

Reflex 42

The Kieser Training Magazine

A powerful number

Just stop briefly to think about it: What does someone with osteoporosis look like? Well, they may possibly be female rather than male? That is still true but less and less so. Gone are the days when osteoporosis was classed as a typical female disease. The fact is that some 200 million people worldwide now suffer from this loss of bone density and frequent fractures. For the elderly in particular, it is a major risk factor and can be life-threatening. Moreover, a growing number of men are now suffering from what was supposed to be a female disease.

Loss of bone density amongst men continues to increase and researchers are forecasting a sharp rise in male osteoporosis: according to the International Osteoporosis Foundation, 15% – 30% of men will have a leg in plaster at least once during their life because of their ailing bones. In Sweden, the fracture risk for men over 50 years of age is 30% and in Germany one in three osteoporosis patients is male.

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Although this is the reality, it is one that is relatively little known. In practice, “male” osteoporosis is treated very much as the poor relation – on a par with heart attacks amongst women. These medical gender myths delay the correct diagnosis. So, what can we do to combat a loss of bone density? In addition to a diet containing enough vitamin D and – if the disease is advanced – the right medication – what helps is properly controlled machine-based strength training. What’s more, it is not a gender issue: targeted strength training for muscles strengthens the bones of both men and women.



Speaker Dr. Nicolai Worm

© Photo: Michael Ingenweyen

The Strength of Muscles

Muscles play a crucial role in health. “Strength Training – build-up and maintenance for the musculoskeletal system” – was the title of a symposium at the Kunsthaus in Zurich on 19th November that provided insight into innovative developments and research findings in the

“20 years ago, such a symposium would have been impossible”. With these words, Werner Kieser opened the symposium attended by 300 doctors, physiotherapists and instructors. Kieser also introduced three new global innovations in machine technology: the A5 for training pelvic floor muscles and the B3 and B4 for strengthening ankle muscles.

The B3/B4 was developed by Dr. Marco Hagen from the Institute for Sport and Human Movement at the University of Duisburg-Essen. He spoke about **“Strength training for pronator/supinator muscles – improving functional foot stability”**. Increasing the strength of these muscles improves control over the roll of the foot and reduces the incidence of twisted ankles. This is of particular benefit to those who do a sport involving running and jumping or who lack ankle stability”, explained Hagen.

The development of the A5 means that for the first time it is possible to visualise the work of the pelvic floor muscles and quantify training gains. One of those instrumental in its development was Marco Schuurmans Stekhoven from the Practice for Physiotherapy and Osteopathy in Zurich. He gave a presentation at

the symposium on **“Taping and Training”**. In the event of injury and pain, elastic taping applied to improve function is the most effective way – when combined with strength training – of achieving permanent recovery.

“Muscle strength is a strong medicine”: This was the title of a presentation by Dr. med. Martin Weiß, author and Doctor in General Medicine/ Chirotherapy. Weiß spoke about the indications for strength training and its wide-ranging medical benefits. He encouraged his colleagues to get to grips with the issue as “in most cases, it is possible to alleviate symptoms and in many cases eliminate them completely”.

Dr. Nicolai Worm, ecotrophologist (nutritional specialist), author and founder of the LOGI Method spoke about “Paradigm shifts in nutrition”. Worm took a critical look at recommendations issued by specialist nutritional bodies that are not only outdated but can also endanger health. In contrast, the LOGI Method improves lipometabolism and reduces the risk of disease.

“Sport instead of Latin” was the demand from child endocrinologist Prof. Dr. med. Urs Eiholzer, Head of PEZZ,

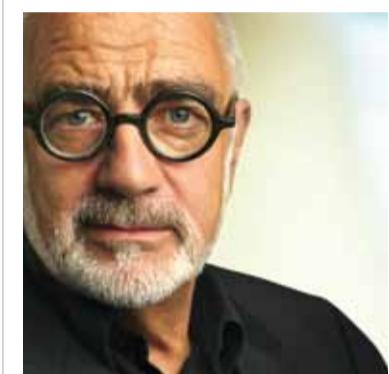
the Centre for Paediatric Endocrinology in Zurich and author of a book on strength for kids. His research team has been able to demonstrate for the first time that development-oriented muscle training prior to puberty not only boosts strength but also encourages a spontaneous delight in movement.

