

PRIMARY STUDIES – ANTERIOR VERSUS POSTERIOR

I Study ID	II Method	III Patient characteristics	IV Intervention(s)	V Results primary outcome	VI Results secondary and other outcome(s)	VII Critical appraisal of study quality
<ul style="list-style-type: none"> Reference 	<ul style="list-style-type: none"> Design Source of funding Setting Sample size Duration 	<ul style="list-style-type: none"> Eligibility criteria A priori patient characteristics Group comparability 	<ul style="list-style-type: none"> Intervention(s) Comparator(s) 	<ul style="list-style-type: none"> Effect size Primary outcome 	<ul style="list-style-type: none"> Effect size secondary outcome(s) Effect size all other outcomes 	<ul style="list-style-type: none"> Level of evidence Dropouts Results critical appraisal
<ul style="list-style-type: none"> Jansson, Eur Spine J, 2006 	<ul style="list-style-type: none"> Consecutive prospective cohort No conflict of interest stated Single center (Sweden) Laminectomy (47), Posterior stabilization (212), Anterior stabilization (23) 2weeks, 3, 6, 9 months, 1, 2years 	<ul style="list-style-type: none"> January 1990 to December 2001 spinal metastases surgery 	<ul style="list-style-type: none"> Posterior (decompression and stabilization, CD, Isola, USS) Laminectomy (spinal cord or cauda equina was decompressed only) anterior decompression (reconstruction of the vertebral body, Z-plates, synergy rods) 	<ul style="list-style-type: none"> Survival (3m, 1y, 2y): Laminectomy: 0.57 0.28 0.20, Posterior stabilization: 0.63 0.26 0.13, Anterior stabilization: 0.78 0.48 0.30 	<ul style="list-style-type: none"> Not further specified for approach 	<ul style="list-style-type: none"> Prospective controlled 2 lost Unclear rationale for choice for surgical technique Confounding by indication can be present
<ul style="list-style-type: none"> Xu, J Neurosurg Spine, 2009 	<ul style="list-style-type: none"> Retrospective chart review The authors report no conflict of interest Single center (US) Anterior (22), Posterior (45), combined (24). Follow up unclear 	<ul style="list-style-type: none"> Past 7 years patients who underwent thoracic vertebrectomies metastatic tumors of the thoracic spine Exclusie: vertebrectomies extending into the 	<ul style="list-style-type: none"> anterior approach: thoracotomy / thoracoplasty. Thoracic reconstruction (cage/plate/screws/graft) posterior approach: transpedicular corpectomies, costotransversectomi 	<ul style="list-style-type: none"> (no survival reported) 	<ul style="list-style-type: none"> An anterior approach to vertebrectomy was associated with significantly less blood loss ($p = 0.02$) compared with posterior (1172 ± 1984 vs 2486 ± 1645 ml, respectively; $p = 0.03$) and combined ap-proaches ($1172 \pm$ 	<ul style="list-style-type: none"> Retrospective controlled Unclear rationale for choice for surgical technique Confounding by indication can be present

		<p>cervical or lumbar region, patients who underwent discectomies with only partial corpectomies at adjacent vertebral levels.</p> <ul style="list-style-type: none"> • anterior approach group had fewer spinal levels fused ($p < 0.0001$) compared with posterior ($p < 0.0001$) or combined ($p < 0.0001$) • no difference in preoperative neurological scores, (Nurick ($p = 0.18$) and ASIA ($p = 0.06$)). no significant difference in ambulation ($p = 0.85$). 	<p>es, laminectomies, and/or facetectomies, lateral extracavitary approach. Anterior spinal column reconstruction (cages /PMMA/chest tube technique/ pedicle screws/ lateral mass or laminar screws/ allograft and demineralized bone matrix)</p>		<p>1984 vs 2826 \pm 2703 ml, respectively; $p = 0.05$).</p> <ul style="list-style-type: none"> • Both anterior (81.8%) and combined (79.2%) procedures had a significantly higher association of chest tube placement compared with posterior approaches (20.0%; $p < 0.0001$ for both). • combined approach has best ambulatory improvement. Twenty-four patients (100.0%) were able to walk, representing a 25% improvement compared with preoperative ambulation. Compared with the posterior cohort (6 [25.0%] vs 2 [4.4%] improved, respectively; $p = 0.02$) and the anterior cohort (6 [25.0%] vs -1 [-4.5%] improved; $p = 0.006$) as well. 	
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