

Anterior cervical pseudarthrosis predictors

Along with [implant material](#), factors such as younger [age](#), active [smoking](#) status, and the number of operated levels were independent predictors of [fusion](#) failure. Given the [impact](#) of [nonunion](#) on [patient-reported outcome](#) (PRO), perioperative optimization of modifiable factors and [surgical planning](#) are essential to ensure a successful [outcome](#) ¹⁾.

Male sex, greater kyphosis at the level operated on, non-smoking, a greater neck mobility in right rotation, low disability on NDI, and older age were predictors of pain reduction and explained 30% of current pain intensity at follow-up. Higher educational level, non-smoking, greater kyphosis at the level operated on, a greater flexion mobility, greater right handgrip strength and lower current pain intensity were predictors of improvement, and explained 28% of the postoperative outcome on NDI. The most important predictor for postoperative pain intensity was the magnitude of the preoperative kyphosis. Preoperative pain intensity was the most important predictor for improved NDI. At follow-up about 70% of the patients still had deficit based on current pain intensity and NDI, and 44% had remaining dysfunction based on Odom's criteria. In conclusion, the multivariate analysis shows that male sex, non-smoking, greater segmental kyphosis and a low pain and disability level are preoperative predictors of a good outcome in ACDF. In addition, the study suggests the importance of other predictive variables than those studied for the outcome of ACDF ²⁾.

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Ryu WHA, Richards D, Kerolus MG, Bakare AA, Khanna R, Vuong VD, Deutsch H, Fontes R, O'Toole JE, Traynelis VC, Fessler RG. Nonunion Rates After Anterior Cervical Discectomy and Fusion: Comparison of Polyetheretherketone vs Structural Allograft Implants. *Neurosurgery*. 2021 Mar 17;nyab079. doi: 10.1093/neuros/nyab079. Epub ahead of print. PMID: 33733682.

²⁾

Peolsson A, Hedlund R, Vavruch L, Oberg B. Predictive factors for the outcome of anterior cervical decompression and fusion. *Eur Spine J*. 2003 Jun;12(3):274-80. doi: 10.1007/s00586-003-0530-2. Epub 2003 Apr 2. PMID: 12687444; PMCID: PMC3615504.

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Last update: **2024/06/07 02:56**

