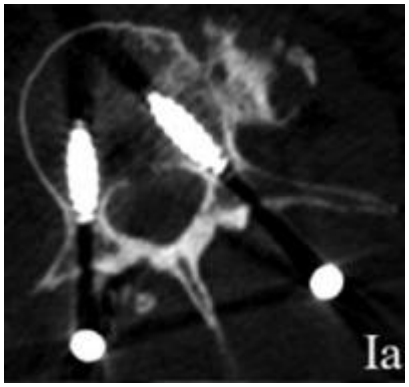
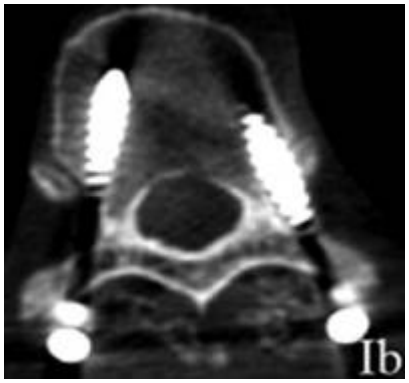
Zdichavsky grading system

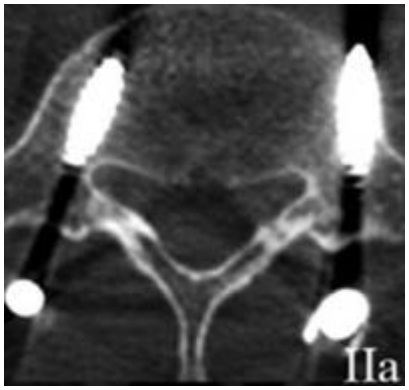
The 2 mm increment classification system seems to be the most widely accepted method for determining pedicle screw placement accuracy. All grading systems were based on imaging alone without taking into account the direction of the breach or patient's symptoms [1)].



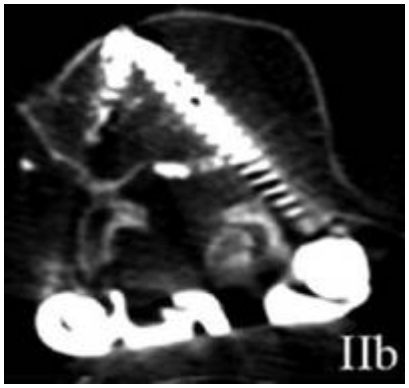
Zdichavsky grading system IA: ≥ 50% of pedicle screw diameter (PSD) within the pedicle & ≥ 50% of PSD within the vertebral body



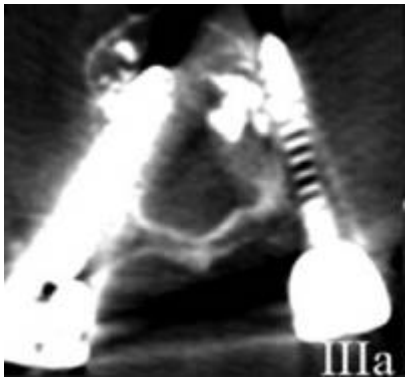
IB: > 50% of PSD lateral outside the pedicle & > 50% of PSD within the vertebral body



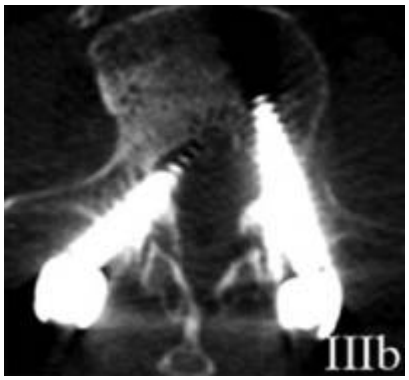
IIA: ≥ 50% of PSD within the pedicle & > 50% of PSD lateral outside the vertebral body



IIB: ≥ 50% of PSD within the pedicle & tip of PS crossing the middle line of the vertebral body



IIIA: >50% of PSD lateral outside the pedicle & >50% of PSD lateral outside the vertebral body



IIIB: >50% of PSD medial outside the pedicle & tip of PS crossing midline of the vertebral body [2) 3)]

1)
Aoude AA, Fortin M, Figueiredo R, Jarzem P, Ouellet J, Weber MH. Methods to determine pedicle screw placement accuracy in spine surgery: a systematic review. Eur Spine J. 2015 May;24(5):990-1004. doi: 10.1007/s00586-015-3853-x. Epub 2015 Mar 7. Review. PubMed PMID: 25749690.
2)
Zdichavsky M, Blauth M, Knop C, Graessner M, Herrmann H, Krettek C, et al. Accuracy of Pedicle Screw Placement in Thoracic Spine Fractures: Part I: Inter- and Intraobserver Reliability of the Scoring System. Eur J Trauma. 2004;30:234–40.
3)
Zdichavsky M, Blauth M, Knop C, Lotz J, Krettek C, Bastian L. Accuracy of Pedicle Screw Placement in Thoracic Spine Fractures: Part II: A Retrospective Analysis of 278 Pedicle Screws Using Computed Tomographic Scans. Eur J Trauma. 2004;30:241–7.

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