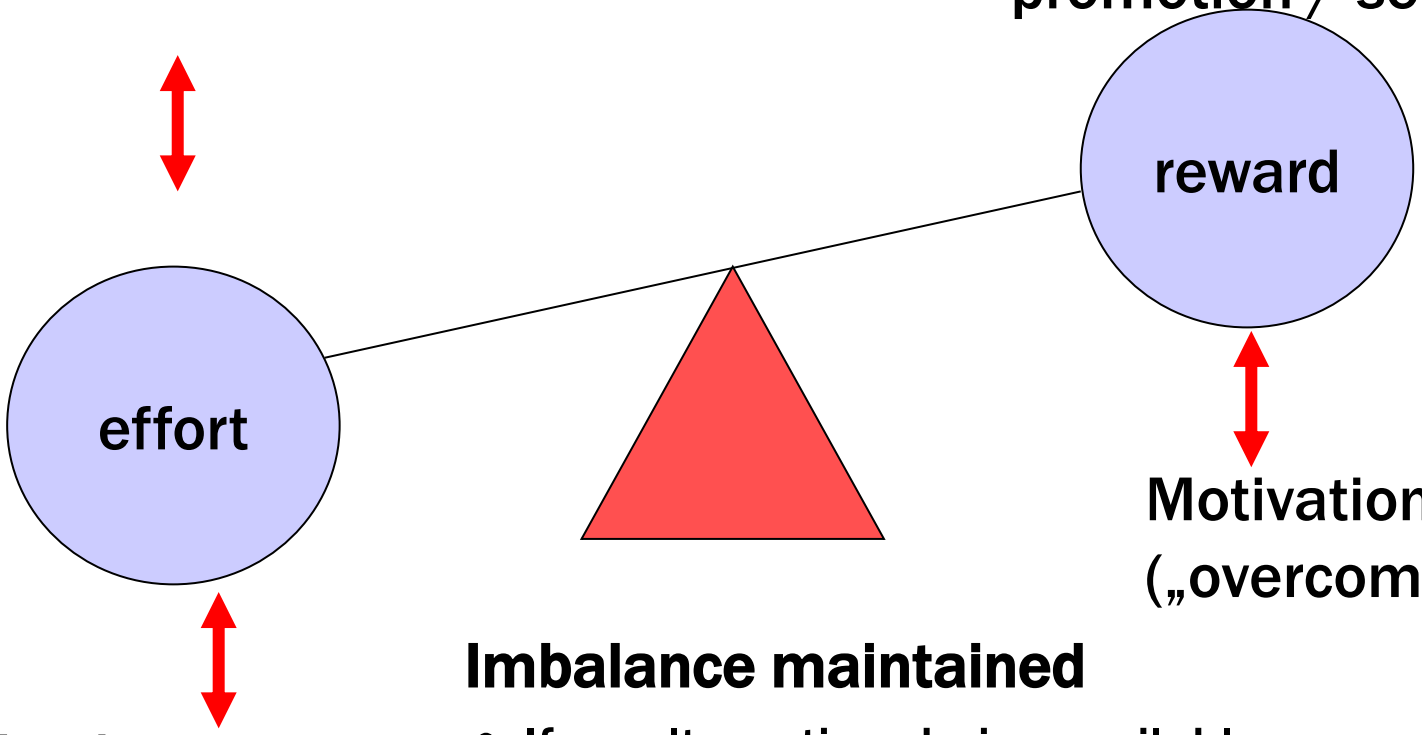
Individual aspects

- poor stress management
- high expectations and demands on themselves
- strong emotional reagibility
- unstable and low self-esteem
- strong desire for recognition
- unrealistic perceptions of situation and unrealistic expectations

Effort-Reward-Imbalance Model (ERI)

- wage, salary
- esteem
- promotion / security

Demands / obligations



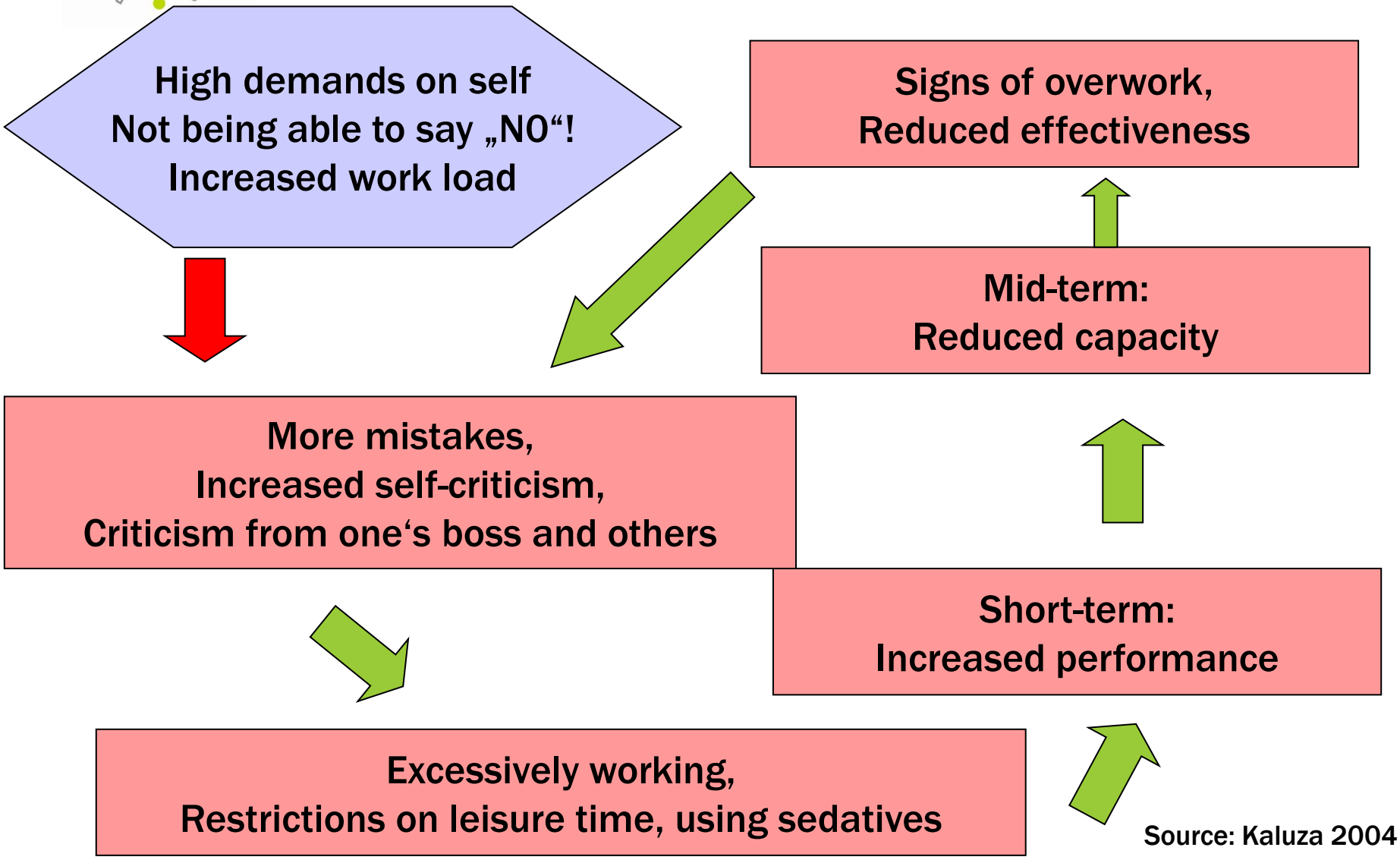
Motivation („overcommitment“)

