

Implantation of ICDs in children and teenagers: development of a nurse-led integrated care pathway

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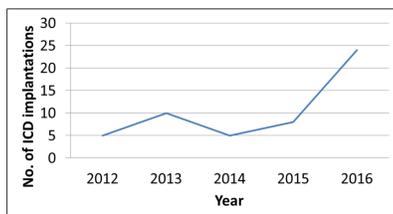
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Introduction

Implantation of cardioverter defibrillators (ICDs) may be indicated in children with an underlying heart rhythm disorder or cardiomyopathy. ICDs may also be implanted for the secondary prevention of ventricular arrhythmias in children who have presented with an out of hospital cardiac arrest.

Our centre has seen increasing numbers of patients requiring ICD implantation in recent years. The complex needs of this patient group and the need to minimise the length of admissions while simultaneously optimising quality of care has resulted in development of an integrated care pathway and a specialist nurse role to support and educate families and to coordinate these admissions.



Objective

To improve the care of children and families undergoing ICD implantation in our centre by developing a new nurse-led care pathway. The aim is to standardise patient care, to minimise delayed discharges and to improve the preparation of children and families prior to surgery and discharge.

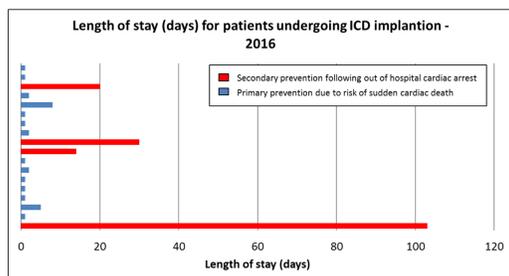
Method

We reviewed patients that had been admitted for ICD implantation at our centre over a twelve month period, focusing on those undergoing this procedure for the first time, and including:

- those who had an underlying inheritable cardiovascular condition (primary prevention)
- those who had suffered an out of hospital cardiac arrest (secondary prevention)

We aimed to identify complications, inconsistencies and reasons for any unnecessary delays to discharge. In order to develop a comprehensive care pathway information and advice was sought from relevant members from the multidisciplinary team:

- cardiologists
- electrophysiologists
- clinical psychologists
- theatre staff
- ward nurses
- microbiology



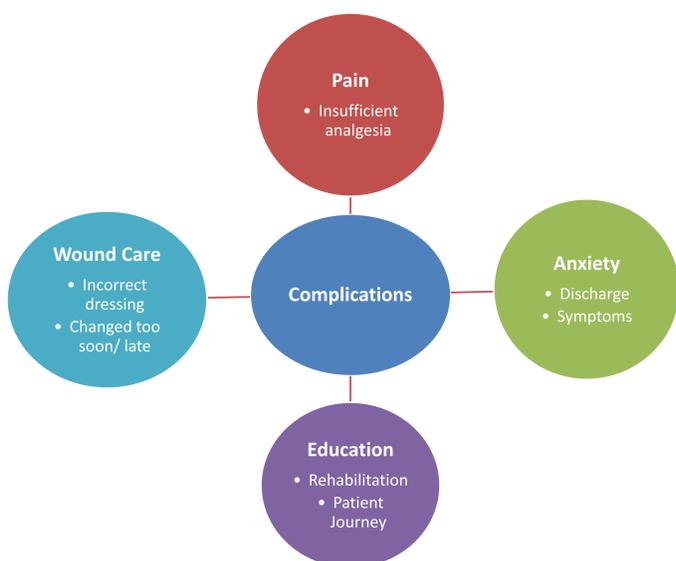
Results

Eighteen children required an initial ICD implantation during this period, with four devices implanted as secondary prevention following a cardiac arrest and fourteen implanted electively for primary prevention.

