

The New Tools of the Trade

HOW THE COREX AND THE ANKLE FOOT MAXIMIZER ARE HELPING OLYMPIC TRAINING.

BY **ROB WILLIAMS**
PHOTOGRAPHY BY **MARK WHITEHEAD**

NOT SO LONG ago, athletic conditioning was a field devoted to power squats, hang cleans, and other Olympic lifting moves. Depending on an athlete's particular sport, a coach might integrate activities involving items like medicine balls or box platforms for plyometric training, but weightlifting dominated the scene. Strength, after all, is an important factor related to performance in most sports.

Although there is a place for these lifts in the strength and conditioning program of any athlete, today's competitors are notably more sophisticated when it comes to training techniques. With the evolution of our knowledge and understanding of human performance, there has been a progressive change in the approach to athletic conditioning, including an increased emphasis on the function of the body as a single integrated unit rather than as a collection of individual body parts. Fortunately, this concept isn't completely new, which is why successful strength and conditioning programs have historically included compound movements requiring power and coordination of multiple body parts. At the same time, athletes are now encouraged to spend more time working on their flexibility, perfecting their posture, improving their balance, and developing greater core strength and stability.

Athletes like Tricia Smith, current vice-president of the Canadian Olympic Committee, are acutely aware of this evolution. As a four-time Olympian in rowing, Smith won silver at the 1984 Olympic Games in Los Angeles, as well as seven world championship medals and gold at the 1986 Commonwealth Games. "Training programs were relatively

straightforward when I was competing. We may have been advanced compared to what the average person was doing at the time, but it was nothing compared to the approach I see with today's athletes." Adds Smith, "The new tools and strategies available now are far more beneficial for maximizing performance, as well as for enhancing lifelong physical health."

In her own fitness training, Smith has recently been exposed to a new generation of conditioning products, including the CoreX, a unique training device developed by physiotherapists Alex McKechnie and Rick Celebrini, and the Ankle Foot maXimizer, or AFX, conceived by Vancouver chiropractor Dr. Jordan Myers. The underlying premise of both of these training tools is that you're only as strong as the weakest link in your kinetic chain. Strong legs or arms won't necessarily translate into power or athleticism during competition if you can't maintain core stability, or if your feet aren't able to provide an effective base of support. These devices allow practitioners, athletes, and the general public to effectively target comparatively weak or dysfunctional parts of the body.

When he's not at his current role as manager of medical services and therapy for the Vancouver Organizing

Committee for the 2010 Olympic and Paralympic Winter Games, Rick Celebrini is working with elite-level athletes, like NBA MVP Steve Nash, who travel to Vancouver from all parts of the world to work with him. Celebrini uses his CoreX product daily, and provides one to each of the professional and amateur athletes that he works with. "Alex originally developed the CoreX as a user-friendly version of the intricate cross-tubing system we use in the rehabilitation of athletes with pelvic and spinal conditions," says Celebrini.

Success with this approach to therapy for injured athletes has made these two Vancouver professionals among the world's most recognized and respected physiotherapists in the field of athletic movement and rehabilitation. This success has also given rise to a whole new approach to training healthy individuals and athletes. "Because of the unique configuration of the cross-tubing, as well as the proven exercises and movement strategies that make up the entire CoreX System, this product works to reinforce correct muscle sequencing and movement strategy in the body. It also encourages co-contraction of the core musculature for greater overall spinal and pelvic stability," according to Celebrini. ➤



AUTHOR ROB WILLIAMS DEMONSTRATING THE COREX.

Two of the underlying principles of the CoreX System involve establishing and maintaining a neutral spinal and pelvic position during movement, and the practice of developing a proximal to distal movement strategy. During any movement, the first muscles to engage in the entire body should be the deep core stabilizers, providing a solid foundation for the generation of forces necessary to complete the movement. The CoreX helps to encourage this in individuals who may not be functioning optimally. Celebrini adds, “Proper positioning and effective muscle activation are the basis for healthy, efficient movement in anyone, from elite athletes to the general public.” This is why the CoreX System is being used more frequently by conditioning experts looking to reinforce proper patterns in their athletes and clients. As important as core stability is to any movement, there are going to be problems if contact with the ground is compromised. Because many people, including athletes, have spent a good portion of their lives wearing shoes that are overly supportive of their foot structure, the intrinsic musculature of the feet may have become significantly de-conditioned. This lack of muscular strength can lead to a reduction in structural support and a general inability of the feet to maintain neutral alignment or to function optimally. Because the feet are the final body segment involved in any movement that involves locomotion, jumping, or pushing, foot weakness and structural collapse can dampen the power or force generated by the torso and legs, and compromise balance. When it comes to explosive power, this can be almost like trying to jump in sand.

The other major consideration with diminished foot function is the effect on overall body alignment. If one or both feet are unable to support the bodyweight, the resultant loss of neutral position can cause changes in the alignment of other joints in the kinetic chain, like the ankle, knee, and hip. This, in turn, can result in altered pelvic position, thereby creating undesirable curves and rotations through the spine.

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These kinds of complications are the primary reason that Dr. Myers developed the concept of the AFX. “I was treating so many patients whose feet just weren’t supporting their body, and I didn’t feel that prescribing orthotics was always the best answer,” says Myers. “My goal with the AFX was to help people to train the muscles in their feet just as effectively as we can train the rest of the body. There’s no doubt that improved foot function helps to reduce problems through the entire skeletal structure. It also benefits athletic performance.”

Numerous athletes and teams are already believers in the benefits of the AFX, including members of the Vancouver Whitecaps, the Seattle Seahawks, and NBA franchises. World-champion rower and Olympic gold medalist Ben Rutledge was impressed when he first tried the product. During an assessment at Performance Posture, it was discovered that Rutledge has a tendency to significantly over-pronate at his left foot and ankle, a condition that could have been potentially contributing to existing asymmetries throughout his body and which may have played a part in a number of past injuries. A discussion about his rowing form identified sport-specific positions that may be related to his altered foot function. Rutledge also identified limitations he’d noticed in his performance and movement mechanics that could have been attributed to this condition.



Rutledge appreciates that it’s important to address his foot function, but because the muscles in his left foot aren’t currently strong enough to support the six-foot, five-inch rower’s bodyweight, traditional weight-bearing, foot-strengthening exercises like toe raises aren’t effective. Other remedial exercises, like picking up marbles or pulling a towel with the toes, don’t allow for progressive conditioning of the specific muscles that need attention. “Immediately after my first session with the AFX, I could feel the muscles were doing a better job of supporting my left foot and ankle. I just felt straighter,” says Rutledge.

Rutledge will also be working with the CoreX to help address core muscle imbalances and faulty recruitment patterns identified during his assessment. “It’s hard to say if rowing is the cause of these issues, but once I learned to set and recruit my core muscles properly, the increase in my power and stability was undeniable,” says Rutledge.

Fortunately there are almost as many skilled professionals in the fields of athletic conditioning and rehabilitation as there are athletes and injuries to be managed. This should ensure ongoing development of advanced training tools and techniques for enhanced athletic performance and better physical health. ■

Rob Williams is a practicing kinesiologist and posture specialist in Vancouver, British Columbia, with a special interest in movement analysis and optimization.