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Expert Report: XCO-Trainer

It has been long since accepted not only in the world of competitive sports that in addition to the training of the sports-specific activity, a comprehensive, athletically challenging training program is required. This so-called cross-training is essential to building a proper foundation for muscular and overall endurance performance necessary to success in the specific sports activity.

In these days of ever-increasing time constraints, accompanied by constantly climbing performance demands, both competitive and amateur athletes are confronted by the problem of how to formulate a more effective training regimen. Particularly affected by this necessity is cross-training, which in face of the dominance of the primarily performed main sports activity is often neglected.

The XCO-Trainer offers all endurance athletes, whether competitive or amateur, the opportunity – in addition to conventional methods – a cross-training module of the highest efficiency. Utilization of the XCO-Trainer is targeted both towards prevention and rehabilitation of deficiencies in the musculoskeletal- and locomotive-system and should therefore only be used after consultation and under professional medical supervision.

The key to a solid foundation in any competitive sports activity, whether swimming, biking, running, triathlon training or speed skating, lies in the development of functional stability of the musculoskeletal system, in addition to mastery of the sports-specific skills. Muscles of the torso and extremities developed in this manner not only guarantee optimal muscular function to be called upon during the sports-specific activity, but also actively assist in the prevention of sports-related injuries due to overtraining. Particularly in meeting the challenges of endurance competitions, which require exacting body positions and complex motion sequences under maximal strain, the importance of the musculoskeletal system's stability reserves cannot be underestimated as a factor for the promotion of safety and active protection against injuries.

The fluxionary mass and the resultant "reactive impact" of XCO-Trainers activates agonist and antagonist muscles simultaneously. This leads to a comprehensive strengthening of the support muscles of the locomotive and musculoskeletal systems, while guarding against overworking of individual muscle groups, as is so often the case with other cross-training methods. With XCO-Training, the respective opposing muscles

are deliberately integrated into the workout. This also forms the basis for improved coordination.

Movements of the body in the sagittal plane stimulate in particular the recti abdominis and the quadrati lumborum muscles. The autochtone back muscles as well as transverse abdominal and gluteus maximus muscles also aid in functional stability. A diagonal motion with the XCO-Trainer executed in front of the body additionally trains the obliqui externi and interni as well as the transverse abdominal muscles with particular emphasis. By incorporating hip and knee movements into the training, it is possible to include the large glute-, hip and upper leg muscles in the workout. The guiding of the XCO-Trainers with the hands automatically incorporates the shoulder-and-neck regions as well as the shoulder-, upper arm- and chest musculature into the training, and not only the power but also the stabilizing capacity of these muscle groups are activated in muscle chain sequences.

This becomes all the more meaningful when it is considered that both active muscle strength and stability of the back and torso are key to success in the above-mentioned sports. If a compromised distribution of forces exists in the torso region, transference of strength from the upper and lower extremities of the body for the production of power is weakened. This results in a less effective sequence of motions, which additionally leads to premature exertion and the risk of chronic overtraining ("burnout").

Additionally, through the training of the combined muscle groups and the activation of the peripheral components of the musculature, the organism's oxygen intake is augmented. Not only does the additional musculature have a stabilizing effect, but it also has a significant effect on the buffering functions for the acid equivalents (lactates) involved in endurance- and competitive sports. These additional muscle systems do not only serve as stabilizing factors but also provide an effective buffer for the lactates produced in endurance-training and -competitions.

In addition to the physiological benefits of cross-training, psychological effects must be considered as well. Only if an athlete is enthused with his training will he pursue it regularly and actualize it. With the XCO Trainer and its many possible variations, there are no limits to which trainers and endurance athletes can effectively and comprehensively train for functional stability and coordination, whether alone or in a group setting. XCOs come, so to speak, with a built-in guarantee of high motivation.

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