'The Power of Nurses and Midwives to Influence Change'

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Implementation of an Interprofessional Simulation Programme:

The Mater's Experience

Mission

'To deliver a high fidelity, hospital-wide simulation programme that is accessible to all staff as a training opportunity. This will meet the professional and team development needs of our clinical staff and ensure our patients receive professional, high-standard, quality care.'

Vision

'To be a national and international leader in the delivery of clinical simulation for the purpose of training, driving quality and patient safety, reducing risk and harm, and allowing for innovation and research. This will ensure favourable patient outcomes and reassure our community of our commitment to excellence'.

Our Values

- Always inclusive, compassionate, respectful, dignified and patient focused

- Demonstrating leadership, accountability, flexibility and professionalism

- Being innovative, collaborative and future focused

- Striving to continually improve and be the best in everything we do

- Mindful and supportive of our colleagues

Outcomes of the Simulation Programme

Patient Outcomes

- Improved patient outcomes through enhanced patient safety and quality in the care delivered
- Standardisation of evidence-based care
- Patient and public confidence that teams delivering care are highly trained
- Ethically and morally just, by moving away from traditional methods of teaching on real patients
- Reduced risk of patient harm, by addressing issues highlighted in case reviews and reporting
- Reduction of hospital attendance by developing skills of community partners

Staff Outcomes

- Interprofessional Learning
- Professional Development of clinical knowledge and technical skills
- Unique Human Factors training opportunity and development of non-technical skills and attitudes
- Improved team work and shared learning
- Improved morale
- Opportunity to address skill decay in a safe non-judgemental environment, where participants can make mistakes without compromising patient safety
- Opportunity to rehearse high-risk low-frequency events
- Understand reaction to stress

Organisational Outcomes

- Establishment of Safety Culture of reporting and shared learning
- Improved morale and staff wellbeing
- Strengthened recruitment campaigns, with provision of high-standard training
- Positive impact on performance metrics through this quality and patient safety initiative
- This initiative aligns with the organisation's strategic goals to strengthen professional relationships and provide facilities for specialist training across and to integrate acute and primary care system
- Reduction in patient harm incurred by error and all associated costs, financial and otherwise

Other Outcomes

- Facilitate research in the area of simulation based education, team performance and human factors
- Improved innovation in service delivery Use simulation as a method to facilitate and test the design of new builds and medical devices.
- Opportunity to test new policies, protocols and guidelines through simulation scenarios and assist with the change management process in the implementation of these initiatives

Uses of Simulation

Rapid Cycle Deliberate Practice

Introducing Tools & Equipment

Pathway Development

We've simmed it, it works!!

Our Journey

The Beginning (2015) — Resus — Covid-19 — Ward Based Simulation — PACU — ETC — Simulation Centre

The Beginning

Resus

The Beginning (2015)　　**Resus**　　Covid-19　　Ward Based Simulation　　PACU　　ETC　　Simulation Centre

Effective Handover

Mater Hospital Trauma Retweeted

NAS Education - East @nas_training · Apr 11
@AmbulanceNAS @MaterTrauma simulation exercise at the mater ED this morning. IMIST-AMBO in action. It's all about teamwork .

Practitioner Patient Handover Information

I	Identification of patient
M	Mechanism of injury or medical complaint
I	Injuries or information related to complaint
S	Signs
T	Treatment and trends

Pause for Questions

A	Allergies
M	Medication
B	Background
O	Other Information

Any Further Questions

Local Anaesthetic Toxicity

AAGBI Safety Guideline
Management of Severe Local Anaesthetic Toxicity

1 Recognition

Signs of severe toxicity:
- Sudden alteration in mental status, severe agitation or loss of consciousness, with or without tonic-clonic convulsions
- Cardiovascular collapse: sinus bradycardia, conduction blocks, asystole and ventricular tachyarrhythmias may all occur
- Local anaesthetic (LA) toxicity may occur some time after an initial injection

2 Immediate management

- Stop injecting the LA
- Call for help
- Maintain the airway and, if necessary, secure it with a tracheal tube
- Give 100% oxygen and ensure adequate lung ventilation (hyperventilation may help by increasing plasma pH in the presence of metabolic acidosis)
- Confirm or establish intravenous access
- Control seizures: give a benzodiazepine, thiopental or propofol in small incremental doses
- Assess cardiovascular status throughout
- Consider drawing blood for analysis, but do not delay definitive treatment to do this

3 Treatment

IN CIRCULATORY ARREST
- Start cardiopulmonary resuscitation (CPR) using standard protocols
- Manage arrhythmias using the same protocols, recognising that arrhythmias may be very refractory to treatment
- Consider the use of cardiopulmonary bypass if available

