Conclusions: The rate of persistent pain was 8.4%. This result is lower than past reports from Europe and United States. In our department, surgeons basically take postoperative follow by themselves at 6 weeks, 3, 6, 12 months after surgery and every year. When we find patients who have something wrong around the replaced knee, we diagnose what is going on and treat appropriately. For example, we treated with steroid injection for infrapatellar saphenous neuralgia and pregabalin medication for lumber radiculopathy at some point. Recent studies have found that PPSP is associated with preoperative knee pain, younger patient, catastrophizing and mental health, while our findings showed the predictive factor of PPSP was WOMAC function score. This is the first report of prospective study for PPSP after TKA in Japan.

Table 1.
Comparison between patients with and without PPSP.

	PPSP (-) n=224 knees	PPSP (+) n=22 knees	*P* value
Age at surgery (years)	73 [68-79]	76 [72.5-79]	0.116
Sex (men/ women)	52 / 172	3 / 19	0.304
VAS at rest (mm)	20 [5-40]	30 [11.3-70]	0.045
VAS at walk (mm)	20 [50-80]	70 [54.8-80]	0.295
WOMAC pain	9 [7-11]	12 [10-13]	0.001
WOMAC stiffness	5 [4-6]	6 [4.3-6]	0.036
WOMAC function	29 [20-39]	41 [36.5-49]	<0.001
WOMAC total	44 [32-56]	60.5 [52.3-67.3]	<0.001
KSS knee score	50 [39-61]	50 [45-60]	0.074
KSS function score	50 [45-60]	45 [45-60]	0.999
EQ-5D	0.631 [0.536-0.649]	0.562 [0.495-0.596]	0.002
PCS	27 [18.5-32]	29.5 [18.8-33]	0.243
painDETECT	10 [6-14]	8 [7-16.5]	0.946

Data are median [IQR]. Statistical comparison between with and without PPSP was analyzed by Mann-Whitney *U* test and Chi-squared test.

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THE ASSOCIATION BETWEEN SOCIOECONOMIC STATUS AND JOINT REPLACEMENT OF THE HIP AND KNEE. A POPULATION-BASED COHORT STUDY OF OLDER ADULTS IN TASMANIA, AUSTRALIA

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Purpose: A socioeconomic gradient exists in the utilisation of total joint replacements (TJR) in hip and knee for osteoarthritis (OA). However, the relationship between socioeconomic status (SES) and time to TJR due to OA is unknown. Therefore, the aim of this study was to describe the association between SES and time to total hip replacements (THR) and total knee replacements (TKR) due to OA.
Methods: 1072 older adults residing in Tasmania, Australia were studied. Incident primary THR and TKR were determined by data linkage to the Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR). At baseline, each participant's area-level SES was determined by the Index of Relative Socioeconomic Advantage and Disadvantage (IRSAD), from the Australian Bureau of Statistics' 2001 census data. IRSAD was analysed in two ways; 1) categorised into quartiles, whereby quartile 1 represented the most socioeconomically disadvantaged group, 2) the cohort dichotomised at the quartile 1 cut-point. The associations were estimated using Cox proportional hazards models.
Results: The mean age was 63.0 (±7.5) years, and 51% were women. Over the median follow-up of 12.9 (Interquartile range: 12.2-13.9) years, 56 (5%) participants had a THR, and 79 (7%) had a TKR. Compared to the most disadvantaged quartile, less disadvantaged participants were *less* likely to have a THR (i.e. less disadvantaged participants had a longer time to THR) (HR: 0.56, 95% CI 0.32, 1.00) but not TKR (HR: 0.90, 95% CI 0.53, 1.54). However, the former became non-significant after adjustment for pain and radiographic osteoarthritis, suggesting that the associations may be mediated by these factors.
Conclusions: This study suggests that time to joint replacement was determined according to the symptoms/need of the participants rather than their SES.

