Simulating the hospital not just the ED! Using in situ simulation for multidisciplinary process testing

Julie Thomson, Lorna Jackson, Maggie Currer
Emergency Department, Victoria Hospital, Kirkcaldy

Aims
We run a programme of multidisciplinary in-situ simulations in the Emergency Department (ED) to improve clinical management of common and complex presentations. We utilised this to review pathways currently in use in real time with a simulated patient, in order to identify where improvements could be made. This process informs revision of system/pathway design in order to reduce harm caused by delay to treatment, and reduce variability in practice by ensuring the protocols are robust thus helping to maintaining patient safety.

Methodology
We used two separate simulation sessions to test the Stroke Thrombolysis Pathway and Major Haemorrhage protocol within the hospital. All stakeholders were involved in planning the sessions and staff made aware that simulations were planned. Real time simulation was used to show where issues occurred in the pathways especially those which could potentially lead to harm.

Outcomes – Major Haemorrhage Protocol
The major haemorrhage simulation highlighted delays of 20 minutes in delivery of O negative blood to the ED due to inadequate awareness of the protocol by portering staff – their procedures have now been amended ensuring that blood is immediately delivered to the ED before samples are transported to the lab. The surgical registrar did not receive a bleep and adjustments to the contacts list have been made. Issues were also raised around staff knowledge of ensuring adequate identification for an unknown patient using typenex numbers. This is now highlighted at inductions for medical and nursing staff.

Outcomes – Stroke Thrombolysis
This simulation highlighted issues around two different pathways for management of hypertensive patients requiring thrombolysis - now a single pathway is used. The pathway omitted alerting the most senior medical staff in the ED and this has been added. Thrombolysis prescription documentation has been amended to ensure it conforms with best practice guidance as previously there was no place to sign for the alteplase infusion.

Changes made as a result of testing:
• Hypertension protocol
• ED consultant
• Thrombolysis prescription
• O-negative blood transport
• Surgical bleep
• Unknown patient identification

Changes made as a result of testing:

<table>
<thead>
<tr>
<th>IV Alteplase Prescription</th>
<th>Signed</th>
<th>Prepared By</th>
<th>Given by</th>
<th>Time commenced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alteplase Bolus Dose mg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolus administered by hand over 2 minutes then Prime line with 2 mls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alteplase Infusion Total ml</td>
<td>1st syringe</td>
<td>2nd syringe if req'd ml</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 1 hour</td>
<td>ml</td>
<td>ml</td>
<td>ml</td>
<td></td>
</tr>
</tbody>
</table>

Infusion rate is same as dose in mg, in mls/hour

With grateful thanks to the Simulation team:
June Adamson
Ian Dempster
The stroke team:
Alison Cassells
Vera Cvoro and others
The transfusion team:
You know who you are!