

RE 62 FLEX

THE KIESER TRAINING MAGAZINE

1967–2017
50
STRONG
YEARS



NEXT GENERATION

In Europe he is regarded as a pioneer of strength training for health. As a result of his reductionist and functional approach, the British newspaper Independent called him the “Mies van der Rohe of Fitness”: We are talking about Werner Kieser, who 50 years ago founded Kieser Training AG. In January of this year he and his wife Gabriela Kieser, MD sold the company to their long-standing CEO Michael Antonopoulos and current Board member Nils Planzer.

“The succession arrangement is both important and logical. It will ensure that Kieser Training continues,” explains company founder Werner Kieser who hails from Bergdietikon in Switzerland. Now 76 years of age, he says “50 years is enough. I have said what there was to say and done what there was to do. The new generation will take the company forward for the next 50 years. Michael Antonopoulos has been with the company for more than 12 years. He is someone we trust and an ideal successor. We have also come to know and appreciate Nils Planzer through his years of commitment to the Kieser Training Board”.

Michael Antonopoulos joined the company in 2004 and since becoming CEO in 2009, he has been responsible for running Kieser Training AG. “Werner and Gabi Kieser have developed the company into a benchmark for the industry with great potential,” stresses Antonopoulos. “I am very conscious of my responsibility and will maintain Kieser Training in line with the ethos of them both.”

Nils Planzer from Planzer Transport AG joined the Kieser Training Board five years ago. “My commitment to Kieser Training is very much a question of the heart,” he says. I am involved in a personal capacity and not as part of my position at Planzer. Our family business has already successfully completed the change to the next generation. At Kieser Training, I shall contribute this experience and my entrepreneurial skills to the Board more in the role of a ‘sparring partner’. However one thing is clear: Planzer remains Planzer and Kieser remains Kieser.”

Werner Kieser remains as mentor and provider of ideas. He will also support the development of new processes and machines and carry out representative tasks for the company.

His wife, Gabriela Kieser, MD takes over his role as Chair of the Board and will advise and support the company, particularly on strategic and medical issues: “I see it as a unique opportunity that our long-standing CEO is prepared to take

on the company with the support of a member of the Board who has also been with us for many years. I cannot imagine a better succession. As Chair, my role is to help the management safeguard the concept.” Gabriela Kieser has been involved in the company since 1990, working alongside her husband to develop the company.

*“This succession
is a stroke of luck.”*

Werner Kieser

MUSCLE STRENGTH

Did you know? The strength of our muscles is a product of neural and muscular adaptations.

For a muscle to produce strength it needs to activate its fibres. In the case of voluntary movements, this is initiated by a command from the Central Nervous System that is transmitted to the motor units by electrical impulses (see Diagram 1). A motor unit consists of a motor nerve cell – known as a motor neuron – together with the muscle fibres innervated by this neuron. The neuron itself is made up of a cell body and an axon, which transmit electrical impulses to the muscle fibres via the neuromuscular end-plate. This stimulates the fibres to produce strength: In principle, the higher the frequency of the impulse reaching the muscle fibre the higher its strength.

With strength training, if we do the same exercises regularly to fatigue, this produces neural adaptations in the brain, the spinal cord and the control of muscles. In this way, we obtain the strength required for

the exercise but without a significant increase in muscle mass. This effect is evident even after a few weeks of training. We can lift a higher weight.

These neural adaptations are specific to one movement and cannot normally be transferred to other movements. For example, if we achieve a training effect at the neural level on the B6 machine, this does not mean that we are automatically better at cycling.

However, if we do strength training correctly, we also bring about muscular adaptations. The body creates more muscle protein, which is then deposited in the individual fibres. As a result the size of each fibre increases. We can then transfer this increased muscle mass to other movements and so support or enhance our performance.

