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## ACCEPTED MANUSCRIPT

A new cervical artificial disc prosthesis based on physiologic curvature of 1 endplate: A Finite Element Analysis 2 3 Cheng-Cheng Yu MD, Peng Liu MD, Da-Geng Huang MD, Yong-Hong Jiang MD, 4 5 Hang Feng MD, Ding-Jun Hao\* MD 6 Department of Spine Surgery, Honghui Hospital, Xi'an Jiaotong University Health 7 Science Center 8 No. 76 Nanguo Road, Xi'an, Shaanxi, 710054, China 9 10 \*Corresponding author: 11 12 Ding-Jun Hao, MD yccxiafeng@163.com 13 **Abstract** 14 15 Study Design. To build a new cervical artificial disc C3-C7 segment prosthesis, and 16 17 perform a biomechanical comparison between the new prosthesis and the Prestige LP prosthesis using a three-dimensional nonlinear finite element (FE) model. 18 19 **Objective**. To compare the biomechanical differences between the new cervical artificial disc prosthesis based on the physiologic curvature of the endplate and the 20 21 Prestige LP prosthesis after artificial disc replacement. Summary of Background Data. There has been no prior research on artificial disc 22

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