Motivation („overcommitment“)

Imbalance maintained

- If no alternative choice available
- If accepted for strategic reasons
- If motivational pattern present (overcommitment)

The Vicious Circle of Overwork



Source: Kaluza 2004

Topic Personality

Personalisation: taking everything personally

„Have-to"-thinking: wishes become absolute demands

Disrespecting one's own **boundaries:** wanting all at once

Perfectionism (very high demands on oneself)

Source: Kaluza 2004

Topic Personality

„Fixed" beliefs: e.g. „It is a total disaster if anything doesn't go according to my plan. “

„The good child": wanting to **please** everybody

Unrealistic **expectations** in other people

Source: Kaluza 2004

Topic Personality

Attitudes of help- and hopelessness (role of the „victim")

The **expectation** to always do everything oneself

Being **„on the run":** stress as distraction from feelings of emptyness, meaninglessness and loneliness

Causes of burnout (2)

Work environment

Unclear success criteria

Lack of feedback

little recognition

Lack of autonomy and scope for action

little room for development

feeling overwhelmed and time pressure

negative work climate

General dissatisfaction

uniform routine

little social support

Causes of burnout (3)

Excessive requirements

Increased psycho-mental requirements as well as requirements for greater flexibility and "soft skills" result in a higher potential for conflict in the psychosocial areas

increased quality requirements, traceability of errors, high information density. Pressure of lifelong learning, expectation of quick response times, online lessons!

in some areas work in virtual teams across time zones and cultural boundaries

The economic conditions worsen

Demands on the "modern" employee:

Maximum mobility

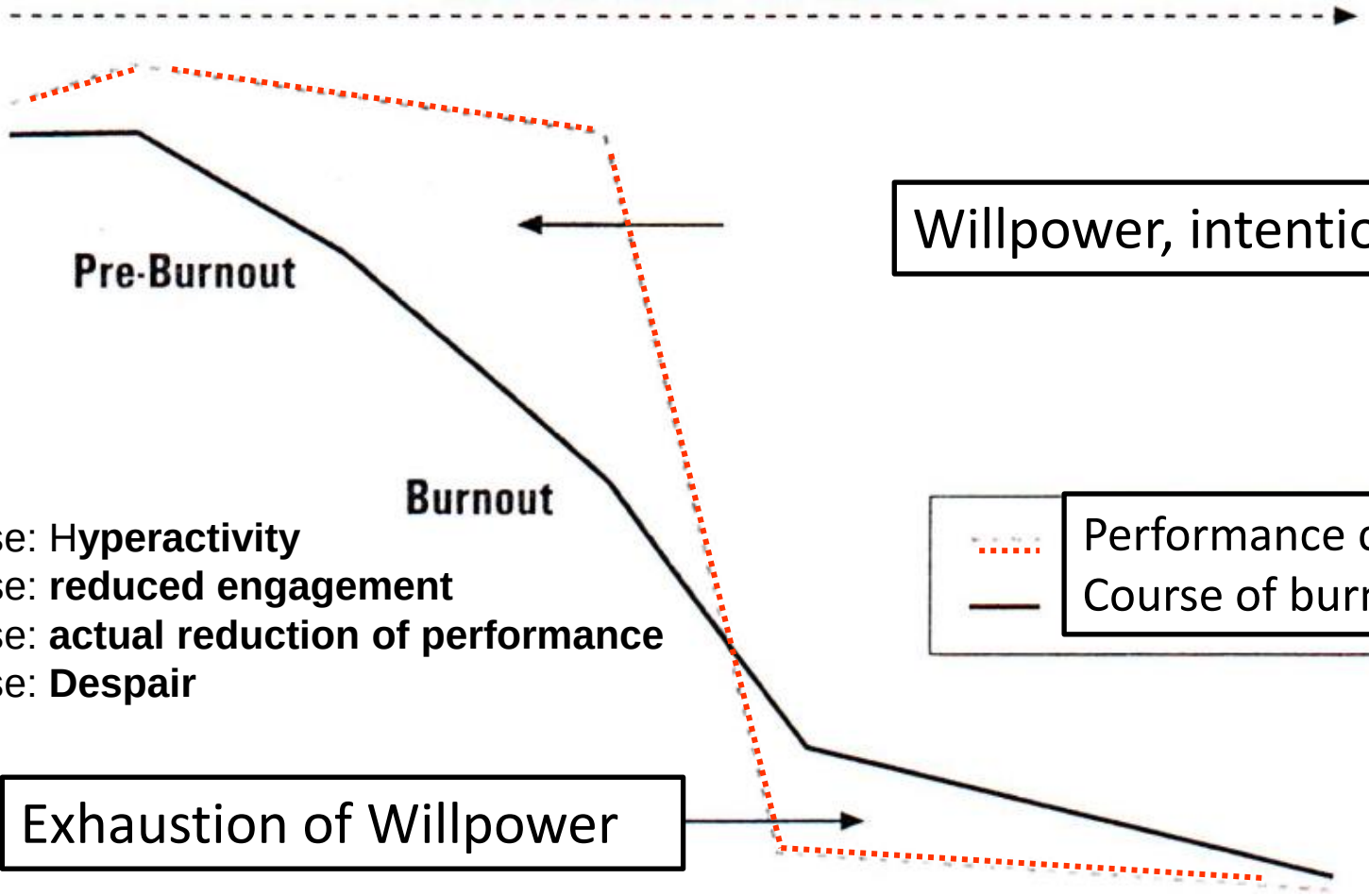
Maximum flexibility:

- regarding the field of work
- regarding time management

The highest level of training requirements

Quelle: F. Richter, 2009

Course of development of Burnout



Willpower, intention

Performance capacity
Course of burnout

1. Phase: H**yperactivity**
2. Phase: **reduced engagement**
3. Phase: **actual reduction of performance**
4. Phase: **Despair**

Exhaustion of Willpower

Bergner, 2008

Who is prone to burnout?

Who is prone to burnout?

Since there are no uniform diagnostic criteria for the phenomenon of burnout, an indication of the incidence of burnout syndrome is scientifically difficult.

From the literature:

- Almost always people with multiple work loads
- Activities with high pressure in terms of time, cost and schedule while "bad labor climate"
- Occupations with relatively low social recognition as social and nursing professions
- Professions that are increasingly critically viewed such as Educational Professions, and increasingly Medical Doctors

Professions Prone to Burnout

High emotional load, high responsibility, high expectations, difficult work-life balance

Nurses	Dentists
Physicians	Paramedics
Priests	Psychotherapists
Teachers	Social Workers
Midwifes	Judges
Nursery school teachers	Prison staff
Police	

Work Environments and Economic Trends in the medical field

Economic trends		**Helping professions**
Increasing pressure to perform	⟺	High emotional demands
Frequent and rapid changes	⟺	Confrontation with human suffering
Increasing insecurity		
Reduced „half-life“ of knowledge and skills	⟺	„detached concern“
Individualisation	⟺	Personality is the essential working tool
competition		Imbalance in the helping relationship: focus on clients‘ problems, lack of treatment co-operation

Work Environments and Economic Trends

Increasing pressure on mental health services:

Financial cutbacks, mental health problems on the rise, increased help-seeking

Quantitative demands — incresing case load,

fewer resources

Work Environments and Economic Trends (2)

Increasing pressure on mental health services:

Focus on the needs of patients – who often suffer from a particularly troubling symptomatology

Nature of mental health services work: focus on clients‘ problems rather than positive aspects, little positive feedback, clients not always responsive