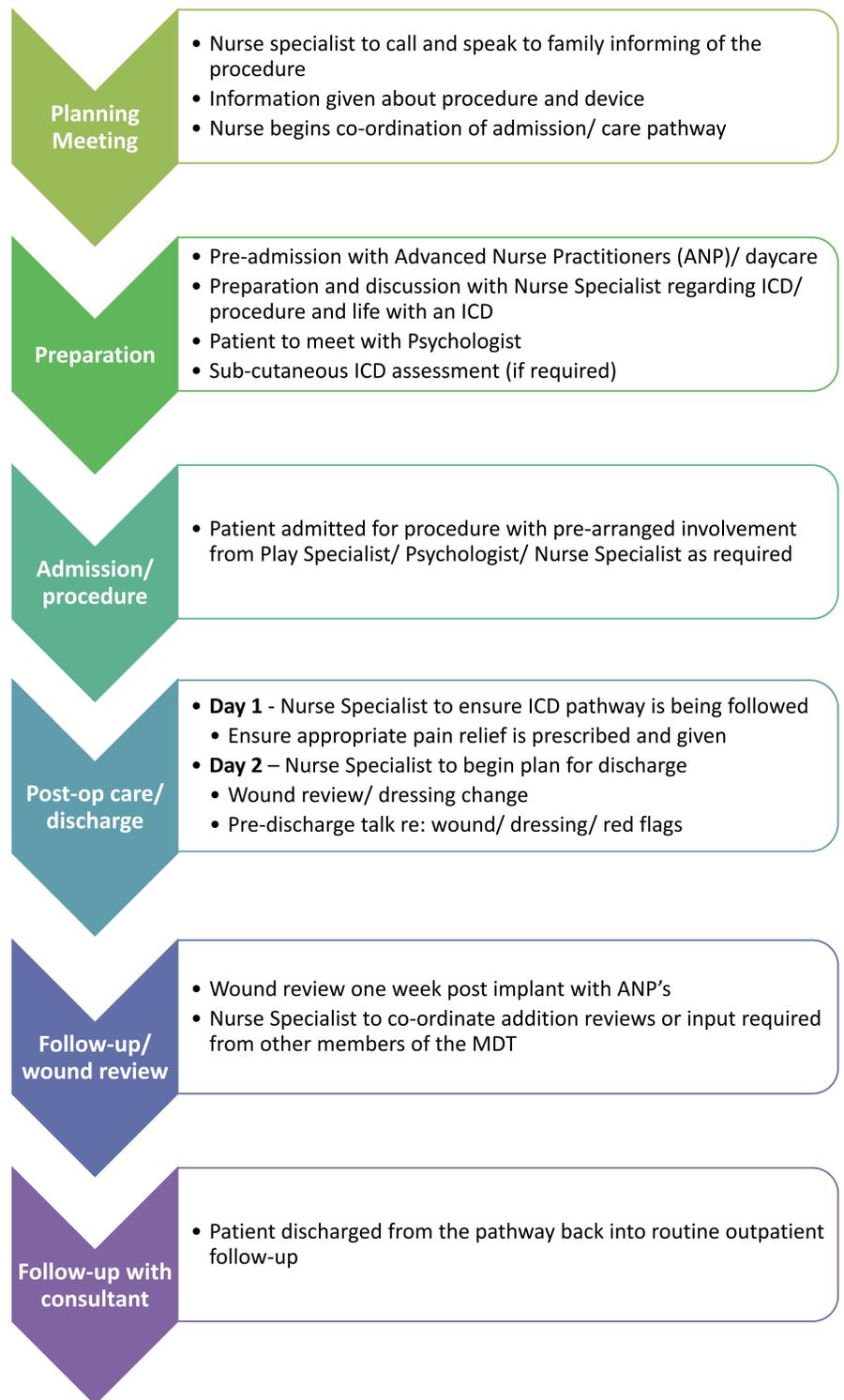
Inconsistencies and delays identified during these admissions included those relating to:

- education
- psychological needs
- pain relief
- wound dressings
- rehabilitation

By drawing on these experiences and seeking input from relevant specialists, an integrated care pathway has been constructed which included a comprehensive plan for the education and psychological preparation of children and families.



Integrated Nurse-led Pathway



Conclusion

The process of ICD implantation is a challenging time for children and their families. An integrated care pathway enables a consistent, safe and evidence-based approach. Specialist nurses are ideally placed to lead and coordinate the holistic care required by these patients and the development of a role specifically dedicated to ICD patients is warranted in centres carrying out significant numbers of implantations.

Outcomes

Future plans to further develop the pathway:

- Increase teaching for clinical staff working with these patients
- Audit of patients' pain during admission and their first week post implant
- Regular review and reassessment of the pathway to ensure continuous improvement to patient care