Dr. sc. nat. Marco Toigo from ETH Zurich (Swiss Federal Institute of Technology) talked about **“Mechanisms for regulating muscle mass and strength”**. He described why – at the molecular level – it is counterproductive to do strength and stamina training simultaneously. He demonstrated how the effect of strength training is boosted by the absorption of essential amino acids immediately after the training session.

“Creatine – a substance with potential” – was the message from Dr. Theo Wallimann, Emeritus Professor at the Institute for Cell Biology at ETH Zurich. Creatine is produced naturally by the body and helps increase muscle build-up and strength, improve bone density and increase physical and mental performance.

For more information, please visit www.kieser-training.com

Resistance matters



There are a plethora of recommendations on how to exercise – probably too many and the terms used can be quite bewildering: Pilates, Power Yoga, BodyPump, Aerobics, etc. However, the truth about exercise is quite simple: If you do a low number of movements against a high resistance, you develop muscle strength, tone and size. In contrast, if you do a high number of movements against a low resistance, you develop cardiovascular performance. In other words, exercise can achieve two different goals. However, movement without any resistance has zero “quality”. Astronauts lose muscle and bone substance relatively quickly and a recent study has shown that the same happens to water polo players. Astronauts and water polo players have one thing in common: they operate in an environment without the resistance afforded by gravity that we “Children of Earth” have to overcome every day. Humans survive and grow on resistance making resistance a key factor. If you want to increase strength, you need to work against at least 30% of your maximum strength. If the resistance is less than that, the mechanism that builds strength is not triggered. Pilates, yoga, BodyPump and aerobics are all activities that do this accidentally based on the back-shot principle. However, Kieser Training measures the dose you need and places the resistance exactly where it belongs. There are no superfluous movements. It may not be amusing but it is efficient.

Burnout syndrome

Now even Ralf Rangnick, the coach of the German football team Schalke 04 has succumbed to it. So has Markus Miller, the goalkeeper at Hannover 96, who had to be admitted to hospital for treatment. Both are suffering from burnout syndrome. Burnout mainly affects people who work for long periods at or above their maximum limit. They are over-committed to their professional and social environment and often set themselves targets that they cannot achieve.

Society has produced a generation of multi-taskers, who do more than one thing simultaneously rather than consecutively; they can apparently get by with almost no sleep and are on the go virtually day and night. Naturally, they are also always contactable. You

see them on high-speed trains or aircraft eating and working simultaneously, telephoning the girlfriend and immediately afterwards the wife. On the trip home the same evening, they will be working on their laptop, drinking a beer and using their mobile to get the children to bed.

Multitasking is the new buzz word and it has already made inroads into every aspect of life: leisure, family life, eating and drinking and even our love life, the focus is on packing in as many experiences as possible. However, this constant availability and excessive communication overwhelm our psycho-physical reserves.

Sufferers are often in a state of denial about their own needs. And because they are so heavily committed, those



in their immediate environment often find it difficult to recognise the first signs of a burnout: frequent careless mistakes, serious exhaustion, chronic

fatigue, lack of energy, loss of libido, frequent infections and difficulties with sleeping and concentration. This may be followed by a complete loss

of joie de vivre, a tendency to blame others or aggression and finally they may develop anxiety disorders and depression.

What effect does Kieser Training have on...

burnout syndrome

Schiller may have said that it is the mind that makes the body but today rather the reverse is true: only those with a healthy body can have a mind that is unfettered, creative and productive. Only then, can we concentrate and complete tasks with as few mistakes as possible. The benefits of strength training are many.



