

Table E1: Overall Procedure Counts and Rates of Primary and Revision Hip and Knee Arthroplasty in the United States (1990-2002)

Year	Primary Hip Arthroplasty		Revision Hip Arthroplasty	
	Procedure Count x 1,000 (95% CI)	Procedural Rate per 100,000 (95% CI)	Procedure Count x 1,000 (95% CI)	Procedural Rate per 100,000 (95% CI)
1990	119 (100-137)	47.2 (39.9-54.5)	23.9 (19.4-28.4)	9.5 (7.7-11.3)
1991	117 (100-133)	45.9 (39.4-52.3)	24.7 (18.0-31.3)	9.7 (7.1-12.3)
1992	127 (111-144)	49.3 (42.9-55.7)	23.0 (17.0-29.0)	8.9 (6.59-11.3)
1993	125 (107-143)	48.1 (41.1-55.0)	26.0 (18.8-33.1)	10.0 (7.23-12.7)
1994	124 (106-141)	47.1 (40.4-53.8)	28.4 (21.1-35.7)	10.8 (8.03-13.6)
1995	134 (116-152)	50.5 (43.7-57.4)	29.1 (22.4-35.9)	11.0 (8.44-13.5)
1996	138 (118-157)	51.4 (44.0-58.7)	30.3 (23.1-37.6)	11.3 (8.62-14.0)
1997	144 (124-164)	53.1 (45.7-60.6)	37.2 (29.3-45.0)	13.7 (10.8-16.6)
1998	160 (133-187)	58.6 (48.7-68.5)	32.8 (24.5-41.0)	12.0 (8.99-15.0)
1999	168 (144-192)	61.3 (52.6-70.1)	30.1 (22.8-37.3)	11.0 (8.33-13.6)
2000	152 (129-175)	54.6 (46.4-62.8)	31.1 (23.9-38.2)	11.2 (8.60-13.7)
2001	165 (142-189)	58.9 (50.4-67.5)	36.1 (28.1-44.2)	12.9 (10.0-15.8)
2002	193 (169-217)	68.9 (60.2-77.6)	42.7 (34.2-51.1)	15.2 (12.2-18.2)
Total	1,866 (1,598-2,133)	695 (595-795)	395 (303-488)	147 (113-182)

Year	Primary Knee Arthroplasty		Revision Knee Arthroplasty	
	Procedure Count x 1,000 (95% CI)	Procedural Rate per 100,000 (95% CI)	Procedure Count x 1,000 (95% CI)	Procedural Rate per 100,000 (95% CI)
1990	129 (109-149)	51.2 (43.3-59.1)	11.8 (9.1-14.4)	4.7 (3.6-5.7)
1991	160 (140-181)	63.0 (55.0-71.0)	17.2 (11.7-22.7)	6.8 (4.6-8.9)
1992	167 (148-187)	65.0 (57.3-72.8)	13.2 (8.7-17.7)	5.1 (3.4-6.9)
1993	179 (156-202)	68.6 (59.7-77.5)	15.1 (9.8-20.5)	5.8 (3.8-7.9)
1994	209 (183-234)	79.3 (69.7-88.9)	19.2 (13.3-25.1)	7.3 (5.1-9.5)
1995	216 (190-243)	81.5 (71.5-91.4)	18.4 (13.2-23.6)	6.9 (5.0-8.9)
1996	245 (214-276)	91.5 (79.9-103.0)	19.9 (14.2-25.5)	7.4 (5.3-9.5)
1997	259 (227-292)	95.9 (83.9-108.0)	24.6 (18.5-30.7)	9.1 (6.8-11.4)
1998	266 (224-308)	97.4 (82.0-112.8)	23.0 (16.4-29.5)	8.4 (6.0-10.8)
1999	267 (232-302)	97.4 (84.6-110.3)	24.8 (18.3-31.3)	9.1 (6.7-11.4)
2000	299 (258-340)	107.6 (92.9-122.3)	27.5 (20.9-34.1)	9.9 (7.5-12.3)
2001	326 (283-368)	116.0 (100.9-131.0)	29.4 (22.3-36.5)	10.5 (7.9-13.0)
2002	381 (338-424)	136.0 (120.7-151.3)	35.1 (27.6-42.6)	12.5 (9.8-15.2)
Total	3,104 (2,702-3,506)	1,150 (1,001-1,300)	279 (204-354)	103.5 (75.5-131)

Table E-2: Annual Change in Rate Ratio of Total Hip and Knee Arthroplasty by Age and Gender (1990-2002)