Qualitative demands intense interpersonal interaction plus confrontation with human suffering

The Support Functions are Breaking Away

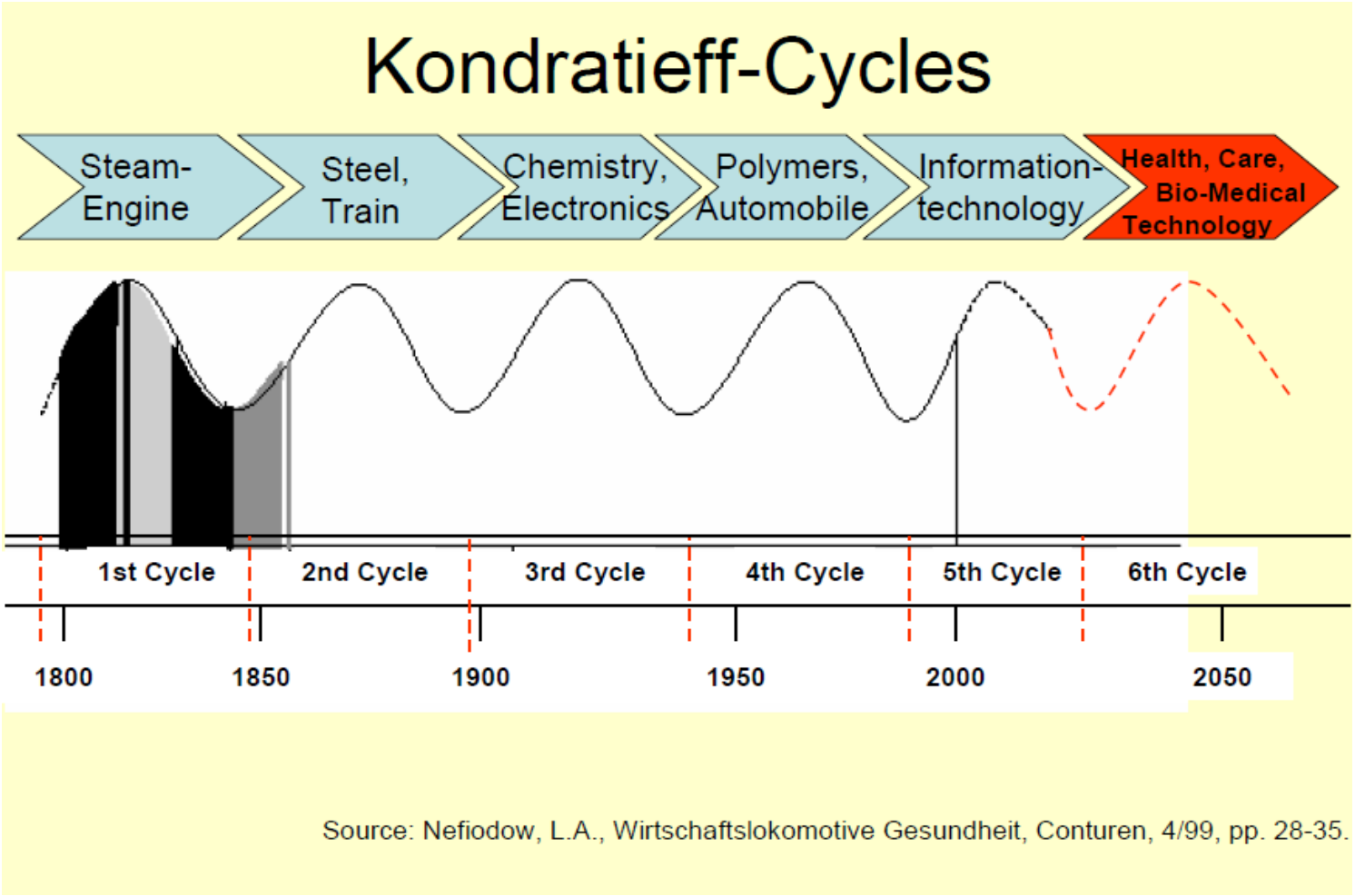
Reliability of the job - no future

Family - only on weekends

Social network, friends, hobbies - no time

Health care activities such as sports - no time

Demands of information technology



We have to cope not only with the actual stressors at work,

But also with the impact of the technology that has been developed

What is the new strain at work?

Excessive demands

Low influence

Low predictability

(Experts DAK Report 2020)

The consequences: social dimension

The diagnosis of depression rose to rank 3 of the most important individual diagnoses for inability to work, only surpassed by back pain and respiratory diseases

most significant increases since 2005 are entirely due to diagnoses from the field of "mental disorders"

disproportionate increase in unemployed by 13.5%, in employed people "only" by 2.7%

Sources: DAK Report 2019, Health Report TK 2019

Sick leave due to psychological diagnoses increased 80% in the last 10 years

AOK 2019

The consequences: social dimension

WHO prognosis

Global burdens because of depressive illnesses:

