How the implementation of Leaderflex Midlines has improved patient safety and experience in a small acute East London Trust

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Background

Prior to the use of Leaderflex midlines, patients who were suitable candidates for Outpatient Parental Antibiotic Therapy (OPAT) with Peripheral Venous Catheters (PVCs), with a short course of IV antibiotics to complete, were not accepted by the District Nursing teams (DNs). Prior to the introduction of EPIC 3 (2017) in the Trust, PVCs required changing every 72 hrs which the DN's did not have the capacity to adhere to.

The options were:

- Remain an inpatient until the end of IV treatment
- Attend hospital daily, which excluded patients with limited mobility
- Have a PICC line inserted to facilitate the administration of IV antibiotics at home by District Nurses and enable an early discharge.

Additionally patients within the hospital were also referred for PICCs after multiple painful PVC failures; delaying effective treatment, causing distress to the patient, taking up clinicians time re-cannulating patients and not best practice for Vessel Health Preservation (Vessel Health & Preservation Framework 2016).

These issues were addressed in June 2015 when the Leaderflex midlines were introduced to bridge the gap between PVCs and PICCs.

Intervention

The 2Fr, 8cm Leaderflex midline was chosen to fill an identifiable gap in clinical practice as it is the least invasive alternative to a PVC, meets the clinical requirement and is licensed to remain insitu for 30 days.

Patients suitable for OPAT, on short courses of IV antibiotics, but not able to attend hospital daily had a Leaderflex midline inserted instead of a PVC, negating the need for replacement at 72 hrs, these patients were now accepted by DN's, enabling more patients to be accepted for OPAT and facilitating an early discharge. Leaderflex midlines were also inserted in all OPAT patients whose planned IV treatment was 30 days or under, reducing the clinical need for PICC lines.

Leaderflex midlines were also made available to inpatients with poor peripheral access or on planned IV treatment of 30 days or under who were not suitable for OPAT, but could still benefit as these patients no longer needed to be re-cannulated every 72hrs or have a PICC line inserted where it would have been too invasive for short IV treatments. This was also adopted by the anaesthetic team who kindly agreed to place these instead of PVC when called to assist with difficult IV access out of hours¹.

Results

Leaderflex midlines have improved patient experience by reducing painful repeated cannulations and reduced clinician's time spent with difficult IV access patients, reducing missed and delayed doses of treatment; resulting in earlier discharges due to effective treatment and promoting vessel health.

At the Homerton the Vascular Access Service aims for patients who require IV treatment for less than 30 days to have less invasive lines placed, reducing the risk of infection and earlier placement.

Leaderflex midlines were found to be inserted within 24 hrs of referral, at the bedside and could be used straight away. This is an improvement upon PICCs as these are usually inserted 24 - 48 hours after referral in the X-ray department, an escort is required to accompany the patient and a chest x-ray is required to confirm correct tip location before use.

Summary

From June 2015 to May 2018, the Vascular Access and OPAT Service have inserted 171 Leaderflex midlines (£45.04²) instead of PICCs (£101.28²), saving the Trust £9,617, excluding x-ray costs. More importantly it has reduced the number of painful cannulations, reduced missed and delayed doses of IV treatment and in doing so improved patient experience, effectiveness of treatment improving patient safety, saved clinicians time and promoted vessel health.

¹ Data of insertions by anaesthetic team not collected
² Total cost of insertion, including consumables
³ Data where Central IV access was required has been excluded