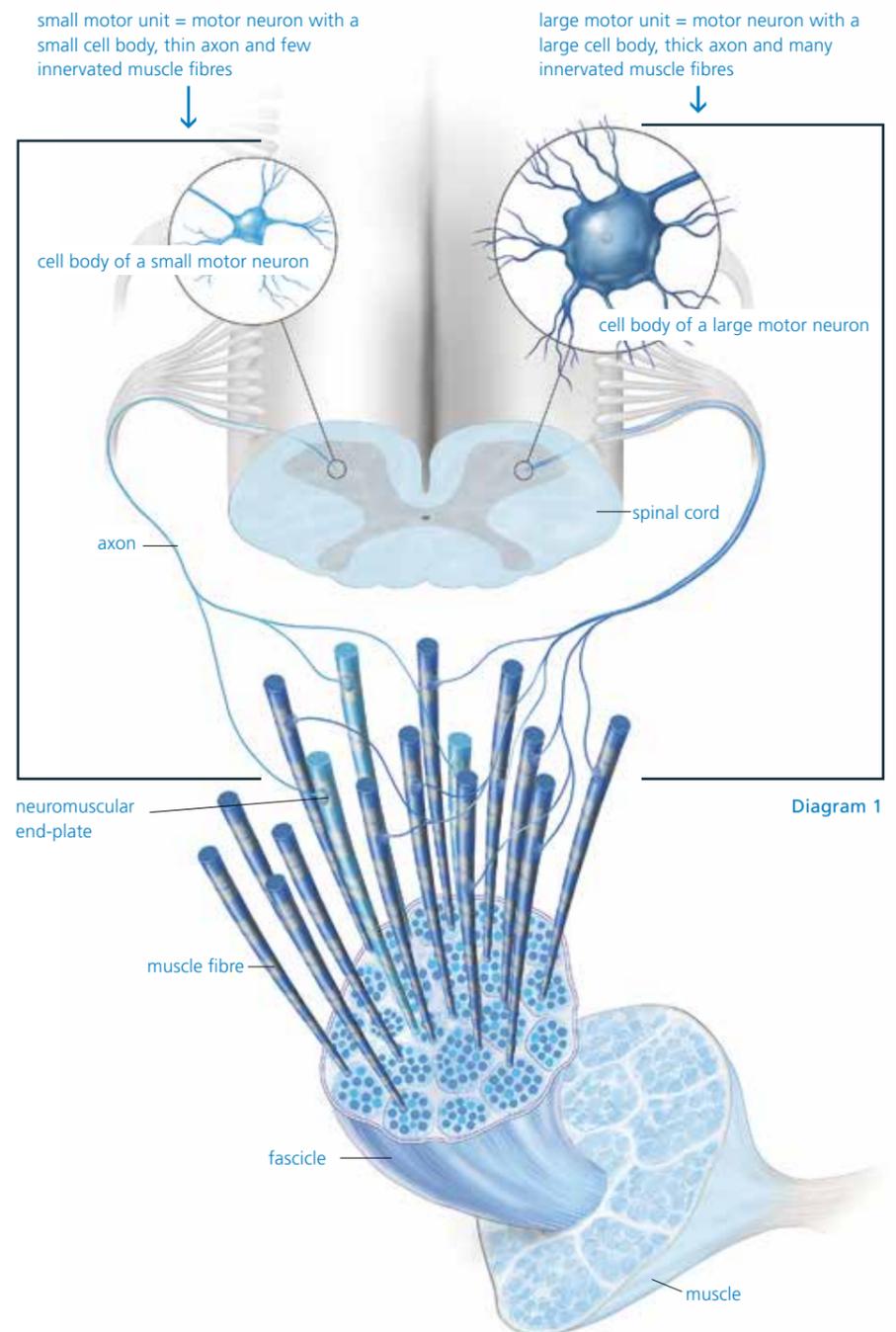


Diagram 1

The higher the impulse frequency, the higher the number of muscle fibres recruited and the higher the resultant strength.



HOW TO BE STRONG

The key to muscle growth is the intensity of the exercise. Our instructors will ensure that you train at sufficient intensity and so achieve your goal.