1990 in 4th place

2020 in 1st place

The consequences: social dimension

The pressure to perform is increasing; subjectivly and objectively

The individual pressure of expectation on oneself is growing

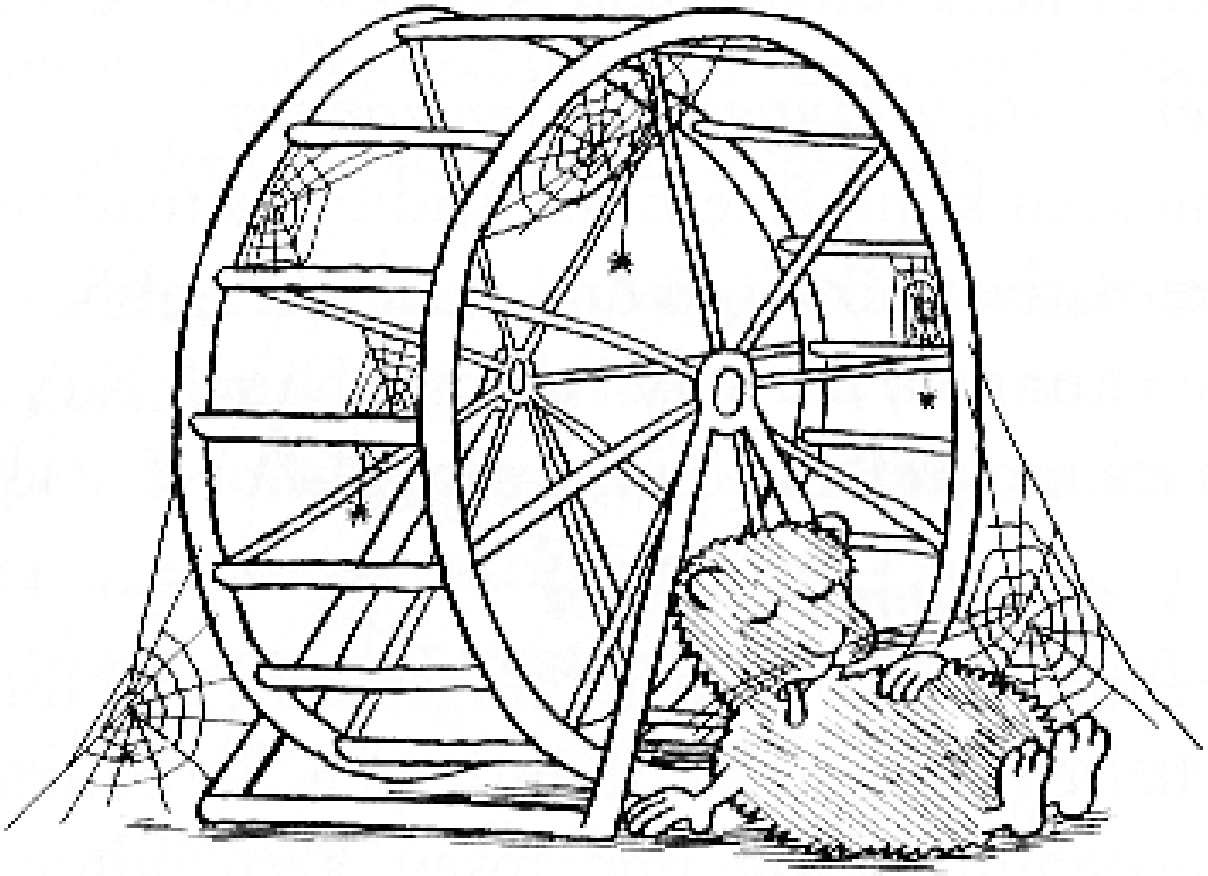
Missing counter regulation

family

social network

Health care

The End



Quelle: F. Richter, 2009

Summary of research on burnout issues

Ironically, the mental health field has paid relatively little attention to the health and well- being of its own workers.
G. Morse et al., 2012

“A primary challenge for the mental health field is to . . . build a more robust knowledge base about the prevalence, causes, and effects of burnout in this field”
Paris and Hoge (2010) (p. 526)

Burnout in health care

Psychiatrists reported burnout, threat of severe burnout, depression and mental disorder more commonly than other physicians. *(Korkeila et al. 2003: Postal survey among registered physicians in Finland) (n=3133)*

Psychiatrists reported less often self-perceived "good" or "rather good" health. *(Korkeila et al. 2003: Postal survey among registered physicians in Finland (n=3133)*

The highest suicidal tendencies among male physicians occur in psychiatrists.

(Olkinuora et al., 1992, survey among registered physicians in Finland (n=2600)

Burnout in health care (2)

United States federal government identified burnout as one key factor driving the “major problem” of retaining competent staff in “treatment organizations and state behavioral health systems.
(Hoge et al., 2007)

Risk factors of burnout among US doctors of chiropractice showed higher levels of Emotional Exhaustion linked to work- place issues
(Williams & Zipp, 2014)

Burnout in health care (3)

medical residents in Malaysia: most common sources of job stress among were fear of making mistakes, time pressures and difficulty in meeting deadlines, working with uncooperative and incompetent colleagues, and lack of adequate comfortable facilities for doctors (SamiAbdoRadmanAl-Dubai, 2013)

a three-wave longitudinal study (2002, 2004, 2006) with Dutch GPs: for men burnout is triggered by depersonalization (developing a cynical attitude towards patients) and by emotional exhaustion for women. (Houkes et al, 2011)

Burnout in health care (4)

mean emotional exhaustion score among community psychiatric nurses and social workers exceeded threshold for burnout syndrome;

mean depersonalisation scores signalled burnout for psychiatrists, CPWs, and SWs.

(Priebe et al. 2005: Survey of 90 mental health professionals working in the community in London, UK)

50% of nursing staff at 11 acute units in the UK showed signs of high burnout in terms of emotional exhaustion; higher stressor score were related to higher levels of *Depersonalisation.*

(Jenkins & Elliot, 2004: Survey among nurses at acute adult mental health units in the UK (n=93)

Burnout in health care (5)

Johannesburg-based paramedics: had a greater prevalence of burnout compared with their international counterparts.
(Stassen W, Van Nugteren B, Stein C., 2013)

Medical doctors of Cape Town: 76 % experienced burnout, as indicated by high scores on either the emotional exhaustion or depersonalisation subscales. The number of hours, work-load, working conditions and system-related frustrations were ranked as the most important contributing factors to burnout.
(Dr. Liezel Rossouw, Prof. Soraya Seedat and collegues (2011):

Burnout in health care (6)

Economization and change in the health sector

• discrepancy of ethical values with business goals.

Change in clinical conditions

• more elderly, multimorbid and chronically ill patients

• Healing is often not in the foreground, but rather care for the sick and dying

(Bauer, 2018)

Burnout in health care (7)

Attacks or physical threats (Survey 8,400 doctors and 2,700 psychotherapists)

- insults
  26% of doctors 18% of psychotherapists

- Physical threats and violence in small practices
  39% of doctors and 21% of psychotherapists

- Verbal violence in larger practices (DGPPN survey 308 Doctors and Psychologists)
  90% were verbally or physically attacked once in psychiatry
  37% explicit physical attacks US analysis

- In psychiatry there is around 70 times more violence at work than the national average (USA data)

(Müller 2020)

Burnout in health care (8)

Physical strain

- e.g.> 50% of nursing staff have back pain, frequent skin problems due to sanitizers, violence against medical staff, exposure to infections

Emotional distress

- e.g. depression, Feeling “ignored” or “not taken seriously”, higher risk for PTSB, dealing with death, little time for rest,
- high responsibility with low influence on outcome → increasing burn out in medical professionals

Burnout in health care (9)

- Post-traumatic stress syndrome

  There is low-threshold professional offers available for the armed forces, police, fire brigade for processing of operations or disasters

  But there is largely a lack of offers for therapeutic staff

  - Expression of the feeling of invulnerability??

(Braun und Jocham 2019)

Therapeutic Approaches

Psychoeducation for burnout

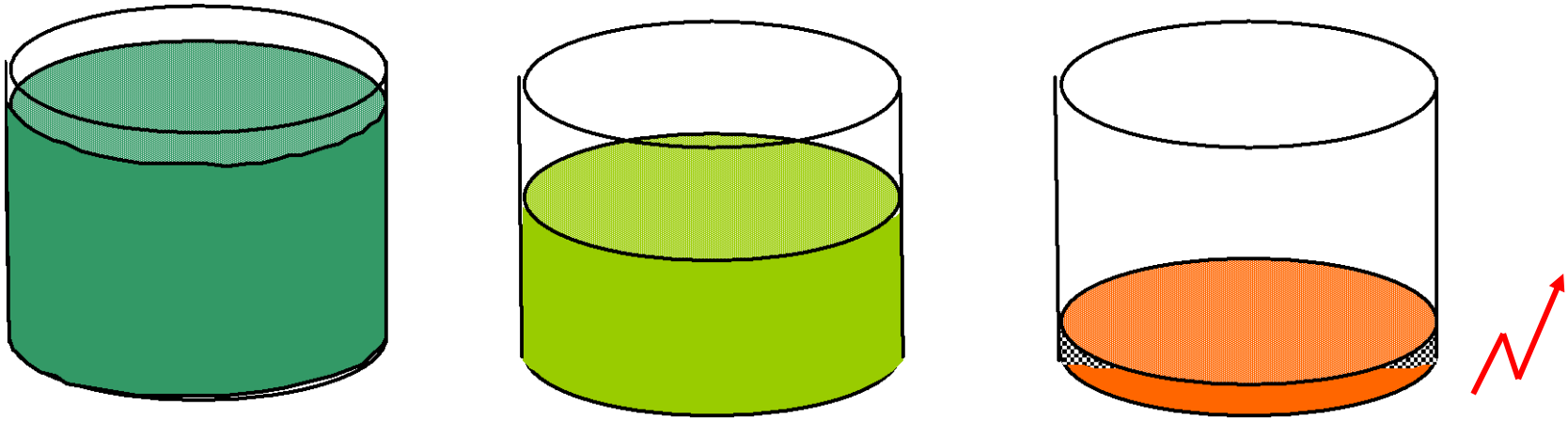
The classic approach:
Knowledge transfer

- In order to be able to mobilize self-help forces,
- To check the need for further psychotherapy

Preventive and therapeutic measures

The energy barrel model (ENFA®)

The soul energy barrel - our "petrol tank"



How full is our energy tank?

