jove

Materials List for

Biomechanical Analysis of Adjacent Segments after Spinal Fusion Surgery Using a Geometrically Parametric Patient-Specific Finite Element Model

Yuming Wang[1], **Qianyi Shen**[2], **Chang Liang**[2], **Yanzhu Shen**[1], **Xiangsheng Tang**[1], **Ping Yi**[1]

[1]Department of Spine Surgery, China-Japan Friendship Hospital   [2]College of Mechanical and Electrical Engineering, Beijing University of Chemical Technology

Corresponding Authors

Yuming Wang

patrick.wang87@gmail.com

Ping Yi

13811758985@139.com

Citation

Date Published

January 19, 2024

DOI

10.3791/66247

URL

jove.com/video/66247

Materials

Name	Company	Catalog Number	Comments
Abaqus	Dassault	https://www.3ds.com/products/simulia/abaqus	Finite element analysis
AutoCAD	Autodesk	https://www.autodesk.com/products/autocad/	An Engineering Computer Aided Design software used to measure the ROM of different vertebral segment
CT scan dataset	China Japan Friendship Hospital		Dataset of an adult healthy male with no history of trauma, deformity or tumor of the spine (height 180 cm, weight 68 kg).The raw data were stored in Dicom 3.0 format with a pixel size of 0.33 mm and a layer spacing of 1 mm.
Hypermesh 2019	Altair	https://altair.com/hypermesh/	Mesh generation
Mimics Research 21.0	Materialise	https://www.materialise.com/en/healthcare/mimics-innovation-suite/mimics	Model construction