GIVE INTRAVENOUS LIPID EMULSION
- Using the regimen overleaf
- Continue CPR throughout treatment with lipid emulsion
- Recovery from LA-induced cardiac arrest may take >1 h
- Propofol is not a suitable substitute for lipid emulsion
- Lidocaine should not be used as an anti-arrhythmic therapy

WITHOUT CIRCULATORY ARREST
Use conventional therapies to treat:
- hypotension,
- bradycardia,
- tachyarrhythmia

CONSIDER INTRAVENOUS LIPID EMULSION
(following the ...)
- Propofol is not ... for lipid emulsion
- Lidocaine should not be used a... anti-arrhythmic therapy

4 Follow-up

- Arrange safe transfer to a clinical area with appropriate equipment and staff until sustained recovery is achieved
- Exclude pancreatitis by regular clinical review, including daily amylase or assays for two days
- Report cases as follows:
  in the United Kingdom to the National Patient Safety Agency (via www.npsa.nhs.uk)
  in the Republic of Ireland to the Irish Medicines Board (via www.imb...)
  If Lipid has been given, please also report its use to the international reg... www.lipidregistry.org. Details may also be posted at www.lipidrescue.c...

Your nearest bag of Lipid Emulsion is kept...........................

This guideline is not a standard of medical care. The ultimate judgement with regard to a particular clinical procedure or treatment plan must be made by the clinician in the light of the clinical data presented and the diagnostic and treatment options available.
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Mater Misericordiae University Hospital

Intralipid 20% for the Management of Severe Local Anaesthetic Toxicity Dosing Table

| Protocol Version No: 1 | Replaces Version No: N / A | Page 1 of 1 |

Intralipid 20% for the Management of Severe Local Anaesthetic Toxicity Dosing Table

Follow the steps detailed in the **AAGBI Safety Guidance for the Management of Severe Local Anaesthetic Toxicity**

To ensure the maximum cumulative dose of 12 ml / kg is not exceeded, withdraw the volume not required from the 500 ml bag first

MMUH infusion pumps can administer a maximum rate of 1,200 ml /hr. For infusion volumes greater than 1,200 ml / hr, use simultaneous infusions with separate pumps as detailed below

Table 1: Weight based Intralipid 20% dosing

Weight (kg)	Maximum cumulative dose 12 ml / kg (ml)	Bolus Dose 1.5 ml / kg over 1 min (ml)	Initial Infusion Rate 15 ml / kg / hour (ml / hour)	Continuous Infusion after 2nd / 3rd bolus 30 ml / kg / hour (Double Dose) (ml / hour)
40	480	60	600	1,200
45	540	67.5	675	1,350 = 2 x 675
50	600	75	750	1,500 = 2 x 750
55	660	82.5	825	1,650 = 2 x 825
60	720	90	900	1,800 = 2 x 900
65	780	97.5	975	1,950 = 2 x 975
70 kg	840 ml	105 ml	1,050 ml / hr	2,100 ml / hr = 2 x 1,050
75	900	112.5	1,125	2,250 = 2 x 1,125
80	960	120	1,200	2,400 = 2x 1,200
85	1,020	127.5	1,275 = 2 x 638	2,550 = 3 x 850
90	1,080	135	1,350 = 2 x 675	2,700 = 3 x 900
95	1,140	142.5	1,425 = 2 x 713	2,850 = 3 x 950
100	1,200	150	1,500 = 2 x 750	3,000 = 3 x 1,000
105	1,260	157.5	1,575 = 2 x 788	3,150 = 3 x 1050
110	1,320	165	1,650 = 2 x 825	3,300 = 3 x 1,100
115	1,380	172.5	1,725 = 2 x 863	3,450 = 3 x 150
120	1,440	180	1,800 = 2 x 900	3,600 = 3 x 1,200

MMUH Intralipid 20% 500 ml Stock Locations

Whitty Building: Emergency Department, Level, 1;   Theatres Pharmacy Stock Room, Level 3
Misericordiae Wing: Scheduled Care Ward, Level 2;   Department of Pain Medicine, Level 1;

References:
1. Intralipid 20% Emulsion for Infusion Summary of Product Characteristics. Available on www.hpra.ie. Last updated January 2008
2. AAGBI Safety Guideline Management of Severe Local Anaesthetic Toxicity 2010. Last accessed 02/02/17.

