SPRinT™
Simulated interPRofessional Team Training
Excellence in patient care through safety

**WORKSHOP**

**MITIGATING LATENT THREATS THROUGH AN EMBEDDED IN-SITU SIMULATION PROGRAMME**

**Quality improvement and system changes example: catastrophic blood loss protocol**

In 2012, a review of our incident report database showed 5 critical incidents being reported by our staff involving Catastrophic Blood Loss (CBL), which were mainly regarding difficulties in receipt of emergency blood units, contacting Blood Transfusion Laboratory (BTL) and giving patient details. This led to a quality improvement initiative by the SPRinT faculty through targeted simulation in collaboration with Blood Transfusion, Risk Management, and Resuscitation departments. This includes repeat CBL scenarios run simultaneously in PICU and BTL involving multidisciplinary teams and real time video-recording between both units to assist with review of events. During these scenarios, a number of new LTs have been uncovered and the CBL protocol has been continuously reviewed and improved.

Here are some examples of key elements of this project, from its inception through to becoming a continuous quality improvement initiative.

**a. Engagement - Who do you engage to find solution?**

- All teams involved in real CBL events.
- Ensure safe environment to empower individuals to speak up.
- Deliver realistic and clinically relevant scenario: real event-derived and well-staged, team members perform their own roles, acting upon physiological variables and providing realistic care utilising real equipment and resources, which includes fake blood products' request and collection from blood bank as per normal practice.
- Innovative solutions to engage specific team members where possible: development of an open-chest model that enables surgeon to perform realistic emergency resternotomy in a standard PICU bed space set-up.

**b. Delivery - How do you actually deliver an action?**

- Interdepartmental team performance: PICU and BTL.
- Interprofessional teams: intensive care, anaesthesia, cardiothoracic surgery, haematology.
- Mixed hierarchy: bedside and theatre nurses, nurse in charge, specialty consultants and trainees, laboratory technicians, porters, telephonist, head of departments.
- Video-assisted debrief and performance review: real time recording of evolving events on both units.
- Annotated observed performance: checklist with CBL protocol steps, role allocation and actions required by individual team members with time taken to deliver.
- Participant's feedback on team performance, technical and non-technical skills relevance, confidence to attend future events.

**c. Collaborate - How to collaborate with risk management and organisation?**

- Share findings: latent threats and system errors uncovered during simulation included unfamiliarity with CBL protocol and collection of wrong emergency blood unit, which caused delay in treatment.
- Propose solutions and test possible changes through simulation: changes to mandatory staff training requirements, simplified CBL protocol with clear flow chart, emergency blood unit handed directly from BTL staff to PICU staff rather than collection from the blood refrigerator.

- Facilitate education, training and implementation of changes working together with all teams involved: departmental education and repeat simulation with subsequent implementation Trust wide.

**d. Getting buy-in - How to get buy-in and involve stakeholders?**

- Demonstrate value and implications: serious events identified requiring protocol and system changes in order to improve patient safety.
- Costs involved: faculty and staff participating within their own working hours, potential reduction of admission costs through avoidance of adverse events.
- Department of risk management: key to get buy-in from organisation's board.
- Other relevant departments: resuscitation, portering, estates, switchboard.

**e. Reporting - How to report LTs?**

- Datix®: new category of LTs identified through simulation created and graded as usual (green, amber, red).
- Simulation programme faculty included as person responsible for investigation.
- Feedback sent to staff involved with results of investigation and actions ensued.
- Monthly Datix® update sent to all Trust staff via email and newsletter put up throughout departments.