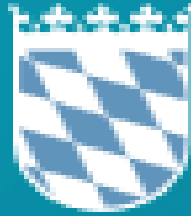




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Better Short-Term Outcomes in Total Knee Arthroplasty with Kinematic alignment than Mechanical Technique

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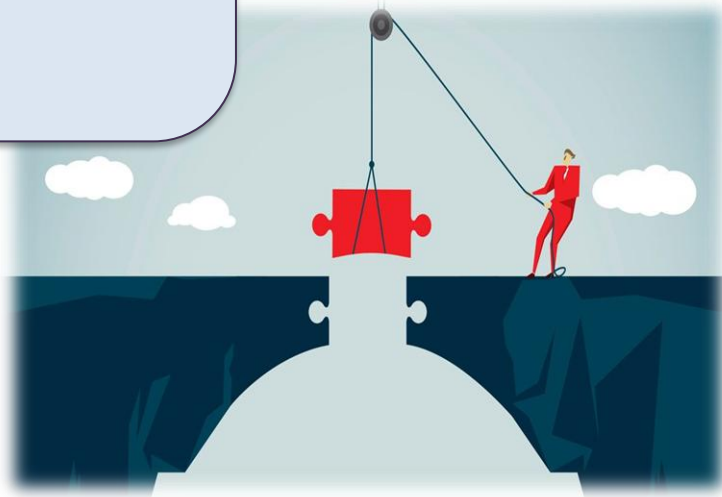
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- TKA is a prevalent and efficient surgical procedure for treating knee OA.
- 2 main techniques – Mechanical alignment (mTKA) and Kinematic alignment (kTKA).
- Equivalent¹ or slightly better² results to kTKA in the medium-long term.
- Short term results are lacking.
- Immediate and short-term postop pain – limiting factor.

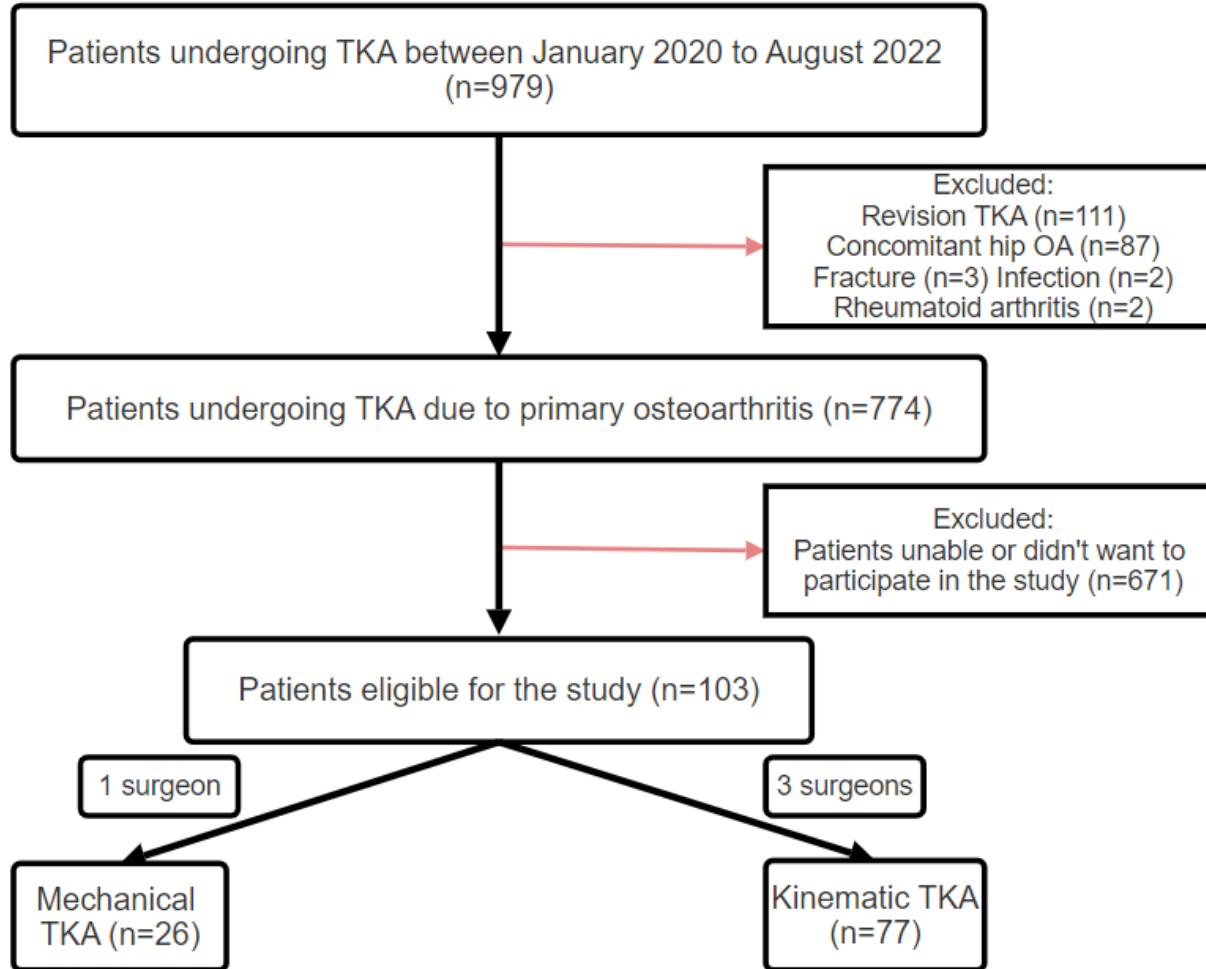
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Study objective