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| Drafted by: Pharmacy Department, Department of Emergency Medicine | Approved by: Dr T Breslin, Consultant in Emergency Medicine |

The Pharmacy Department maintain this protocol in conjunction with the clinicians and nursing staff in the areas of use. All proposed modifications to the protocol and/or print versions need to be done in conjunction with the Pharmacy Department to ensure that the MaterNet version is current and to avoid the risk of out of date policies being used in error. This protocol is the property of the MMUH and cannot be copied, loaned or distributed without the author's permission.

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Intralipid 20%
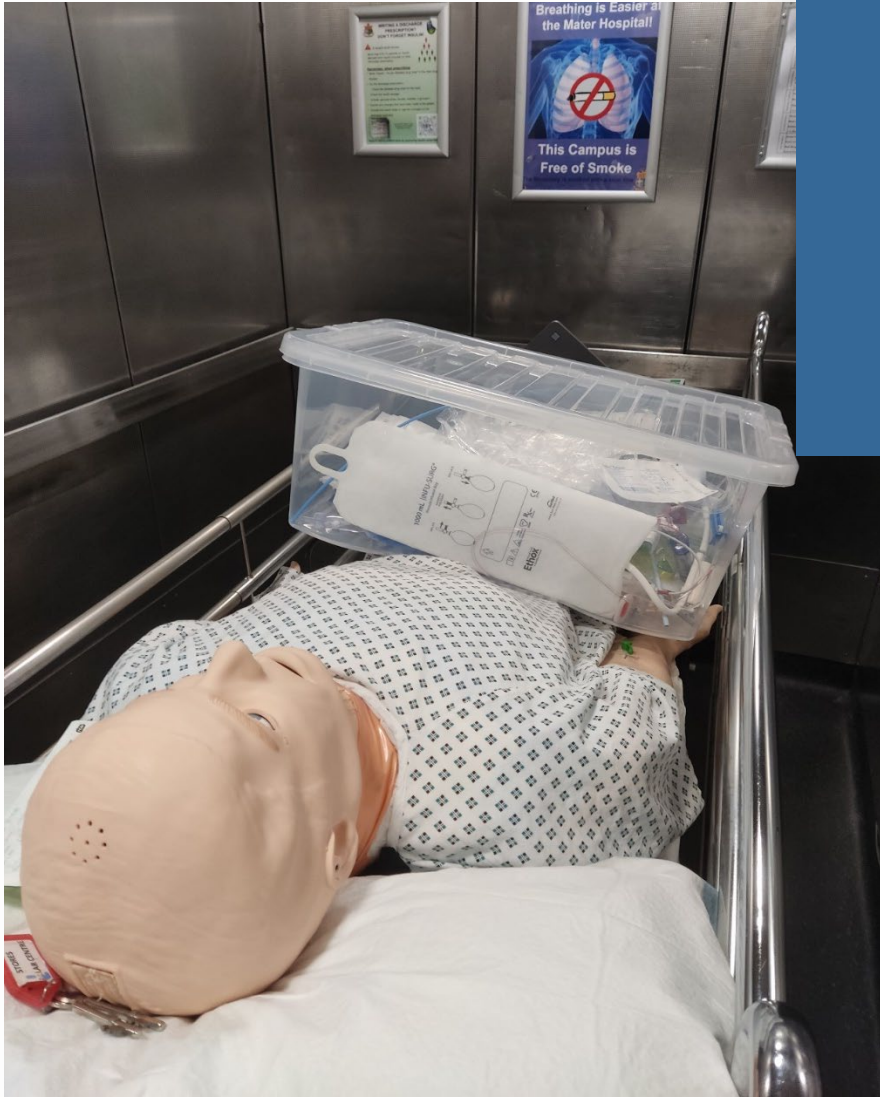
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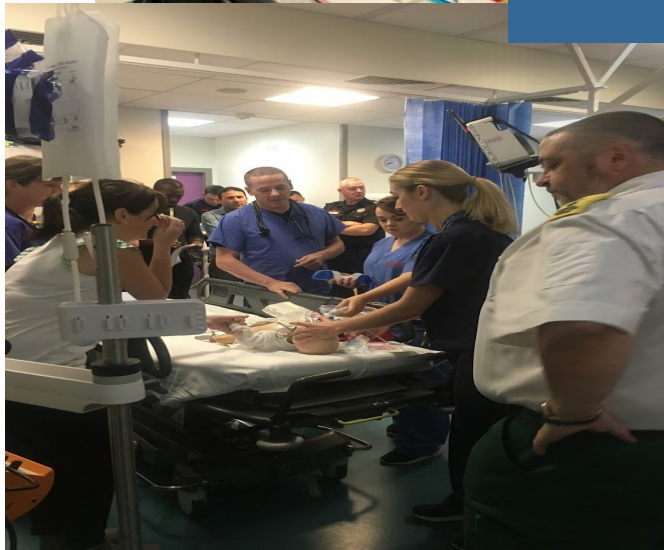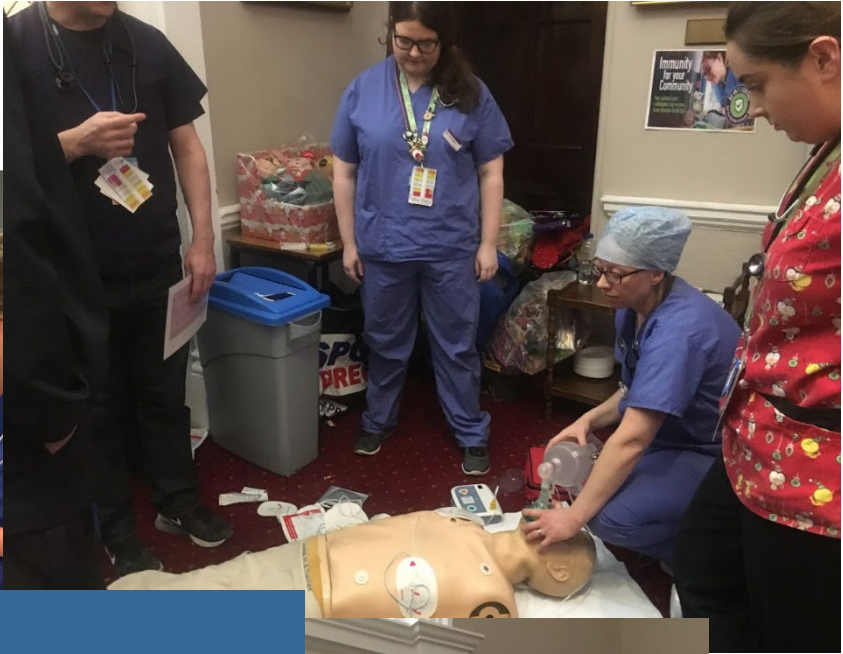
Hospital-wide

