

Obituary

Martin Runge (1949-2021)

Rainer Rawer^{1,2}, Jörn Rittweger^{3,4}, Yannis Dionyssiotis^{5,6}, Eckhard Schönau^{7,8,9}

¹Stratec Medizintechnik GmbH, Germany;

²Novotec Medical GmbH, Germany;

³Institute of Aerospace Medicine, German Aerospace Center (DLR), Cologne, Germany;

⁴Department of Pediatrics and Adolescent Medicine, University Hospital Cologne, Cologne, Germany;

⁵Spinal Cord Injury Rehabilitation Clinic, University of Patras, Greece;

⁶Laboratory for Research of the Musculoskeletal System, University of Athens, Kifissia, Greece;

⁷University of Cologne, Faculty of Medicine and University Hospital Cologne, Department of Pediatrics, Cologne, Germany;

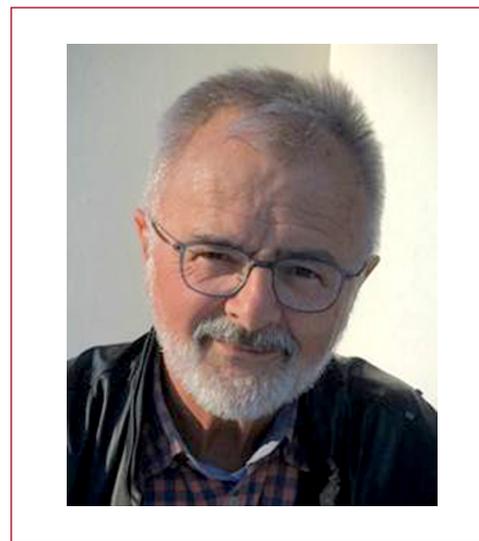
⁸University of Cologne, Centre of Prevention and Rehabilitation, Cologne, Germany;

⁹University of Cologne, Cologne Center for Musculoskeletal Biomechanics (CCMB), Cologne, Germany

Martin Runge was a doctor by heart and soul. He did whatever he could for his patients, and he always focused on their well-being. On the one side he was always on the top of scientific knowledge while at the same time he knew when to act pragmatic. As a surprise for all of us he left us on the 5th of January 2021.

Martin was born in Brilon in the German region Sauerland and passed most of his childhood and youth in the City of Bochum. After high-school he studied catholic theology at the Ruhr-University Bochum and at the Eberhard-Karls-University Tübingen. However, after graduation he was in doubt whether being a priest obeying celibacy should really be his life path. After he had found the answer was 'no', he enrolled in the medical school at the University of Bochum in Bochum, from where he graduated in 1980. He then joined the department of physiology at Bochum University, where he received his PhD in the field of neurophysiology. Martin then underwent clinical specialty training in psychiatry, internal medicine and surgery at the hospital in Berlin Moabit. Later in his life, he would recognize that stage as his personal "gate to life". In 1985, he opened his first practice, and he further specialized in geriatrics and rehabilitation medicine in parallel.

From 1991, Martin Runge was the medical director of the Aerpah geriatric hospitals in Esslingen and in Ilshofen, where he soon recognized the importance of age-related loss of personal autonomy¹. Hence, with support from Gisela Rehfeld, he extended his acute geriatric clinic by a division for geriatric rehabilitation as well as a mid-term nursing home for his patients. This way Martin could significantly help patients discharged from the acute-geriatric clinic towards a self-contained living in their habitual environment. This made him a pioneer for a problem which seems to be even more



important these days. Also, he was convinced that the end of organ-based medicine had been reached, which turned out to be a correct prophecy and a groundbreaking input for one of the authors (JR) – current developments in inter-organ interactions prove so many of Martins arguments, and one must ask when people will start to regard the body as a true network.

His position as a medical director allowed Martin to engage in research again in parallel to his clinical work. He started with the clinical observation that the end of life is typically announced by gait and movement disorders. As a consequence, he founded the *Mobility Clinic* in Esslingen together with Mrs. Resniceck, who took care of geriatric assessments and of geriatric exercise intervention. Based on his personal observations during his professional life as

well as on his profound literature knowledge (after all, as a theologian he knew how to read) he published the book *Gehstörungen, Stürze, Hüftfrakturen* in 1998 (gait disorders, falls and hip fractures)². That publication immediately made him Germany's no. 1 expert for this essential topic, and he used his Mobility Clinic to systematically acquire insights into the research topic he was so interested in.

