

Press release

Preventing ligament tears with advanced technology

How state-of-the-art measurement technology helps professional athletes get back on their feet faster

Sport is not always healthy: according to the VBG Sportreport, nearly 80 percent of professional soccer players sustain injuries at least once per season. In order to speed up rehabilitation, sports physiotherapists use state-of-the-art measurement technology for evidence-based therapy. Performance tests with force plates can also help prevent injuries by allowing physiotherapists to recognize weaknesses early on.

Injuries always put a professional athlete's career on hold, but athletes who start training again too soon risk incurring another, possibly more serious, injury. Specially trained sports physiotherapists such as Markus Vatter, owner of the [Physioathletics](#) center, work to prevent this. As well as Swiss gymnasts from the Eastern Switzerland Regional Training Center, he treats athletes from other disciplines such as martial arts and ball sports.

Extremely accurate measurements for prevention and recovery

Professional athletes go to Markus Vatter for more than just recovery from an injury. They also consult him for prevention and to optimize their training routines. The standards are high: "In the field of sport, physiotherapists are increasingly adopting what is known as evidence-based therapy," Markus Vatter explains. "This means that we don't just rely on our experience and our knowledge, we also include actual measured values in order to further optimize therapy programs based on the needs of the patient. We can then use valid figures to see whether or not the treatment is having the desired effect. In professional sports, it's often the smallest details that make the difference between victory and defeat, or between enhanced performance and overexertion."

Advanced technology for professional athletes

These details can be measured by force plates from Kistler – the measurement technology expert. The Swiss company manufactures special sensors in which a quartz crystal produces a small but precisely measurable electrical charge when a force is applied. For example, if an athlete exerts force on the force plate by jumping up and down on one leg, the sensor can detect the slightest differences in strength between the left and right legs. This lets Markus Vatter see whether an athlete is still favoring one leg after an injury, for example, or if one leg has much stronger muscles than the other. "A certain amount of difference is normal – we all have one dominant side. However, if the difference

is greater than 10 percent, this can indicate an injury that is not fully healed or other problems. We can compensate for this difference with special exercises,” he explains.

Making provisions for emergencies

Healthy athletes also step onto Vatter’s force plate. There are two reasons for this: it allows Vatter to discover further scope for improvement and the data also provides a personalized performance level reference for the healthy athlete. If this athlete gets injured, valid comparison data is available for rehabilitation therapy. This makes it possible to assess precisely when athletes have regained their training level prior to the accident.

Tailoring physiotherapy and training precisely to the patient or athlete with highly sophisticated measurement technology is becoming increasingly popular. More and more sports clubs and amateur athletes are using evidence-based therapy to optimize their training and convalescence. This measurement technology could soon be used for non-athletes as well – for example, it could help to minimize the risk of elderly people falling after an injury, or to track the recovery process in patients suffering from back problems. “Whether or not an individual is a professional athlete, the ability to see their training successes and recovery progress in black and white offers every patient a sense of security and allows athletes to feel confident before their next game or match,” Markus Vatter concludes.

Image material (please name the Kistler Group as the picture source)



Whether for training or therapy: with force plates from Kistler, even the smallest details – such as instabilities in the leg muscles – can be detected.



The measurement data provided by force plates from Kistler allows athletes to optimize their performance in a targeted manner.

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About the Kistler Group

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