Management of post-operative wound infection after cardiac surgery: Are we following the NICE guidelines

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- **Identification** of the problem
  - Case mix between routine follow-up patients and patients with post-operative wound infection may lead to delayed discharge, increased readmission rates, prolonged clinic time and delayed wound healing

- **Gold standard**
  - NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales. Surgical site infection Prevention and treatment of surgical site infection NICE guidelines October 2008

  - 5% of patients undergoing a surgical procedure develop a surgical site infection.
  - Refer to a tissue viability nurse (or another healthcare professional with tissue viability expertise) for advice on appropriate dressings for the management of surgical wounds that are healing by secondary intention
  - A structured approach to care is required with provision of specialist wound care services for managing difficult to heal surgical wounds in order to improve overall management of surgical wounds.
  - Implementation of clinical guidelines forms part of the developmental standard D2. Core standard C5 says that NHS organisations should take into account national agreed guidance when planning and delivering care.
Data Collection

- Data collected from 1.12.07 to 1.6.08

- Resources:
  - Cardiac database
  - Clinic letters
  - Microbiology results
  - Risk management team
Audit results (n=140)

- Specialist wound nurses not involved
- Junior doctors (40%) unable to debride wounds or change VAC dressings in clinic (time constraints)
- Microbiological wound swabs negative in 35% patients within 7-8 weeks
- 74% dressings and VAC changes done by assistant practitioner
- Readmission rate 24%
- Median discharge time: 8 weeks
- Incident forms: 4 (Level 1)
- Clinic time run over >1-2 hours (16%)
Cardiac surgery follow-up clinic (n=763)
Blue: All Patients; Purple: wounds (n=140)

Number of patients seen in clinic

Months

<table>
<thead>
<tr>
<th>Months</th>
<th>Number of Patients</th>
<th>Percentage of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>148</td>
<td>16.00%</td>
</tr>
<tr>
<td>2</td>
<td>132</td>
<td>17%</td>
</tr>
<tr>
<td>3</td>
<td>133</td>
<td>23%</td>
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<tr>
<td>4</td>
<td>104</td>
<td>20%</td>
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<tr>
<td>5</td>
<td>126</td>
<td>17%</td>
</tr>
<tr>
<td>6</td>
<td>120</td>
<td>17%</td>
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</tbody>
</table>
Type of wounds seen in clinic (n=140)

Purple: Leg(62%); Blue: Sternal(38%); Yellow: VAC change(11%)

Over six months
Number of wounds
# Identification of areas of improvement and implementing changes

## Areas of improvement
- Reduction of Clinic time
- Reduce re-admission rates (cost effectiveness)
- Clinical effectiveness (increase discharge rates, promote quicker wound healing)
- Need for a tissue viability nurse

## Implementing changes
- Separate consultant led wound clinic established
- Supported by a wound care nurse and middle grade doctors
- Arrangements for out-patient wound debridement and mobile VAC change facilities established
Re-audit (n=186)

- Data collected from 30.6.08 to 30.1.09
- Decrease in median discharge time from 8 weeks to 4.6 weeks
- Normal follow-op clinic run over time reduced from 1-2 hours to zero
- All VAC dressings and debridements were performed by cardiac wound care nurse and a middle grade doctor
Re-audit

- Microbiological wound swabs negative in 28% within 7-8 weeks (compared to 35%)

- Readmission rate declined from 24% to 0%

- No incident forms generated
Distribution of cardiac wounds seen in clinic

<table>
<thead>
<tr>
<th>Wound type</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>sternal wounds</td>
<td>68</td>
</tr>
<tr>
<td>leg wounds</td>
<td>118</td>
</tr>
<tr>
<td>VAC changes</td>
<td>18</td>
</tr>
</tbody>
</table>
The aim of the survey was to obtain a snapshot of care given at the wound clinic (regarding primary objectives since its inception 2 years ago and standards set out in the NICE Guidelines 2008) from a patient perspective.
Study details

- Cardiothoracic Wound Clinic survey was carried out
  - Jan – May 2012

- The patient sample were all patients who attended the wound clinic with diagnosis of SSI

- The questionnaire contained a number of closed questions and some open space for further discussion
Results

- A patient satisfaction questionnaire was administered to 21 patients by post or hand delivery after their clinic visit.

Questions asked were

About themselves
About the wound clinic / department
About the staff
About their treatment
And, overall rating of the care provided

- All patients returned the fully completed questionnaires (100% response rate)
How appointment were made

- Made for me before discharge: 47%
- District Nurse worried: 10%
- I phoned Liaison team: 5%
- Others specify: 38%
Communication

Patients were asked to indicate how information was made available to them.

- n=10 (48%) were offered information leaflet on discharge
- n=10 (47%) found out about their appointment before discharge
- n=8 (38%) via liaison team.
- n=21 (100%) knew where to attend the clinic
- n=13 (62%) good signage to department
Clinic time

- Question: ‘Were you seen at your appointment time?’
- n=18 (86%) were seen at appointment time
- n=3 (14%) ambulance issues-1
About staff

Question: ‘Please rate how you felt you were dealt with by the following staff during your visit’

- n=17 (81%) rated the reception staff very good
- n=21 (100%) rated the nursing staff very good
- n=17 (80%) rated the medical staff very good
- n=19 (90%) rated the ANP very good
- n=21 (100%) had confidence and trust in doctors / nurses treating them
About wound management

- n=15 (71%) had dressing regime changed

- n=8 (39%) got a prescription of either antibiotics/dressings or both

- n=21 (100%) understood the next steps of their treatment

- n=18 (86%) got a note for their district nurse
Overall rating of care

95% Very good
5% Good
0% Ok
0% Poor
0% Very poor
Conclusion

- The formation of a specialist cardiac surgery wound clinic has helped in reducing
  - Follow-up clinic time
  - Re-admission rates (cost effectiveness)
Better clinical effectiveness by

- Improving discharge rates
- Promoting quicker wound healing
- Continuation of care (uniform assessment)
- Fully compliant with NICE guidelines
- Achieved 95% patient satisfaction with the service provided
- Wound management outcomes may improve if treated by a dedicated specialist team
Thank you