

# NATIONAL PATIENT SAFETY IN ANAESTHESIA CONFERENCE & KP MOORE COMPETITION 2023



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**WINTER LECTURE**  
**PROF. JEFFREY COOPER**  
Professor of Anaesthesia  
Harvard Medical School

**Venue**  
Chartered Accountants House  
**Date**  
17th November 2023 8.00 am  
**6.5 CPD Points**



**Patient Safety**  
College of Anaesthesiologists of Ireland

# KP MOORE MEDAL COMPETITION & WINTER COLLEGE LECTURE 2023

## BOOK OF ABSTRACTS

### KP Moore Medal Winner 2022

Dr Claire Keaveney Jimenez

*'INPATIENT PREOPERATIVE MEDICATION ADMINISTRATION QUALITY  
IMPROVEMENT PROJECT AND AUDIT CYCLE'*





Dear Colleagues and Friends,

On behalf of the Committee of Anaesthesiology Trainees, I would like to welcome you all to the 2023 National Patient Safety in Anaesthesia Conference.

This conference is one example of the tireless work carried out by the College of Anaesthesiologists in fostering and sustaining safer practices within our specialty and many of the lectures today will touch on the current status and the envisioned, future trajectory of patient safety in Ireland. The change in this year's venue coupled with the programme of distinguished speakers reflects a concerted commitment to embedding patient safety as a pillar of clinical practice and a recognition that we can learn from each other in the pursuit of excellence.

The Patient Safety in Anaesthesia Conference would not be complete without the KP Moore Medal competition, which, since its inception in 2017, has fast become one of the most anticipated events of the day. Over the years, it has grown in popularity and prestige; showcasing the very best patient safety initiatives from departments all across the country. The eponymous, Dr. Kevin Patrick Moore, a paediatric anaesthesiologist and gifted clinician firmly established patient safety as one of the cornerstones of our national anaesthesiology training scheme. In his honour, we award the KP Moore medal to a trainee who mirrors his passion for safety in our profession.

The Committee of Anaesthesiology Trainees would like to thank the Quality and Safety Advisory Committee for their ongoing support and importantly wish all of the presenters today the very best of luck.

Dr. Siobhán Clarke  
Quality and Safety Advisory Committee representative,  
Committee of Anaesthesiology Trainees (CAT)





## Foreword - Dr McCloskey and Prof Tan

We are delighted to welcome you to the **6th National Patient Safety in Anaesthesia Conference** at the Institute of Chartered Accountants. Patient Safety remains the most important priority for our speciality and our College. 2023 has seen several important developments in the advancement of our Patient Safety Strategy. Work is ongoing on the development of a core patient safety curriculum, developed in conjunction with the other Medical Colleges. A new 'Fundamentals of Patient Safety' programme has been delivered to our SATI group.

The Safe Anaesthesia Network of Ireland (SANI) group have launched a national lecture series open to all and focussing on vital topics including safety culture and safety in obstetric anaesthesia. We would like to thank Prof Irene Leonard for leading SANI.

The College have become the first professional body to form an important alliance with HSE Quality and Safety Directorate aiming to collaborate and provide targeted feedback to fellows and members on the reported incidents from the National Incident Management System (NIMS). The derived learning will also guide the College on focus areas for education and training.

This year our conference speakers will focus on the most recent advances in safety in anaesthesiology and safety culture. We are delighted to welcome Professor Jeffrey Cooper from Harvard Medical School to deliver the Winter Scientific Lecture on his personal experiences as a global leader in patient Safety.

The **KP Moore Competition** continues to attract a high number of excellent submissions in the field of patient safety. This year over 80 submissions were received, all demonstrating the important improvement projects ongoing across the country. This large number of submissions is truly a testament to all Anaesthesiology departments in Ireland of their efforts to continually improve and innovate in quality and safety at the point of care. A special thank you to the Safety Leads on SANI, Amy Donnelly, Clare O'Connor, and Pádraig Ó Scanaill for reviewing all the abstracts and adjudicating at the competition.

We hope that what you learn today will be transformed into lived experiences in your workplace and help you to be the leaders for patient safety in your healthcare organisations.

