Answer to the Letter to the Editor of Feng Li et al. entitled “A systematic review with meta-analysis of posterior interbody fusion versus posterolateral fusion in lumbar spondylolisthesis” by Xiaoyang Liu, Yipeng Wang, Guixing Qiu, Xisheng Weng, Bin Yu. Eur Spine J (2013): doi:10.1007/s00586-013-2880-8

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Dear Editor,

We thank Dr. Feng Li et al. for addressing our article [1]. We wish to respond to their questions as follows:

1. Random effects model is useful both in summarizing the data and in illustrating the different kinds of results, which one obtains from randomized and nonrandomized studies [2]. Meanwhile, we also evaluated clinical satisfaction ($I^2 = 0\%$, Fig. 1), postoperative back pain ($I^2 = 20\%$, Fig. 2), fusion rate ($I^2 = 0\%$, Fig. 3) and reoperation rate ($I^2 = 15\%$, Fig. 4) using fixed effect model and gained similar results. No significant difference was found for statistical data and graphs between fixed effect models and random effect models.
2. DerSimonian and Laird random effects model should be used to pool the data in evaluating fusion rate, blood loss, and operating time. However, DerSimonian and Laird method is not presented in Revman 5.0 software. When random effect models are chosen, DerSimonian and Laird method is automatically used for statistical

analyses in Revman 5.0 software. Even though M-H or IV method is shown in graphs, the actual method used in analyses was DerSimonian and Laird method.

3. It is difficult to perform a RCT in evaluating the effectiveness of surgical interventions. Randomization and blindness are not performed adequately in clinical trials. Observational studies are widely used to compare clinical effectiveness between different surgical procedures. We included four RCTs and five comparative observational studies aimed at giving readers comprehensive information. The level of evidence was mainly determined by RCTs. Nonrandomized controlled studies were complementary to the findings of RCTs. Because of inadequate randomization and blindness in RCTs, we mainly gave moderate level evidence. Subgroup analysis and sensitivity analysis indicated that heterogeneity may be from study design and different surgical procedures.

Thank you for your comments. Your remarks contribute to further, more accurate substantiation of our original results. We hope that our answers are satisfactory.

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Fig. 1 Clinical satisfaction of PLF versus PLIF for the treatment of lumbar spondylolisthesis. Fixed effect model was used for statistical analysis

Fig. 2 Postoperative back pain of PLF versus PLIF for the treatment of lumbar spondylolisthesis. Fixed effect model was used for statistical analysis

Fig. 3 Fusion rate of PLF versus PLIF for the treatment of lumbar spondylolisthesis. Fixed effect model was used for statistical analysis

Fig. 4 Reoperation rate of PLF versus PLIF for the treatment of lumbar spondylolisthesis. Fixed effect model was used for statistical analysis

Conflict of interest None.

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