The following content was supplied by the authors as supporting material and has not been copy-edited or verified by JBJS.



Figure S1. Adjusted measurements of TT-TG distance, TTL, TGM, and knee rotation in the EPD group and the control group.

Error bar indicates 95%CI.

\*Statistically significant difference of each parameter measurement between the EPD group and the control group (P < .001).

TGM, trochlear groove medialization; TTL, tibial tubercle lateralization; TT-TG, tibial tuberosity-trochlear groove

## Table S1. CT measurements of the TT-TG distance comparing patellofemoral instability and control groups in the literature (Asia)

	Year	Place of study	Sample size	Cutoff value, mm	Patellofemoral instability group						Control group			
					Sample size	Mean , mm	SD, mm	Study population	Sample size	Mean , mm	SD, mm	Study population	P value	
Our study	2021	Chinese mainland	781	16.2	541	18.2	3.8	episodic patellar dislocation	240	13.0	3.8	synovial osteochondromatosis of the knee, a soft-tissue or bone tumor arount the knee joint, and osseocatilaginous defects	<.001	
Tensho et al. <sup>1</sup>	2018	Japan	132	15.7/ 20	19	16.8	4.5	single patellar dislocation	66	14.3	2.9	bipartite patella, osteochondritis dissecans, osseocartilaginous defects, suspected stress	.01	

					47	19.2	4	recurrent patellar dislocation				fracture, synovialosteochondromat osis of the knee, and a bone or soft tissue tumor around the knee joint	<.001		
Prakash et al. <sup>2</sup>	2018	Korea	99	NR	31	19.05	4.8	spontaneous recurrent patellar dislocation	68	9.02	5.2	controls who underwent a rotational profile CT scan for problems other than the knee joint	<.001		
Prakash et al. <sup>3</sup>	2016	Korea	135	20.5	48	27.16	5.5	patellofemor al dislocation	87	10.91	4.8	normal side in unilateral cases	<.001		
Mohammadi nejad et al. <sup>4</sup>	2016	Iran	Iran	Iran	Iran	Iran	Iran	Iran	126	20	42	42 <b>18.71 3.96</b> symptomatic knees 42 <b>9.83 1</b> .	1.11	healthy controls	<.001
				15	42	17.35	4.39	asymptomati c knees							
Tensho et al. <sup>5</sup>	2015	Japan	88	NR	44	19.3	4.2	acute and chronic lateral patellar dislocation	44	14.4	2.9	bipartite patella, osteochondritis dissecans, osteocartilage defects, suspected stress and minor fractures, and soft tissue and bone tumors around the knee joint, and volunteers	<.001		

uisiocation	Tse et al. <sup>6</sup>	2015	Hong Kong (China)	87	16.4 (43%)	14	16.4	1.9	recurrent patellar dislocation	73	10.1	0.7	control knees with problems other than patellar dislocation	<.001
-------------	-------------------------	------	-------------------------	----	---------------	----	------	-----	--------------------------------------	----	------	-----	--	-------

NR, not reported

	Year	Place of study	Sample size	Cutoff	Pate	oility group	Control group						
				value, mm	Sample size	Mean , mm	SD, mm	Study population	Sample size	Mean , mm	SD, mm	Study population	P value
Iacobescu et al. <sup>7</sup>	2020	Romania	63	20 (69.7%)	33	21.4	3.5	recurrent patellofemoral dislocation	30	13.3	2.9	meniscal injury but healthy contralateral limb	<.001
Ferlic et al. <sup>8</sup>	2018	Austria	66	NR	36	16.7	4.3	at least one patella dislocation	30	12.7	4.7	cases without history of patellofemoral instability	.012
Dejour et al. <sup>9</sup>	1994	France	170	20 (56%)	143	19.8	1.6	at least one patella dislocation	94	12.7	3.4	control knees or contralateral asymptomatic knees	<.001

Table S2. CT measurements of the TT-TG distance comparing patellofemoral instability and control groups in the literature (other places)

NR, not reported

## Reference

 Tensho K, Shimodaira H, Akaoka Y, Koyama S, Hatanaka D, Ikegami S, et al. Lateralization of the Tibial Tubercle in Recurrent Patellar Dislocation: Verification Using Multiple Methods to Evaluate the Tibial Tubercle. J Bone Joint Surg Am. 2018 May 2;100(9):e58. Epub 2018/05/02.

2. Prakash J, Seon JK, Ahn HW, Cho KJ, Im CJ, Song EK. Factors Affecting Tibial Tuberosity-Trochlear Groove Distance in Recurrent Patellar Dislocation. Clin Orthop Surg. 2018 Dec;10(4):420-6. Epub 2018/12/07.

3. Prakash J, Seon JK, Woo SH, Jin C, Song EK. Comparison of Radiological Parameters between Normal and Patellar Dislocation Groups in Korean Population: A Rotational Profile CT-Based Study. Knee Surg Relat Res. 2016 Dec 1;28(4):302-11. Epub 2016/11/29.

4. Mohammadinejad P, Shekarchi B. Value of CT scan-assessed tibial tuberosity-trochlear groove distance in identification of patellar instability. Radiol Med. 2016 Sep;121(9):729-34. Epub 2016/05/20.

5. Tensho K, Akaoka Y, Shimodaira H, Takanashi S, Ikegami S, Kato H, et al. What Components Comprise the Measurement of the Tibial Tuberosity-Trochlear Groove Distance in a Patellar Dislocation Population? J Bone Joint Surg Am. 2015 Sep 2;97(17):1441-8. Epub 2015/09/04.

6. Tse MS, Lie CW, Pan NY, Chan CH, Chow HL, Chan WL. Tibial tuberosity-trochlear groove distance in Chinese patients with or without recurrent patellar dislocation. J Orthop Surg (Hong Kong). 2015 Aug;23(2):180-1.

7. Iacobescu G, Cirstoiu C, Cursaru A, Anghelescu D, Stanculescu D. Correlation between Patellar Tilt Angle, Femoral Anteversion and Tibial Tubercle Trochlear Groove Distance Measured by Computer Tomography in Patients with non-Traumatic Recurrent Patellar Dislocation. Maedica

(Bucur). 2020 Jun;15(2):174-80. Epub 2020/09/22.

8. Ferlic PW, Runer A, Dirisamer F, Balcarek P, Giesinger J, Biedermann R, et al. The use of tibial tuberosity-trochlear groove indices based on

joint size in lower limb evaluation. Int Orthop. 2018 May;42(5):995-1000. Epub 2017/06/21.

9. Dejour H, Walch G, Nove-Josserand L, Guier C. Factors of patellar instability: an anatomic radiographic study. Knee Surg Sports Traumatol

Arthrosc. 1994;2(1):19-26.