Leaving ED

Ward Based Simulation

On way to Theatre

PACU (Post Anaesthetic Care Unit)

The Beginning (2015)
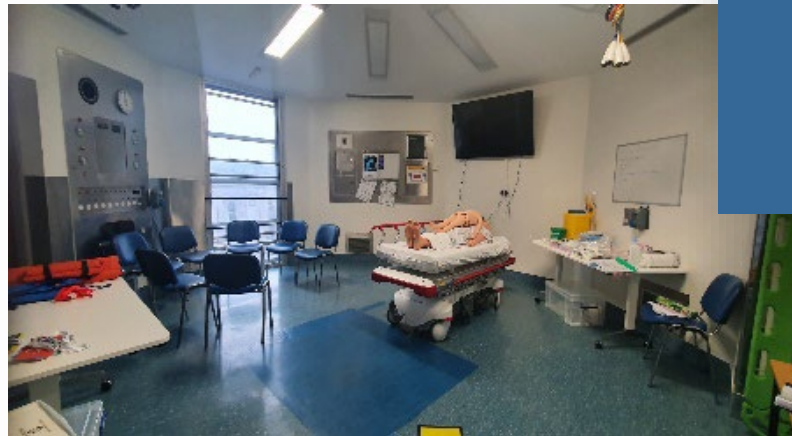
Resus

Covid-19

Ward Based Simulation

PACU

ETC
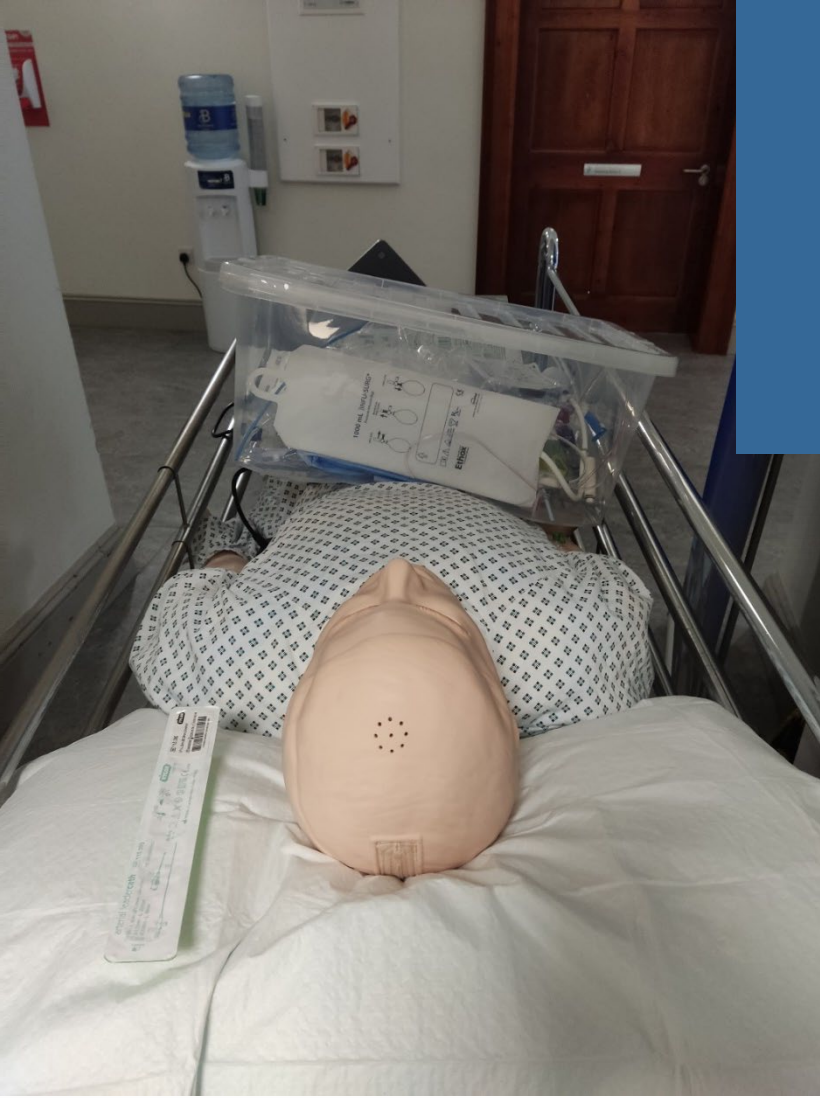
Simulation Centre

On way to Pillar Centre

ETC
(European Trauma Course)

Simulation Centre
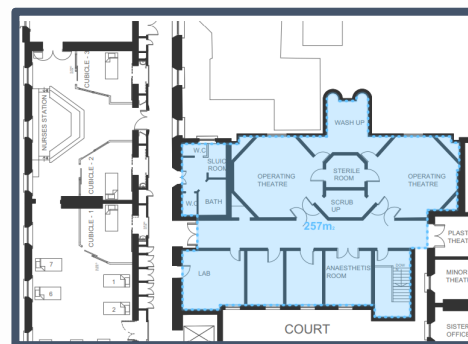
The Beginning (2015) — Resus — Covid-19 — Ward Based Simulation — PACU — ETC — **Simulation Centre**

Lessons Learned

Lessons Learned

- Buy in

- Champion interprofessional education

- Teams who work together should train together

- Involve everyone that would be part of a real case

- Need experienced, skilled, interprofessional and multidisciplinary faculty

- Heavy reliance on good will, passion and enthusiasm

