Reviewer's comment concerning "The influence of preoperative MRI findings on lumbar fusion clinical outcomes" (doi:10.1007/s00586-012-2244-9 Mladen Djurasovic, Leah Y. Carreon, Charles H. Crawford III, Jason Zook, Kelly Bratcher, Steven D. Glassman)

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The authors of this study address the important question, whether any of the well-known and accepted MRI parameters has a predictive value in regard to outcome.

In our daily clinical routine indication for surgery and the expected outcome are to a considerable degree based on the MRI findings in a particular patient. Therefore, the results of this study are of value.

The authors included 51 patients with 71 treated disc levels to investigate which of the well-known disc changes [disc desiccation, disc contour, presence of a high-intensity zone (HIZ) annular tear, presence of Modic endplate changes, disc height] has an influence on the 2-year outcome after lumbar fusion. Disc height was the only parameter correlated to outcome, with disc heights less than 5 mm showing the best improvement in the various outcome scores. This result is not surprising since most

spine surgeons would agree that advanced degenerative disc changes, if causative, benefit from fusion. On the other way round, the fact that patients with large disc height do not improve considerably is more interesting. This finding argues in favour of the non-fusion strategies currently under investigation.

In summary, I consider the paper an important approach for a better understanding of indications and outcome after lumbar fusion. However, due to the retrospective study design, the mixture of patients and the integration of patients fused at multiple levels, the results have to be interpreted with caution. Further studies focusing on well-defined patient groups need to be conducted.

Conflict of interest None.

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