People at risk of burnout suffer from high stress levels; in physiological terms, this means that muscles tense up. Muscle training not only improves spinal and joint stability but also reduces muscle tension and hardening and with it the associated pain. In addition, the build-up of muscle increases the number of very tiny blood vessels or capillaries within the muscle tissue (capillarisation). This increases the blood supply – and with it oxygen – to the muscles. A further benefit is that the increase in the quantity of muscle tissue reduces the percentage of body fat. This is a good thing; after all fat is not just fat: metabolically, fatty tissue is highly active and produces various substances that encourage the inflam-

mation that maintains or even intensifies tension and pain. That is something that those at risk of burnout can well do without.

Psychologically, whole-body training immediately improves self-perception. During those 30 minutes, the focus is solely on you and your body. As a result, you rekindle your acquaintance with the body – and not just as thinking machine functioning solely at the intellectual level – but also as a whole. This in turn improves self-esteem – something lacking in many of those on the verge of burnout or actually suffering from one. However, there is yet another plus point: The intense physical activity occurring during strength training

breaks down stress hormones. Stone Age man eliminated stress hormones by fleeing from sabre-tooth tigers. Today we eliminate them – if at all – by smoking or “ gulping down” quantities of food, alcohol or drugs. And last but not least: training invokes feelings of physical fatigue that improve sleep quality.

I can only recommend, therefore each time you train, you take a short timeout and focus just on you. Switch off your mobile and leave it in the changing rooms – simply be non-contactable. This will allow you finally to concentrate on a wantonly neglected person: yourself!

Doctor's tip

What to do if diagnosed with “burnout”

The key currency of the 21st century is energy not money. However, the way we think and act does much to bring about a premature destruction of energy levels. With an acceptance verging on the shocking, we even describe our daily life as “a quite normal frenzy”, “absolutely stressful” or “non-stop”. This final term, in particular seriously contradicts the intentions of nature and biological rhythms. It is nothing less than committing energy suicide in instalments.

If burnout is diagnosed, it's important that sufferers get off the “hamster wheel”. They must be freed from the stimuli produced by excessive communication and learn that humans – like life – need polarity to function. In the same way that night follows day,

tension must be followed by release of tension and the state of being awake requires adequate sleep. What drives us to exhaustion and eventually a burnout, is not absolute workloads. Rather, it is a lack of physical, and even more a lack of psychological regeneration. Oscillating work – by which I mean work combined with sufficient relaxation – can include major peaks in workload. In fact as part of a project this can be very enjoyable. However, these peaks must be interspersed with rest periods during which we are not contactable – “not even briefly”.

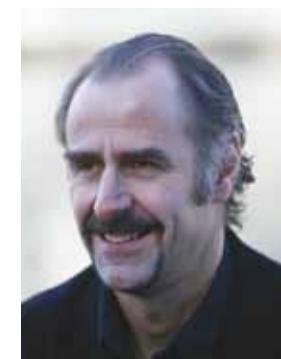
In this respect, the smarter top sportsmen and their trainers can show us a thing or two: they are not always in top form but divide their year: basic training, build-up training, pre-per-

formance training, the season followed by a break and regeneration. In contrast, in the world of work, there are many who still think that we can perform at our personal limit continuously. In some cases, workers no longer take their full holiday entitlement and of course when on holiday they are still contactable by email or mobile. Or as the self-employed say – it's them on call – constantly! This blind alley often leads to rehab or a stay in an expensive private clinic. Unfortunately, it's increasingly common.

In some cases, psychological treatment may be necessary and in the most severe cases, inpatient treatment may be required. However, in all cases, this must be supported and accompanied by a focus on an ac-

ve body. This includes, in particular regular health-oriented strength training: a strong appearance is good for both self-esteem and the soul!