Prof Terry Tan  
Chair of the Quality and  
Safety Advisory Committee, CAI

Dr Brian McCloskey  
Director of Patient Safety and Quality  
Improvement, CAI



## KP MOORE MEDAL COMPETITION

The KP Moore Medal competition is named in honour of KP Moore. Dr Moore was a well-known and respected paediatric anaesthetist.



### Dr Kevin P Moore

Dr Moore was a founding father of the training programme in Ireland. He was the first chairman of the training committee from 1981- 1991.

In honouring him by awarding this medal in his name, the Committee of Anaesthetists in Training are acknowledging both his contribution to anaesthesia training in Ireland and the individual attention that he gave the many trainees that he mentored and supported.

The College is pleased to welcome back Mrs Moore and her family and thank them for continuing to support the competition.

# AGENDA

**07.45 Registration**

**08.30 Welcome**

*Prof Terry Tan, Chair of Quality and Patient Safety Advisory Committee*

## **Session 1: Safe Practice**

*Chair: Prof Terry Tan*

**8.35 - 9.00 Airway Safety**

*Prof Ellen O'Sullivan - St James Hospital*

**9.00 - 9.20 Safe Surgery**

*Ms Aileen O'Brien*

**9.20 - 9.45 Update on Allergies and Anaphylaxis in Anaesthesiology**

*Dr Anne Mc Clelland*

**9.45 - 10.10 Safe Sedation**

*Dr Jan Steiner - AAGBI*

**10.10 - 10.20 Poster Elevator Pitch**

**10.20 - 10.50 Break: Trade Exhibition / Poster exhibition**

## **Session 2: How we do Patient Safety in our Departments**

*Chair: Dr Brian McCloskey*

**10.50 - 11.15** *Prof Irene Leonard - Beaumont Hospital*

**11.15 - 11.40** *Dr Aoibhin Hutchinson - RVH Belfast*

## **Session 3: Safe Culture**

**11.40 - 12.20 Keynote Lecture: Just Culture**

*Dr Marie Ward - PhD, Centre of Innovation Systems, TCD*

**12.20 - 12.30 Poster elevator pitch**

**12.30 - 13.30 Lunch Break: Trade exhibition / Poster exhibition**

# AGENDA

## **KP Moore Medal in Patient Safety**

*Chair: Prof Terry Tan*

**13.30 - 15.00 KP Moore Finalist Presentations**

**15.00 - 15.30 Accreditation in Patient Safety for Clinical Departments (ACSA): What it is, how it works, and roadmap to getting started**

*Chair: Prof Donal Buggy*

*Dr Russell Perkins - RCoA*

**15.30 - 15.40 Break**

## **Winter College Lecture 2023**

*Chair: Prof George Shorten*

**15.40 - 16.25 Anaesthesia Patient Safety, Past and Future**

*Prof Jeffrey Cooper - Professor of Anaesthesia Harvard Medical School*

**16.25 Prize-giving Presentations**

**Closing Address**

*Prof George Shorten - CAI President*



## SPEAKERS

### **Prof Terry Tan - Chair**

*Chair of the Quality and Safety Advisory Committee, CAI*

Prof Tan is a consultant anaesthesiologist at the Coombe Women and Infants University Hospital, and St James's Hospital, Dublin, Associate Clinical Professor at University College Dublin, and Senior Clinical Lecturer at Trinity College Dublin. As well as extensive experience as an obstetric anaesthesiologist, he has lectured nationally and internationally on topics such as obesity in pregnancy and the use of ultrasound in obstetric anaesthesia.

### **Prof Ellen O'Sullivan - Speaker**

*Consultant Anaesthesiologist in the Dept. of Anaesthesiology & Intensive Care at St James Hospital Dublin, Ireland & College of Anaesthesiologists of East, Central and Southern Africa (CANECISA)*

Ellen O'Sullivan trained in anaesthesiology and intensive care in the UK and USA and is now a Consultant Anaesthesiologist at St James's Hospital Dublin, Ireland affiliated to Trinity College Dublin. She specializes in airway management and is the Director of the Fellowship in Advanced Airway Management and Simulation.

