Table 1. Eighty-five cases (97.7%) were subjected to TKA while only 2 cases (2.3%) with G6 cartilage defect only in medial FTJ were undergone UKA. When M+L+PF or M+L defects are set as an indication for TKA, number of TKA performed based on criteria B (n=40, 47.1%) is significantly larger than criteria A (n=25, 29.4%). From our study cohort, 60 cases (70.6%) from criteria A or 45 (52.9%) cases from criteria B with only medial FTJ (M), lateral FTJ (L), medial FTJ with PFJ (M+F), or lateral FTJ with PFJ (L+F) defects underwent TKA.

Conclusions: Surgical indication of TKA could significantly change by the criteria based on severity of cartilage defect on MRI. Many medial or lateral compartment OA cases with or without patellar compartment defect have undergone TKA and they might have been chosen another solution such as partial arthroplasty after further evaluation on the ligaments and subchondral bone status. The results in this study suggest UKA or BKA indication might increase when cartilage is comprehensively evaluated in each compartment.

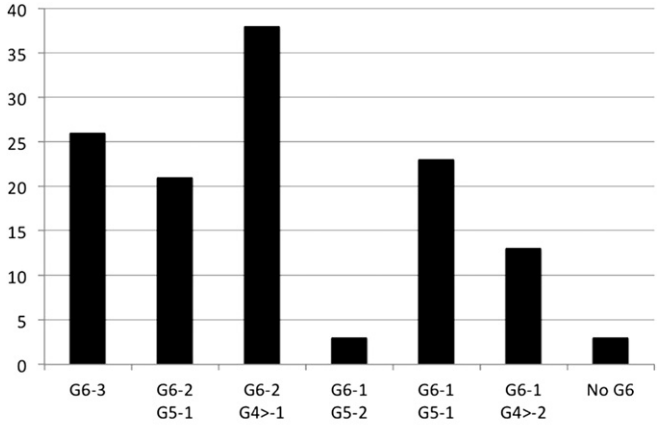

Figure. 1 Number of maximum cartilage grading and compartment
Note; G6-3 = 3 G6 compartments, G5-2 = 2 G5 compartments, etc

	TKA		BKA		UKA	
Components	G6	G5+G6	G6	G5+G6	G6	G5+G6
M+L+PF	16	32	0	0	0	1
M+L	9	8	0	0	0	1
M+PF	22	20	0	0	0	0
L+PF	9	14	0	0	0	0
M	13	7	0	0	2	0
L	12	4	0	0	0	0
PF	3	0	0	0	0	0
None	1	0	0	0	0	0
Total	85	85	0	0	2	2

Table 1 Outcome of operation after MRI
M: medeal, L: lateral, PF: patellofemoral components

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THE ASSOCIATION OF PHYSICAL ACTIVITY AND PROGRESSION OF KNEE CARTILAGE T2 RELAXATION TIME WITH 3 TESLA MRI OVER A PERIOD OF 4 YEARS USING DATA FROM THE OSTEOARTHRITIS INITIATIVE

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Purpose: The relationship of physical activity with the development of osteoarthritis remains unclear. The purpose of this study was to investigate the association between physical activity levels and early degenerative cartilage changes at the knee, measured using T2 relaxation times over a period of 4 years using 3 Tesla (3T).

Materials and Methods: 152 subjects without radiographic or symptomatic knee osteoarthritis were randomly selected from the Osteoarthritis Initiative (OAI) database. The inclusion criteria included 45-60 years of age, BMI of 19-27 kg/ m^2, and no knee pain in either knee (WOMAC score of zero), and a Kellgren-Lawrence (KL) score less than 2 in the right knee at baseline. The Physical Activity Scale for the Elderly (PASE) was completed at the initial visit and was used to categorize individuals into quartiles (Q1, Q2, Q3, Q4). T2 of articular cartilage in different locations in the knee was measured from multi-echo SE, a sequence acquired in the right knee of each individual from baseline and 48-month follow-up visits. Multiple linear regression models were used to adjust for age, gender, and BMI to determine the association between physical activity level and progression of knee T2 relaxation time.

Results: Very high (Q4) and very low (Q1) physical activity levels were associated with higher T2 progression than a mid-level of physical activity (Q3) in the lateral femur ($p = 0.025$, $p = 0.032$, respectively). In the medial femur, very high levels of physical activity (Q4) were associated with higher T2 progression than a mid-level of physical activity (Q3, $p = 0.015$), while differences over lower levels of physical activity (Q2, Q3) trended toward significance ($p = 0.084$, $p = 0.098$, respectively).

Conclusion: Very high levels of physical activity, as measured by PASE, were associated with higher progression of knee T2 values in the lateral and medial femur. Low levels of physical activity were associated with higher progression in the lateral femur. This suggests that both very low levels of physical activity and high levels of physical activity may predispose asymptomatic, middle-aged individuals to increased biochemical changes suggestive of cartilage degradation over time. These findings need to be confirmed in other cohorts and using objective measures of physical activity.

Table 1. Comparison of progression of T2 relaxation time at 4-year follow-up of 152 subjects by PASE quartile*

	PASE Q1	PASE Q2	PASE Q3	PASE Q4
T2 progression (msec)				
Δ LFC	2.32 ± 0.35	1.66 ± 0.36	1.26 ± 0.34†	2.35 ± 0.34
Δ LT	2.01 ± 0.91	3.44 ± 0.93	1.60 ± 0.90	1.98 ± 0.90
Δ MFC	1.45 ± 0.78	1.38 ± 0.80	0.63 ± 0.77	3.29 ± 0.77
Δ MT	1.62 ± 0.81	2.23 ± 0.83	2.04 ± 0.80	2.25 ± 0.80‡
Δ Pat	3.35 ± 1.12	3.43 ± 1.15	3.96 ± 1.11	4.75 ± 1.11

Note: LFC = lateral femoral condyle; LT = lateral tibia; MFC = medial femoral condyle; MT = medial tibia; Pat = patella
* Values are mean ± SD. Differences between groups were determined by multiple linear regression analysis adjusted for age, sex, and body mass index
† $P = 0.025$ Q4 versus Q3; $P = 0.032$ Q1 versus Q3
‡ $P = 0.015$ Q4 versus Q3; $P = 0.084$ Q4 versus Q2; $P = 0.098$ Q4 versus Q1

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PINCER-TYPE ACETABULAR DEFORMITIES AMONG GENERAL POPULATION AND RELATIONSHIP WITH EARLY HIP DEGENERATIVE CHANGES. A CT AND X-RAY BASED STUDY

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Purpose: Pincer-type deformities (acetabular retroversion (RV), isolated anterior-superior overhang (OH), coxa profunda (CP) and protrusio acetabuli (PA)) have been advocated as a cause of femoro-acetabular impingement, with possible onset of hip and groin pain and eventually degenerative changes in the hip. The aim of the present study was 1) to analyze the prevalence among general adult population of radiographical and CT patterns suggestive of pincer-type deformities, 2) evaluate the relationship between central and cranial version in each pattern, 3) consider the possible impact of these deformities on the onset of radiographic signs suggestive of labral or chondral lesions at the acetabular rim (acetabular rim ossification or bone cystis, os acetabuli) and 4) evaluate accuracy and reliability of plane radiographs *vs* CT in detecting acetabular RV.