The energy tank

Rebuilding Souces of strength

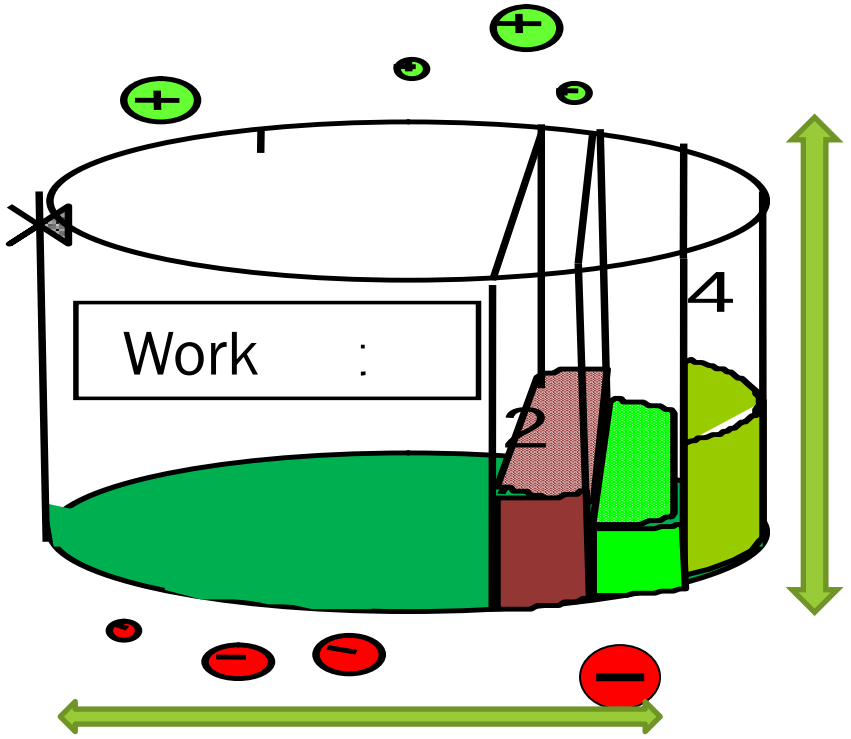
Fields of life

1 Work

2 Family

3 Leisure time

4 Health



Relativization of the job as a field of life

Identification of strength drainers

Source: Stark & Sandmeyer, Wenn die Seele SOS funkt, Rowohlt, 1999

Topic Personality

- resolve mental attitudes towards work and performance
- analyze motives for personal commitment
- looking at one’s feeling of offence
- seeking recognition outside the professional life

Topic Stress

- training in stress management
- training in recognizing early warning signs of stress
- learning to balance stress and recreation
- (re-) introducing hobbies and leisure activities

Topic Work Environment

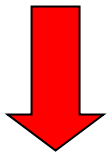
- looking for creative and challenging aspects of work environments
- taking over responsibility
- creating enthusiasm
- achieving solidarity
-
- checking one’s market value

Topic Work Environment

Time pressure and overtime working characterise work in the medical field.

Optimal time management allows to work less and achieve more.

Most time and energy are lost because we do not formulate clear aims and priorities, avoid planning and thus do not have an overview of the demands on our time.



Get the clear picture

Focus on the essentials

Create more time

Source: Rössler, 2009

Consequences for Therapy and Prevention (3)

Major challenge to therapy in these times:

Not only concentrating on the pathological structures,

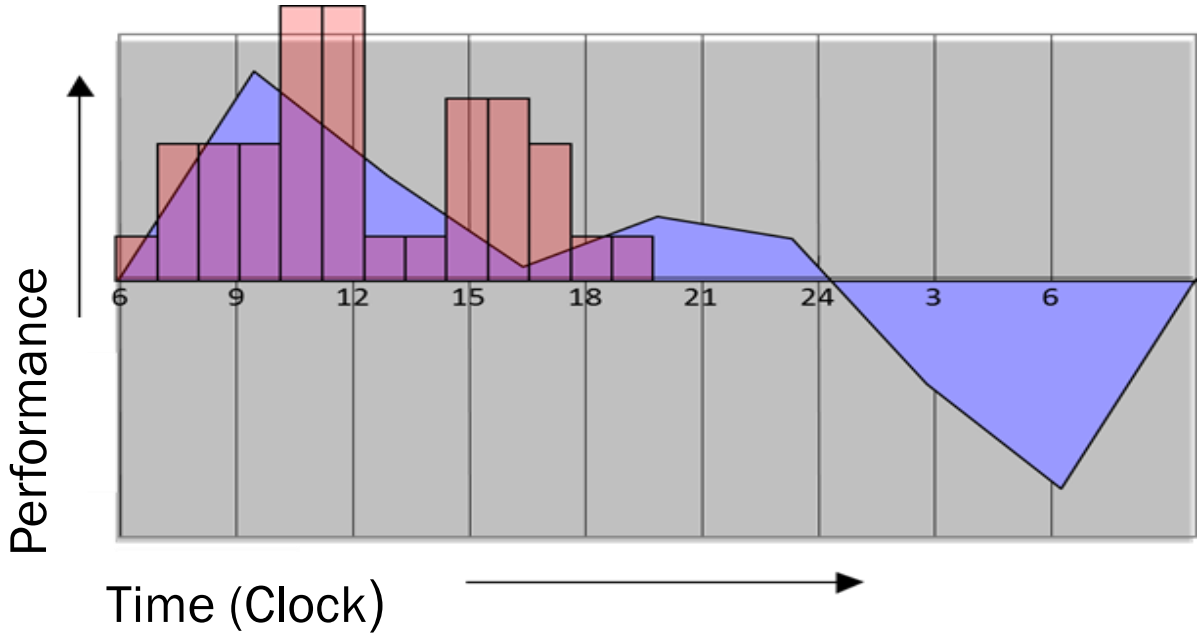
but (also)
helping to develop mindfulness
and fostering to learn to enjoy life (again)

Work Environment

Quelle: F. Richter, 2009

Daily output and daily disturbance curve

→ Occurrence of sources of interference



Graphik: Tagesleistungs- und Tagesstörkurve

Differentiation CFS - Depression - Burnout

Chronisches Fatigue Syndrom

A diagnosis is difficult ...
-> Symptoms are often reduced to somatic forms of disorder

Canadian criteria:

1. Worsening condition after exertion and exhaustion
2. sleep disorders
3. Pain
4. Neurological / cognitive manifestation
5. Autonomous / neuroendocrine / immunological manifestation
6. The illness has existed for at least six months

-> Measurements of the muscular stress level help with the diagnosis

What is fatigue

Fatigue

As a "normal" form of exhaustion

Activity (physical / cognitive) can still often be carried out through willpower and exertion

Can be reduced by recreational measures

Evolutionary process to protect the body from overload and, in the long term, from tissue damage

Does not follow a daily rhythm

Fatigue

- Extreme Form der...
  - fatigue
  - exhaustion
  - weakness
  - languor
  - Lack of motivation
  - Lack of strength and energy
- Activities cannot be carried out due to "weakness"
- Connection with physical and mental illness
- subjective feeling of not experiencing any recovery