She is Past President of the Difficult Airway Society, DAS, and was appointed DAS Professor of Anaesthesia and airway Management.

Prof O'Sullivan is Past President of the College of Anaesthesiologists of Ireland and is now Airway Lead Advisor to the College and runs the CAI national airway training.

She has a substantial portfolio of clinically relevant research and has co-authored more than 140 scientific papers, books, website modules etc Clinically she has developed a worldwide reputation in airway management and lectures and teaches workshops internationally.

She was a member of the ASA Task Force on Management of the Difficult Airway and also sits on the Project for Universal Airway Guidelines Group (PUMA) guideline group. She is an Executive Director of WAAM (World Alliance for Airway Management) and co-chaired the World Airway Meeting, WAMM1, in Dublin 2015 and WAMM2 in Amsterdam 2019. A particular interest of Prof O'Sullivan's is Global Anaesthesia and supporting education and training in low & middle-income countries. This has led to her involvement in a number of projects in Malawi and Uganda including the Global Capnography Project (GCAP)

### **Dr Anne McClelland - Speaker**

*Consultant Anaesthetist, Belfast Trust*

Consultant Anaesthetist working in the Belfast Trust. Studied medicine at Queens University Belfast and completed anaesthetic training in Northern Ireland. As well as an interest in orthopaedic and day-case anaesthesia, I have more recently developed an interest in perioperative drug allergy. I completed a certificate in Allergy at Southampton University.

Following the pandemic, we have established a gold-standard joint immunology and anaesthetic perioperative allergy clinic. This provides a regional service for Northern Ireland.

## SPEAKERS

### **Ms Aileen O'Brien - Speaker**

*Assistant Director of Nursing Lead, National Clinical Programme for Anaesthesia*

Aileen is the Assistant Director of Nursing Lead for the National Clinical Programme for Anaesthesia. She has many years of experience in Perioperative Nursing and was a Clinical Nurse Manager in Anaesthesia and Preoperative assessment at Tallaght University Hospital prior to her current role. She has developed education programmes for nurses in Anaesthesia/Post Anaesthesia care and Pre-admission unit care. Her current role brings together all aspects of her clinical experience to date together with her passion for quality safe patient care and professional development. She was instrumental in the development and publication of this policy and chaired the working group. She also led the development of an eLearning module for the 5 stages of safe surgery.

### **Dr Jan Steiner - Speaker**

*Consultant Anaesthesiologist / intensivist, Galway Clinic*

Dr Jan Steiner joined the Galway Clinic in April 2015 as a Consultant Anaesthesiologist / Intensivist. He is Medical Director of the Intensive Care Unit in the Galway Clinic and previous Chairman of the Department of Anaesthesia.

Originally from Germany, Dr Steiner has trained and worked as an Anaesthesiologist both in Germany and Ireland.

Dr Steiner graduated from the University of Bochum and Essen and commenced his Anaesthetic training in Germany.

He completed much of his Anaesthetic training in Ireland which included the basic specialty training scheme in the North West of Ireland followed by the Specialist Registrar scheme rotating throughout Ireland.

He is a Fellow of the College of Anaesthesiologists of Ireland.

Following completion of his Anaesthetic higher specialty training, Dr Steiner has furthermore been awarded a Fellowship in Intensive Care Medicine in Germany.

Dr Steiner completed a simulation masterclass in Procedural Sedation and Analgesia according to the 2017 European Society of Anaesthesiology guidelines in Mainz, Germany.

He is regularly invited to present at various medical conferences on specialist topics which include sepsis, ICU design impact on delirium, and procedural sedation.

Dr Steiner was the lead clinician for establishing a new, modern, and JCI compliant Procedural Sedation and Analgesia (PSA) policy in the Galway Clinic. Dr Steiner was central in establishing the first official and formal procedural sedation course for nurses in Ireland in cooperation with GMIT resulting in a Certificate in Nursing in Procedural Sedation, Level 9, 10 credit, Special Purpose Award.

