

Paediatric Ventricular Assist Devices: A Successful Nurse Training Programme and a Review of the Literature

Anand A. (1), Abbas J. (1), Sinnadurai S. (2), Araujom S. (2), Buchholz H. (2)

The University of Birmingham, Birmingham, United Kingdom (1)

Department of Pediatric Sciences, Stollery Children's Hospital, Edmonton, Canada (2)

Introduction

Ventricular Assist Devices (VADs) have been shown to play a successful role in 'Bridge to Recovery,' and 'Bridge to Transplantation' in paediatric cohorts. Where incidence of paediatric heart failure is rising and enlisted heart transplantation children face the highest rates of mortality amongst those awaiting solid organ donations, this technology offers great potential. Developing effective VAD programmes has never been so important. Nurses play an instrumental role in the VAD MDT as day-to-day providers in post-implantation care. The present study outlines a successful nurse training programme and curriculum.

Rationale

Where physician and perfusionist availability is often limited, nurses are able to provide VAD patients' 24-hour care. Their regular bedside manner evokes a role at the family interface, easily passing their training onto parents and thus, decreasing patient length of the stay. In this way, and in many others, an effective nurse training programme can help in the cost containment of a VAD programme, making it a viable treatment option for a hospital to provide.

Programme Description

All Stollery Children's Hospital nursing staff directly involved in VAD patient care undergo complete VAD training consisting of 2-phases providing a basis of general physiology, care, and monitoring of patients. Unlike many programmes, VAD training is provided to a wide cohort of staff to offer patients a continuum of care throughout their patient journey.

The VAD training course is a 12-hour training day led by a physician and nurse coordinator with VAD-specific expertise. Broken up into 8 modules, the course overviews indications of VAD therapy, device architecture, post-operative patient haemodynamics, anticoagulation, monitoring, emergency response and complications, change in patient condition, dressing protocols, and equipment management. Each aspect is evaluated using simulated clinical scenarios to judge critical thinking and appropriate response strategies. A 'hands-on' assessment is completed by each nurse and a written exam is issued. Each VAD-trained nurse attends a 6-hour recertification training day every 12 months.

Conclusion

An efficient training programme curriculum for nurses is important for the success of a hospital's VAD programme. The Stollery's successful training programme provides a basis from which other VAD programmes can devise their training technique.