

Fig. E-1
A volunteer in a weight-bearing position on the magnetic resonance imaging table.

Figure E-2A: Inferior Contact Area Centroid Movement

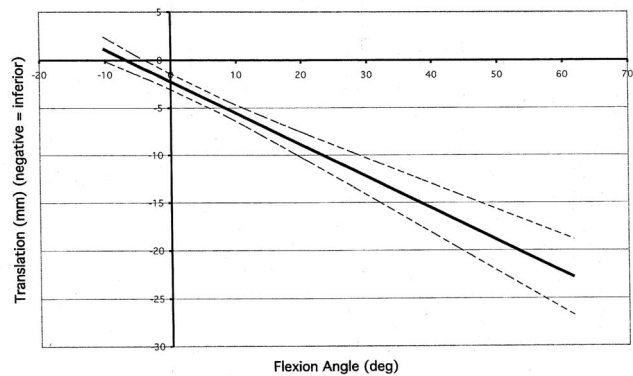


Fig. E-2A

Figs. E2-A, E2-B, and E2-C Graphs of the patellofemoral contact centroid position relative to the knee flexion angle. **Fig. E2-A** Inferior movement.

Figure E-2B: Medial Contact Area Centroid Movement

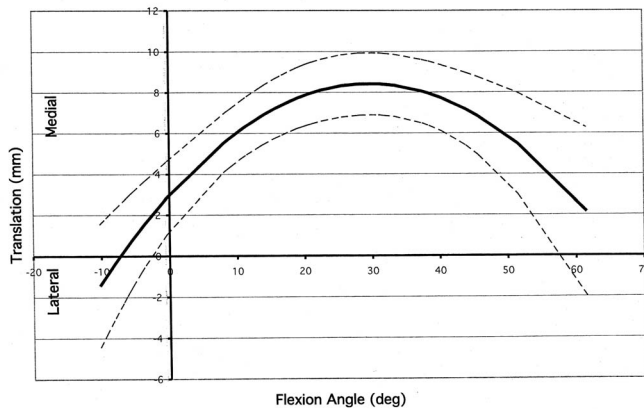


Fig. E-2B

Medial movement.

Figure E-2C: Posterior Contact Area Centroid Movement

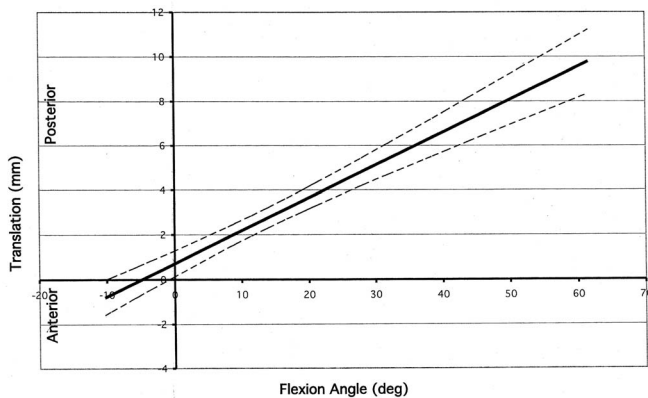


Fig. E-2C

Posterior movement.

Figure E-3A: Medial Translation of Patella

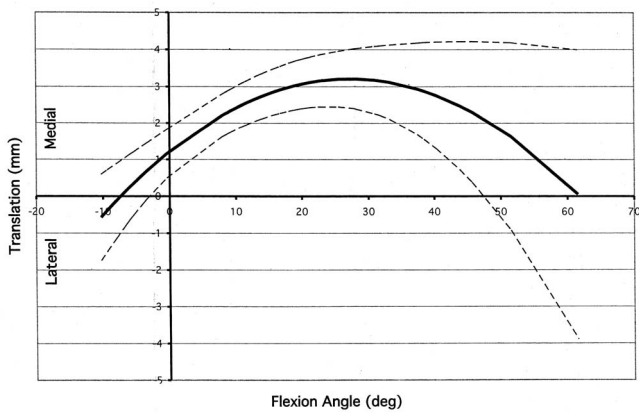


Figure E-3B: Inferior Patellar Tilt

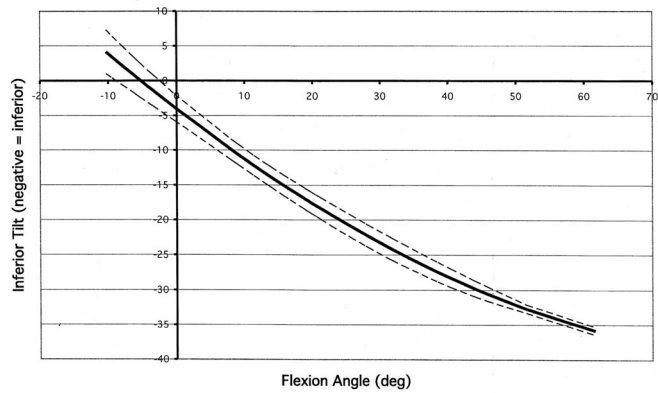


Fig. E-3A

Figs. E3-A and E3-B Graphs of patellar translation and angulation relative to the femur and the knee flexion angle. **Fig. E3-A** Medial translation.

Fig. E-3B

Inferior tilt.

Table E-1

Parameter	Intercept (p-values)	Slope (p-values)	Quadratic (p-values)
Patellofemoral Contact Area	189.06 (<0.0001)	6.0771 (<0.0001)	NS
Lateral Translation of Patella	-1.2148 (0.0033)	-0.1463 (0.0006)	0.002682 (0.0079)
Posterior Translation of Patella	NS	-0.05180 (0.0347)	NS
Inferior Translation of Patella	1.9653 (0.0005)	0.3100 (<0.0001)	0.003474 (0.0093)
Inferior Tilt of Patella	-4.0794 (0.0013)	-0.7590 (<0.0001)	0.003942 (0.0034)
Lateral Patellar Tilt	-1.6785 (0.0058)	-0.1870 (0.0019)	0.003403 (0.0230)
Varus Valgus Rotation of Patella on Femur	NS	-0.07891 (0.0032)	NS
Medial Centroid Movement	2.9755 (0.0056)	0.3665 (0.0004)	-0.00617 (0.0010)
Posterior Centroid Movement	0.7068 (0.0313)	0.1474 (<0.0001)	NS
Inferior Centroid Movement	-2.2532 (0.0003)	-0.3338 (<0.0001)	NS