

**LONG TERM COMPARISON IN FUNCTIONAL OUTCOME OF 545 PATIENTS FOLLOWING PRIMARY TKA WITH AND WITHOUT PATELLA RESURFACING – SINGLE CENTER STUDY**

<sup>1</sup>Yuwaraja V, <sup>1</sup>Sabirin M, <sup>1</sup>Helmi H, <sup>1</sup>Ijmal ZA, <sup>2</sup>MM Tew, <sup>1</sup>Akmar HH <sup>3</sup>Ashutosh Rao, <sup>1</sup>Vijaya Kumar SL

<sup>1</sup>Department of Orthopaedics, Hospital Sultan Abdul Halim, Sungai Petani, Kedah

<sup>2</sup>CRC Hospital Sultan Abdul Halim, Sungai Petani, Kedah

<sup>3</sup>Department of Orthopaedics, Melaka-Manipal Medical College, Melaka, Malaysia

**INTRODUCTION**

Patella resurfacing is optional in Total Knee Arthroplasty (TKA). The patella is resurfaced using a polyethylene implant. The long-term functional outcome between resurfacing and non-resurfacing the patella in TKA may vary. We present a retrospective study of 545 primary TKA from June 2007 till October 2020.

**MATERIALS & METHODS**

The objective is to compare functional outcome between resurfaced and non-resurfaced patella in TKA patients in our hospital. Functional outcome was evaluated before surgery and at final follow-up with Knee Injury And Osteoarthritis Outcome Score (KOOS).

**RESULTS**

A total of 545 TKAs were included, 387 belonged to the resurfaced group while 158 patients had no patella resurfacing. The mean age of this cohort is 63.55 years. Average follow-up period for the 2 cohorts was 8.32 and 10.06 years respectively. Patients who underwent TKA with resurfacing has higher functional score in improved function and activities of daily living (ADL) (p = 0.027).

**Table 1: KOOS sub-scores over long term follow-up**

	Overall (n=)	P-value <sup>a</sup>	PATELLA		P-value <sup>b</sup>
			Resurface (n=387)	Non-Resurfaced (n=158)	
	SD	SE			
<b>PAIN</b>					
Pre	59.73 (47.18)	< 0.001	58.41 (2.49)	63.87 (3.85)	0.188
Post	97.24 (6.08)		97.39 (0.36)	96.77 (0.48)	
<b>STIFFNESS</b>					
Pre	58.68 (17.70)	< 0.001	58.47 (0.89)	59.96 (1.40)	0.119
Post	95.93 (8.47)		96.31 (0.43)	94.94 (0.67)	

<b>FUNCTION</b>					
Pre	55.56 (18.89)	< 0.001	54.59 (0.97)	57.92 (1.50)	0.027
Post	92.05 (7.15)		92.28 (0.36)	91.31 (0.56)	
<b>SPORTS AND RECREATION</b>					
Pre	42.54 (19.46)	< 0.001	42.78 (0.98)	42.73 (1.56)	0.243
Post	74.78 (21.25)		75.40 (1.09)	72.15 (1.71)	
<b>QUALITY OF LIFE</b>					
Pre	46.17 (19.24)	< 0.001	46.24 (0.98)	46.30 (1.54)	0.315
Post	93.58 (11.31)		94.04 (0.58)	92.07 (0.91)	

SD, Standard Deviation; SE, Standard Error  
a: Paired t-test, b: Repeated measure ACOVA.  
Assumptions of normality, homogeneity of variances and compound symmetry were fulfilled.

**DISCUSSION**

The functional outcome of both resurfaced and non-resurfaced cohort shows improvement after TKA. However, the resurfaced group shows significant improvement of functions and activities of daily living.

**CONCLUSION**

Our long term TKA study suggests, that patients with resurfaced patella have better outcome in their ADL. Decision to resurface the patella during TKA should be made on a case-to-case basis after careful consideration of the patient's individual needs and anatomy.

**REFERENCES**

1. Burnett RS, Haydon CM, Rorabeck CH, Bourne RB. Patella resurfacing versus non-resurfacing in total knee arthroplasty: Results of a randomized controlled clinical trial at a minimum of 10 years' follow-up. Clin Orthop Relat Res 2004; 428:12-25