## SPEAKERS

### **Prof Irene Leonard - Speaker**

*Consultant Anaesthesiologist, Beaumont Hospital*

Honorary Clinical Associate Professor, RCSI University of Medicine & Health Sciences, has a long-held passionate interest in patient safety and Quality Improvement in Anaesthesia.

Current Roles include:

Consultant Patient Safety Lead, Anaesthesia Department, Beaumont Hospital

Member - Quality and Safety Advisory Commitee, CAI

Current Chair - Safe Anaesthesia Network of Ireland (SANI)

### **Dr Aoibhin Hutchinson - Speaker**

*Consultant in Intensive Care Medicine and Anaesthesia, RVH Belfast*

Dr Aoibhin Hutchinson is a Consultant in Intensive Care Medicine and Anaesthesia, at the Royal Hospital in Belfast Health and Social Care Trust (BHSCT) Since her appointment in 2010, the majority of her clinical role has been delivered as an intensivist in the Regional ICU in Belfast, and in addition neuro-anaesthesia and thoracic anaesthesia. The Regional ICU is a tertiary-level critical care unit in the trauma centre for the region.

She has had an interest in patient safety throughout her training which has continued as a Consultant. She is now the Divisional lead for patient safety and governance. She leads a team of 7 consultants, who are patient safety and governance leads, across anaesthesia and critical care in BHSCT. She has been the Faculty Tutor for ICM in the Royal and is an examiner for EDIC and JFICMI in the College.

### **Dr Brian McCloskey - Chair**

*Director of Patient Safety and Quality Improvement, CAI*

Dr Brian McCloskey who took up his CAI role on July 1, 2022, has served as Clinical Director, Critical Care Services, and Consultant in Anaesthetics & Intensive Care Medicine at the Belfast Health and Social Care Trust where he has led the rollout of an extensive Quality Improvement education programme. Dr McCloskey has long been seen as an effective patient safety advocate across Northern Ireland.



## SPEAKERS

### **Dr Marie Ward - Speaker**

*PhD, Centre of Innovation Systems, TCD*

Marie E. Ward is an embedded Health Systems researcher at St James's Hospital Dublin where she is engaged in a programme of health systems research and improvement. Marie holds a PhD in Psychology Human Factors and is an Adjunct Assistant Professor at TCD's multidisciplinary Centre for Innovative Human Systems which engages in Human Factors research and consultancy with all industries to improve human well-being and system performance. Marie is a lecturer on the Masters in Managing Risk and System Change (TCD) and the Master's in Human Factors in Patient Safety (RCSI); Chairperson of the Irish Human Factors and Ergonomics Society; a member of the Chartered Institute of Ergonomics and Human Factors (UK) special interest group on AI in healthcare. Her research interests include how to enable patient and staff safety and well-being from a systems perspective and co-designing new systems from a socio-technical perspective.

### **Prof Donal Buggy - Chair**

*Professor of Anaesthesiology & Perioperative Medicine, Mater Misericordiae University Hospital, School of Medicine, University College Dublin, Ireland.*

Consultant in Anaesthesiology and perioperative Medicine,  
Mater Misericordiae University Hospital & Mater Private Hospital, Dublin.  
Vice President, College of Anaesthesiology of Ireland.

### **Dr Russell Perkins - Speaker**

*Consultant Paediatric Anaesthetist*

Dr Russell Perkins has been a Consultant Paediatric Anaesthetist in Manchester for 25 years and a proud Fellow of the Royal College for 30 years. He has served as a College Tutor, Examiner, Deputy and Regional Adviser.

Russell is Vice-President of the RCoA's and chair of the Anaesthesia Clinical Services Accreditation (ACSA) committee. He is also a member of other groups at the College, including the SAS Committee, Finance and Resources Board and the Equality, Diversity, and Inclusion Committee. He is a trustee of the College.

As a paediatric anaesthetist on the RCoA Council, he is a co-opted representative to the Association of Paediatric Anaesthetists of Great Britain (APAGBI), a role which he enjoys and sees as one of his core responsibilities. Russell aims to ensure anaesthetic care of children is embedded in all activities at the RCOA and champions our training as being fit for purpose for all those working in the NHS in the years to come.