To assess whether kinematic TKA has better short-term outcomes compared to mechanical TKA



Study Population Build-up



Study design

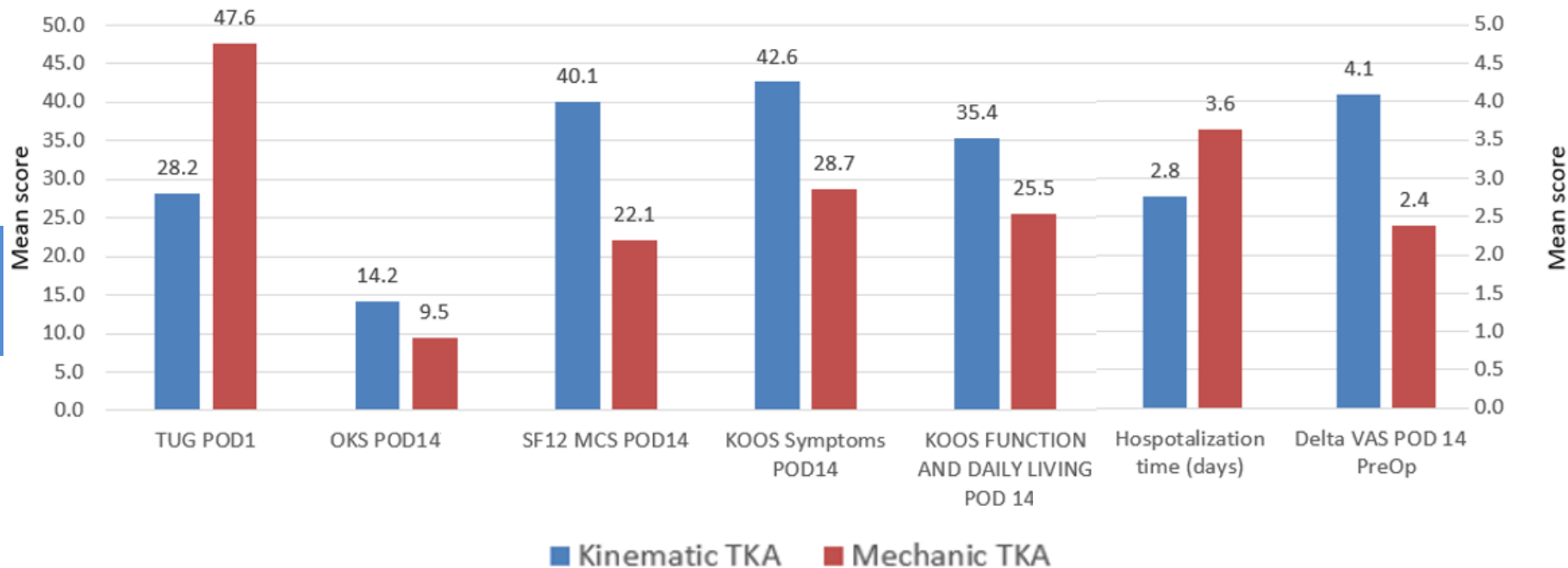
- Prospective collection of data. Randomization to a day.
- Variables:
 - Baseline characteristics from patient records.
 - Preoperative PROM's (VAS, KOOS, OKS, FJS, SF-12) and functional performance (TUG, stairs).
 - POD 1 – TUG, VAS.
 - POD 14 – same as preoperative.
- Statistical analyses:
 - Univariate – Mann-Whitney, Chi-square.
 - Multivariate – Linear and logistic regressions.



