

ONLINE SUPPLEMENTARY DATA

Supplementary Table 1. Model specifications for the construction of inverse probability weights at the index visit.

Specification	Description ^a	Estimated weights					
		Mean	SD	Median	IQR	Minimum	Maximum
1	Numerator include linear terms for baseline WOMAC subscales, SF12 PCS &MCS, and KOOS QoL in addition to baseline categorical variables such as KL grade, injury & surgery Hx, and BMI Denominator also includes WOMAC subscales, KL grade, and KOOS QoL at the index visit	1.02	0.64	0.89	0.53	0.15	6.69
2	Numerator and denominator are as in specification 1, but without KL grade and KOOS QoL at the index visit in denominator	1.03	0.52	0.93	0.48	0.10	4.02
3	Numerator and denominator are as in specification 2, plus adding WOMAC subscale*WOMAC	1.00	0.54	0.88	0.46	0.18	3.96

	subscale at the index visit in denominator						
4	Numerator and denominator are as in specification 3, but replace linear terms for time-varying WOMAC subscales with categories	0.96	0.24	0.93	0.19	0.50	2.37

Abbreviations: SD, standard deviation; IQR, interquartile range

^a All models include age, sex, race/ethnicity, education, and household income at enrollment

Supplementary Table 2. Sociodemographic and clinical factors among people with radiographically confirmed knee OA by censoring mechanisms.

Characteristics	Death (n=3)	Total knee replacement (n=52)	Switching (n=34)	Non- censored (n=323)
	<i>Percentage</i>			
HA initiator	33.3	32.7	29.4	20.4
Mean age (years, (SD))	65.7 (6.7)	68.8 (8.9)	65.4 (9.9)	66.2 (9.0)
Women	33.3	48.1	67.7	61.0
Ethnicity/Race				
Non-Hispanic White	100.0	90.4	79.4	78.0
Non-Hispanic Black	0	3.9	5.9	18.3
Other	0	5.8	14.7	3.7
Education				
High school or less	0	17.6	8.8	18.3
Some college	0	19.6	23.5	28.0
College graduate	0	31.4	32.4	19.3
Graduate school	100.0	31.4	35.3	34.5
Income (\$)				
<25,000	0	7.8	5.9	14.6
25,000 - 50,000	0	27.5	29.4	29.8
>50,000	100.0	64.7	64.7	55.6
KL grade				
2	0	4.1	41.9	41.1
3	33.3	42.9	25.8	41.4
4	66.7	53.1	32.3	17.5
Symptom-related multi- joint OA	33.3	59.6	50.0	56.0
History of knee injury	33.3	57.7	44.1	42.4
History of knee surgery	33.3	38.5	32.4	32.5
Body Mass Index (kg/m ²)				
<25	0	17.3	17.7	12.4
25 - <30	33.3	42.3	44.1	37.5
≥30	66.7	40.4	38.2	50.2
Knee alignment				
Normal	0	17.7	28.1	19.9
Varus	66.7	54.9	34.4	37.0
Valgus	33.3	27.5	37.5	43.1
CESD (>16)	100.0	6.1	6.5	11.7

Charlson Comorbidity Index				
0	33.3	63.5	70.6	66.9
1	33.3	19.2	17.7	19.2
≥2	33.3	17.3	11.8	13.9
	<i>Mean (standard deviation)</i>			
WOMAC Pain	2.0 (3.5)	5.5 (3.1)	5.2 (3.5)	5.0 (4.0)
WOMAC Stiffness	1.0 (1.7)	2.7 (1.7)	2.8 (1.5)	2.6 (1.7)
WOMAC Physical Function	7.8(12.6)	19.4 (11.2)	17.4 (11.4)	16.4 (13.0)
KOOS-QoL	66.7 (20.1)	48.7 (18.5)	52.7 (14.4)	54.9 (20.2)
SF-12 Physical Component Score	30.6 (12.1)	41.6 (9.0)	40.6 (7.8)	43.3 (9.6)
SF-12 Mental Component Score	59.9 (4.8)	56.6 (7.0)	56.5 (6.8)	53.8 (8.4)
Joint space width (mm)	4.5 (2.1)	2.7 (1.9)	4.1 (1.8)	4.8 (1.9)

Supplementary Figure 1. Graphical representation of evaluation the experimental treatment assumption.

