

## CLASSIFICATION AND TREATMENT ALGORITHM FOR SPONDYLOLYSIS IN YOUTH SOCCER PLAYERS

**Mayer M**



Paracelsus Medical University, Salzburg, Austria; Spine Center, Schön Klinik,  
München Harlaching, FIFA Medical Centre of Excellence, München, Germany

In youth players, the annual incidence of spine injuries and back pain can reach up to 60 %. Besides soft tissue injuries and simple sprains and strains of the back and trunk muscles, there is a high incidence of pathologic changes mainly in lumbar functional motion units, which can lead to an indication for surgical treatment.

The most common and sometimes hidden pathology in youth soccer players is an acquired spondylolysis or a fatigue fracture of the pars interarticularis of the lumbar vertebrae (preferably L4 and L5). Besides genetic predisposition, abnormal loading of this part of the vertebra due to (functional) sagittal dysbalance is the most frequent cause.

Early diagnosis (Magnetic Resonance Imaging, Computed Tomography scan, X-ray) and staging is essential for successful treatment.

The treatment of stage I (acute spondylolysis) is immobilization in a brace and refrain from sports activities for 3-4 mos. Surgical repair of the isthmus in a minimally invasive technique is the treatment option in case of no healing after a maximum of 6 months bracing as well as in symptomatic stage II and III lysis. Clinical results are good and return to high-level football is possible.

If there is an association with a spondylolistesis or translational instability, spinal fusion might be necessary. In these cases, return to high-level soccer is uncertain.

In cases with mainly radicular symptoms, other options such as microsurgical decompression can be the treatment of choice.