

# Validity and Reliability of 2 Minutes Step Test in patients with Different Grades of Knee Osteoarthritis: A Study Protocol

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**Introduction:** Climbing steps up and down remain difficult in individual with knee Osteoarthritis (OA). To evaluate the functional capacity in patient with knee OA, several tests have been recorded such as 6 min walk test, Time Up and Go (TUG) test Chair Stand Test (CST) and Stair Climb Test (SCT). Being quick to execute and inexpensive, 2 Minute Step Test (2MST) presents more feasible to conduct in clinical settings as compared to 6 min walk test, TUG, CST and SCT which requires larger space and specific infrastructure. Two minutes step test is a valid and reliable test in patients with knee OA. By measuring how many steps a person can take in two minutes, it provides valuable insight into their aerobic capacity and overall fitness level. Even though 2MST is a promising method for examining functional capacity, there is currently a dearth of information in the literature about the concurrent validity and reliability of its use in individual with knee OA.

**Need for this study:** The 2MST will be a valid, reliable and established tool for analysing knee OA patients and their functional capacity with outstanding validity and reliability.

**Aim:** The study objective is to evaluate concurrent validity and test intra-rater reliability of 2MST in patients with knee OA.

**Materials and Methods:** Patients will be recruited based on the principle of inclusion and exclusion standards. Fifty-one patients of each grade will be recruited on the basis of Lynn criteria. The sample will be recruited from orthopaedic physiotherapy lab on the basis of grading of OA according to Kellgren-Lawrence grading (Grade I, II, III) and individuals will be further divide on the basis of grade I, II, III. One examiner will assess the patients at two times with interval between the test and retest from 7 to 14 days.

**Keywords:** Osteoarthritis, Step test, Validity and reliability, Knee osteoarthritis.