

EVALUATION OF POSTURAL BALANCE IN PATIENTS UNDERGOING TOTAL HIP ARTHROPLASTY USING THE TIMED UP AND GO TEST (TUG)

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Background and Aims

Total hip arthroplasty (THA) is a surgical intervention aimed at alleviating pain and restoring functional mobility. Assessing postural balance is a key aspect of patient management following THA, as it influences stability and mobility outcomes. This study aims to assess changes in postural stability in patients before and after undergoing THA.

Methods

A prospective and descriptive study of 52 patients who underwent unilateral THA were recruited to evaluate postural balance before surgery, as well as at 3 and 6 months postoperatively. Assessments were conducted using the Timed Up and Go (TUG) test and the single-leg stance duration. Patients with bilateral THA, neurological conditions, or any disorder likely to interfere with balance control were excluded. Postoperatively, all patients followed a standardized rehabilitation program that included muscle strengthening and proprioception exercises.

Results

The mean age was 59.6 years, with a predominance of male participants. Significant improvements were noted in both the TUG test and single-leg stance duration across the different assessment periods. Pre-surgery: The average TUG test duration was 45 seconds, with 81.3% of patients relying on assistive devices. Single-leg stance was impossible for 37.2% of patients, while 62.8% could not exceed 5 seconds. Three months post-surgery: The average TUG test time improved to 21 seconds, with 48.3% still requiring assistive devices. Single-leg stance lasted on average 9 seconds. Six months post-surgery: The TUG test further improved to 17 seconds, and only 12.7% of patients still needed assistive devices. The single-leg stance duration increased to 12 seconds on average.

Conclusion

Our findings indicate that THA has an impact on postural stability, emphasizing the need for structured rehabilitation programs. Balance assessment plays a crucial role in monitoring patients' recovery and progression toward functional independence. The TUG test is a practical clinical tool for evaluating mobility, balance, and functional capacity.

Keywords: Postural, balance, hip, arthroplasty