

CONSERVATIVE TREATMENT AND SENSORIMOTOR CONTROL

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How to manage low back pain in the football player?

First of all we need to have a good diagnosis and a very good status survey. Then we have to have a good schedule and concept.

Pain disturbs and inhibits the regeneration. Pain reduces the flow of information from the sensors. Therefore the feed-forward-mechanism does not work at the highest level and shear forces at the beginning of movement in the segments and joints are a normal and logical consequence. Specifically, we are speaking about motor control deficit, which is the basis for experiencing more injuries more frequently.

Often we find a bad metabolism and for sure we find a paradoxical innervation. Some muscles are hypo-, others are hypertonic. To correct this is treatment. By the next step we have to stabilize the joints, this is a sensorimotor treatment and, if everything works, we can come back to training.

In 1990 an Australian research group (led by Hodges) discovered that small muscles near the spinal segments and joints – known as local muscle system – react significantly before the global muscle system and the ligaments stabilize

The activity of the local stabilizers depends on the performance of our sensorimotoric system. The information from the sensors on our skin, ligaments, muscles, joints, capsules and tendons define conditions for control and regulation with regard in stabilizing the spine segments and the joints, especially concerning the interaction between the local and global muscle stabilizers.

For example, immediately before shooting a football, the sensorimotoric system is responsible for activating the local muscle system in our back, not only low back, and the muscles in the nearby segments (vertebrate muscles - especially Multifidus and Rotator Longus and Brevis muscles). That means our body reacts first with the activation of the local muscle system to control segments and joints, immediately before movement.

For this reason, it is apparent that the conventional strength program for knees, shoulders, hips and the spine is only a part of training for prevention and performance development.

The latest knowledge of neuro- and muscle physiology has shown us that if the body is confronted with aggressive, fast and unstable stimuli, the local muscle system reacts and stabilizes the segments and the joints.

Another neuromuscular way of stabilization

Sling-training and Slack-training give us the possibility, based on the unstable vibrations of the ropes, to activate the local muscle system effectively. This is the base for stabilization training.

First starts the activation of the local system, then the training of the global (moving) muscle system follows.