Russell is also the Clinical Director of the Department of Anaesthesia at Royal Manchester Children's Hospital.

# WINTER COLLEGE LECTURE 2023

*Presented by Prof Jeffrey Cooper*

*Professor of Anaesthesia, Harvard Medical School*



## **Prof Jeffrey B. Cooper, Ph.D.**

Jeffrey B. Cooper, Ph.D. is Professor Emeritus of Anaesthesia at Harvard Medical School and Massachusetts General Hospital. He is the founder, Executive Director Emeritus, and Senior Fellow of the Center for Medical Simulation in Boston.

Dr. Cooper is one of the pioneers in patient safety. He did landmark research in medical errors in the 1970s and is a co-founder of the Anesthesia Patient Safety Foundation (APSF). He was for many years Director of Biomedical Engineering at the Massachusetts General Hospital and then Partners Healthcare System. He is the author or co-author of over 150 peer-reviewed articles and book chapters.

Dr. Cooper has been awarded several honors for his work in patient safety, including the John M. Eisenberg Award for Lifetime Achievement in Patient Safety from the National Quality Forum and the Joint Commission and the Lifetime Achievement Award from the American Academy of Clinical Engineering. He received the Distinguished Service Award of the American Society of Anesthesiologists in 2013, the only non-MD to receive the honor. He is one of the first two members of the Hall of Fame of the American College of Clinical Engineering and is among the inaugural fellows of the Academy of the Society for Simulation in Healthcare. In his personal life, he is an equestrian, an avid Argentinian tango dancer, and dabbles in haiku and poetry.

# CLOSING CEREMONY

**Prof George Shorten**

*President, College of Anaesthesiologists of Ireland*



George Shorten FRCA, FFARCS(I), DABA, MD, PhD, DSc.

- Professor of Anaesthesia and Intensive Care Medicine and Foundation Director of the ASSERT Centre at University College Cork, Ireland (<https://www.ucc.ie/en/assert/>).
- President of the College of Anaesthesiologists in Ireland. Formerly Dean, the School of Medicine University College Cork (2010-13) and Assistant Professor of Anesthesiology at Harvard Medical School, appointed the first Professor of Anaesthesia and Intensive Care Medicine at UCC, Ireland in 1997.
- Was co-ordinating applicant for the Irish Health Research Board infrastructure grant which established UCC's Clinical Research Facility (<https://www.ucc.ie/en/crhc/>).
- Appointed consultant anaesthetist at Cork University Hospital (1997), Honorary Consultant to the South Infirmary and Victoria Hospitals (1998), and Honorary President of the Irish Association of Anaesthetic and Recovery Nurses (2002).
- Has served on many national and international research and education bodies including as chair of the Education Committee of the European Pain Federation, of the Irish Universities and Medical Schools Consortium and of the Council of Deans of Medical Schools in Ireland. Reviewer and consultant for the U.S. Department of Health, Ministerial appointment to the European Medicines Agency (and co-chair during Ireland's Presidency in 2004).
- Various awards including eponymous and keynote Lectures, UCC inaugural Lifetime Achievement award for Teaching and Learning (2018).
- Research interests include human performance in healthcare and innovative training in technical skills.
- PI or co-investigator for peer review research grants of total value > EU 15M.
- Author of more than 200 articles for peer review journals.
- Member of the editorial board of four peer-reviewed medical journals.

