

Table 2.13: Trends in Spinal Fusion Procedures, United States 1998-2011

ICD-9-CM	Description	Year	Number of Discharges with Procedure [1]	Rate of Year-to-Year Increase in Patients	Estimated Population Aged 18 & Over [2]	Rate Per 100,000 Population	Mean Age of Patient	Mean Length of Stay	Mean Hospitalization Charge [3]	Rate of Year-to-Year Increase in Mean Charge	Total Hospitalization Charges (in Billions)	Rate of Year-to-Year Increase in Total Hospital Charges
						Aged 18 & Over [2]						
81.00-81.08	Spinal Fusion	1998	204,000		200,345,000	109.57	49.0	4.7	\$26,000		\$5.35	
		2000	242,000	18%	209,128,094	125.93	49.4	4.3	\$32,000	21%	\$7.18	34%
		2002	289,000	20%	215,122,788	150.07	50.2	4.4	\$42,000	29%	\$11.87	65%
		2004	307,000	6%	220,398,637	139.29	51.8	4.5	\$56,000	34%	\$16.87	42%
		2006	354,000	15%	224,769,279	169.02	53.2	4.2	\$77,000	38%	\$27.17	61%
		2011	457,442	29%	235,205,323	221.51	55.7	3.8	\$102,000	32%	\$46.43	71%
13-Year Rate of Change				124%					285%		768%	
81.30-81.393	Spinal Refusion [4]	1998	12,000		200,345,000	5.90	47.1	4.6	\$26,000		\$0.30	
		2000	13,000	12%	209,128,094	6.36	49.0	5.4	\$39,000	49%	\$0.47	57%
		2002	19,000	43%	215,122,788	9.47	50.0	4.4	\$46,000	20%	\$0.86	83%
		2004	19,000	1%	220,398,637	8.62	52.7	4.8	\$63,000	37%	\$1.18	37%
		2006	20,000	4%	224,769,279	9.47	53.8	5.0	\$96,000	52%	\$1.90	62%
		2011	30,900	57%	235,205,323	14.46	56.7	4.7	\$123,000	28%	\$3.81	100%
13-Year Rate of Change				164%					375%		1169%	
Total		1998	214,000		200,345,000	115.48	48.9	4.7	\$26,000		\$5.59	
81.00-81.08		2000	253,000	18%	209,128,094	132.28	49.4	4.3	\$32,000	22%	\$7.53	35%
+		2002	304,000	20%	215,122,788	159.54	50.2	4.3	\$42,000	29%	\$12.50	66%
81.30-81.393		2004	321,000	5%	220,398,637	148.37	51.8	4.5	\$56,000	34%	\$17.87	43%
		2006	373,000	16%	224,769,279	178.49	53.2	4.2	\$77,000	38%	\$28.72	61%
		2011	488,300	31%	235,205,323	235.96	55.8	3.9	\$103,000	35%	\$50.52	76%
13-Year Rate of Change				128%						294%		804%

[1] Up to 15 procedures per patient are included in years 1998 to 2011; multiple spine procedures per patient can be coded. Total procedures reported were greater than 1 million for the 488,300 patient discharges. Discharges with a spinal refusion have been removed from spinal fusions discharges.

[2] Computed from U.S. Census population estimates released July 1st of each year (www.census.gov).

[3] "Charge" refers to hospitalization charges and does not include professional (i.e., physician fees), drugs or non-covered charges. Due to patient discharges with multiple procedures, total charges for combined fusion and refusion patients is the most valid estimate. Mean charges for patients with a spinal refusion procedure were typically higher than for those with spinal fusion only.

[4] Prior to 2002, spinal refusion procedures were coded to the single code, 81.09. In 2002, this code was dropped and multiple codes implemented. Nearly all spinal refusion patient discharges also underwent spinal fusion procedures; however, discharges with a spinal refusion have been removed from spinal fusions discharges to produce a more accurate number of new fusion procedure discharges.

Source: HCUP Nationwide Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP). 1998-2011. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/nisoverview.jsp