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PHASE ANGLE IN OSTEOARTHRITIS PATIENTS, RELATIONS WITH PAIN, MUSCULAR MASS AND STRENGTH

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Purpose: Several researches have been carried out to see the relation between the Phase Angle (PhA), disease and several health risks factors. Ageing is associated with the loss of muscle mass and changes in body composition, which result in a decrease of the PhA. Malnutrition and inflammation have been reported to have a strong influence on PhA in diseased individuals. Subjects with Osteoarthritis (OA) have decreased muscular strength and pain. The aim of this study was to understand if the PhA was altered in patients with OA and if it's related with pain, muscular mass and strength.
Methods: This study is part of an ongoing project on Sarcopenia risk, muscular strength and quality of life ongoing and sponsored by the CENIE (International Center on Aging - Interreg POCTEP Founding). Subject were recruited through informative flyers that was distributed at Health Centers of ACES-Central, Elderly Associations, Senior Universities and Pharmacies in the region of Algarve. Subsequently, by appointment, the evaluations were performed. All 79 participants, who between May-October 2019 evaluated in the Health, Ageing and Kinetic Lab of the University of Algarve, were included. Subjects were eligible for the study if they were 60 years or older and were able to self-fill-in the questionnaires. All subjects were informed about the aim of the study and gave their informed consent to participate. Participants were informed about their freedom for refusal. Main study variables were pain in OA (evaluated by Western Ontario and McMaster Universities Osteoarthritis - WOMAC Questionnaire), body composition, like PhA, Body Mass Index (BMI) and muscular mass (evaluated by Medical Body Composition SECA® mBCA515), isokinetic muscle strength at 60º/s - 5 repetitions through peak torque (evaluated by a isokinetic dynamometer CSMI - HUMAC NORM®) and other health and general subjects characteristics (self-reported by a questionnaire in a paper-and-pencil format). Data was treated with IBM-SPSS-Statistics version 25. Descriptive statistics were compared by a t-test for independent samples and Spearman correlations for bivariate data were performed.
Results: A total of 79 subjects were willing to participate (77.2% female), mean age 73.4±7.15 years (ranged 60-91). Regarding BMI, 23.7% Low or Normal BMI; 42.1% Overweight (BMI 25-29.9); 21.1% Obese Type I (BMI 30-35); 6.6% Obese Type II (BMI 35-39.9) and 6.6% have BMI>40. Among studied subjects 63.3% (n=50) have OA according to NICE clinical criteria of diagnose. Results show that subject with OA have both significantly lower muscular mass in kg (p<0.008) and % of body composition (p<0.002). Differences were also found in extension peak torque/body weight (BW) in both legs (p<0.005 right; p<0.023 left). Correlations were found between the PhA and both peak torque/BW and body mass. As expected, pain frequency was correlated to medication intake, both were found to influence inversely the PhA (p<0.005; r=-0.350 & p<0.01; r=-0.325).
Conclusions: The PhA is altered in OA patients compared to subject without OA, and is correlated to with decreased pain, muscular mass

and strength. Although further research is needed, it may be that, known the influence of inflammation on PhA this may be a predictor of disease progression and outcome. We are proceeding to analyze this in the near future.

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KNEE LAXITY AFTER STAIRCASEEXERCISE PREDICTS RADIOGRAPHIC DISEASE PROGRESSION IN KNEE OSTEOARTHRITIS