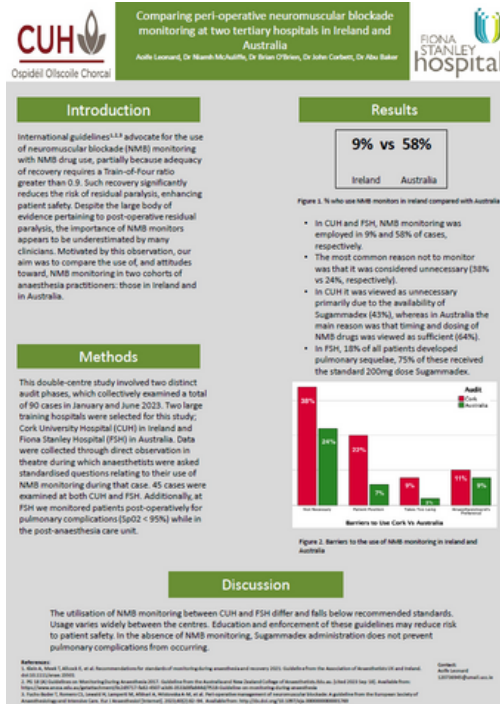




# POSTER ELEVATOR PITCH

## Dr Aoife Leonard

Comparing peri-operative neuromuscular blockade monitoring at two tertiary hospitals in Ireland and Australia



**Introduction**

International guidelines<sup>1,2</sup> advocate for the use of Neuromuscular blockade (NMB) monitoring with NMB drug use, partially because adequacy of recovery requires a Train-of-Four ratio greater than 0.9. Such recovery significantly reduces the risk of residual paralysis, enhancing patient safety. Despite the large body of evidence pertaining to post-operative residual paralysis, the importance of NMB monitors appears to be underestimated by many clinicians. Motivated by this observation, our aim was to compare the use of, and attitudes toward, NMB monitoring in two cohorts of anaesthesia practitioners: those in Ireland and in Australia.

**Methods**

This double-centre study involved two distinct audit phases, which collectively examined a total of 90 cases in January and June 2023. Two large training hospitals were selected for this study: Cork University Hospital (CUH) in Ireland and Fiona Stanley Hospital (FSH) in Australia. Data were collected through direct observation in theatre during which anaesthetists were asked standardized questions relating to their use of NMB monitoring during that case. 45 cases were examined at both CUH and FSH. Additionally, at FSH we monitored patients post-operatively for pulmonary complications (SpO2 < 95%) while in the post-anaesthesia care unit.

**Results**

**9% vs 58%**  
Ireland Australia

**Figure 1: % who use NMB monitors in Ireland compared with Australia**

- In CUH and FSH, NMB monitoring was employed in 9% and 58% of cases, respectively.
- The most common reason not to monitor was that it was considered unnecessary (38% vs 24%, respectively).
- In CUH it was viewed as unnecessary primarily due to the availability of Sugammadex (43%), whereas in Australia the main reason was that timing and dosing of NMB drugs was viewed as sufficient (64%).
- In FSH, 18% of all patients developed pulmonary sequelae, 75% of these received the standard 200mcg dose Sugammadex.

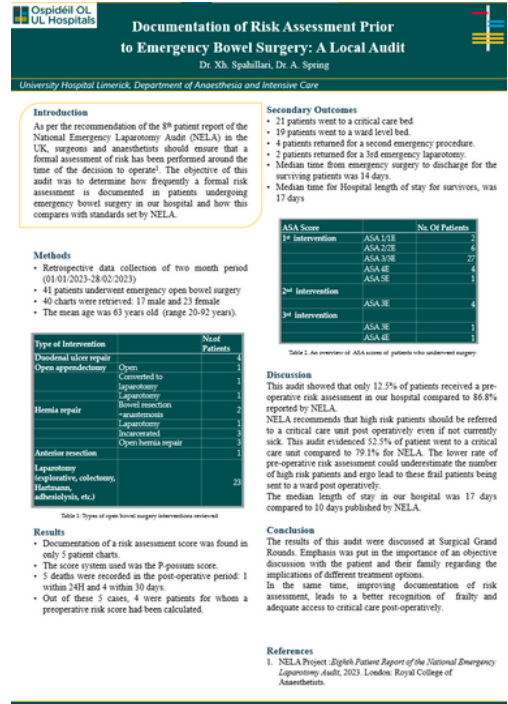
**Figure 2: Barriers to the use of NMB monitoring in Ireland and Australia**

**Discussion**

The utilization of NMB monitoring between CUH and FSH differ and falls below recommended standards. Usage varies widely between the centres. Education and enforcement of these guidelines may reduce risk to patient safety. In the absence of NMB monitoring, Sugammadex administration does not prevent pulmonary complications from occurring.

