AB0881
COMPARISON OF FUNCTIONAL OUTCOMES BETWEEN PRIMARY AND REVISION TOTAL KNEE ARTHROPLASTY
K. Sevik1, T. Unver1, B. Unver1, 1Dokuz Eylul University, Izmir, Turkey

Background: Total knee arthroplasty (TKA) is the gold-standard treatment for end-stage knee osteoarthritis (OA). An increase in the prevalence of primary and revision TKA is projected due to aging of the population, increase in the obesity and OA prevalence, patients’ quality of life perceptions and primary and revision TKA procedures. Although TKA reliably improves pain and function; gait ability and function are still low compared to normal levels [1]. It is important to understand the prognosis to decide to undergo a rTKA (revision total knee arthroplasty) or enhance treatment protocols [2].

Objectives: The aim of the study is to compare the functional results of primary and revision TKA.

Methods: Hospital Of Special Surgery knee score (HSS), The Figure-Of-S-B Walk Test (F8WT), The Modified Four Step Square Test (mFSST) and the 3-Meter Backwards Walk Test (3MBWT) were used for function assessment.

Table 1. Characteristics of the patients

<table>
<thead>
<tr>
<th></th>
<th>TKA</th>
<th>rTKA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSS</td>
<td>83.00 (74.00-90.00)</td>
<td>78.50 (68.75-90.25)</td>
<td>0.179</td>
</tr>
<tr>
<td>Age-years</td>
<td>65.00 (57.00 - 70.25)</td>
<td>69.09 (59.70-75.75)</td>
<td>0.178</td>
</tr>
<tr>
<td>BMIsqcm2</td>
<td>30.92 (28.41-34.62)</td>
<td>31.61 (25.54-36.41)</td>
<td>0.748</td>
</tr>
<tr>
<td>Time after surgery-years</td>
<td>2.00 (1.50-4.25)</td>
<td>3.00 (2.00-6.50)</td>
<td>0.038</td>
</tr>
<tr>
<td>Female</td>
<td>25 (80.6 %)</td>
<td>20 (69.0 %)</td>
<td>0.296</td>
</tr>
<tr>
<td>Male</td>
<td>6 (19.4 %)</td>
<td>9 (31.0 %)</td>
<td></td>
</tr>
<tr>
<td>Pain</td>
<td>0.00 (0.00-0.00)</td>
<td>0.00 (0.00-0.75)</td>
<td>0.127</td>
</tr>
</tbody>
</table>

*p<0.05

Table 2. Functional Performances Of The Patients

<table>
<thead>
<tr>
<th></th>
<th>TKA</th>
<th>rTKA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>3MBWT</td>
<td>6.2 (3.80-8.69)</td>
<td>7.68 (6.10-11.25)</td>
<td>0.042*</td>
</tr>
<tr>
<td>mFSST</td>
<td>10.20 (9.00-12.98)</td>
<td>13.10 (11.25-15.07)</td>
<td>0.001*</td>
</tr>
<tr>
<td>F8WT</td>
<td>6.23 (4.74-8.6)</td>
<td>9.11 (7.15-12.05)</td>
<td>0.001*</td>
</tr>
</tbody>
</table>

*p<0.05

Conclusion: Functional status, fall risk, balance and walking skills of the rTKA patients were lower than the TKA patients. rTKA patients experience longer operation time, hospital stay and make fewer functional gains. Improvement after rTKA is also reported to be lower than TKA and balance could be worsened or does not improve after TKA [2].

AB0883
RELIABILITY OF THE MODIFIED FOUR SQUARE STEP TEST IN PATIENTS WITH REVISION TOTAL KNEE ARTHROPLASTY
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Background: Patients with total knee arthroplasty (TKA) often experience pain and reduced balance control, which may predispose them to greater fall risk. The patients with revision total knee arthroplasty (rTKA), have more pain, stiffness and physical dysfunction and less postoperative improvement compared to the patients with TKA [1]. Falls in people with gait or balance disorders have significant consequences. Fear of falling can also predispose people to inactivity, which can lead to problems of debilitation, increased handicap, and disability by itself to walk backwards as quickly. Patients performed trials for 3MBWT twice on the same day. Between the trials, patients waited for an hour on sitting position to prevent fatigue.

Results: The 3MBWT showed an excellent test-retest reliability. Intraclass correlation coefficient ICC for 3MBWT was 0.97. The standard error of measurement and MCID at the 95% confidence level for 3MBWT were 1.08 and 2.99 respectively.

Conclusion: The 3MBWT has an excellent test-retest reliability in patients with rTKA. It is an effective and reliable tool for measuring fall risk, dynamic balance and walking skills. As a clinical test, the 3MBWT is easy to score, has no cost, needs no special equipment and can be applied in a short time as part of the routine medical examination.

References:

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2020-eular.5198

AB0882
RELIABILITY OF THE 3-M BACKWARDS WALK TEST IN PATIENTS WITH REVISION TOTAL KNEE ARTHROPLASTY
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Background: Total knee arthroplasty (TKA) is an effective treatment for patients suffering from end-stage osteoarthritis with 10- to 15-year implant survivorship rates exceeding 90%. Infection, osteolysis due to polyethylene wear, loosening, stiffness and instability may cause to implant failure and revision of the TKA (rTKA). However, up to 20% of patients continue to have postoperative pain, functional limitations and low treatment satisfaction and 24% of patients were not able to walk unaided with or without a limp after TKA [1]. Falls and related traumas can produce "fracture, dislocation, crushing, and other injuries" [2]. Falls often occur due to impaired physical function which includes changes in lower knee joint angle, weakened lower limb muscles, peripheral nerve blockade, deformity of the foot limited balance and gait.

Several measures of fall risk have been previously developed however, recent research has demonstrated that backwards walking is more sensitive at identifying changes in mobility and balance compared to forward walking. Backwards walking is necessary to perform such tasks as backing up to a chair, opening up a door or getting out of the way of a sudden obstacle.

3-M Backwards Walk Test (3MBWT) is used to evaluate walking skills, fall risk and dynamic balance. The 3MBWT demonstrated similar or better diagnostic accuracy for falls in the past year than the most commonly used measures and found to be reliable in healthy subjects. [3] However, its reliability in rTKA has not been investigated.

Objectives: The purposes of this study were to determine the test-retest reliability and the minimal clinically important difference (MCID) of the 3MBWT in patients with rTKA.

Methods: Twenty-two patients with rTKA, operated on by the same surgeon, were included. For the 3MBWT, a distance of 3 meters was marked with tape and participants were asked to align their heels with the black tape. They were instructed to walk backwards as quickly. Patients performed trials for 3MBWT twice on the same day. Between the trials, patients waited for an hour on sitting position to prevent fatigue.

Results: The 3MBWT showed an excellent test-retest reliability. Intraclass correlation coefficient ICC for 3MBWT was 0.97. The standard error of measurement and MCID at the 95% confidence level for 3MBWT were 1.08 and 2.99 respectively.

Conclusion: The 3MBWT has an excellent test-retest reliability in patients with rTKA. It is an effective and reliable tool for measuring fall risk, dynamic balance and walking skills. As a clinical test, the 3MBWT is easy to score, has no cost, needs no special equipment and can be applied in a short time as part of the routine medical examination.

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