Articles on Page 2:
Dr. med. Marco Caimi



Dr. med. Marco Caimi

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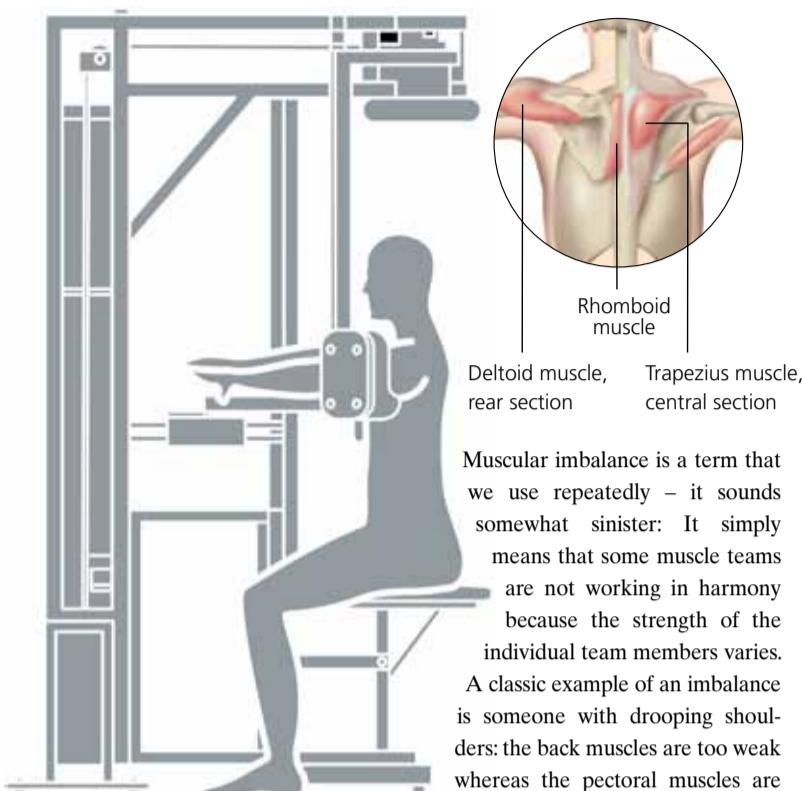
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C5 – Rowing torso



too strong and in most cases shortened. This imbalance is often caused by sitting for hours at an office desk. Result: the shoulders are pushed forward and the neck muscles tense up. However, we would not be Kieser Training if we did not secretly have a machine designed specifically for that purpose. The C5 strengthens both the shoulder muscles and the muscles that pull the shoulders towards the spine. To complement this, the best exercises are the D6 (arm cross) and G1 (neck and shoulder) with the emphasis on the extension phase; both help to restore a more upright posture. Some facilities have a new version of the C5 in which you do the exercise facing the machine and not as previously with your back to the machine. This makes it easier to control your range of movement. However, there's nothing sinister in that either. Both versions improve muscle balance.

Expert's Tip

The ski season will soon be here. After months of absence, we will subject our body to unaccustomed stresses as we take to the slopes. With downhill skiing, it's the thighs that take most of the strain. Without targeted preparation, the result is soon muscle strain and seriously sore muscles. Start your preparations now. Do a training programme that focuses on the legs. Semi-negative training on the B1 machine (leg extension) acts like an "inoculation" against stiff muscles. Super-slow training on the B6 (leg press) builds up the strength needed for carving turns. Complete your programme by doing prone leg curls on the B5. It too can be done as a semi-negative exercise.

With semi-negative training, you lift the weight with both legs but lower it with just one. With the super-slow

method, you deliberately lift the weight more slowly – 10 seconds instead of 4 seconds. In both cases, it's important to reduce your normal training weight by about 20%. Best of all make an appointment with an instructor and learn more about these training options and our specific programme for skiers.

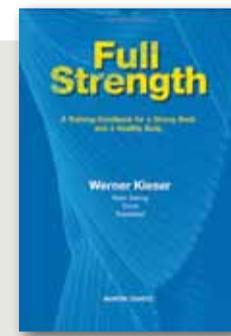


Anika Stephan
Research Department Kieser Training

Latest research – Strength training is the best medicine

Osteoporosis is an insidious disease – bones first lose density and mass unnoticed and then fractures and deformities occur because the skeleton can no longer cope with the load. Loss of bone density is primarily a disease of old age. With increasing life expectancy, it is now affecting more and more people – both women and men (see: The Powerful Number, Page 1).