CFS	Depression
Often infection-like onset	Occurs only rarely in a temporal context with an infection
Exhaustion is a necessary criterion	A change in mood is a necessary condition for a diagnosis
Muscle and / or joint pain and headache	usually not associated with significant Pain symptoms
Orthostatic intolerance, tachychardia and other autonomic dysfunctions occur frequently (Rowe & Calkins, 1998)	No association with autonomic symptoms
immunological manifestations including lymph nodes, sore throat and tenderness Hypersensitivity to Chemicals and food	No association with immunological including symptoms

CFS	Depression
Loss of thermostatic stability, Intolarence against extreme temperatures	No connection to thermostatic instability
Exhaustion is aggravated through mental and phisical strain (Blackwood et al., 1998b)	Exhaustion and mood gets better with phisical activity
Decrease in positive feelings (energy, Creative joy, happiness)	increase in negative feelings (apathy, hopelessness, suicidal thoughts, Self-reproach)
Children have a better prognosis than Adults	children have a worse prognosis than adults
Cortisol Levels Low	Cortisol Levels Increased

Therapeutic approaches

- There is no therapy that is suitable for everyone!
- symptomatic drug therapy

  (start with very low doses)
- effective disease management
- Elements of cognitive behavioral therapy

- Basis: biopsychosocial disease model

Daily schedule

Goals

- **optimized activity planning**
- **(Re) rhythmization**
- **(Re) structuring**

