

DIAGNOSIS AND TREATMENT OF LOW BACK PAIN

LOW BACK PAIN: NEUROLOGICAL AND NEUROPHYSIOLOGICAL DIAGNOSIS

Dr. Valeriu Culea

Department of Neurology, Medical University of Graz

Low Back Pain (LBP) is a common disorder, affecting nearly everybody at some point in adulthood and is associated with a distinct socio-economic burden and a high rate of accompanying psychosocial impairment (“yellow flags”). In order to initiate an adequate and effective treatment strategy it is crucial to detect the underlying pathology as early as possible and to differentiate between specific and non-specific LBP.

Precise medical history and neurological examination remain the gold standard in the diagnosis of the underlying process and should help to identify patients with serious conditions that require rapid further paraclinical evaluations (laboratory assessments, imaging studies, electrophysiology) or neurosurgical interventions (“red flags”). Surprisingly, a high proportion of LPB patients is primarily referred to radiologists for expensive imaging studies or to electrodiagnostics, without a prior clinical assessment.

Nevertheless, when indicated, nerve conduction studies and electromyography are valuable tools in the diagnosis of LBP despite high quality MRI-studies. In patients with inconclusive imaging studies electrodiagnostics could serve as a complementary tool, especially in preoperative evaluation. Further they are very useful in MRI-negative patients with lumbar sciatica or radicular syndromes, where electrophysiology can add exact information about the location and severity of the underlying pathological process.

The aim of this lecture is to provide physicians more detailed information about important aspects of neurological examination and electrophysiological studies in the assessment of LBP.