Basically the following applies:

- Train at an intensity that allows you to do an exercise correctly for 90–120 seconds before muscle fatigue.
- Do each exercise slowly and without a swing. It is not about the weight that you are lifting but the tension reaching the muscle fibres.
- Do each exercise until the muscle is fatigued irrespective of how long this takes, i.e. you can no longer lift and hold the weight despite exerting maximum effort. Always remember that the crucial training stimulus is the intensity!
- If a glance at the clock shows that you took 90–120 seconds to reach local muscle fatigue, keep the same training resistance at your next session and train with this weight until the muscle fatigues.
- If a glance at the clock shows that you took more than 120 seconds to reach local muscle fatigue, then increase the training resistance by 5% at your next session and start the process again.

Our qualified instructors will help you achieve your goal. Make an appointment now for your next check session. You are entitled to a check session every 20 sessions. Ask about our exhaustion experiment. We can guarantee surprises!

RECRUITING MOTOR UNITS

The key to muscle growth is intensity, i.e. the combination of resistance and time under tension. This is because it is essential to recruit and exhaust all muscle fibres.

If you compare the cross section of an untrained muscle and that of a trained muscle (Diagram 2), you will see that the untrained muscle is narrower with only a few visible muscle fibres. In contrast, the cross section of the trained muscle is wider with more visible fibres. This is the result of muscle adaptation. For this to happen, our central nervous system has to activate as many fibres as possible in the muscle used for a specific exercise. And not only that! We must continue this exercise until all fibres are exhausted.

SO HOW DOES THAT WORK?

Look at the motor units in Diagram 1. They can be divided into three groups:

- **Small motor units (S Type/slow fatigable):** The cell bodies of the motor neuron are small and the axons are thin. They only innervate a few Type 1 muscle fibres. These are the slow twitch fibres that produce little strength but in contrast are highly resistant to fatigue.
- **Medium motor units (FR Type/fast fatigue resistant):** The cell bodies and axons of the motor neurons are somewhat thicker; they generate strength quickly and are relatively resistant to fatigue.
- **Large motor units (FF Type/fast fatigable):** The cell bodies of the motor neurons and axons are large and thick. They tend to activate large numbers of Type 2 muscle fibres, i.e. the fast twitch fibres that generate high strength in a short time but fatigue quickly.

WHAT DOES THAT MEAN FOR YOUR TRAINING?

1. Whereas minor exertion is enough to recruit the small units, we only use the large units if the stimulus is high enough. In other words, to activate all motor units, we need to maximise the level of exertion for each exercise.
2. Motor units are recruited in ascending order: When we do an exercise, the small motor units work first. As we tire, larger and then larger motor units come into use in order to maintain the strength.
3. The fatigue process lowers the muscle's so-called tonic recruitment threshold. This means that if we carry on with the exercise, we are still using the motor units but the strength produced is less.
4. Experience has shown that a time under tension of 90–120 seconds per exercise exerts a strong stimulus on a muscle. The training resistance must be high enough to ensure that all muscle fibres are completely

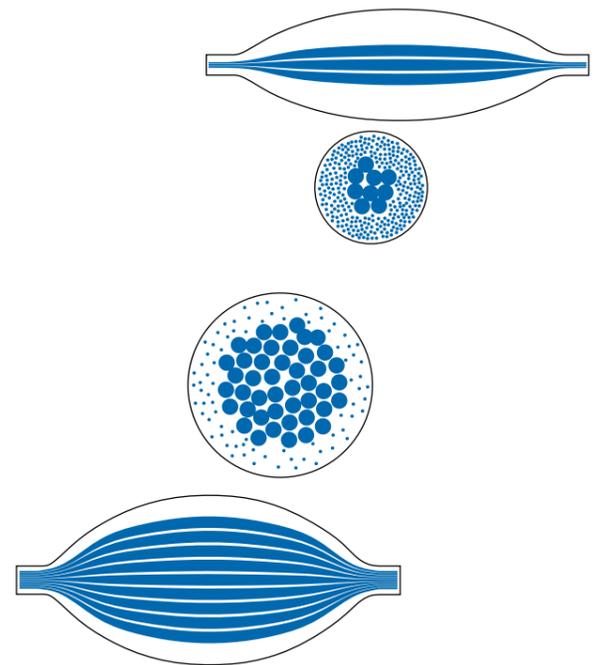


Diagram 2: untrained muscle (top), trained muscle (bottom)

exhausted within this period. In that case, the motor units are active for long enough to activate the process of muscle growth.