Baseline demographic and clinical characteristics of the study population

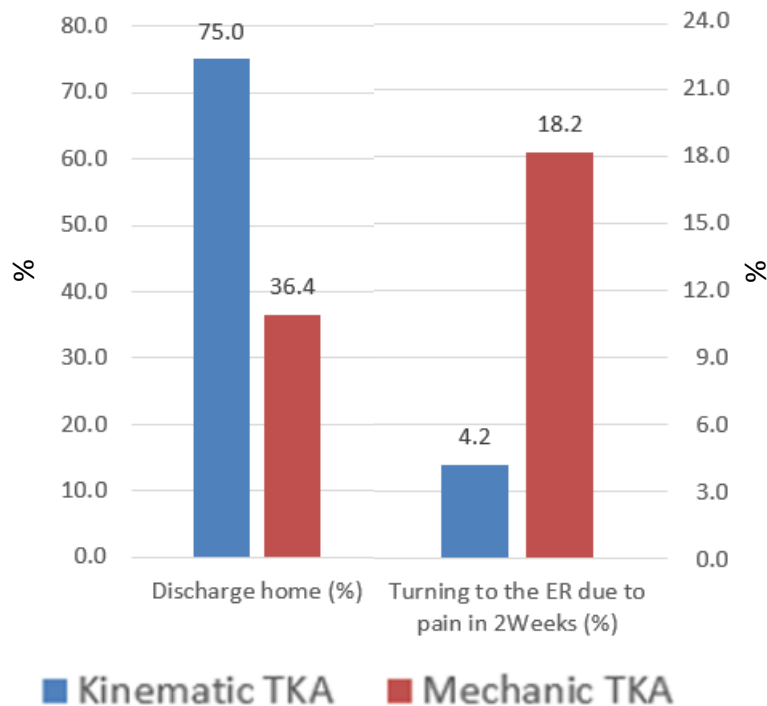
		Kinematic TKA (N=77)	Mechanical TKA (N=26)	P-value
AGE, years; mean±SD		68±8.6	71±7.6	0.312
Sex, female; %		62.3	65.4	0.781
BMI, kg/m ² ; mean±SD		31.83±6.8	31.5±5.4	0.835
Side operated, Left; %		45.0	63.6	0.135
Smoker; %		11.7	11.5	0.984
ASA; %	1	3.0	4.5	0.944
	2	48.5	45.5	
	3	48.5	50.0	
CCI; %	no or mild	32.4	22.7	0.652
	moderate	55.9	68.2	
	severe	11.8	9.1	
Preoperative VAS; mean±SD		8.32±1.45	8.54±1.24	0.673
Preoperative Time Up and, seconds, mean±SD		19.48±19.37	23.68±10.58	0.004
Preoperative Stairs climb, seconds ; mean±SD		29.91±21.42	46.01±23.75	0.003
Preoperative OKS , mean±SD		16.44±7.66	14.92±7.23	0.436
Preoperative SF12 PCS ; mean±SD		27.88±7.85	27.59±6.44	0.973
Preoperative SF12 MCS; mean±SD		47.04±12.59	43.03±9.06	0.129
Preoperative KOOS Symptomts; mean±SD		47.04±12.59	43.03±9.06	0.077
Preoperative KOOS Pain; mean±SD		36.83±18.85	31.47±15.43	0.194
Preoperative KOOS Function and Daily Living; mean±SD		38.17±18.25	31.16±14.42	0.103
Preoperative KOOS Quality of Life; mean±SD		17.81±14.04	15.29±13.28	0.553
Preoperative KOOS Overall; mean±SD		31.35±12.97	26.13±11.19	0.068
Preoperative KOOS Function Sports Recreational Activities Subtotal; mean±SD		15.26±19.49	11.73±19.44	0.229
Preoperative FJS; mean±SD		7.95±9.55	5.58±9.20	0.088

