



PBATS

NEWSLETTER

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Influence of Czech Techniques: A Historical Perspective

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As sports medicine becomes increasingly specialized, athletic trainers entrusted with the care of Major League Baseball (MLB) players constantly work to stay on the cutting edge of prevention, treatment and rehabilitation. Surprisingly, the Czech Republic, a country not known for baseball, has a rich history of integrated sports medicine approaches and methodologies helpful in rehabilitating elite athletes. The exposure of Czech methodologies has influenced many MLB athletic trainers.

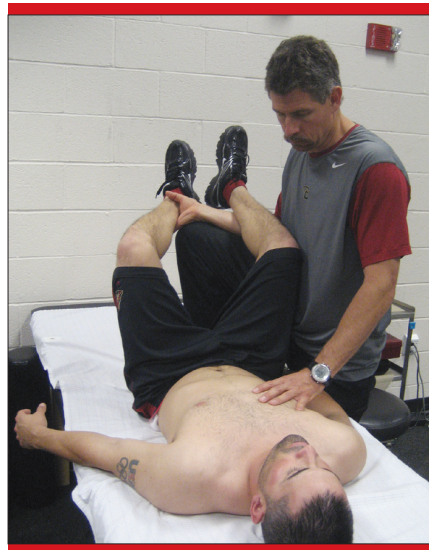
History of Czech Techniques

The emergence of Czech ideas within the United States is a direct result of the efforts of renowned practitioner Craig Liebenson, DC, owner of the LA Sports and Spine in Los Angeles. Several MLB teams are now using forms of the Czech methodologies in their programs as this rehabilitation innovation continues to increase in popularity.

As these practitioners have influenced many sports health professionals, a genesis of hybrid and integrated programs has emerged within athletics. This line of thinking has resulted in an integration of functional methodology within sports medicine and has positively influenced many elite athletes competing at the collegiate and professional levels.

Alternative Thinking

The Czech School of Manual Medicine has revolutionized the management of musculoskeletal pain (MSP). Beginning in the early 1950s, two neurologists, Karel Lewit and Vladimir Janda, took



Ken Crenshaw utilizes Czech techniques while treating a baseball player.

a keen interest in the rehabilitation of the motor system. They had a strong commitment to manual modalities and focused on a patient's medical history and physical examinations. While western medicine became progressively high-tech, Lewit and Janda realized the merits of osteopathy, chiropractic and neuro-rehab (e.g., PNF) as vital components of rehabilitation.

Lewit focused on joint dysfunction and the passive osteoligamentous structures, while Janda's research pioneered a new direction in the assessment of faulty movement patterns and muscle imbalance. To frame the object of their care, they coined the term "functional pathology of the motor system." This was in

contrast to medicine's growing emphasis on structural pathology as identified by myelograms, X-rays, CT scans and MRIs.

In a nutshell, Janda was one of the first individuals to realize that muscle imbalances seen in neurological diseases were present in orthopedic patients. For example, children with cerebral palsy (CP) have spasticity of flexors, adductors and internal rotators. Similarly, adults who suffer strokes have paralysis of extensors, abductors and external rotators. To that end, Janda proposed that orthopedic or MSP patients typically experience the presence of a postural syndrome, which includes a predictable pattern of tight and inhibited muscles. Janda was the first to name these postural syndromes (upper and lower crossed syndromes) and was the first to document the muscles that tended to become tight or inhibited.

Subsequently, Janda developed a treatment program incorporating post-inhibitory stretching techniques for the tight, postural muscles and sensory-motor balance training to facilitate and stabilize the inhibited chain of phasic muscles. Because sedentary lifestyles serve as the main promulgator of these MSP syndromes, reactivation through activity, such as increasing daily walking and reducing prolonged repetitive strain associated with excessive sitting postures, were recommended as preventive options.

Concurrent with Janda's efforts to focus rehab on the quality of movement (e.g., coordination, balance, motor control) rather than the quantity (e.g., strength,

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sets, reps, resistance), Lewit innovated new and gentler forms of manipulation. He defined the source of restricted mobility as a “pathological barrier.” Next, he extended this barrier concept from joints to other mobile structures such as muscles, fascia and even skin. Lewit refined methods from osteopathy and physical therapy making them more physiological. For instance, he showed how both respiratory and visual synkinesis could be utilized to enhance the “release” of tissue tension at the barrier.

A third Czech neurologist, Pavel Kolar’s work represents a new and powerful window to the central nervous system’s control of movement. It is grounded in developmental kinesiology with integration into manual medicine and reflex locomotion, whereas Janda’s emphasis was on how a sedentary environment pollutes our motor patterns and posture. These two complementary approaches give us an extremely powerful assessment and treatment approaches for subtle, motor control dysfunction that predisposes to

MSP and injury. Kolar has now shown how to intervene at the deepest possible level to activate neurally driven, functional muscle chains. Kolar has extended Vaclav Vojta’s (another Czech neurologist of Lewit and Janda’s generation) work from the neurologically impaired child to the healthy adult with MSP or the elite athlete. Kolar has shown how subtle neuro-motor deficits are genetically predetermined in as many as 30% of our healthy population including elite athletes. Using reflex techniques (Vojta’s Reflex Locomotion) developed for activating “hard-wired” normal patterns in CP children, Kolar has utilized these same methods to reboot the body’s stability patterns in sedentary patients or athletes suffering from overuse syndromes. This also helps speed recovery from injury, rehabilitate function and enhance performance.

Expanding Techniques

The Czech School of Manual Medicine’s influence on all modern research-

ers in the MSP field has been significant. Local, segmental treatments of individual muscle and joint dysfunction is still a common treatment of chiropractors, massage therapists, physical therapists, athletic trainers and other manual therapists. Thanks to the Czech clinicians, therapists are now beginning to look for the predictable patterns of dysfunction that link these individual tissues into functional chains. Janda’s work has had far-reaching diagnostic implications for focusing all clinicians on how to find the key chain of dysfunction. And, now due to Kolar’s applications that access the central nervous system program, optimal movement patterns are within the grasp of every clinician or therapist.

Acknowledgement

I would personally like to acknowledge Dr. Liebenson’s help in writing the history involved in this article and also thank him for opening my mind to Czech ideas.

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