

**Supplementary Table 1.** ICD/CPT codes used in study cohort definition

Description	ICD-9/10	CPT
Surgery		
Posterior		
Intramedullary		
Cervical		63285
Thoracic		63286
Lumbar		63287
Extramedullary intradural		
Cervical		63280
Thoracic		63281
Lumbar		63282
Intradural, NOS		
Sacral		63283
Anterior		
Intradural, NOS		
Cervical		63304
Thoracic		63305, 63306
Lumbar		63307
Operative characteristics		
Operating microscope		69990
Neuromonitoring	95920, 95938, 95927, 95926, 95925, 95939, 95929, 95928, 95941, 95940	
Arthrodesis		
Cervical		22548, 22554, 22590, 22595, 22600, 22551
Thoracic		22556, 22532, 22610, 22532
Lumbar		22558, 0171T, 22612, 22533, 22630, 22633
Diagnoses		
Benign		
Meningioma	225.4, D32.1	
Spinal cord tumor	225.3, D33.4	
Malignant		
Meningioma	192.3, C70.1	
Spinal cord tumor	192.2, C72.0, C72.1	
Metastasis	198.3, C79.49	
Unknown grade		
Meningioma	237.6, D42.1	
Spinal cord tumor	237.5, D43.4	
Other	239.7, D49.7	
Complications		
Paralysis or paresis	342, 344, G81-G83	
Surgical site infection	998.5, T81.4	

ICD-9/10, International Statistical Classification of Diseases, ninth/tenth revision; CPT, current procedural terminology.