<i>Age Group (year)</i>	Rate Ratio of Primary Total Hip Replacement per 100,000 (95% CI)		Rate Ratio of Revision Total Hip Replacement per 100,000 (95% CI)	
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
<45	1.02 (0.99-1.05)	1.00 (0.96-1.05)	1.04 (0.97-1.10)	0.99 (0.92-1.06)
45-64	1.05 (1.03-1.06)*	1.04 (1.02-1.06)*	1.01 (0.97-1.05)	1.03 (0.98-1.08)
65-74	1.01 (0.99-1.03)	1.01 (1.00-1.03)	1.06 (1.01-1.10)*	1.00 (0.97-1.03)
75-84	1.02 (0.99-1.05)	1.03 (1.01-1.05)*	1.02 (0.98-1.06)	1.03 (0.99-1.07)
≥85	0.97 (0.92-1.03)	0.99 (0.95-1.03)	1.09 (0.96-1.26)	1.06 (1.02-1.12)*

<i>Age Group (year)</i>	Rate Ratio of Primary Total Knee Replacement per 100,000 (95% CI)		Rate Ratio of Revision Total Knee Replacement per 100,000 (95% CI)	
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
<45	1.11 (1.06-1.16)*	1.07 (1.00-1.14)*	0.96 (0.86-1.06)	1.09 (0.95-1.25)
45-64	1.08 (1.05-1.10)*	1.09 (1.07-1.10)*	1.04 (0.98-1.11)	1.02 (0.97-1.08)
65-74	1.07 (1.05-1.08)*	1.05 (1.04-1.06)*	1.07 (1.02-1.13)*	1.10 (1.05-1.15)*
75-84	1.07 (1.04-1.10)*	1.05 (1.03-1.07)*	1.05 (1.01-1.10)*	1.08 (1.03-1.13)*
≥85	1.09 (1.04-1.15)*	1.04 (1.01-1.08)*	1.13 (0.94-1.44)	1.15 (1.04-1.28)*

* Statistically significant increase ($p < 0.01$)

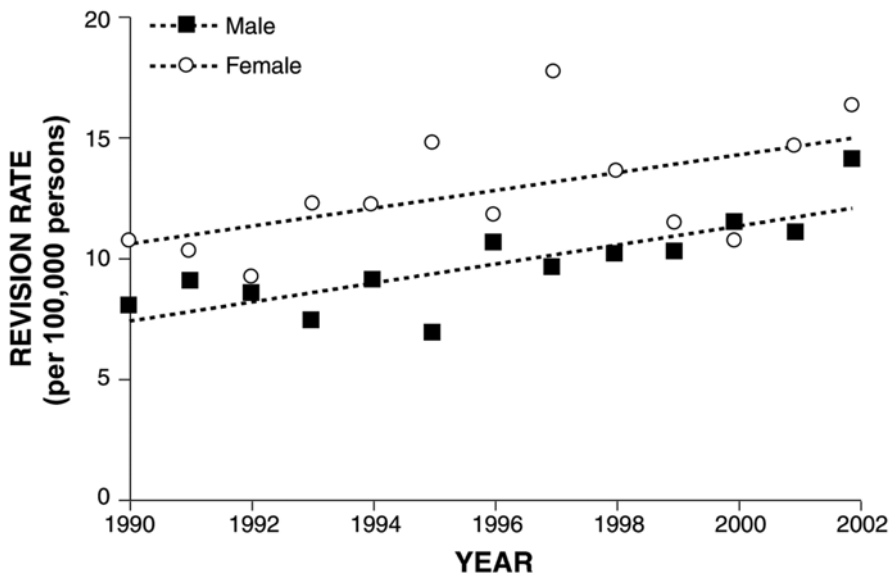


Fig. E1-A

Procedural rates of revision total hip (Fig. E1-A) and knee (Fig. E1-B) arthroplasties stratified by gender. Gender effects were significant in the presence of year-to-year variations ($p \leq 0.033$).