FIT FOR ACTIVITY

Spring at last! For many that means more physical exercise – whether to spruce up the home, terrace or garden or to walk, run or cycle. In this article, we explain why it's the right time to invest just 30 minutes twice a week in strength training.

INCREASE PHYSICAL FITNESS

Correct training improves the coordination between nerves and muscle fibres even after a short time. In addition, it increases the volume of muscle fibres; this is because muscle protein is created and deposited in the fibres. The neuromuscular adaptations significantly increase our strength and vitality. In addition, scientists have concluded that the acute metabolic and molecular reactions to strength training done to the point of temporary muscle exhaustion are no different from the reactions to traditional stamina training. In other words, if we train intensively we can significantly improve our cardiovascular fitness. The result is that we fatigue less quickly and remain fitter for longer during daily physical activities or sport.

ELIMINATE MUSCULAR IMBALANCES

Many people have muscular imbalances because they exert a load on only one side when doing daily activities or playing a sport. We are talking here of an imbalance in the relative strength of individual muscles; this results in postural problems or strains, which in turn can cause symptoms such as back pain. Often the symptoms are such that they limit our participation in sport or other activities, forcing us to give up prematurely. Strength training prevents or corrects such problems. This allows us not only to carry on with our daily activities but also to increase our sporting performance.



MINIMISE INJURIES

All-round muscle strength acts like a natural corset and reduces the risk of symptoms of a strain or injury. For example, the trunk muscles, particularly the back extensors, are the muscles that stabilise the spine and protect its structures.

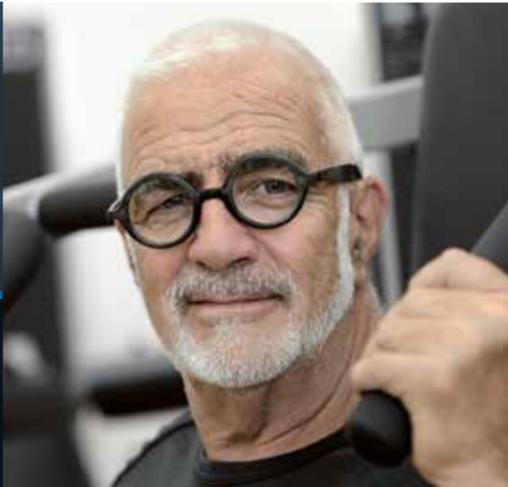
Bones and tendons also benefit from intensive strength training making them more resilient – albeit it takes a little longer. However, it's worth it: A review by the Danish scientist Dr Jeppe Bo Lauersen found that strength training could significantly reduce sports injuries: acute injuries as well as those caused by overuse. Overuse injuries could even be reduced by almost a half.

IMPROVE COGNITIVE FUNCTION

Strength training has a positive effect on the entire organism – including the brain. If the muscles are active, they produce messenger substances that communicate with other organs and tissues. The Danish muscle researcher Dr Bente Klarlund Pedersen gave them the name "myokine". One such myokine is the growth factor BDNF ("brain-derived neurotrophic factor"). BDNF has an effect on the formation of new neurons and synapses in the brain, for example. In addition, it can protect them from degeneration and can enhance communication between individual neurons. This possibly improves cognitive function. In short, training does pay off: It equips us for life's minor and major challenges and improves our sporting performance.

WERNER KIESER'S CORNER

SUCCESSION



It is not easy to find a successor. Nor is it an easy matter to let go of a life's work after 50 years. In this case, however, everything felt just right and so at the start of the year, my wife and I sold

Kieser Training to our long-standing CEO Michael Antonopoulos and fellow Board member Nils Planzer. I will remain as mentor and provider of ideas and my wife will take over my role as Chair of the Board.

