

	Adequate sequence generation?	Allocation concealment?	Blinding? (All outcomes)	Blinding? (Knee Society Score)	Blinding? (Patient Questionnaire)	Blinding? (Xray Appearance)	Blinding? (Anterior Knee Pain)	Incomplete outcome data addressed?	Free of selective reporting?	Free of other bias?
Burnett 2004	+	?	-	?	?	?	?	+	?	?
Burnett 2009	+	+	?	+	+	-	+	+	?	+
Campbell 2006	+	+	-	+	+	-	+	+	?	+
Feller 1996	+	+	-	?	?	-	?	+	-	-
Gildone 2005	?	?	-	?	?	?	?	+	-	?
KAT Trial 2009	+	+	-	-	-	-	-	+	?	?
Kordelle 2003	?	?	-	-	-	-	-	+	?	-
Liu 2007	?	?	-	-	-	-	-	+	?	?
Myles 2006	+	+	+	+	?	?	?	+	?	+
Newman 2000	+	+	-	-	-	-	-	+	?	-
Partio 1995	?	?	-	?	?	-	?	+	?	?
Schroeder-Boersch 1998	?	?	-	-	-	-	-	+	?	?
Smith 2008	+	?	-	?	?	?	?	+	?	-
Waikakul 2000	-	-	-	+	?	?	?	-	?	?
Waters 2003	+	?	+	+	-	+	+	+	?	?
Wood 2002	+	+	+	+	+	?	+	+	?	?

Fig. E-1

Summary of the risk of bias. The green “+” symbols represent a low risk of bias, the yellow “?” symbols represent a risk of bias that is unclear or uncertain because of insufficient data or nonreporting of outcome, and the red “-” symbols represent a high risk of bias.

TABLE E-1 Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Randomized controlled trial	Case control study
Comparison of patellar resurfacing with nonresurfacing	Observational study
Peer-reviewed journal publication	Case report
Primary total knee replacement	Revision surgery
Minimum of 35 cases	Fewer than 35 cases
At least one of the following outcomes: patient satisfaction, infection rate, operative time, knee score, patellofemoral complication rate, anterior knee pain, blood loss, length of stay	
Any language	

TABLE E-2 Methodological Quality Checklist

Question to Be Answered	Yes/No/Unclear
Were the inclusion/exclusion criteria clearly defined?	
Was the number of withdrawals or drop-outs given?	
Was the follow-up prespecified?	
Were the outcomes of interest clearly described in the study?	
Did the study include pertinent characteristics that might affect the outcome of interest?	

TABLE E-3 Summary of Study Characteristics\*

Study	Recommends Resurfacing?	Knees Reported (Enrolled)	Follow-up (mo)	Interventions Compared	Blinded?	Prosthesis	Manufacturer	Primary Outcomes Reported†
Burnett et al. 2004 <sup>14</sup>	No	79 (90)	128	38 PR, 41 patelloplasty	Yes	Anatomic medullary knee; PE patella	DePuy	KSS, AKP, patient satisfaction
Burnett et al. 2009 <sup>21</sup>	No	78 (118)	120	38 PR, 40 patelloplasty	Yes	PCL-sparing Miller-Galante II cemented knee; PE patella	Zimmer	KSS, AKP, patient satisfaction
Campbell et al. 2006 <sup>19</sup>	No	58 (100)	120 (48 for KSS)	30 PR, 28 osteophyte removal	Yes	PCL-sparing Miller-Galante II (MGII) uncemented knee; MGII PE patella	Zimmer	KSS, WOMAC, AKP, radiographic appearance
Feller et al. 1996 <sup>12</sup>	No	38 (40)	38	19 PR, 19 no procedure	Yes	PCA modular uncemented knee; PE patella	Howmedica	HSS, patella score
KAT Trial Group 2009 <sup>22</sup>	No	1441 (1715)‡	24	725 PR, 716 nonresurfacing (various)	No	Various, not specified	Various	OKS, quality-of-life questionnaires (SF-12, EQ-5D), complications and reoperations
Myles et al. 2006 <sup>23</sup>	No	42 (50)	18-24	18 PR, 24 no procedure	Yes	Low Contact Stress rotating-platform knee; patella not specified	DePuy	KSS, WOMAC, AKP
Schroeder-Boersch et al. 1998 <sup>13</sup>	No	40 (40)	56.9-57.5	20 PR, 20 patelloplasty	No	Duracon total knee arthroplasty; PE patella	Howmedica	KSS, radiographic appearance
Smith et al. 2008 <sup>32</sup>	No	159 (181)	52	73 PR, 86 patelloplasty	Yes	PROFIX total knee replacement; PE patella	Smith & Nephew	KSS, knee pain scale, patient satisfaction, radiography
Waikakul et al. 2000 <sup>38</sup>	No	47 (47)	24	21 PR, 26 osteophyte removal	Yes	Insall-Burstein II knee; patella not specified	Zimmer	HSS
Liu et al. 2007 <sup>15</sup>	Surgeon's choice	58 (60)	54	29 PR, 29 patelloplasty	No	PFC Sigma knee; patella not specified	DePuy	KSS, patient satisfaction
Gildone et al. 2005 <sup>11</sup>	Yes	56 (56)	25.2	28 PR, 28 patelloplasty	No	NexGen cemented total knee replacement; PE patella	Zimmer	KSS, patellofemoral score, AKP
Kordelle et al. 2003 <sup>10</sup>	Yes	50 (50)	30	25 PR, 25 osteophyte removal	No	PCL-sparing Scorpio cemented knee; PE patella	Stryker	KSS, patient satisfaction, radiography
Newman et al. 2000 <sup>37</sup>	Yes	71 (84)	60	37 PR, 34 no procedure	No	Kinematic Modular Knee; patella not specified	Howmedica	BKS, clinical patella score
Partio and Wirta 1995 <sup>36</sup>	Yes	95 (100)‡	30	47 PR, 48 osteophyte removal	No	PFC PCL-sparing knee; PE patella	Johnson & Johnson	KSS, AKP, radiography
Waters and Bentley 2003 <sup>29</sup>	Yes	474 (514)‡	64	243 PR, 231 osteophyte removal	Yes	PFC knee; PE patella	Johnson & Johnson	KSS, AKP, patient satisfaction
Wood et al. 2002 <sup>30</sup>	Yes	220 (220)	48	92 PR, 128 patelloplasty	Yes	Miller-Galante II knee; PE patella	Zimmer	KSS, AKP, patient satisfaction

\*PR = patellar resurfacing, PE = polyethylene dome, KSS = Knee Society Score, AKP = anterior knee pain, PCL = posterior cruciate ligament, WOMAC = Western Ontario and McMaster Universities Osteoarthritis Index, HSS = Hospital for Special Surgery score, OKS = Oxford Knee Score, SF-12 = Short Form-12, EQ-5D = EuroQol-5D, and BKS = Bristol Knee Score. †Outcomes reported in the randomized controlled trial that met the inclusion criteria of this meta-analysis. ‡Included patients with rheumatoid arthritis as well as osteoarthritis.