

Fig. E-1

Percentage of glenoids reported with radiolucent lines at the time of final follow-up as a function of the mean duration of follow-up in the individual studies. Diamond symbols and the thin trend line represent the data for all-polyethylene glenoid components ($R^2 = 0.16$). Square symbols and the thick trend line represent the data for metal-backed components ($R^2 = 0.23$).

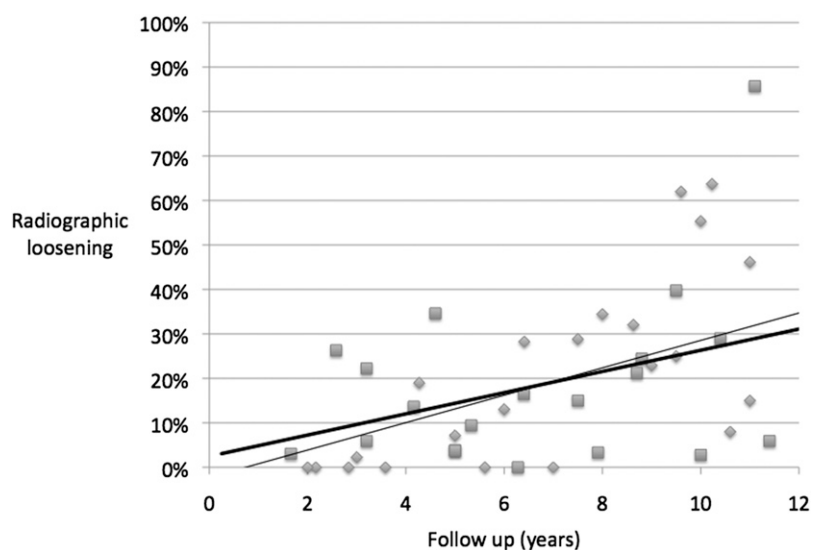


Fig. E-2

Percentage of glenoids reported with radiographic loosening at the time of final follow-up as a function of the mean duration of follow-up in the individual studies. Diamond symbols and the thin trend line represent the data for all-polyethylene glenoid components ($R^2 = 0.25$). Square symbols and the thick trend line represent the data for metal-backed components ($R^2 = 0.13$).

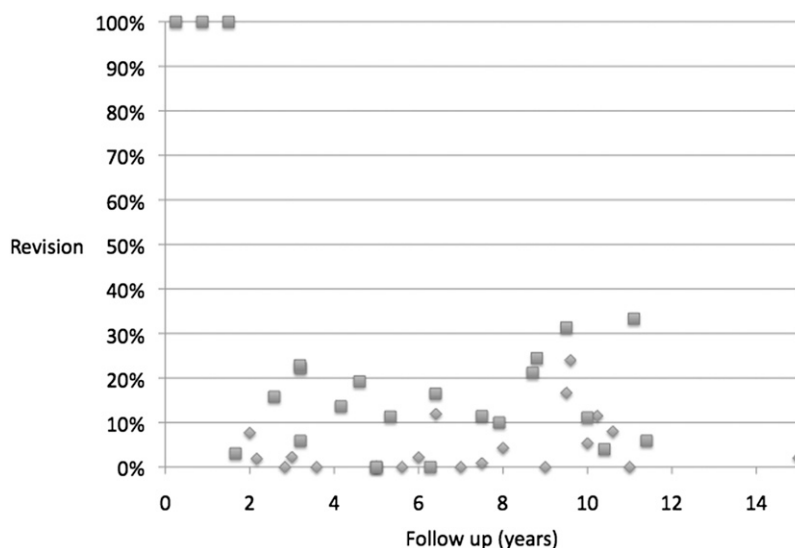


Fig. E-3

Percentage of glenoids reported as having undergone surgical revision at the time of final follow-up as a function of the mean duration of follow-up in the individual studies. Diamond symbols represent the data for all-polyethylene glenoid components. Square symbols represent the data for metal-backed components. There were no apparent trends in these data.