Those suffering from primary osteoporosis are mainly female between 50 and 70 and men older than 70 years of age. The reason for the age difference is that the gradual loss of the sex hormone oestrogen amongst women after the menopause disturbs



A Training Handbook for a Strong Back and a healthy Body. Werner Kieser describes 40 exercises in detail, using anatomical illustrations to explain the workings of each and also discusses many of the misconceptions surrounding strength training.

Martin Dunitz, (2002), ISBN 1-84184-094-7

the balance between the build-up and the break-down of bone tissue. Secondary osteoporosis is the less common form of the disease and in this case, bones lose density because of metabolic changes caused by other diseases or drugs.

The fact is that – in addition to hormonal changes and calcium and vitamin D deficiencies – bone metabolism is adversely affected by unhealthy lifestyles such as nicotine and alcohol consumption. A further – and very important – cause of osteopor-

osis is the absence of adequate loads on our muscles. The best prevention and also a treatment option for loss of bone density is, therefore, a healthy lifestyle, a balanced diet, sufficient exercise in the fresh air and strength training to build up the bones.

But how do bones grow? "Bones are not static but undergo constant transformation," explains Dr. Alexander Pfeifer from the Institute for Pharmacology and Toxicology at the University of Bonn. They adapt to loads. Bones respond to loads by growing. If there is no load, they break down". Recent research by scientists at the University of San Diego in the United States and the

University of Bonn has improved our knowledge of the process. The results of this international study show that an external mechanical load – such as that applied during muscle training – is transferred by protein molecules to the interior of bone cells. The cell nuclei then ensure that more and better bone cells (osteocytes) are formed. Researchers can now look at whether medication might be able to influence this process but as yet, we have no drug that builds up bones. Until science has found the answer, the motto remains "strength training is the best pill!"

Tales from the training floor ... nothing is meaner than Kieser!

The best stories come from real life – or from training. Life does not simply grind to a halt when the thousands of Kieser Training customers are training. Quite the opposite, life goes on around them and so our series Tales from the Training floor". In this edition Werner David, a customer from Munich describes his experience with Medical Strengthening Therapy.

The underlying concept is as unbelievable as it is audacious; with medical strengthening therapy, patients are supposed to make an active contribution to their recovery. Things would have come to a pretty poor state if every therapist were to adopt such an outrageous approach! After all, I'm paying, so kindly make me better! Instead of purring blissfully under the skilful hands of the masseur or dozing quietly in the warm security of the mud cocoon of a Fango treatment, I am supposed to toil like a galley slave? The explanation is amazing and difficult to accept. Medical Strengthening Therapy works. Curses! Am I in all seriousness supposed to take personal responsibility for my own body? Passive suffering is so stress free.



Werner David, Kieser Training customer from Munich

So off we go: A belt keeps me anchored to the seat. In addition, my thighs are fixed by a pad. My almost two-dimensional quadriceps (quadriceps femoris muscle) send a third text message to Amnesty International. My feet rest on a diagonal plate

and the femur is pressed firmly into the hip socket. A pelvic roller pad prevents any evasive action. My back extensors are filled with a feeling of foreboding and so call for help from other muscles. "Hey chaps where are you? Gluteals and semi-membranous – get in touch!" However, the allies are all immobilised. They can't come to my aid. For the first time in their life my lumbar extensor stand quite alone at the front. "Twenty-one, twenty-two, twenty-three, twenty-four. Hold for two seconds. It would appear that Kieser facilities have a direct line to the intergalactic wormhole as they can change the space-time continuum. How otherwise could a miserly two seconds seem so unbearably long? I spend the next four seconds returning to the start position and then the whole horror starts all over again.

