Reducing incidents of WBIT errors in Critical Care

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Background and rational

• 5 WBIT in 3 months.

• Errors identified by nurses, doctors or pathology department.

• 1 patient received radiology intervention.

• WBIT errors are underestimated and under-reported rates could be as high as 0.9% with non-transfusion blood sampling (Vuk 2014).
Baseline audit of practice

• Observational process mapping exercise.
• 34 blood sampling interventions were reviewed over 8 weeks.
• Focus groups.
• Local policies and guidelines reviewed.
Findings of process mapping exercise

Desirable practice

• 100% wrist bands in place
• 100% vacutainer use
• 100% correct sharp disposal
• 100% hand washing.

Undesirable practice

• 56% wrist bands not checked
• 9% not labelled at bedside
• 71% wrong order of draw
• 79% of pre-printed blood labels not checked against wrist band.
Baseline results cont.

Equipment factors
• Drop down menu
• Printers

Human Factors
• No wrist band check when nurses ‘know’ patient
• Heavy workload results in short cuts

Policy
• A routine blood sampling policy was not in practice at my local trust or the majority of the 9 hospitals within the MTCCN.
Changes in practice

• Feedback to MDT and Trust.
• Development of a standardised flow chart.
• Individual staff education delivered on results of audit and changes to practice.
• Declaration of agreement signed by all nurses.
• Production of blood sampling policy.
Number of blood samples taken per month on ICCU

- Flow chart implemented
- 5 WBIT errors reported over a 3 month period
- WBIT incident reported
- WBIT incident reported

2014
2015
2016
<table>
<thead>
<tr>
<th>Period</th>
<th>Number of sampling episodes</th>
<th>Number of WBIT errors</th>
<th>Ratio of error</th>
<th>Percentage of errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>June - Nov 2014</td>
<td>2591</td>
<td>5</td>
<td>1:518</td>
<td>0.2%</td>
</tr>
<tr>
<td>Dec - May 2014 - 2015</td>
<td>2368</td>
<td>2</td>
<td>1:1184</td>
<td>0.08%</td>
</tr>
<tr>
<td>June - Nov 2015</td>
<td>2274</td>
<td>0</td>
<td>0:2274</td>
<td>Zero</td>
</tr>
<tr>
<td>Dec - May 2015 - 2016</td>
<td>2743</td>
<td>0</td>
<td>0:2743</td>
<td>Zero</td>
</tr>
</tbody>
</table>
% of overall compliance with blood sampling best practice

- Base line: 80.7
- Flow chart implemented: 91.4
- Celebrated success: 98.6
% of compliance with correct patient identification method

- Base line: 21%
- Flow chart implemented: 80%
- Celebrated success: 98%
% compliance with correct order of draw

- Base line: 29%
- Flow chart implemented: 50%
- Celebrated success: 94%
A service improvement methodology reduced incidences of WBIT errors.

In the absence of a hand held electronic requesting system, a procedural flowchart to standardise practice was implemented along with a rigorous awareness and training program which has reduced the number of WBIT incidents from 0.2% in 2014 to zero.

Human factors were paramount in reducing WBIT errors. It was identified that 79% of staff did not correctly identify the patient according to local policy. Current compliance shows significant improvement from 21% to 98%.
Sustainability and looking forward

• Procedural flow chart education incorporated into the new staff induction program.

• 3 monthly audit.

• Training and educational opportunities are in formulation for all colleagues who carry out a WBIT error. This is to standardise outcomes and ensure patient safety.
Best practice reinforced

3 key points to ensure safe practice:

• Print labels prior to sampling blood.

• Label blood samples at the patients bedside.

• Ensure the blood label matches that of the patients verbal ID and wrist band.
Gain patient consent

Collect equipment needed

Print blood labels for routine sampling or ensure transfusion request form is fully completed BEFORE any samples are taken

Positively identify the patient and ensure details on blood label or transfusion request form match the patient’s wrist band EXACTLY

Wash hands and apply PPE

Using correct vacutainer equipment obtain blood samples in correct order of draw

Dispose of sharps according to local policy

Label ALL blood samples whilst at the patient’s side.

Write your initials on blood labels/tube to confirm patient identity has been checked against the patient’s wrist band