

Biomechanics and Clinical Behaviour of Rotational and Translational Dynamic Plates

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We read with interest the article “Cervical Foraminal and Discal Height after Dynamic Rotational Plating in the Cervical Discectomy and Fusion” [1] showing that apart from clinical improvement after anterior cervical discectomy and fusion, with the use of rotational dynamic plates, the achieved height increases after surgery for both the disc space and the foramina were noticeably lost and they were down to preoperative measures at follow-up. This was, however, without any apparent clinical consequence. Interestingly, this finding seems to be similar to another study, where translational dynamic plates were used [2]. Regarding translational dynamic plates, there is the fear of their use leading to lordosis loss, but at least with ABC, even though there is a partial loss of gained lordosis (around 50%) after surgery, there is still a global lordotic gain, which may explain why changes in cervical angles did not affect the outcome.

Biomechanical evidence from *in vitro* studies showed similar load sharing for the two dynamic mechanisms (rotational or translational) [3,4]; however, from *in vivo* clinical experiences [5,6], the translational dynamic plates led to fewer pseudoarthroses and with faster fusion and better results than the rotational plates [7-9]. One possible

explanation could be, at least theoretically, that rotational plates may cause screw-bone interface weakening if the fusion has not been accomplished yet.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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