Slowly, panic spreads through the ranks of the lumbar extensors. At the end of my first therapy session, they spontaneously gather for a crisis meeting. A completely breathless multifidus muscle sums up their fears. "I don't like to tempt Providence but what are going to do if this idiot goes 'Kiesering' again? A paralysing silence sinks over the rows of muscles. "We serve notice," bellows the chorus of small, bright red small intertransversarii muscles. Every muscle is in turmoil and arming itself against a renewed attack. This exceeds even their worst fears. Put simply, Kieser is dastardly. At each therapy session, muscles are subject to unrelenting pressure. This triggers an arms race that catapults the back muscles up to a strength far in excess of previous levels. Gradually, they are wrenched

from their slumber and suddenly put in a top performance. Initially, the spine is completely speechless. The last time it had such a stable muscle corset was as a teenager – if at all. And the pain? It gradually realises that it is fighting a losing battle but launches a rearguard action, fighting every inch of the way. In the end, it simply gives up. The muscles are amazed and sum up the situation – somewhat wistfully: nothing beats the meanness of Kieser!

Power of communication

Interview with Professor Friedemann Schulz von Thun, communications psychologist and Kieser Training customer, on the power of communication

Prof. Dr. Schulz von Thun, you train Kieser Training staff and managers in communication skills. What does that mean?

It means that staff are able to structure their contact with other staff and customers so that it succeeds on two levels: firstly, the recipient has an accurate understanding of the facts and secondly is in receipt of a pleasant encounter at the human level. As we do not all transmit and receive information on the same wavelength, we first have to identify what the relevant wavelength is. Those with communication skills are able to find a suitable form of communication that is appropriate for both parties – in terms of content and situation. You won't find that in any textbook.

How important is it that we display consistency in our language?

From my perspective, it is important. As the customer, my partnership is with the company and not with the charming Henriette Müller. However, Henriette Müller is not operating as a free-standing individual. She is my contact with the company and so in the final analysis – if I may be so bold – the soul of the company must be reflected in its human manifestation. This means that Henriette Müller should

embody the soul of the company – in the “Müller” way, so that it does not sound artificial or cling to her like some alien body. This is a challenging aim when it comes to communication skills: we need to create a harmonious mix of professionalism and authenticity!

How can we visualise the training?

It is a triad consisting of mind, heart and hand. For the mind, we convey a model that allows us tap into the interpersonal realm. For the heart, we invite participants to identify their own feelings and thoughts and then to process them. And finally, the hand stands for specific, practical exercises.

Does the training given to staff differ from that given to management?

There are many similarities: in both cases, the core principle is that the meeting should take place on equal terms. However, there are important differences and they relate to the role. Good communication must not only be genuine and display a regard for the other party but must also be relevant to the particular role. Managers must be able to articulate a sometimes uncomfortable truth or encourage staff to do something that won't necessarily result in them throwing

their arms around your neck in thanks. Managers are responsible for mutual cooperation and also for resolving the conflicts that inevitably occur in a team.

And when communicating with customers – is the customer always king?

In Germany, we abolished the monarchy for good reasons. In our case, supplier and customer meet as partners; they agree a cooperation from which both will benefit. They meet on equal terms. Certainly, the customer is entitled to be served attentively, respectfully and carefully. However, the supplier is also entitled to be treated with respect, expect that customers adopt good payment



Prof. Dr. Schulz von Thun,
Communications Psychologist

practices and abide by house and clothing rules or training principles.

Can communication be learned in a two or three day course?

Well, in two to three days, you can certainly develop some communication “muscles”! However – and I hardly need to tell you that – you have to keep at it. And it takes several decades to develop “sovereignty” in terms of inner truth and external clarity – at least it did for me.

Kieser Training has a strong medical focus. Does this present particular communication challenges?

It certainly does! In dealing with the human body, we are entering an extremely sensitive territory. Any intervention must be carefully considered and discussed in as much detail as possible. What is more, not everyone reacts to the same intervention in the same, predictable way. If something goes wrong, there is immediately a suspicion that something was wrong with the communication element. In general terms, we need to bring together the product features and the needs of the individual in a productive way. Kieser Training has developed excellent machines. However, it is not enough to say “Right! Now get on with your training!” The machine's product features must be given a human relevance so that man

and machine become a productive cooperative.

