



Fig. E-1  
Photograph showing the patient lying supine and using manual force to bend the knee by pulling on a cloth around the lower leg.

**TABLE E-1 Patients' General Characteristics and Baseline Values of Outcome Measures**

	Bicruciate Substituting Group	Conventional Posterior Stabilized Group
General characteristics		
Sex*		
Male	26	27
Female	36	35
Age at the time of surgery† (yr)	61.4 (45 to 71)	61.8 (46 to 71)
Height‡ (cm)	173 ± 9.3	172 ± 8.9
Weight‡ (kg)	83 ± 13.4	86 ± 14.4
Body mass index‡ (kg/m <sup>2</sup> )	27.9 ± 3.8	28.9 ± 3.5
Comorbidity*§		
None	30	29
Cardiorespiratory	17	21
Smoking	10	10
Peripheral vascular disease	2	3
Diabetes mellitus	4	6
Osteoporosis	4	0
Other	8	6
Previous surgery*§		
None	17	23
Arthroscopy	38	34
Ligament surgery	2	1
Other surgery	16	10
Other joint replacements*§		
Contralateral knee	4	2
Ipsilateral hip	2	5
Contralateral hip	1	4
Outcome measures		
KSS		
Total‡ (points)	121 ± 28	114 ± 27
Clinical‡ (points)	59 ± 17.9	57 ± 17.5
Function‡# (points)	60 (0 to 90)	60 (15 to 90)
Range of motion† (deg)	110 (75 to 125)	107.5 (70 to 125)
PSS score‡# (points)	18.7 ± 6.7	16.2 ± 6.3
UCLA activity score† (points)	5 (2 to 9)	5.5 (2 to 9)
Flexion on radiograph†** (deg)	125 (85 to 144)	128 (95 to 150)
Active flexion (lying)† (deg)	110 (85 to 130)	110 (80 to 140)
Active flexion (standing)† (deg)	100 (70 to 130)	100 (70 to 130)

\*The values are given as the number of patients. †The values are given as the median, with the range in parentheses. ‡The values are given as the mean and the standard deviation. §A patient can have more than one comorbidity, previous surgery, or replacement of other joints. #The values were significantly different between the groups. \*\*Because of misinterpretation of the protocol for the performance of the lateral radiographs at the beginning of the study, the radiographs of the initial cases could not be used for measurement of the preoperative maximal flexion. Because the preoperative KSS range of motion score was not significantly different and the difference between the groups was also not clinically relevant, we assume that the difference in preoperative flexion on radiographs for the total group was also not different and not clinically relevant.