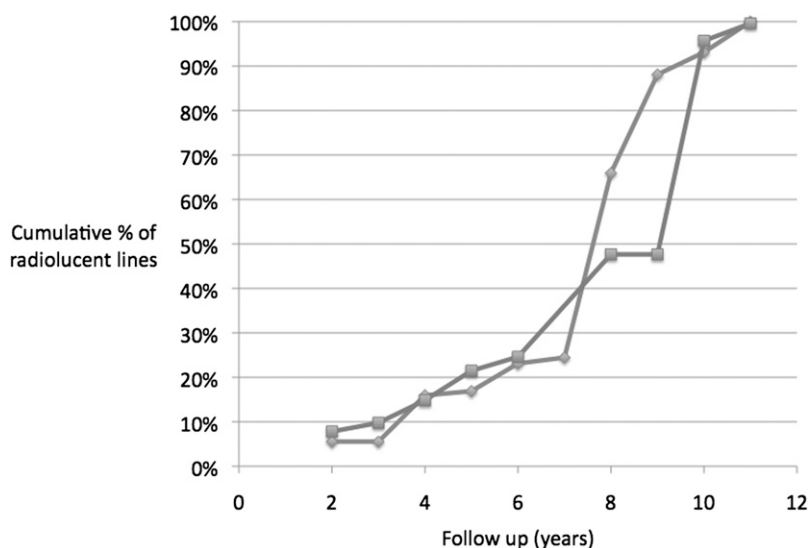


Fig. E-4

Cumulative percentage of all glenoids reported as having radiolucent lines at the time of final follow-up as a function of the mean duration of follow-up in the individual studies. Note that this graph does not show the absolute frequency of radiolucent lines according to time since surgery; rather, it shows the relative frequency, with 100% representing all of the shoulders that ultimately developed such lines. Most of the occurrences of radiolucent lines were reported seven or more years after surgery.

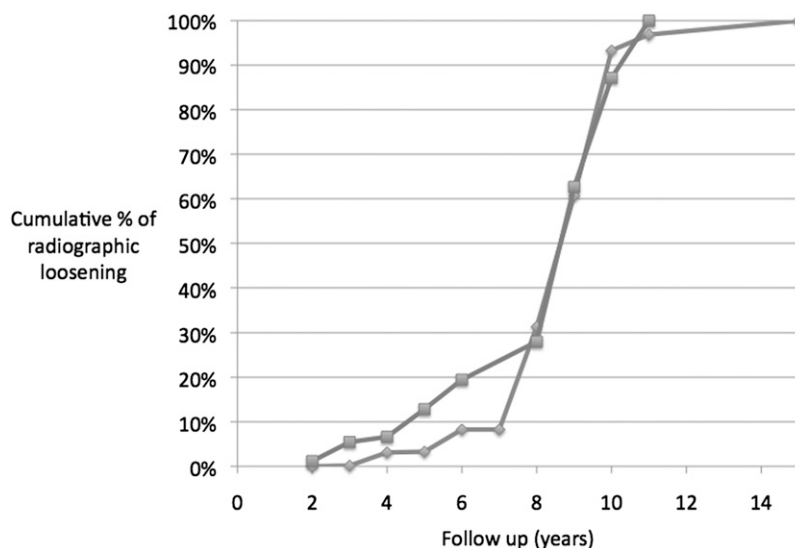


Fig. E-5

Cumulative percentage of all glenoids reported as having radiographic loosening at the time of final follow-up as a function of the mean duration of follow-up in the individual studies. Note that this graph does not show the absolute frequency of radiographically evident loosening according to time since surgery; rather, it shows the relative frequency, with 100% representing all of the shoulders that ultimately exhibited such loosening. Most of the occurrences of loosening were reported eight or more years after surgery.

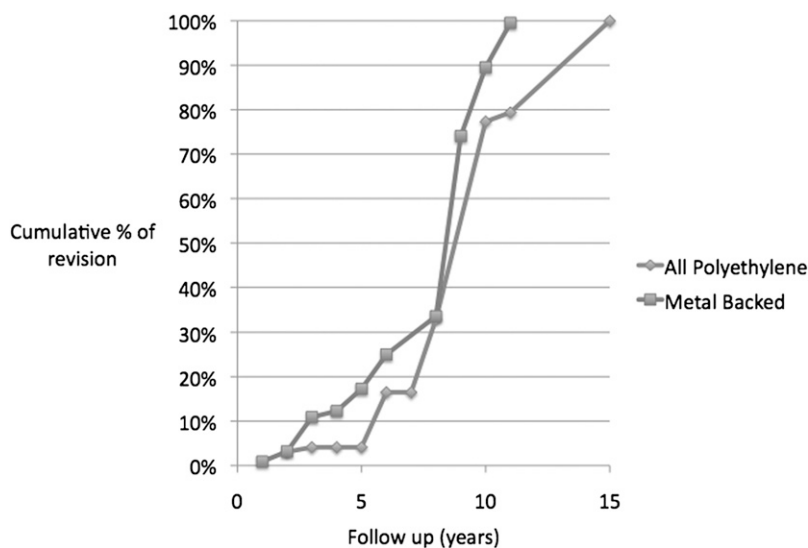


Fig. E-6

Cumulative percentage of all glenoids reported as having undergone surgical revision at the time of final follow-up as a function of the mean duration of follow-up in the individual studies. Note that this graph does not show the absolute frequency of revision according to time since surgery; rather, it shows the relative frequency, with 100% representing all of the shoulders that ultimately required revision. Only one-third of the shoulders that underwent revision did so within eight years after surgery.