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Purpose: Osteoarthritis (OA) of the knee is one of the major causes of joint dysfunction and physically disabling conditions in the elderly. Joint laxity is considered one of the major factors involved in the progression as well as development of knee OA. Our group reported the increasing of knee joint laxity after stair up down exercise in knee OA patients. And we considered the knee joint laxity after exercise influences the progression of knee OA. The purpose of this study was to evaluate whether the knee joint laxity after staircase climbing produces the knee joint OA progression or not.
Methods: During 2001-2003, 84 participants with primary bilateral medial compartment knee joint OA managed at our Orthopaedic Unit were enrolled in this prospective study. Baseline data were collected by BMI, muscle power, joint space width, radiograph, mechanical axis on standing radiograph, antero-posterior (A-P) knee laxity before and after physical exercise. At the 8-year follow-up, all participants were again examined to assess radiographic changes (Fig 1). Radiographic disease progression was defined as more than one grade progression of Kellgren and Lawrence grade, or more than 0.1mm decrease of the knee joint cartilage a year.
Results: Patients were divided into two groups based on radiographic outcome after 8-year follow-up; 46 subjects showed radiographic disease progression while no progression was seen in 38 subjects. The proportion of men and women and the number of patients with each radiographic scale (K/L grade and joint space narrowing grade) were similar in two groups. However, there were some significant differences at entry between two groups. In the group with radiographic progression, body mass index was significant higher (p=0.04) and total change in A-P knee laxity before and after staircase exercise was larger (p=0.05) and joint space width at the time of 8-year follow-up was significant narrower (p=0.002) than in the group without progression. Age, quadriceps muscle strength, mechanical axis, joint space width, A-P knee laxity before exercise at baseline were not statistically different between two groups. To compare the predictive value for radiographic progression, the cutoff point of each baseline variable was determined using a receiver operating characteristic curve analysis (Fig 2). Logistic regression analysis was performed with radiographic disease progression as the dependent variable. Eight independent variables were entered into the analysis (age, gender, body mass index, quadriceps muscle strength, mechanical axis, joint space width, A-P knee laxity, total changes in A-P knee laxity). Of these, the variables found to be significant were total change in A-P knee laxity (before/after exercise) (p=0.046) and body mass index (p=0.018). The risk of progression of knee OA increased 4.15 times with a 1 mm increase in total change in A-P knee laxity after exercise and 1.24 times with one point increase in body mass index.
Conclusions: The present study characterized the increasing in knee joint laxity after staircase climbing promotes the knee OA progression. The findings of our study were: 1) There were no significant differences between patients with OA progression and without progression in age, gender, quadriceps muscle strength, mechanical axis, joint space width, A-P knee laxity before exercise; 2) A-P knee laxity increased significantly after staircase climbing in all participating subjects; 3) The significance variables were found in BMI and total changes of A-P knee laxity after exercise. The risk of progression of knee OA increased 4.15 times with a 1 mm increase in total changes of A-P knee laxity after exercise, and 1.24 times with one point increases in BMI. Considered all together, the Results suggest that large changes in A-P laxity after staircase exercise, and BMI reflect the progression of the OA disease process. In our study, knee laxity before exercise was not significant different between OA progression group and without OA progression group, but total change in A-P knee laxity after staircase climbing exercise had significant correlation with OA progression. In daily life, knee joint was continued moving (e.g. squatting, walking, standing, climbing stairs etc) and knee OA was progression through knee movement. When evaluate the knee OA progression, it was important to evaluate the knee joint kinematics and state and stability through the activities. In this study we measured knee laxity just after staircase climbing to evaluate the similar condition of the daily activities. Our results suggest the development of knee laxity during repetitive physical exercise and BMI play a significant role in the etiology and progression of knee OA.

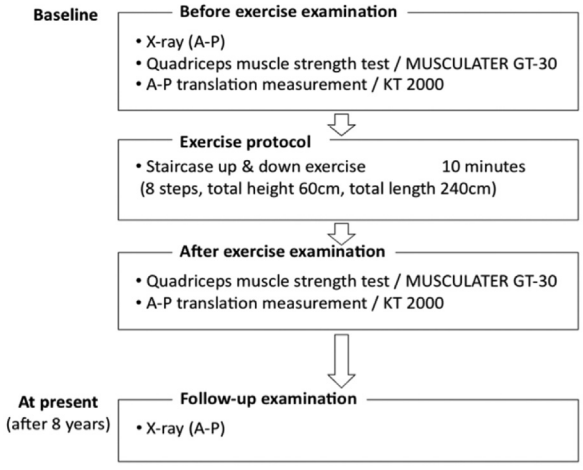

Figure 1

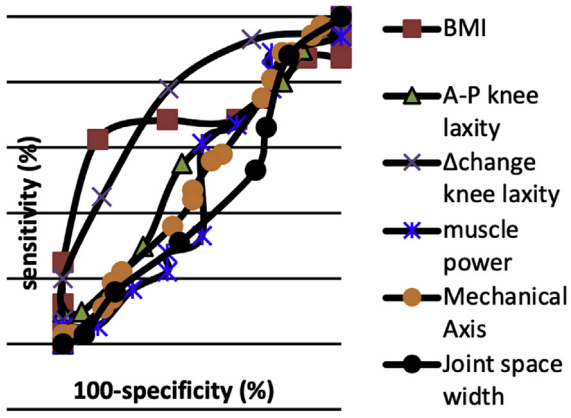

Figure 2

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EVALUATION OF TREATMENT OUTCOME USING THE PATIENT SPECIFIC FUNCTIONAL SCALE IN KNEE OSTEOARTHRITIS PATIENTS UNDERGOING MULTIDISCIPLINARY REHABILITATION

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