Transforming ECMO Education at Leeds Paediatric Critical Care Unit

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Introduction

Extra Corporeal Membranous Education (ECMO) education and training is currently being reformed at Leeds Paediatric Critical Care (PCC). This is integral in the on-going plan to transform ECMO provision at Leeds to a nurse led service. A clear programme of education and training has been produced in line with both national[1] and international[2,3] standards, that will support the ECMO Nurse Specialist in their journey from novice to expert. A clear pathway has been developed which clearly defines the three levels of training required.

Method

To achieve minimum standard of training and address any gap in knowledge and skill, training has been rolled out to all staff on PCC who have successfully completed a L3 Critical Care Course.

Education and training to achieve level 1 competency has been incorporated into the Yorkshire and Humber Level 3 Critical Care Course and comprises of both taught content and a practical water drill session. Level 1 education is currently on-going and will be complete by September 2022. This has required a significant amount of organising and planning however going forward, will only be required as part of Critical Care Course.

Novice to Expert

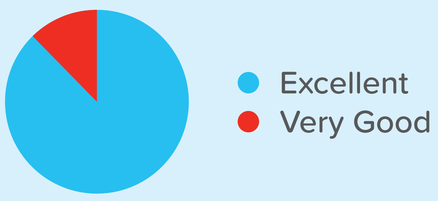
ECMO Nurse Specialist Level 3	• Assessments successfully completed
	• Development package complete and signed off
	• Maintain Competency
	  • 80 hrs /year pump time
	  • Simulation based training/Water drills
		• Annual assessment
		• Attend Annual update
		• Attend local ECMO governance meeting
		• Log book maintained
		• Contribute to development of ECMO service

Foundation state ECMO Nurse Specialist Level 2	• Successfully undertaken an accredited UK paediatric ECMO course • Meet with ECMO Coordinator within two week of completion • Establish baseline knowledge and learning needs	• Discuss LCH policies and protocols • Discuss assessment structure and expectation • Develop clinical skills • Minimum one 12 hour preceptored shift • Apply knowledge to practice
Preparation for ECMO Nurse Specialist Level 1	• Completion of PCC Level 3 Course and Competencies • Safely care for the patient on ECMO • Create safe environment and Support for ECMO Nurse Specialist • Awareness of LCH Policies and Guidelines	• Documentation- daily target sheets/ hourly observation sheet • Escalation procedures in Emergency situation • Staff roles in Emergency situation

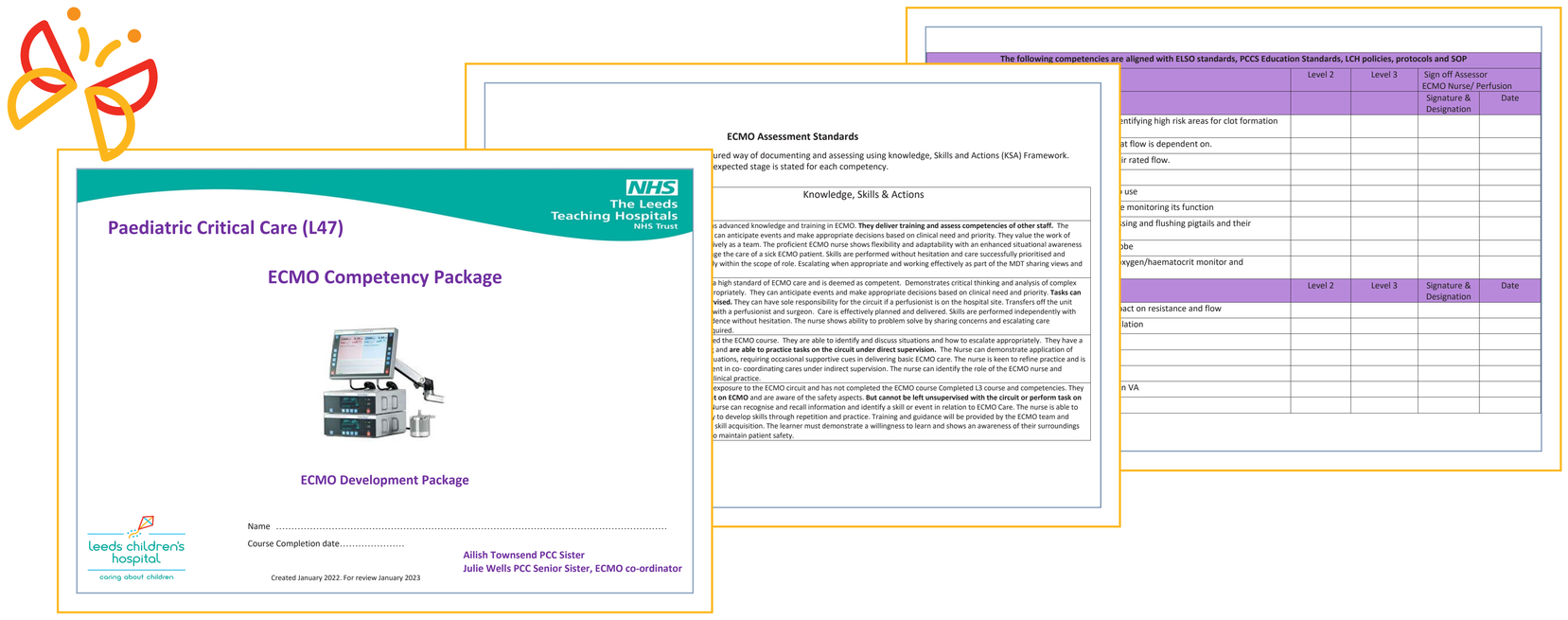
Feedback

60% of the of the education and training to achieve Level 1 has been carried out. Of that 60%, two thirds have completed the online evaluation. The sessions to date have been well evaluated with 87.5% Excellent and 12.5% Very good.

Knowledge Session



Practical Session



A comprehensive development package has also been produced. This encompasses the specific core knowledge and specialist skills required, and will aid the transition from foundation state to ECMO Nurse specialist. The competence package also contains learning log to encourage the ECMO nurse specialist document attendance and learning achieved following preceptored shift and all Wet labs. This will provide an on-going record of training and achievement.

Future Plans

Practical sessions are also being reformed, at the ECMO nurse specialist request. They will contain an element of educational content which they will select and deliver. Further work is also on-going to develop an ECMO online learning platform that will incorporate all educational content, assessments and a message board to encourage discussion and confidential case reviews.

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References

1. Paediatric Intensive Care Society (2018). Paediatric Intensive Care Society Standards For education and training for UK Paediatric Extra-Corporeal Membrane Oxygenation centres

2. ELSO guidelines for ECMO centres (2014)

3. ELSO guidelines for training and continuing education of ECMO specialists (2010)