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Shortening Hospital Length of Stay by Day Zero Physiotherapy Ambulation Programme after Total Knee Arthroplasty

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Introduction

Knee mobilization and walking exercises were traditionally started by physiotherapist on Day One post Total Knee Arthroplasty (TKA). With the advancement of surgical technique and better pain control regime, these exercises were started on the date of operation to encourage early ambulation and reduce complications due to bed rest (Day Zero Ambulation Programme). This programme includes knee mobilization, quadriceps strengthening and ambulation training.

We sought to evaluate the outcome of the Day Zero Ambulation Programme by analyzing the length of stay (LOS) of these patients in an acute hospital.

Objectives

To Shorten Hospital Length of Stay by Day Zero Physiotherapy Ambulation Programme after Total Knee Arthroplasty

Methodology

This was a retrospective study. Patients with primary TKA performed between 1 December 2015 and 30 November 2016 and directly discharged from Queen Mary Hospital were reviewed and analyzed. They were divided into two groups: those who could ambulate on Day Zero Vs those who could not (Non-Day Zero). Their respective LOS(s) were compared by using independent sample t-test.

Result

A total number of 130 patients were recruited. 65 patients were successfully ambulated on Day Zero while the rest ambulated on Day One mainly due to late return from operation theatre. The late return was mainly due to late start of the surgery. LOS(s) of both groups were collected.

There was statistically significant differences on the age ($p=0.032$) and LOS of two groups ($p= 0.007$). The average age of the Day Zero ambulation group was 75.5 (SD=6.67) and the Non-Day Zero group was 72.7 (SD=7.67). The average LOS of the Day Zero group was 6.97 days (SD=1.70) and Non-Day Zero group was 8.20 days (SD=2.15). Post-TKA Patients with Day Zero Ambulation have shortened LOS by average of 1.2 days comparing with Non-Day Zero Ambulation in acute hospital. Literature review that early mobilization with total joint arthroplasty could reduce the LOS by 1.8 days. For the difference of age between the two groups, even older patients could enjoy the benefit of early mobilisation. This signified the importance of this Day Zero mobilization program. To conclude, Day Zero Ambulation Program may reduce hospital stay and enhance better utilization of resources.