



## Service Priorities and Programmes Electronic Presentations

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### **Partnership and empowerment in the care for LVAD patients with nurse-led programs**

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#### **Introduction**

Patients with end stage heart failure (ESHF) are in a very debilitating condition with New York Heart Association (NYHA) functional class IV: very limited exercise tolerance (ET) and severe heart failure symptoms. They may require hospitalization or even die before transplantation. Left ventricular assist device (LVAD) helps to prolong their life expectancy with quality life while waiting for heart transplant. The CTSD at QMH has successfully implanted the device for seven patients. However, LVAD is a new technology to patients, caregivers and medical staffs in the community, which poses challenges to the care after the implantation; so we have developed a nurse-led program for LVAD patients and their families to cope with the care of the device.

#### **Objectives**

Our nurse-led program aims to (1) develop a partnership with LVAD patients and their caregivers; (2) provide education to ensure competency in care for the device; and (3) provide support after discharged to ensure a safe return to the community.

#### **Methodology**

Our nurse-led program involves: (1) coordination of the pre-operative care including workups and psychosocial care; (2) education and coaching to ensure competency in the care; (3) performing home visit to ensure safe home environment for LVAD patients; (4) organization of the discharge program; (5) liaising with the patients' community by informing the A&E Departments and the Ambulance service on the care for LVAD patients in case of emergency; (6) establishment of an outpatient follow-up and rehabilitation program; (7) maintaining a 24 hour telephone hotline for LVAD patients to provide support. We had organized a detailed education program included knowledge and skills. We first identified the main caregivers and engaged them and patients in the training sessions. Knowledge included device care, alarm recognition, battery care, and emergency care. Skills acquisition included drive line exit site care, back up controller replacement, handling of the device and battery change, and sterile

technique on dressing change. They need to go through written examination and need to satisfactorily complete return demonstrations of skills to ensure competency in the care. Through these training sessions, we had empowered them with the ability to care for the device.

### **Result**

With the pre-operative care, patients and their family were well-prepared for the LVAD implant. We have identified the main caregiver(s) and empowered them with the ability to care for the device and the patients. With the home visit, the electricity power supply was assured with instructions on coping with the device with daily living. This nurse-led program also trained patients and caregivers to be able to keep records of their health parameters, know what to monitor and report about their conditions. Our telephone follow-ups keep track of patients' latest conditions. Also, the telephone hotline reassures that patients have readily access to assistance from health professional. All patients suffered from ESHF; some on inotropes and being hospitalized before. With LVAD, all patients improved significantly (from NYHA class IV to I; renal and liver function). The cardiac function improved significantly (echocardiogram) with a decrease in the left ventricular diastolic diameters ( $7.67 \pm 1.05\text{cm}$  Vs  $6.31 \pm 0.87\text{cm}$ ,  $p=0.004$ , paired t-test, 95% C.I., 0.6 to 2.1) The quality of life (QOL) also significantly improved. The Minnesota Living with Heart Failure Questionnaire (MLHFQ) designed to measure HF QOL. Higher score reflected poorer QOL. Our mean MLHFQ score improved from  $85.7 \pm 10.27$  at pre-implantation to  $37.4 \pm 12.95$  at post-implantation, ( $p<0.000$ , paired t-test, 95% C.I., 36.8 to 59.7). Our patients are able to return to the work and enjoy an almost back to normal daily living, able to enjoy activities that they have long missed. Their caregivers were much relieved. Our nurse-led program helps LVAD patients and their family to cope with this new device with confidence and self-efficacy.