Reducing the incidence of *Staphylococcus aureus* bacteraemia by managing vascular access devices in the Coronary Care Unit.

Harry Collins Award

**Introduction**

*Staphylococcus aureus* bacteraemia (SAB) is a common and often preventable complication of health care.

Two thirds of health care associated SABs are caused by vascular access devices (VADs).

The Coronary Care Unit (CCU) accounts for over a quarter of Liverpool Hospital VAD-related SABs with five cases detected between February and August 2012.

**Aim**

To identify preventable factors that can lead to VAD-associated SABs, implement an effective and sustainable system for optimal VAD care and prevent all cases of VAD-associated SAB in the CCU over the period of the project.

**Interventions**

1. **Raise awareness, prioritise VAD care**
   - Education of nursing and medical staff
   - VAD resource nurses appointed
   - Feedback of performance

2. **Optimise insertion of VADs**
   - Standardised cannulation trolley, stock control
   - Simple insertion bundle

3. **Optimise daily maintenance of VADs**
   - new VAD daily checklist – action oriented
   - ‘cannula conversation’- medical/nursing
   - remove when meets criteria

4. **Educate and empower patients**

**Results**

**Acceptability**

- Cannulation trolley - 66% well stocked
- Insertion bundle - 80% found it useful
- Daily checklist - 100% found it useful
- Likes - easy to understand, action oriented

**Timeline - S. aureus bacteraemia in CCU**

**Conclusion**

**Effectiveness**

This project was effective because it involved collaboration, empowerment, and feedback whilst utilising a simple checklist approach.

**Strategies for sustaining and extending**

- adopt this program hospital-wide
- incorporate cannula conversation’ into multi-disciplinary rounds – ‘in safe hands’
- empower patients in the care of their VADs
- eliminate unnecessary duplication
- include VAD care as a KPI - display on the Quality and Safety noticeboard
- use the same techniques when targeting other healthcare-associated infections

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**Factors associated with vascular access device bacteraemia**

- Poor insertion technique
- Appropriate equipment not available on trolley
- Poor documentation of insertion
- Insertion site incorrectly dressed
- Prolonged cannula dwell time
- Unnecessary cannulation
- Failure to recognise and act on complications

Determined by review of cases and VAD auditing.