



Service Priorities and Programmes
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Submitting author: Mr NEWMAN HUNG

Post title: Physiotherapist I, Queen Mary Hospital,

Early physiotherapy rehabilitation program for patients with HeartMate II left ventricular assist device implantation

Hung N(1), Cheng KF(1), Chiu KW(1), Au WK(2)

(1) Physiotherapy Department, Queen Mary Hospital, (2) Cardiothoracic Surgical Department, Queen Mary Hospital

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Introduction

Patients with end stage heart failure waiting for cardiac transplantation are subjected to deconditioning and limited physical function. With the advance in technology, patients can now have a better survival and subsequent rehabilitation with the implantation of internal mechanical circulatory assist device. However, research to describe physiotherapy rehabilitating this patient group was limited. It had been reported that physiotherapy was started on day 7 post-operatively and the patient still need a walker to complete 600ft after 6 weeks from operation. As the clinical management to these patients continue to improve, this paper describes the outcome of the current early physiotherapy program run in the Cardiothoracic Surgical Department in the Queen Mary Hospital in patients who require HeartMate II left ventricular assist device (LVAD).

Objectives

To develop a safe early physiotherapy program for patients with HeartMate II left ventricular assist device (LVAD) implantation.

Methodology

All patients in the Cardiothoracic Surgical ICU with HeartMate II LVAD implantation were included in the program. Physiotherapy started from day one post-operatively including strengthening exercise, balance training, endurance training, and dyspnea management. Outcome measures included: (1) Day to sit-out, (2) Day to start walking exercise, (3) Day to tolerate walking 200 meters, (4) 6-minute walking distance before discharge from hospital.

Result

From August 2010 to December 2013, fifteen patients were included. All except one patient were male, with a mean age of 51 ± 6.77 at operation. One patient was excluded from the analysis due to severe neurological complication. Other patients had out of bed activities as early as day two (3.71 ± 1.49) post-operatively and most

patients started walking exercise as early as day three (6.5 ± 1.47) after operation and by 13.86 ± 3.16 days, they could tolerate walking exercise for 200 meters non-stop. The pre-discharge 6-minute walk test scored 279.86 ± 74.84 meters. No complications were reported due to early mobilization. Upon discharge from hospital, all patients had progressed from New York Heart Association (NYHA) Functional Classification Class IV to Class I & II. With the advance in medical technology and teamwork, early physiotherapy program has shown to be safe and can significantly improve the patients' physical function and subsequent quality of life.