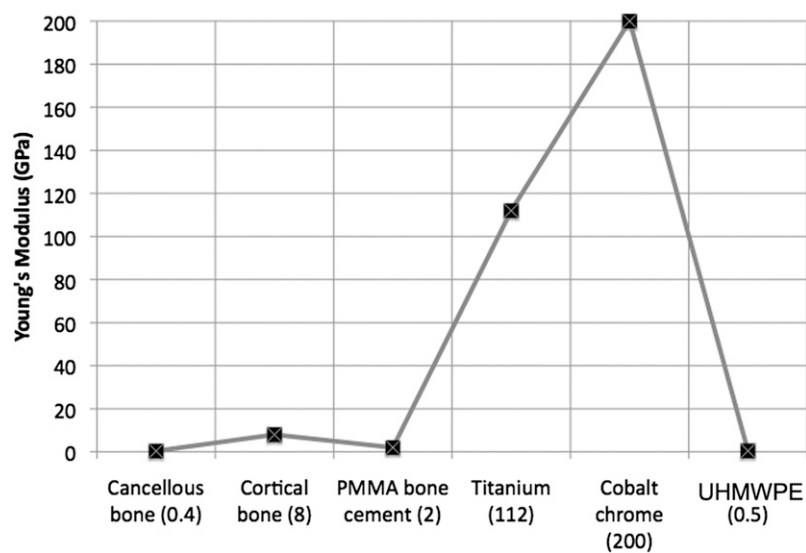


Fig. E-7

Comparison of the stiffness of the materials potentially used in a metal-backed glenoid component^{34,69-72}. Note the large differences between the metals and bone, polymethylmethacrylate (PMMA), and ultra-high molecular weight polyethylene (UHMWPE).

