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Ability of kneel after total knee replacement

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Abstract

Patients commonly report difficulty kneeling after total knee arthroplasty (TKA) as it is one of the most neglected activities postop due to a variety of reasons. Data and research have suggested that there is little to no association between range of motion and kneeling ability. This suggests that patients are able to kneel but elect not to. Reasons for patients not electing to kneel seems to be varied which include pain or discomfort in knee fear of harming the implant or hearsay advice from others. There is currently no evidence on whether patients should kneel or not on their replaced knee, and reasons for not kneeling could be addressed through education and rehabilitation. The purpose of this study was to retrospectively assess patients' ability to kneel after TKR after 6 months follow-up duration.

Keywords: ability, kneel, total knee arthroplasty

Introduction

We have investigated the ability to kneel after total knee replacement. We asked 100 patients at least 6 months after routine uncemented primary knee replacement, to comment on and to demonstrate their ability to kneel. Differences between the perceived and actual ability to kneel were noted ^[1, 2]. 32 knees patient stated that they could kneel without significant discomfort ^[2]. In 46 knees patients avoided kneeling because of uncertainties or recommended patients from 3rd parties. Thus a total of 78 patients were actually able to kneel without discomfort or with mild discomfort only and 10 of the reminder 22 unable to kneel because of problems which were not related to the knee. 12 patients therefore were unable to kneel because of discomfort in knee.

There was no difference between the 'kneelers' and 'non-kneelers' with regard to overall knee score, range of movement and the presence of patellar resurfacing.

There have been a number of studies of knee replacement systems which have some adequate functional result at middle to long term follow up. Most of the Post TKR Functional Scoring Systems used in research assess pain, ability to walk or descend stairs or use of walking aids as measurement of outcomes. The ability to kneel is usually not considered. Some recently introduced scoring system, derived from patients questionnaire include kneeling as a criterion of function of knee.

Kneeling function is important in daily routine activities and a certain number of occupation ^[3]. It has been shown to be a predisposing factor for osteoarthritis of the knee and so preselects patients who will need to kneel after surgery. Kneeling has also been shown to be an intermediate position used by adults to enable them rise from the floor.

Many patients advise to have surgery for arthritis of the knee enquires about ability to kneel after operation but there is little published information on the subject. We have therefore assessed the ability of patients to kneel after TKR ^[6].

Patients and Methodology

We carried out a cross sectional study in which we randomly took 100 patients who have been operated for total knee replacement at Civil Hospital Ahmedabad and attending follow up clinic of at least 6 months or more. Implant used in all patients were similar and skin incision taken were same in all patients i.e. parapatellar incision. All patients were assessed properly and KSS and Oxford Knee Score were calculated along with range of movement.

All patient were asked whether they were able to kneel after surgery. And were asked to demonstrate their kneeling ability on a firm surface. All pt. were made to kneel on hard surface only so as to rule out any bias patient were asked to tell pain while kneeling. All those patient not able to kneel due to other reason like spine injury, backache were excluded. We categorized patients in 2 groups. 1st group of patients who were able to kneel without pain or with mild to moderate pain. 2nd group of patient who were not able to kneel due to pain and discomfort. Out of total 100 patients 60 were women and 40 were male and only one sided TKR done. We have excluded patient with bilateral total knee replacement. Mean age of patient were 62 years (45 to 89).

2 types of scoring were assessed for all patients. 1st score KSS score. KSS score is evaluated out of 200. The Knee Society Score - KSS evaluates the clinical picture in terms of pain intensity, range of motion and stability in the anteroposterior and mediolateral planes, flexion deformities, contractures and poor alignment ^[4]. 2nd score is Oxford Knee Score which is evaluated on questionnaires based on 12 items of daily activity and each one scored from 1(normal function) to 5 (extremely difficult)and thus scored out of total 60 points ^[5]. All pt. were evaluated and mean score were calculated mean KSS score was 169/200. Mean oxford score was 48/60. Mean range of movement was 1 to 110 (-5 to 150).

Results

Total 78 patients were able to kneel on demonstration with no or mild pain. out of these 78, 46 patients were such who avoid kneeling due to doctors recommendation, fear or 3rd person suggesstion.22 patients were actually not able to kneel due to pain and discomfort in knee as well as other issues. Mean range of movement in all pts. able to kneel is 116 and not able to kneel is 108. Mean KSS able to kneel was 176 and not able to kneel was 164. Mean oxford score able to kneel was 46 and not able to kneel 52.

Discussion and Conclusion

Out of 100 patient 80 were patients were not able to kneel before surgery. 20 were able to kneel before surgery. Those patients who were able to kneel before surgery were also able to kneel after surgery comfortably. So at present there is no as such kneeling complication in patient who were able to kneel before surgery due to total knee replacement. As TKR is an area of growing expectations for post-operative return of full and active lifestyle further research is needed to evaluate how to optimize higher-function activities such as kneeling ^[6]. Thus increased patient education, research and continuous attention regarding this factor with variable outcome is needed to optimize patient care and allow patients to return to this important activity ^[7].

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