

Supplementary Table 1. Hungerford modified knee score.

Pain		Point
	<i>Frequent rest pain:</i> severe pain with any activity, necessitating nonweight-bearing status: analgesics stronger than aspirin required: can not perform routine activities because of knee pain	0
	<i>Common rest pain:</i> moderately severe pain with almost any activity: Heavy dependence on weight-bearing assistive devices: unable to work because of pain, unable to do most work because of pain: unable to do most housework or even simple activities	10
	<i>Less frequent rest pain:</i> routine activities moderately restricted: may require mild or narcotic analgesics	25
	Performs most <i>routine activities</i> with <i>slight or tolerable pain</i> : occasional mild, non-narcotic analgesics or anti-inflammatory medications	40
	No discomfort with routine activity: excessive activity provokes discomfort: rarely takes analgesic or anti-inflammatory medication	45
	No pain with any activity	50
Stability (measured with max extension as arc of <i>either</i> abnormal medial or lateral motion)		
	0°-5°	10
	5°-15°	5
	>15°	0
Varus/valgus deformity (max deformity measured from normal, allowing 3-8° valgus at the knee)		
	0°-5°	10
	6°-10°	5
	11°-15°	2
	16°-20°	0
	> 20°	-5
Flexion contracture		
	5°-15°	-5
	15°-30°	-10
	30°-45°	-15
	> 45°	-20
Mobility (measure of total passive arc of motion)		
	1°-30°	0
	31°-60°	5
	61°-90°	10
	90°-105°	15
	> 105°	20
Quadriceps strength (rated as percentage of normal for age and sex)		
	> 75%	10
	50%-75%	5
	50%	0