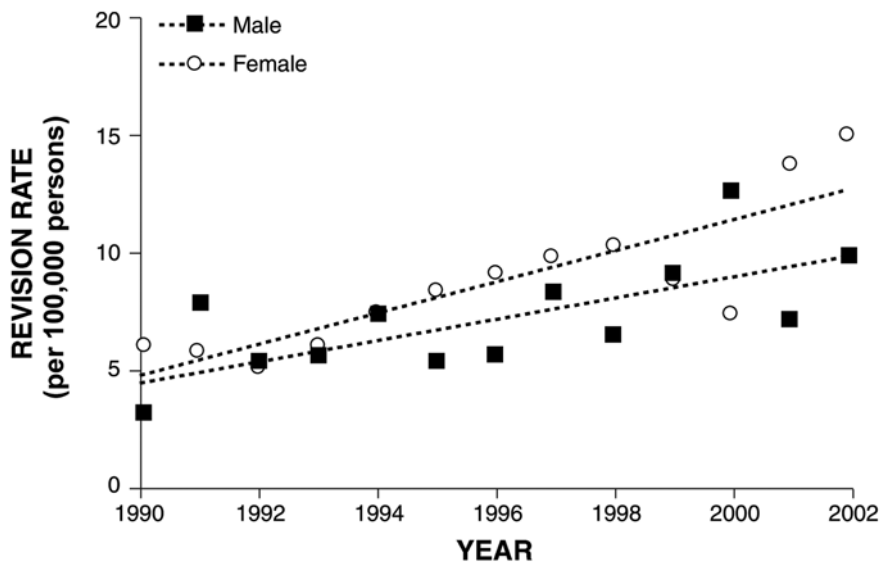


Fig. E1-B

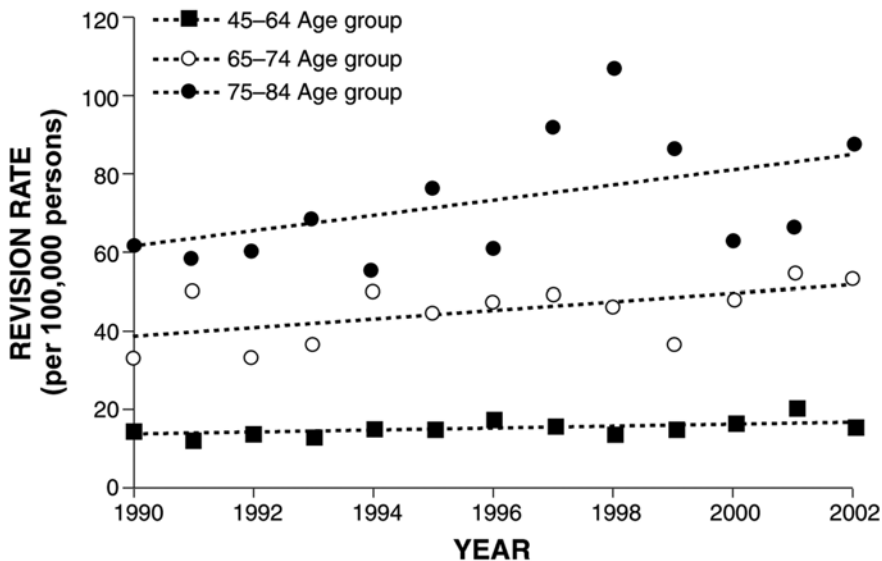


Fig. E2-A

Procedural rates of revision total hip (Fig. E2-A) and knee (Fig. E2-B) arthroplasties stratified by age-group. Age effects were significant in the presence of year-to-year variations ($p < 0.0001$).

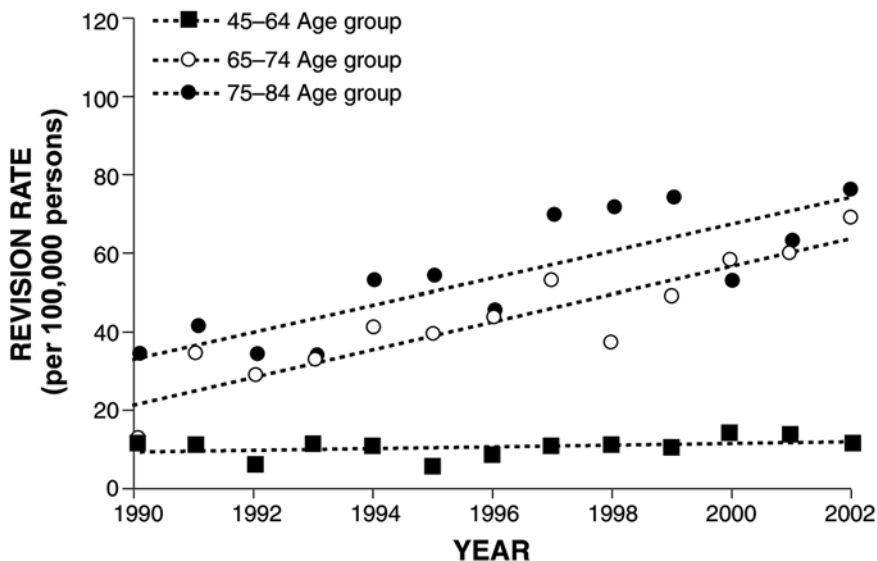


Fig. E2-B