In the same year (still 1998) he initiated the PISA project (parameters of instability and falls in the elderly) which provided numerous results like the reliability³ as well as the validity⁴ of jumping Mechanography. To that purpose, he was using a concept and measuring system that his friend Hans Schiessl had provided, but for which Martin coined the name 'mechanography'. Breeding over the force-time plots for hours, Martin Runge was hatching new test by the week to extract quantitative information only in jumping but also in hopping, but also during the chair rise test, in trunk-rise, stair climbs and many situations that test for typical mobility limitations at old age. Of course, Martin being Martin, he had to leave the technical implementation to one of the authors (RR), and he was joyful as a child at Christmas when he could first use new features of the analysis software. The Esslinger Fitness Index (EFI), another invention of Martin's, has become a standard part of mechanography. That index provides the age- and gender-adjusted values for the peak jumping power in a movement-competent population – with a special emphasis on 'movement-competent' as opposed to the 'average' population which also includes the 'incompetent'. Back in those days, this was a ground-breaking concept for reference data especially in geriatrics and an important differentiation which he always insisted on, because being a geriatrist and a rehabilitation physician for him movement-competence was an essential element. This concept being in contrast to those of most of his colleagues, researchers and friends inspired one of the authors (JR) in 1999 to start to have a close look on so called masters athletes, and the first contact with this group was again in the Mobility Clinic.

We should also not forget that Martin put a lot of effort into movement-therapy. In his clinic he started very early to use side-alternating vibration therapy (another idea and device of his friend Hans Schießl) in parallel to traditional physiotherapy – and he showed the effectiveness in studies⁵ and, in his last year, had the chance to write a chapter on this topic in a book together with JR⁶.

As a person, Martin was warm-hearted, empathic, joyous and positive, not only as a physician but also as a friend. He wanted and had to fully understand all things which needed to be diagnosed and treated. He had the attitude as well as the analytic mind of an original scientist – and the formal logical thinking trained during his theology studies probably even further promoted these abilities. And again, a holistic perspective was of utter importance for him. In his appreciated topic 'osteology' for example, it was not good enough for him to understand the chemistry, physiology and mechanics of bone: For him bone and resulting fractures –

as he experienced them as a geriatrician – were only one aspect of the complete system of locomotion. He understood locomotion as an important and essential concept of life.

Those who have witnessed one of his gorgeous lectures will remember how he could vividly anchor facts into our brain, for example when he postulated that the "Grim Reaper" could not walk faster than 1 meter per second, and to the puzzlement of his audience he could even show scientific proof⁷. His therapy concept as a consequence: The 5 Esslinger! Science was there to be implemented as simple and straight forward practical concepts! His lectures were not just lectures, they were real events for all senses. He analyzed, discussed, argued, preached his opinions and beliefs using his voice, gestures, his body and athletic performances for which he asked his audience to participate, to prove his presented concepts. Again, very typical for his holistic approach. His lectures were memorable experiences – just as the person Martin Runge himself.

Martin Runge was always authentic. His most important guideline was his conscience. And for him this clearly dominated any rule, etiquette and convention. Therefore, when he was convinced of something he would fight for or against it with verve, stamina and all his energy.

An Obituary only listing dates, contributions and facts could never embrace him since it would lack the wonderful, valuable, convinced and convincing, life-affirming and impressive person of Martin Runge as a wonderful physician, colleague and friend.

Martin, your life has been a beacon for us and probably many others.

P.S.: Who would like to see Martin once again "life" can still watch his youtube channel – especially recommended: The return of Spring (Die Rückkehr des Frühlings).

References

1. Runge M.J.D.A. Wenn Hochbetagte aus dem Leben fallen. 2000(4); p. 286-294.
2. Runge M. *Gehstörungen, Stürze, Hüftfrakturen*. 1998; Darmstadt: Steinkopff Verlag.
3. Rittweger J, Schiessl H, Felsenberg D, Runge M. Reproducibility of the jumping mechanography as a test of mechanical power output in physically competent adult and elderly subjects. *J Am Geriatr Soc* 2004;52(1):128-131.
4. Runge M, Rittweger J, Russo CR, Schiessl H, Felsenberg D. Is muscle power output a key factor in the age-related decline in physical performance? A comparison of muscle cross section, chair-rising test and jumping power. *Clin Physiol Funct Imaging* 2004;24(6):335-340.
5. Runge M, Rehfeld G, Resnick E. Balance training and exercise in geriatric patients. *J Musculoskelet Neuronal Interact* 2000;1(1):61-65.
6. Runge M. and Rittweger J. Whole-Body Vibration in Geriatric Rehabilitation, in *Manual of Vibration Exercise and Vibration Therapy*. Springer; 2020, p. 255-268.
7. Stanaway FF, Gnjjidic D, Blyth FM, et al. How fast does the Grim Reaper walk? Receiver operating characteristics curve analysis in healthy men aged 70 and over. *BMJ* 2011;343:d7679.