Succession arrangements are an important step. They enable us to secure the continuity of Kieser Training. I am 76, my wife 57 and we have no successor in the family. In Michael Antonopoulos, we have found the ideal successor. He represents a younger generation and has genuinely embraced the Kieser Training concept. He has run the company successfully for many years and has the trust of staff. Nils Planzer is an entrepreneur in the best sense of the word: competent, rational and with a social conscience. We are confident that with this arrangement we can guide Kieser Training to a successful future.

Everything is in place, the most important of which is the product – not only is it a good product but it has enormous potential.

The development of Kieser Training was an exciting time and I am pleased that I

launched it whilst still young. I am grateful to you our customers. Without you, Kieser Training would not exist. Secondly, I am grateful to our staff and in particular those critical spirits who corrected or contradicted me. I have also had good mentors albeit I only realised this in hindsight. Not forgetting, of course our franchisees; they had the courage to become entrepreneurs and to enter into a cooperation with us. Finally, there were some times when I was just lucky.

I neither regret the past nor do I worry about the future. It is only the present that is real.

With that in mind thank you for 50 strong years and here's to the next 50!

Werner Kieser

LIFE IS FOR LIVING

Ushuaia, Argentine: Alexander Eischeid stands on the shores of the Antarctic Ocean, unscrews a small container and says "I have long dreamed of this moment". He then pours the contents into the sea – a few drops of water from the Arctic Ocean collected at the northernmost point of Alaska united in a symbolic act with the Antarctic Ocean at the southernmost point of South America. "It's done" he shouts announcing his jubilation for all to hear. With a touch of defiance, Alexander – born and bred in Cologne, also adds: "What the Golf Stream can do so can I."

For Alexander Eischeid, 39, these few drops of water capture the spirit of a dream realised: Riding a battered old Vespa, once used by the Spanish postal service and which Eischeid lovingly calls Elsi, the master carpenter rattled his way from the North to the South of the American continent. The adventure, which lasted 22 months, took the two of them through 19 countries, across 15,000 foot Andean passes and a total of 45,000 miles. They traversed forests and deserts, deep valleys and salt lakes. Hitching a lift on a sailing boat, they even crossed the sea – quite a challenge for both driver and his overladen companion. "It certainly wasn't a cushy holiday!" He calls himself a "tough dreamer" and indeed: Alexander Eischeid is someone who works hard to make his dreams come true.

For Eischeid, solo travel on the Vespa was the embodiment of release and freedom. "I had no need to consult anyone but could do things on the spur of the moment. Elsi was the ideal means of transport for people quickly realised that I was travelling on a tight budget. That opened hearts and homes." And so by the end of his journey, it was not the stunning scenery or the diverse wildlife that had impressed him most but the people he had met. "I was overwhelmed by the willingness to help and the warmth of people I met. The poorest of the poor shared what they had with me.



For example, a fisherman in Mexico; on the day I met him he had only caught one fish. I had eaten up my supplies and was unable to buy more. He shared that fish with me and said: If I eat the fish on my own, I alone will be satisfied. If we both eat it, we will both be satisfied." Eischeid sums up his journey with the words: "Life is for living. Dreams are for realising. They widen our horizons and open our hearts."

"Dreams are for realising."

Alexander Eischeid

IMPRINT

Reflex is published four times a year, including online. Stay informed! To subscribe to Reflex visit kieser-training.com

PUBLISHER / COPYRIGHT

Kieser Training AG
Hardstrasse 223
CH-8005 Zürich

CEO

Michael Antonopoulos

EDITOR

Claudia Pfülb, reflex@kieser-training.com

EDITORIAL OFFICE / TEXT

Tania Schneider
prschneiderei.de

TRANSLATIONS

SUE COLES

PROOFREADING

Dr Philippa Söldenwagner-Koch
lektoratbilingual.de



facebook.com/
KieserTrainingGlobal

LAYOUT

Naef - Werbegrafik GmbH
naef-werbegrafik.ch

PRINT

Mephisto Werbung

PICTURE CREDITS

P. 1, photo: © Severin Jakob
P. 2 and 3, illustrations: © Holger Vanselow
P. 4, photo Alexander Eischeid: © Verena Meier Fotografie

KIESER TRAINING