- Resource Management

- Adequate Space

- Equipment but think creatively

- Start slow and basic, adding complexity as the programme matures

- Embark on faculty training opportunities

- Spend time on scenario development

- Ensure psychological safety and most importantly...........

Immerse yourself...

... & suspend your disbelief
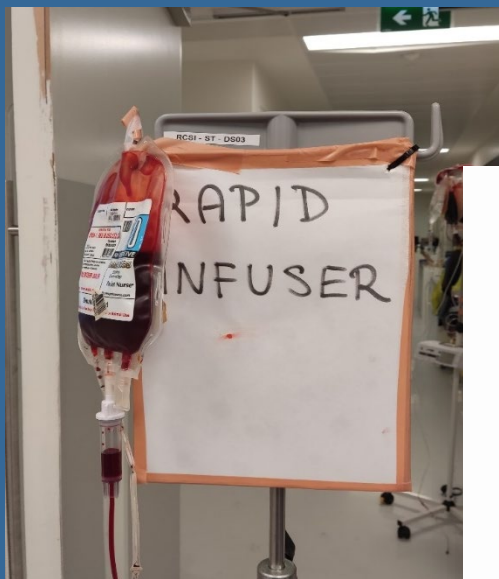
Next Steps

- Development of the Simulation Centre in the Mater Pillar Centre for Transformative Healthcare
- Trauma 'Roadside to Theatre' Simulation
- Viral Haemorrhagic Fever Case in the National Isolation Unit
- Physio gym cardiac arrest
- Major Haemorrhage Protocol in Critical Care
- Clinical commissioning and design of new developments

Thanks for your time

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