

Supplementary article data

Medium-term follow-up of 92 femoral component revisions using a third-generation cementing technique

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Table 3. Results of studies—with a minimum mean follow-up of 5 years—on femoral revisions using cemented femoral components, with and without bone impaction grafting and uncemented femoral components

Study	A	B	C	D	E	F	G
Cemented femoral revisions without bone impaction grafting							
Raut (1996)	399/283, 149/250	2	65 (29–92)	All standard stems	7.4 (3–NS)	94% re-revision for any reason 92% radiological stem loosening	0.8% fracture 1.7% dislocation 0.5% infection
Gramkow (2001)	84/81, 54/27	2	69 (39–88)	All long stems (210–340 mm)	11.4 (7.9–15)	81% re-rev. for aseptic loosening 78% re-revision for any reason	4.9% fracture NS dislocation & infection
Haydon (2004)	97/NS, 42/55	1–3	68 (39–86)	41 stems < 210 mm 56 stems 210 mm	10.3 (5–23)	91% re-rev. for aseptic loosening 87% re-revision for any reason	2.1% fracture 3.1% dislocation NS infection
Howie (2007)	219/211, 121/98	2	72 (30–90)	82 standard stems 137 long stems	6 (2–18)	98% re-rev. for aseptic loosening long stems 93% standard stems	1.4% fracture 13.7% dislocation 3.2% infection
So (2013)	34/33, 29/4	3	64 (53–78)	All long stems, mean stem length 176 mm (140–250)	11.3 (9–15)	100% re-revision for any reason 87% radiological stem loosening	2.9% fracture 11.7% dislocation NS infection
Cemented femoral revisions with bone							
Ornstein (2009)	1305/1188, 650/538	3	71 (29–94)	1081 standard stems 145 long stems 79 unknown	8.1 (5–18)	99% re-rev. for aseptic loosening 94% re-revision for any reason	2.5% fracture + infection NS dislocation
Lamberton (2011)	540/487, 297/243	NS	70 (31–95)	473 standard stems 67 long stems	6.7 (2–15)	98% re-rev. for aseptic loosening 84% reoperation for any reason	5.4% fracture 4.1% dislocation 3.9% infection
Garcia-Cimbrelo (2011)	81/79, 48/33	3	64 (31–83)	69 standard stems 12 long stems	10.4 (5–17)	99% re-rev. for aseptic loosening 100% reoperation for any reason (Grade 2), 81% (Grade 3) and 71% (Grade 4)	7.4% fracture NS dislocation 1.2% infection
Te Stroet (2012)	33/33, 24/9	3	63 (33–82)	All standard stems	17 (15–20)	100% re-rev. for aseptic loosening 96% re-revision for any reason	9.1% fracture 0% dislocation 0% infection
Garvin (2013)	78/71 32/39	NS	67 (33–84)	51 standard stems 27 long stems	12.8 (10–18.8)	98% re-rev. for aseptic loosening 93% re-revision for any reason	3.8% fracture 2.6% dislocation 2.6% infection
Uncemented femoral revisions							
Adolphson (2009)	22/22, NS/NS	a	69 (55–80)	Standard stems and long stems (numbers NS)	6 (2.5–13)	100% survival (no loosening)	4.5% fracture 27% dislocation 0% infection
Muirhead-Allwood (2010)	158/158, 61/97	b	63 (35–86)	All CAD/CAM standard stems and long stems	10.8 (10–12)	97% re-revision for any reason	0.6% fracture 1.3% dislocation 0% infection
Amanatullah (2011)	26/26, 13/13	c	72 (NS)	All long stems	5.7 (4–11)	100% survival (no loosening)	0% fracture 0% dislocation 3.8% infection
Regis (2011)	41/41, 29/12	d	61 (29–80)	All long stems	13.9 (10.4–16)	92% re-revision for any reason 97% stem failure	NS fracture 9.7% dislocation 4.9% infection
Thomson (2013)	93/84, 36/48	e	69 (33–86)	All long stems	14 (10–18)	94% re-revision for any reason 98% re-rev. for aseptic loosening	1.1% fracture 12.9% dislocation 1.1% infection
Current study	92/90, 58/32	3	66 (25–92)	78 standard stems 13 long stems 1 short stem	10.7 (4.6–16.6)	99% re-rev. for aseptic loosening 86% re-revision for any reason (after excluding reinfections and hematogenous infection: 92%)	3.3% fracture 13.0% dislocation 14.1% infection (after excluding reinfections and hematogenous infection: 4.3%)

A No. of hips/patients and breakdown of gender (F/M)

B Generation of cementing technique used/ fixation method, uncemented stem

a Proximally porous-coated

b Standard stem proximally HA coated, long stem total HA coated

c Modular, porous plasma coated

d Rough blasted, fluted and tapered, distally fixed

e Extensively porous-coated

C Age at surgery (range)

D Length of used implants

E Follow-up length (range)

F Survivorship

G Postoperative complications

NS = not specified; HA = hydroxyapatite; CAD/CAM = computer-assisted design/computer-assisted manufacture.