COPYRIGHT © BY THE JOURNAL OF BONE AND JOINT SURGERY, INCORPORATED LAD ET AL. COMPLICATIONS, REOPERATION RATES, AND HEALTH-CARE COST FOLLOWING SURGICAL TREATMENT OF LUMBAR SPONDYLOLISTHESIS http://dx.doi.org/10.2106/JBJS.L.00730 Page 1 of 3

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	22842	Posterior segmental instrumentation, 3-6 vertebral segments
22844 Posterior segmental instrumentation, 13 or more vertebral segments	22843	
	22844	Posterior segmental instrumentation, 13 or more vertebral segments
22845 Anterior instrumentation; 2-3 vertebral segments	22845	Anterior instrumentation; 2-3 vertebral segments
22846 Anterior instrumentation; 4-7 vertebral segments	22846	Anterior instrumentation; 4-7 vertebral segments
22847 Anterior instrumentation; 8 or more vertebral segments	22847	Anterior instrumentation; 8 or more vertebral segments

*ICD-9 = International Classification of Disease, Ninth Revision, and CPT-4 = Current Procedural Terminology, Fourth Edition. †Although 63005 is the code for lumbar laminectomy except spondylolisthesis, it was included to ensure inclusion of all cases as it may at times be miscoded.

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TABLE E-2 Inpatient and Outpatient Services and Associated Resource Use for Propensity Score-Matched Patients with at Least Two	0
Years of Postoperative Follow-up	

		Laminectomy		Laminectomy with Arthrodesis		
	Without Arthrodesis (N = 734)	With Arthrodesis (N = 734)	P Value	With Instrumentation (N = 687)	Without Instrumentation (N = 687)	P Value
Hospital days*						
Index hospitalization	2 (2)	4 (2)	<0.0001†	4 (2)	4 (2)	0.02331
1-year postop. total	1 (5)	1(4)	0.4362	1 (6)	1 (6)	0.9719
2-year postop. total	3 (6)	3 (6)	0.3146	3 (7)	3 (9)	0.5016
Outpatient services [†]						
1-year postop. total	67 (63)	68 (60)	0.2272	68 (59)	66 (56)	0.2114
2-year postop. total	124 (106)	129 (110)	0.2808	130 (112)	124 (99)	0.2286
Outpatient emergency- department services‡						
1-year postop. total	1 (8)	1(4)	0.7243	1 (6)	2 (6)	0.3782
2-year postop. total	3 (10)	3 (8)	0.7584	3 (10)	3 (10)	0.5764
Medications [†]						
1-year postop. total	41 (36)	41 (30)	0.1910	42 (34)	45 (36)	0.3754
2-year postop. total	78 (67)	80 (60)	0.1487	82 (67)	86 (71)	0.4608
Hospital cost§						
Index hospitalization	13,140 (12,407)	36,227 (29,149)	<0.0001†	39,997 (34,826)	27,309 (22,035)	0.0233 [.]
1-year postop. total	5649 (16,285)	4187 (13,837)	0.2503	4365 (15662)	4235 (13,639)	0.9226
2-year postop. total	10,816 (23,093)	9795 (24,301)	0.1766	9805 (28,497)	8857 (23,182)	0.3333
Outpatient cost§						
1-year postop. total	8479 (13,946)	8266 (9610)	0.3779	8600 (10,826)	8434 (11,041)	0.7329
2-year postop. total	15,449 (20,937)	15,733 (18,316)	0.3759	15,726 (17,330)	15,878 (20,859)	0.4767
Outpatient emergency- department cost§						
1-year postop. total	151 (539)	236 (1632)	0.9850	225 (1482)	155 (487)	0.4069
2-year postop. total	320 (937)	432 (1920)	0.8836	358 (1692)	349 (1054)	0.8988
Medication cost§						
1-year postop. total	3828 (4406)	4115 (5205)	0.0653	3984 (4263)	4152 (4346)	0.2691
2-year postop. total	7572 (8693)	8367 (10,078)	0.0286†	7953 (8423)	8349 (8632)	0.2640
Overall costs§#						
1-year postop. total	31,096 (29,454)	52,795 (38,720)	<0.0001†	56,946 (44,839)	44,130 (33,949)	< 0.0001
2-year postop. total	46,976 (41,323)	70,123 (51,900)	<0.0001†	73,482 (59,323)	60,394 (49,688)	< 0.0001

*The values are given as the mean, with the standard deviation in parentheses. †The difference was significant. †The values are given as the mean, with the standard deviation in parentheses. The units for outpatient and outpatient emergency-department services are the number of these services used. The unit for medications is the number of new or refill prescription medications. §The values are given as the mean (in 2009 U.S. dollars), with the standard deviation in parentheses. #Overall costs are the cumulated costs of the index hospitalization and the post-operative inpatient, outpatient, and medication costs.

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TABLE E-3 Inpatient and Outpatient Resource Use for Propensity Score Matched Patients with at Least Five Years of Postoperative Follow-up

	Laminectomy			Laminectomy with Arthrodesis		
Postop. 5-Year Total	Without Arthrodesis (N = 159)	With Arthrodesis (N = 159)	P Value	With Instrumentation $(N = 141)$	Without Instrumentation (N = 141)	P Value
Hospital cost*	19,543 (30,238)	19,656 (32,564)	0.9093	25,154 (49,517)	20,376 (34,154)	0.5104
Outpatient cost*	36,437 (42,503)	34,455 (39,872)	0.5776	31,559 (25,888)	33,832 (31,125)	0.7430
Outpatient emergency- department cost*	536 (1076)	762 (1960)	0.8459	614 (1232)	681 (1526)	0.8970
Medication cost*	20,345 (27,188)	20,633 (18,735)	0.1975	22,219 (23,514)	19,225 (15,535)	0.8448
Overall cost*†	89,337 (74934)	102,906 (79,920)	0.00178	111,150 (85,092)	98,052 (69,157)	0.2891

*The values are given as the mean (in 2009 U.S. dollars) with the standard deviation in parentheses. †Overall costs are the cumulated costs of the index hospitalization and the postoperative inpatient, outpatient, and medication costs.