Disease Management

Documentation and follow-up

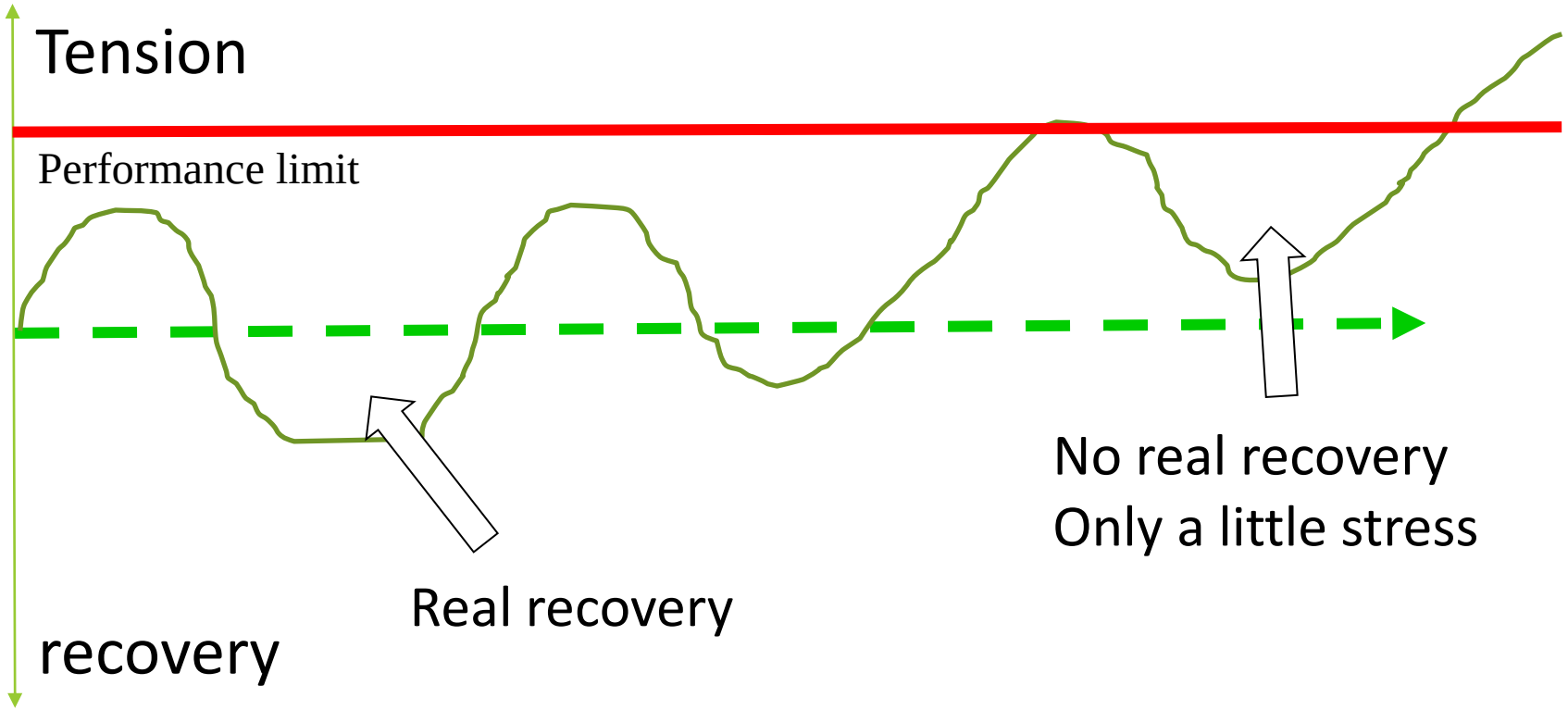
Exploring load limits

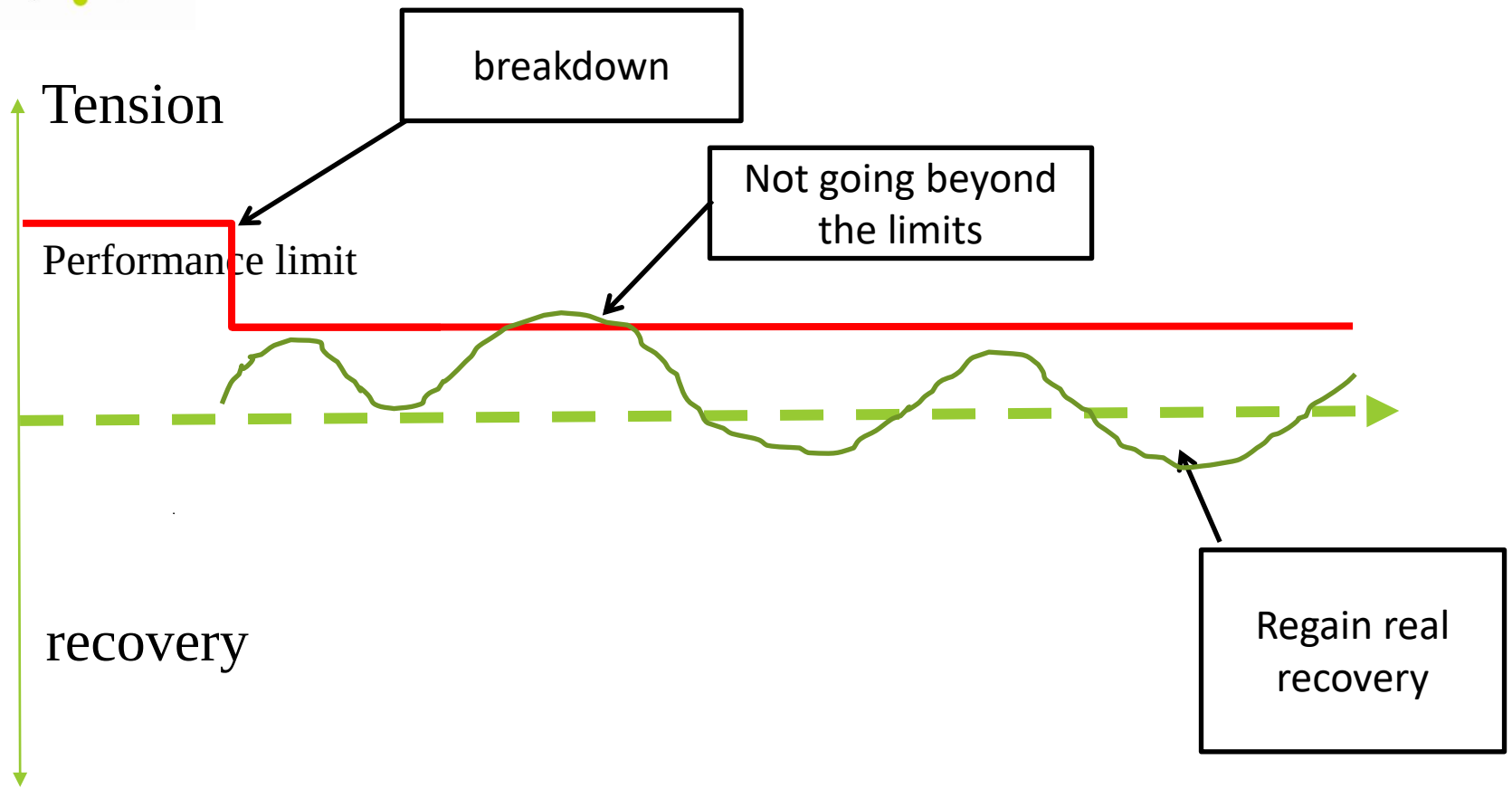
"Determine the scope“

Identify negative and positive influencing factors

Analyze / categorize activities

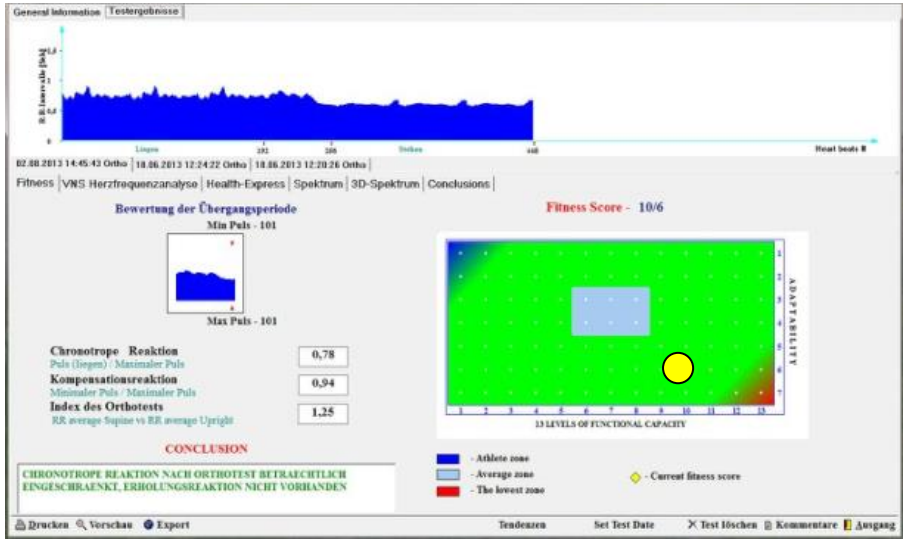
better use of the remaining energy


Tension
Performance limit
No real recovery
Only a little stress
Real recovery
recovery

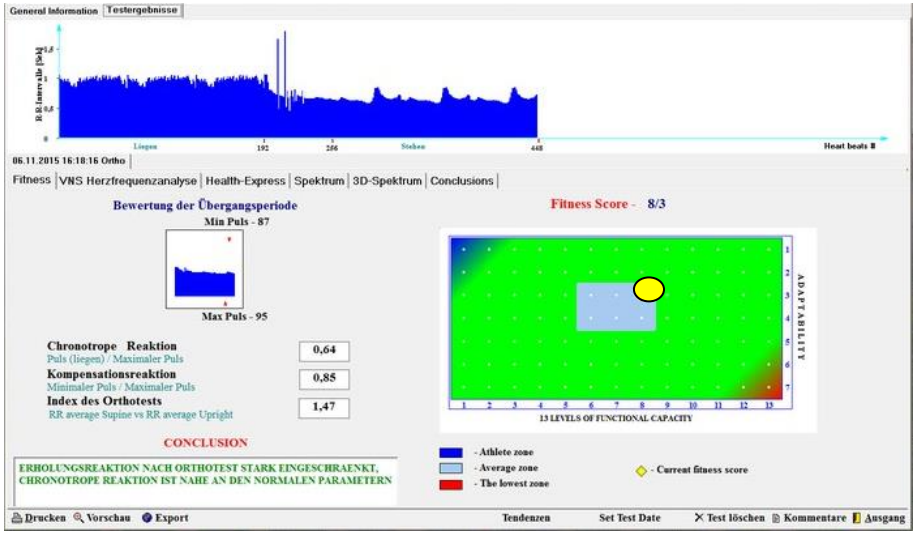

breakdown
Tension
Not going beyond the limits
Performance limit
recovery
Regain real recovery

