Background: The interbody fusion by extreme lateral approach (XLIF), is performed through a percutaneous allowing passage through the retroperitoneal space. All the procedure needs the help of a retractor which is neuromonitored. The exposure allows the direct visualization of the lateral side of the disc, facilitating discectomy and the placement of implants. The surgical results of this procedure have shown that it is a safe and reproducible technique. It has demonstrated the benefits of a minimally invasive procedure, with quick recovery and improvements in pain and function scales.

Objective: Analysis of the clinical and radiographic results of a homogeneous series made during two years in two Italian Orthopaedic Departments for the treatment of spinal diseases.

Materials and methods: From January 2008 to January 2009, 22 patients were underwent lumbar fusion by XLIF. In all the cases, the pre-operative diagnosis was degenerative disc disease with instability and radicolopathy. The levels treated were L2-L3 in 7 cases, 11 cases at L3-L4 and L4-L5 in 4 cases. In 11 patients a stand-alone interbody fusion was performed whereas in remaining cases other techniques of spinal fixation were used. Evaluation criteria considered the clinical and radiographic results with the help of pre-and postoperative Visual analogue scale (VAS) and Oswestry Disability Index (ODI).

Results: Patients were evaluated at a mean follow-up of 18 months (range 14-24 months). In one case we observed the subsidence of the cage in the lower vertebral body and in one case the cage was placed too back. About half of patients we found a postoperative temporary cruralgia recovered spontaneously. We observed an improvement on the VAS and ODI scale. The post-operative radiographs made at a distance of 3,6 and 12 months showed an excellent fusion.

Conclusion: The lumbar interbody fusion through XLIF is a minimally invasive technique and also very safe. This technique requires a long learning curve. It's a valid alternative technique preferable to use in elderly patients who could not deal with surgery heavy blood loss.