

13th International Conference on

NEUROLOGY AND NEUROSURGERY

June 19-21, 2017 Paris, France



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The diagnostic evaluation of the operated lumbar spine

The so-called failed back surgery syndrome (FBSS) is a common problem that often remains without a clear diagnosis. The diagnostic workout is complex and usually based on conventional X-ray films, MRI, CT and sometimes myelography and myelo-CT, especially if some mechanical device has been implanted. In the most part of the cases, an exact cause for low back pain and/or sciatic pain is hard to define and this can influence a correct therapy. The most important consideration is the difficulty to have a functional approach to the operated spine since the most part of the diagnostic procedures are made with the patient in rest position (supine). On the other hand metallic implants can interfere with MR and CT acquisitions. The only dynamic diagnostic procedure (orthostatic functional X-ray plain film) has known lack of precision. In last years, the possibility of functional studies in real or simulated orthostatism (orthostatic MR and axial loaded CT and MR) has led to a deeper comprehension of the mechanics of the operated spine, especially of the instrumented spine. In this lecture, the results of more than 20 years of experience with axial loaded CT and MRI will be presented. The axial loaded CT imaging could be the gold standard in the evaluation of the post-op lumbar spine, in particular when a mechanical device has been implanted.

Biography

Born in Urbino (PU), Italy, in 1955, is married with Maria Chiara and , has one daughter, Ginevra. Degree in Medicine and Surgery, University of Modena, 1980, board on Radiology, University of Modena in 1984, board on Neurology, University of Siena in 1994. He Patented the device, "Axial Loader" and development of neuroradiological imaging techniques known as " Axial Loaded - Computed Tomography - AL-CT " and " Axial Loaded Magnetic Resonance - AL-MR "for the in vivo biomechanical study of the spine in 1992. At present is Senior Assistant Radiologist at the Radiology Service, Ospedale S. Giovanni – EOC Bellinzona, Switzerland. He has published as Author and co-author many scientific publications, abstracts and reports in national and international journals. He also collaborated on several chapters on international treaties of Neuroradiology. Main interests are Diagnostic and Spinal non-vascular Interventional Neuroradiology, with special reference to CT and MRI, Biomedical applications of Virtual Reality," Biomechanics of the spine and joints. He is a Member of the Italian Association of Neuroradiology – AINR,- Full Member of the European Society of Neuroradiology - ESNR.

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