

**Table 3** Long-term outcomes in generally healthy patients: wedge resection vs. segmentectomy  
Ordered by resection extent, degree of confidence that results reflect the effect of the treatment, stage

First author, year (reference)	Study characteristics				Adjustment for confounding								Confid RE Tmt effect	Adjusted % 5 yr OS W vs. Seg			Adjusted % 5 yr LCSS W vs. Seg			
					Demogr F	CoMorbid	Hi stage	Time span	Q setting	Q surgery	Fav tumor	Statistical methods								# adj for/ Subsets
	Source	Yrs	N	Stage <sup>a</sup>											W	Seg	HR	W	Seg	HR
Wedge resection vs. segmentectomy																				
Smith <sup>n</sup> 2013 (63)	SEER	98-06	3,525 <sup>n</sup>	cIA1,2								PA, PQ, PM	7/2	M	-	-	1.19	-	-	1.22
Smith <sup>n</sup> 2013 (63)	SEER	98-06	3,525	cIA								PA, PQ, PM	7/2	M	-	-	1.23	-	-	1.32
Koike 2013 (64)	Japan ×1	98-09	328	cIA								MV	15	M	-	-	-	68 <sup>d</sup>	91 <sup>d</sup>	3.18
Cao 2018 (36)	SEER	04-13	252 <sup>b</sup>	cIA1								PM	11	L	76	74	1.05	83	91	.75
Cao 2018 (36)	SEER	04-13	852 <sup>b</sup>	cIA2								PM	11	L	64	72	1.34	75	85	1.65
Cao 2018 (36)	SEER	04-13	440 <sup>b</sup>	cIA3								PM	11	L	48	53	1.17	62	69	1.25
Zhang <sup>o</sup> 2016 (65)	SEER	98-12	3,391	cIA								PA	8/2	L	-	-	1.15	-	-	1.09
Zhang <sup>p</sup> 2016 (65)	SEER	98-12	1,949	cIA								PA	8/2	L	-	-	1	-	-	.92
Fan 2020 (47)	SEER	04-15	1,026	cIA1								MV	5	VL	71 <sup>d</sup>	76 <sup>d</sup>	1.42	-	-	-
Dai 2016 (48)	SEER	00-12	981	cIA1								MV	6	VL	68 <sup>d</sup>	71 <sup>d</sup>	1.08	83 <sup>d</sup>	81 <sup>d</sup>	.93
Dai 2016 (48)	SEER	00-12	3,104	cIA2								MV	8	VL	62 <sup>d</sup>	67 <sup>d</sup>	1.36	73 <sup>d</sup>	82 <sup>d</sup>	1.42
Zhao 2019 (66)	SEER	04-15	1,372 <sup>b</sup>	cIA								MV, PM	10/3	VL	39	68	1.29	77	78	-
Dziedzic 2017 (50)	Polish Reg	07-13	462 <sup>b</sup>	cl-IIA								PM	5	VL	54	79	1.49	-	-	-

Inclusion criteria: studies with multivariable or propensity adjustment of wedge resection vs. segmentectomy, 2000–21, with >50 pts per arm in generally healthy patients with generally solid tumors; excluding studies that accrued most patients before 2000. The HR reference is segmentectomy, i.e., HR >1 reflects worse outcome compared with segmentectomy. Bold highlights better outcome (>2-point difference); Light green shading highlights statistically significant difference (lighter shade = univariable; darker = multivariable).

Legend (Tables 1-3):

<sup>a</sup>, 8<sup>th</sup> edition stage classification (reported stage is translated into current 8<sup>th</sup> edition nomenclature for the sake of uniformity and contemporary application); <sup>b</sup>, propensity matched pairs (total); <sup>c</sup>, all solid tumors (GGN excluded); <sup>d</sup>, unadjusted results; <sup>e</sup>, 3-year survival (in brackets because not comparable to 5-year OS); <sup>f</sup>, All resected by VATS; <sup>g</sup>, 30–50% were “lobe-like” segments (lingula-sparing Left Upper Lobectomy, lingulectomy or basilar quadri-segmentectomy); <sup>h</sup>, cN0 but pN1 (OS in brackets because not comparable to unselected cN0 cohorts); <sup>i</sup>, cN0 but pN2 (OS in brackets because not comparable to unselected cN0 cohorts); <sup>j</sup>, all with visceral pleural invasion (technically stage IB but ≤2 cm); <sup>k</sup>, predominantly wedge (≥80%); <sup>l</sup>, ACS special study (involving enhanced chart abstraction of clinical factors); <sup>m</sup>, lepidic adenocarcinoma; <sup>n</sup>, for entire study, not this specific cohort; <sup>o</sup>, adenocarcinoma; <sup>p</sup>, squamous carcinoma.

HR, hazard ratio; LCSS, lung cancer specific survival; Lobe, lobectomy; NCDB, US national cancer database; NS, not statistically significant; OS, overall survival; Reg, registry; SEER, Surveillance, Epidemiology, and End Results database; Seg, segmentectomy; SL, sublobar resection (segmentectomy or wedge); STS-MC, Society of thoracic Surgeons Database, linked to Medicare; VATS, video-assisted thoracic surgery; W, wedge; Yrs, years (of patient accrual).

Adjustment for Confounding: Demogr F, demographic factors (age, sex, socioeconomic); CoMorb, comorbidities; Hi stage, occult stage inaccuracy due to differences in extent of assessment; Time span, adjustment for changes during the study period or differential use of the interventions; Q settings, discrepancy in the facilities or settings performing the interventions; Q treatmt, quality of the treatment (e.g., margin distance, adjuvant therapy); Fav tumor, selection of less aggressive tumors for an intervention; Statistical methods, methods used to adjust for confounding; Subset, additional subset or sensitivity analyses; # adj for, number of factors adjusted for; Conf RE tmt effect, Confidence that results reflect the effect of the treatment vs. confounding factors. MV, Multivariable model (e.g., Cox regression); PA, propensity score adjustment; PM, propensity matching; PQ, analysis of propensity score quintiles.

Color code:	Categories of confounding	Addressed	Neutral (likely little effect)	Limited concern	Moderate concern	High concern	Clearly confounded
	Confidence RE treatment effect	VH-very high	H-high	M-moderate	L-low	VL-very low confidence	