HRV Analysis Herr B., Age 45 , has CFS since 5 years

Initial diagnosis



After a year of therapy

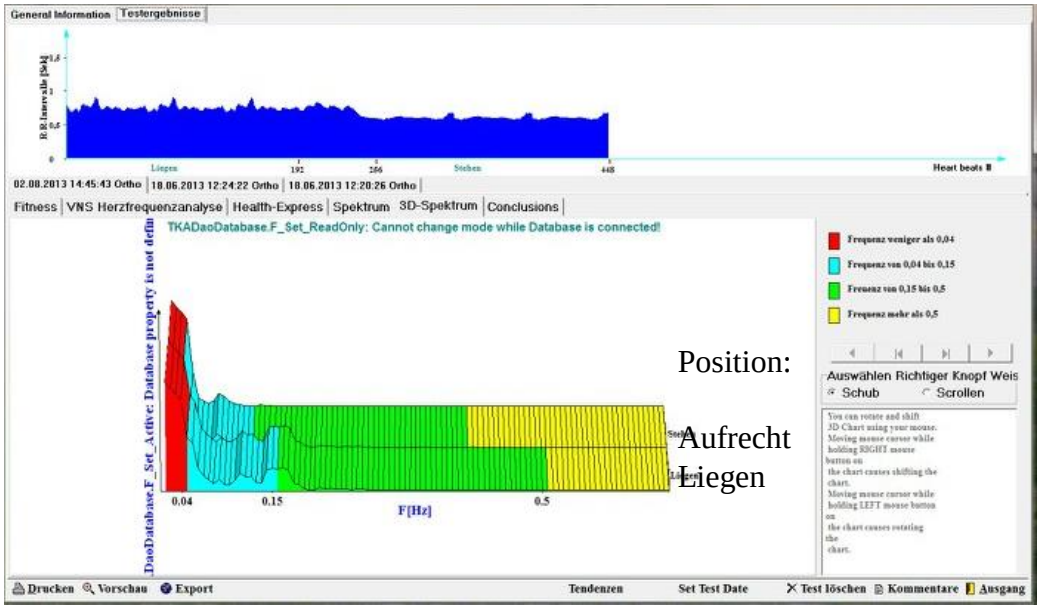


HRV Analysis with change of position while lying down and sitting

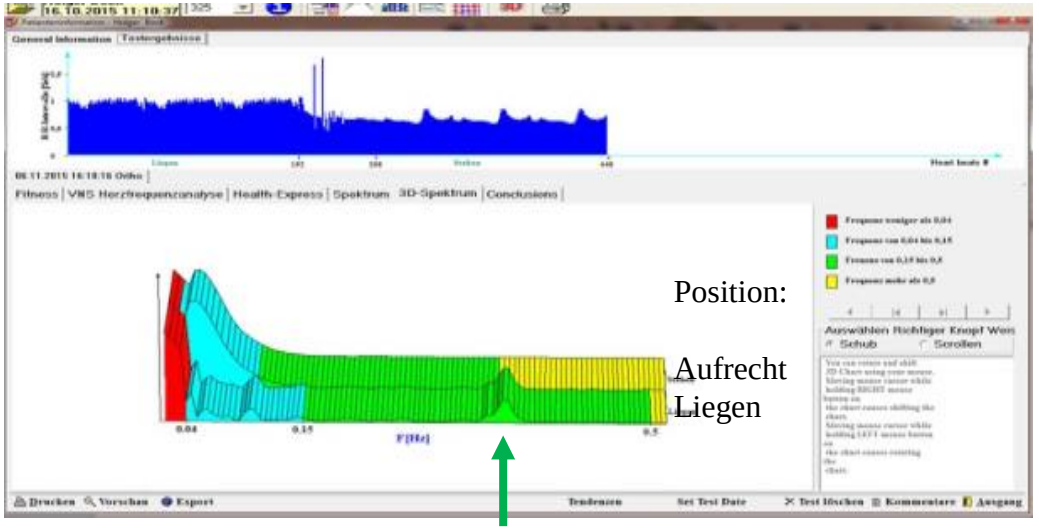
Dark blue:
RR Distances and amplitude

Light blue:
Sympathetic activity

Green:
Parasympathetic Activity



Beginning



After a year

CFS and Long Covid

Alarming numbers

Italian study 53% fatigue (Carfì et al., 2020)

2/3 of Long Covid patients complain of fatigue 4-8 weeks after infection (Halpin et al., 2021)

Fatigue 87.8% (long fund: Gezondheid Thuiszittende Coronapatiënten Schrikbarend Slecht | Binnenland | AD.Nl, n.d.)

Prof. Anthony Komaroff (Harvard Medical School) (2020) assumes that 10% of patients with SARS-CoV-2 infections develop ME / CFS

This doubles the number of U.S. ME / CFS patients within one year. The conservative estimate of 17 million ME / CFS patients worldwide would increase by 10 million due to Covid 19.

Covid 19 epidemy

Excursus: Covid-19 pandemic

- A new study from 2020 from a Chinese hospital for the treatment of COVID-19 patients showed increased values for anxiety, stress, and reduced self-efficacy in those treating acute Covid-19 patients (Xiao et al. 2020).
- Another study found a significantly higher incidence of post-traumatic stress symptoms in women than in men in connection with the current COVID-19 pandemic:
- About 27.39% of the medical team, especially women, had symptoms of post-traumatic stress and had higher scores in the PTSD-SS (Post-Traumatic Stress Disorder Self-rating Scale) (Huang et al. 2020). Xiao et al. 2020; Hunag et al. 2020)

What can you do to protect yourself?

Demarcation - "Demarcation is better than disappointment"

- Set clear boundaries, e.g. between yourself and patients or colleagues and superiors

  - professional demarcation: what is my profession?
  - In terms of time: “I don't want to be available at all times”
  - Personally: e. B. Who do I want to work with?

- Proximity-distance regulation in the doctor-patient relationship:

  - Avoidance of unrealistic expectations
  - Prevention of disappointment and reproaches
  - Protection of professional identity and increase of self-esteem

- Clear boundaries help
  - To win patients to whom one has a higher affinity, and thus more experiences of success in the doctor-patient relationship

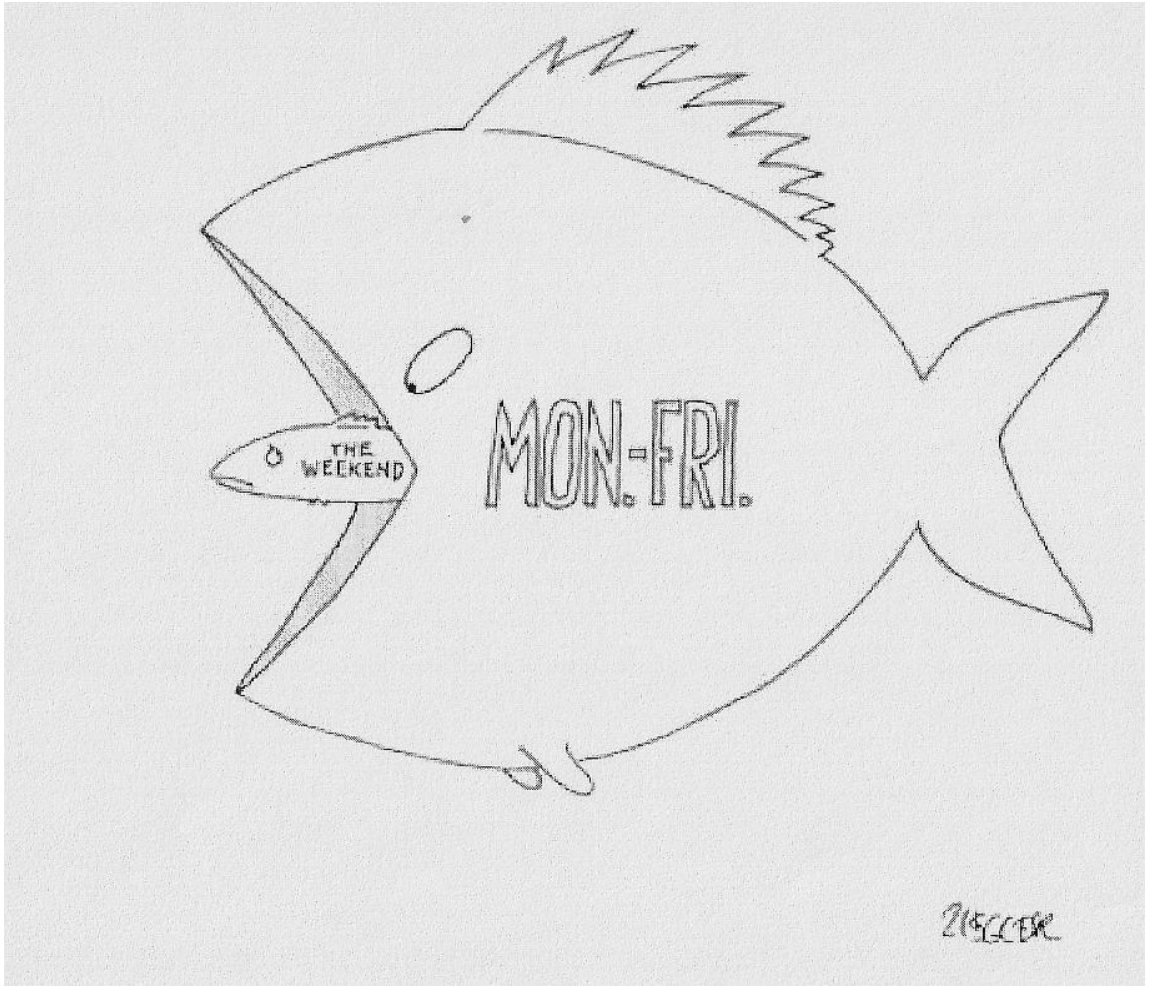
(Bransi, 2021)

What can you do to protect yourself?

Individual resilience

- Recognizing stress factors and
- optimizing working conditions
- Paying attention to personal needs “Don't make your job a matter of life”
- Good clinic or practice organization
- “Sensible” working hours
- Keeping times free for emergencies - Admission freeze
- Recruiting good staff and good personnel management

Free time is a rare resource
Plan your free time consciously



Rössler, 2009

Thank you for your attention

additional Information

German: https://prof-stark-Institut.de

(russian version)

https://prof-stark.online