Univariate analysis comparing kTKA and mTKA for outcome measures



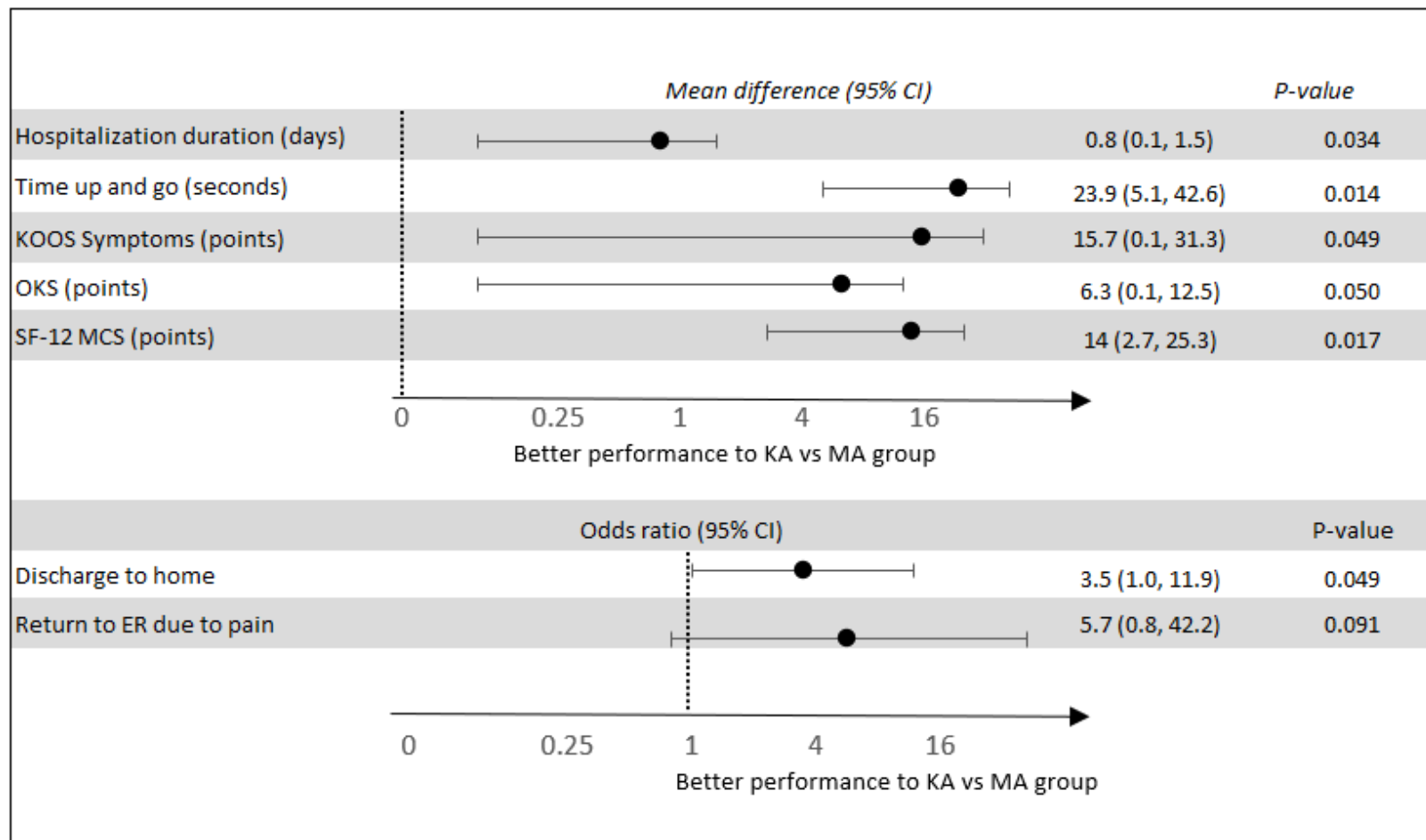
Pv for all outcomes ≤ 0.05

Univariate analysis comparing kTKA and mTKA for outcome measures



Pv for all outcomes ≤ 0.05

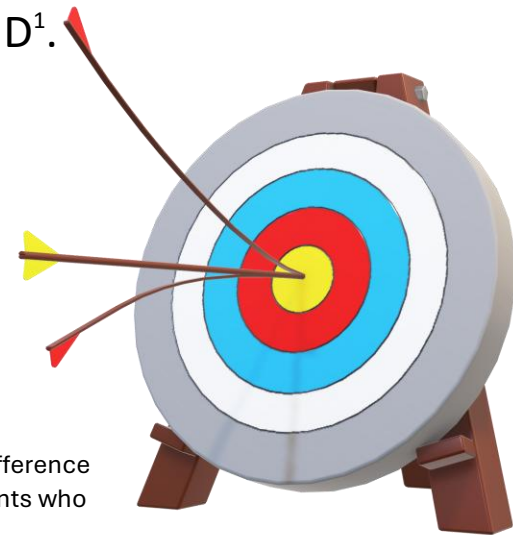
Multivariate regression analysis for hospitalization and post discharge variables



- Relatively small number of patients in mTKA group.
- Surgeon dependent.
- Missing data points <10%.



- Kinematic TKA correlates with better POD 1 TUG and admission duration.
- No differences were found in analgesic use.
- PROM's are better with kTKA in POD 14, higher than MCID¹.



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