

Appendix B. Grip and Pinch Strength before and after Proximal Interphalangeal Joint Implant Arthroplasty

Authors	Preop GP	Postop GP	Preop Pinch	Postop Pinch
Silicone with volar approach				
Proubasta et al. ⁹	N/A		N/A	
Lautenbach et al. ¹⁰	N/A		N/A	
Bouacida et al. ¹²	N/A		N/A	
Herren et al. ³¹	N/A		N/A	
Lin et al. ¹¹	N/A		N/A	
Schneider ⁴⁴	N/A		N/A	
Silicone with lateral approach				
Merle et al ¹³	154.8N	190.1N	N/A	
Stahlenbrecher et al. ¹⁴	N/A		N/A	
Hage et al. ¹⁵	N/A		N/A	average 75% of the opposite finger
Silicone with dorsal approach				
Daecke et al. ²¹	N/A	about 175% of preoperative value [#]	N/A	about 150% of preoperative [#]
Namdari et al. ⁵⁴	N/A		N/A	
Herren et al. ³¹	N/A		N/A	
Mathoulin et al. ³³	30% of opposite hand	60% of opposite hand		N/A
Silva et al. ³⁴	N/A		N/A	

Cesari et al. ³⁵	N/A		N/A	
Pellegrini et al. ⁴	N/A	17kg (dominant hand), 18kg (nondominant hand)	N/A	5.34kg (dominant hand), 5.2kg (nondominant hand)
Swanson et al. ⁷	N/A		N/A	
Surface replacement with volar approach				
Jennings et al. ³²	N/A		N/A	
Stoecklein et al. ²⁶	N/A	30kg	N/A	6kg
Surface replacement with dorsal approach				
Jennings et al. ³²	N/A		N/A	
Lawson-Smith et al. ⁴⁸	N/A		N/A	
Vogt et al. ⁴⁹	N/A	24kg	N/A	
Daecke et al. ²¹	N/A	about 80% of preoperative value [#]	N/A	about 125% of preoperative value [#]
Amirtharajah et al. ²⁷	N/A		N/A	
Luther et al. ⁵⁰	N/A		N/A	7.6lbs*
Johnstone et al. ⁵¹	N/A		N/A	
Dickson et al. ²³	N/A	27kg (2y), 20kg (5y)	N/A	
Tagil et al. ³⁷	19kg	25kg	N/A	
Reissner et al. ⁴²	21kg	26kg (2y), 17kg (10y)	N/A	
Daecke et al. ²¹	N/A	about 160% of preoperative value [#]	N/A	about 170% of preoperative value [#]

Desai et al. ⁵²	N/A		N/A	
Heers et al. ²⁸	N/A		N/A	
Ono et al. ²⁰	11kg	12.9kg	6.3kg	8.4kg
McGuire et al. ⁵³	N/A		N/A	
Mashhadi et al. ⁵⁴	N/A	15kg	N/A	7.7kg (lateral key pinch), 7.5kg (tripod pinch)
Hutt et al. ²⁹	N/A		N/A	
Sweets et al. ¹⁹	N/A		N/A	
Meier et al. ⁵⁵	N/A	19kg	N/A	6kg
Bravo et al. ³⁸	19kg	24kg	3kg	4kg
Nunley et al. ³⁶	19kg	26kg	N/A	
Wesemann et al. ⁵⁶	N/A	94% of opposite hand	N/A	2.1
Pettersson et al. ³⁹	169N	199N	N/A	
Schindele et al. ⁴⁰	22kg	27kg	N/A	
Flannery et al. ⁴¹	8.2kg	17.9kg	N/A	

only graphs were shown. * median value. GP-grasping power. N-Newton. Kg- kilogram. lbs-pound. y – year. N/A- not

available.