TABLE E-1 The Studies Included in the Analysis*

Study	LOE	F/U (yr)	Cases	Outcome			Etiology					Implant Used	Keel	Peg
				Radiolucency	Loose/Fail	Revision	OA	Traum.	RA	ON	Other			
All-polyethylene														
Arnold ⁴⁹	IV	3.6	35	11	0	0	35	0	0	0	0	DePuy GLOBAL	0	35
Bartelt ¹	IV	6	46	15	6	1	46	0	0	0	0	Smith & Nephew COFIELD/Tornier Aequalis	46	0
Betts ⁵⁰	IV	9.5	12	12	3	2	0	0	12	0	0	Smith & Nephew NEER II	12	0
Churchill ⁵¹	IV	5.6	20	5	0	0	20	0	0	0	0	DePuy GLOBAL	0	20
Collin ⁴	II	10	56	25	31	3	56	0	0	0	0	Tornier Aequalis	56	0
Edwards ¹⁷	I	2.2	53	24	0	1	53	0	0	0	0	Tornier Aequalis	26	27
Fox ²⁹ (a)	IV	15	972	NA	20	20	NA	NA	NA	NA	NA	Smith & Nephew COFIELD 1, COFIELD 2, NEER II	497	475
Groh ⁵²	IV	2.8	83	0	0	0	76	4	0	2	1	DePuy GLOBAL	83	0
Kasten ⁷	IV	9	96	84	22	0	76	9	2	7	2	Tornier Aequalis	96	0
Khan ⁵³	IV	10.6	25	11	2	2	12	0	13	0	0	Tornier Aequalis	25	0
Raiss ⁵⁵	IV	7	24	10	0	0	24	0	0	0	0	Tornier Aequalis	24	0
Rice ⁵⁶	IV	5	14	7	1	0	14	0	0	0	0	Smith&Nephew COFIELD 2	14	0
Throckmorton ⁵⁷	III	4.3	100	66	19	NA	100	0	0	0	0	Smith & Nephew COFIELD 2	50	50
Walch ⁵⁹	III	8.6	518	80	166	NA	518	0	0	0	0	Tornier Aequalis	518	0
Wirth ¹⁴	IV	3	44	NA	1	1	44	0	0	0	0	DePuy GLOBAL	0	44
Zilber ⁶¹	IV	11	20	18	3	NA	9	2	7	2	0	Smith & Nephew NEER II	20	0
Rahme ⁵⁴	I	2	26	17	0	2	22	2	0	3	0	Zimmer Anatomical	12	14
Fox ⁶⁰	IV	8	151	102/151	52/151	13/302	88	17	29	4	13	Smith & Nephew COFIELD 2	151	0
Walch ⁵⁸	IV	6.4	92	26	26	11	92	0	0	0	0	Tornier Aequalis	92	0
Raiss ⁹	IV	11	39	22	18	0	39	0	0	0	0	Tornier Aequalis	39	0
Denard ⁵	IV	9.6	50	NA	31	12	50	0	0	0	0	Tornier Aequalis	50	0
Walch ¹²	IV	7.5	333	205	96	3	333	0	0	0	0	Tornier Aequalis	333	0
Young ¹³	IV	10.2	226	NA	144	26	226	0	0	0	0	Tornier Aequalis	226	0
Metal-backed														
Castagna ²⁴	IV	6.3	35	8	0	0	27	5	3	0	0	Lima SMR		
Clement ²⁷	IV	10	36	4	1	4	0	0	36	0	0	Biomet Bio-Modular		
Fox ²⁹ (b)	IV	8.7	316	NA	67	67	227	29	42	5	13	Smith & Nephew COFIELD 1		
Fox ²⁹ (c)	IV	11.4	254	NA	15	15	152	26	46	11	19	Smith & Nephew NEER II		
Fucetese ⁶	IV	4.2	22	13	3	3	10	8	2	2	0	Zimmer Anatomical		
Tammachote ¹⁰	IV	10.4	100	69	29	4	100	0	0	0	0	Smith & Nephew NEER II		
Taunton ¹¹	IV	9.5	83	50	33	26	74	5	0	4	0	Smith & Nephew COFIELD 1		
Boileau ³	IV	3.2	18	5	4	4	18	0	0	0	0	Tornier Aequalis		
Clement ²⁶	IV	7.9	30	6	1	3	30	0	0	0	0	Biomet Nottingham		
Driessnack ³⁹	V	0.9	2	NA	NA	2	2	0	0	0	0	DePuy Macnab/ English		
Kirk ⁴⁰	V	0.3	1	NA	NA	1	1	0	0	0	0	Smith & Nephew NEER II		
Martin ⁴¹	IV	7.5	140	53	21	16	72	1	55	12	0	Kirschner II		
Montoya ³³	IV	5.3	53	3	5	6	53	0	0	0	0	Arthrex Univers		

continued

TABLE E-1 (continued)

Study	LOE	F/U (yr)	Cases	Outcome			Etiology					Implant Used	Keel	Peg
				Radiolucency	Loose/Fail	Revision	OA	Traum.	RA	ON	Other			
Norris ⁴²	IV	5	26	1	1	0	NA	NA	NA	NA	NA	Smith&Nephew NEER II		
Rosenberg ⁴³ (a)	IV	8.8	90	NA	22	22	NA	NA	NA	NA	NA	Biomet Nottingham		
Rosenberg ⁴³ (b)	IV	6.4	103	NA	17	17	NA	NA	NA	NA	NA	Biomet Nottingham		
Rosenberg ⁴³ (c)	IV	3.2	34	NA	2	2	NA	NA	NA	NA	NA	Biomet Nottingham		
Wallace ⁴⁵	V	1.5	2	NA	NA	2	2	0	0	0	0	Smith & Nephew COFIELD 1		
Wallace ⁴⁴	IV	4.6	26	6	9	5	19	0	6	0	1	Smith&Nephew COFIELD 1		
Lawrence ³²	IV	11.1	21	10	18	7	13	NA	NA	NA	NA	Smith&Nephew COFIELD 1		
Budge ⁴⁶	IV	2.6	19	1	5	3	15	1	2	1	0	Zimmer Anatomical		
Godenèche ⁴⁸	IV	1.7	98	20	3	3	98	0	0	0	0	Tornier Aequalis		
Katz ³¹	IV	3.1	35	NA	NA	8	NA	NA	NA	NA	NA	FH Orthopedics ARROW		
Figgie ⁴⁷	IV	5.0	27	7	1	0	0	0	27	0	0	Custom		

*LOE = level of evidence, F/U = mean follow-up, OA = osteoarthritis, Traum. = posttraumatic arthritis, RA = rheumatoid arthritis, ON = osteonecrosis, and NA = not available.