Do you train?

Yes, I have been training about twice a week since a facility opened near me. For decades, I have been repeatedly plagued by back pain, sometimes quite severe. My feeling is increasingly that I am largely free of all that! Well done and many thanks!

Prof. Dr. Schulz von Thun was Professor for Educational Psychology at the University of Hamburg from 1975 to 2009. He is regarded as the founder of a humanist, systemic communications psychology that has become well known in Europe, particularly as a result of the publication of his three-volume work “Miteinander reden” [Talking with one another].

In particular his Communication Square, which consists of four beaks (representing the message sent by the sender) and four ears (representing the message received by the recipient) and the “Inner Team” are now standard tools in professional training.

<http://www.schulz-von-thun.de>

“How to harness your inner demons” 5 tips for training motivation

It's almost that time of the year: with one year ending and another starting, it's time for New Year's resolutions. However, all too often, they stay just that, i.e. “resolutions”. Why? We may make them half-heartedly or they are too vague. Possibly, our initial enthusiasm falls victim to the grind of everyday life.

Karen Zoller, a qualified psychologist provides some useful tips on how to achieve your training objectives more easily.

Tip 1: Set aside a period of time that belongs just to you and your health

It's easier to continue training if you plan a regular schedule. If you make your “health time” a fixed element of your weekly plan, training is much less likely to fall by the wayside. If you can also allow yourself an additional 15 minutes after the training, you can complete your programme in a more relaxed way and avoid stress if, say, you are unable to get onto the next machine immediately.

Tip 2: Set yourself a series of small objectives so that you can celebrate success sooner

Success is a key motivator. What's important is that you define what you mean by training success. However, caution: the higher you set the bar, the longer it will take to reach it and the longer you will have to wait until you can register a success. It's far better to eliminate from your resolutions extremely rigid Do's and Don'ts, e.g. “I will train every week



Karen Zoller
Psychologist, communication trainer, coach

at least three times”. If your resolutions are too strict, you quickly lose the fun of implementing them. This applies particularly to the good intentions uttered at New Year. The less realistic they are, the more likely you are to break them and – what's even worse – the more frustrated you

will become. It's better to divide your objectives into small, measurable sub-objectives. In this way, you don't overextend yourself and you maintain motivation because you achieve success regularly. That in turn makes the training much more enjoyable.

Tip 3: Allow for absences

Who is not familiar with the scenario? You miss training for several weeks and your motivation to resume flies out of the window. Don't take it too much to heart if you sometimes go through a bad patch. Don't get cross with yourself as this destroys motivation.

Tip 4: Make your training an integral part of your wellness programme

Training can be fun if it's part of a personal health package. What else can or would you like to do for yourself? Once again cook healthy food in a calm and an unpressured way? Change your diet? Take up that sport that you always wanted to try? By

combining training with other measures to improve your health and quality of life, training can be the most effective centrepiece of your wellness programme.

Tip 5: Harness your internal “demons”

Your internal demons are a misjudged companion. We often curse them; they constantly get in our way and stop us from achieving our ambitions! However, they play an important role in our emotional and physical health. You may be wondering whether you

read that correctly. Yes, you did. After a full day at work and endless meetings who has not wanted to chill out on the sofa? That may be the right thing to do. In this case, your inner demons are protecting you from overexertion. Ask whether in reality, these inner demons are not your personal monitor. You may be fortunate, therefore to have them within. However, if they get too powerful and relaxing on the sofa becomes the norm, it's time to have a serious talk with them.

Karen Zoller, Psychologist, communication trainer, coach

- Since 2002 self-employed trainer/consultant to commercial companies and public and social institutions
- System supervisor
- Trainer at the Institute for Systemic Studies
- Teacher trainer at the Schulz von Thun Institute for Communication
- External lecturer at the Faculty of Psychology and ZHW, the Centre for Higher and Continuing Education at the University of Hamburg
- Consultant in professional and personal issues