## Dr Xhejni Spahillari

Documentation of Risk Assessment Prior to Emergency Bowel Surgery A Local Audit



**Introduction**

As per the recommendation of the 8<sup>th</sup> patient report of the National Emergency Laparotomy Audit (NELA) in the UK, surgeons and anaesthetists should ensure that a formal assessment of risk has been performed around the time of the decision to operate<sup>1</sup>. The objective of this audit was to determine how frequently a formal risk assessment is documented in patients undergoing emergency bowel surgery in our hospital and how this compares with standards set by NELA.

**Methods**

- Retrospective data collection of two month period (01/01/2023-28/02/2023)
- 41 patients underwent emergency open bowel surgery
- 40 charts were retrieved: 17 male and 23 female
- The mean age was 63 years old (range 20-92 years).

**Types of Intervention**

Type of Intervention	No. of Patients
Duodenal stent repair	1
Open appendectomy	1
Colon resection	1
Laparotomy	1
Bowel resection	1
Small intestine resection	1
Rectal resection	1
Anterior resection	1
Laparotomy (laparoscopic, colectomy, ileostomy, abdominal)	23

**Table 1: Types of open bowel surgery interventions reviewed**

**Results**

- Documentation of a risk assessment score was found in only 5 patient charts.
- The score system used was the P-possum score.
- 5 deaths were recorded in the post-operative period: 1 within 24H and 4 within 30 days.
- Out of these 5 cases, 4 were patients for whom a preoperative risk score had been calculated.

**Secondary Outcomes**

- 23 patients went to a critical care bed
- 19 patients went to a ward level bed.
- 4 patients returned for a second emergency procedure.
- 2 patients returned for a 3rd emergency laparotomy.
- Median time from emergency surgery to discharge for the surviving patients was 14 days.
- Median time for Hospital length of stay for survivors, was 17 days

**Table 2: An overview of ASA scores of patients who underwent surgery**

ASA Score	ASA I/II	No. Of Patients
1st Intervention	ASA I/II	2
	ASA I/III	27
	ASA III	2
	ASA IV	1
2nd Intervention	ASA III	4
3rd Intervention	ASA III	1
	ASA IV	1

**Table 2: An overview of ASA scores of patients who underwent surgery**

**Discussion**

This audit showed that only 12.5% of patients received a preoperative risk assessment in our hospital compared to 86.8% reported by NELA. NELA recommends that high risk patients should be referred to a critical care unit post-operatively even if not currently sick. This audit evidenced 52.5% of patients went to a critical care unit compared to 79.1% for NELA. The lower rate of pre-operative risk assessment could underestimate the number of high risk patients and may lead to these frail patients being sent to a ward post-operatively. The median length of stay in our hospital was 17 days compared to 10 days published by NELA.

**Conclusion**

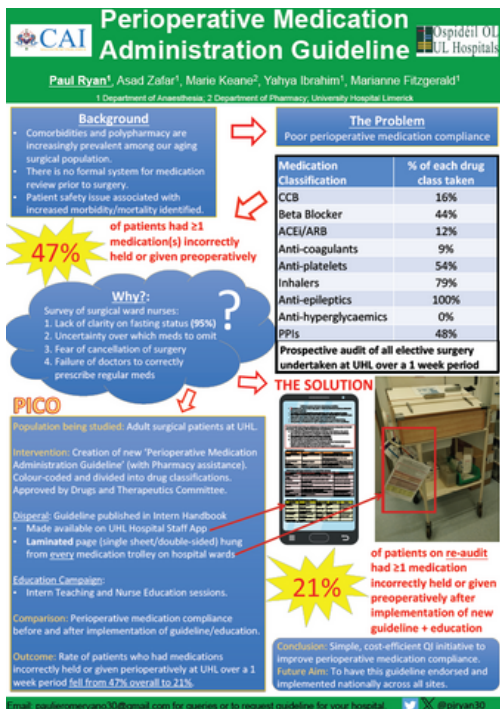
The results of this audit were discussed at Surgical Grand Rounds. Emphasis was put on the importance of an objective discussion with the patient and their family regarding the implications of different treatment options. In the same time, improving documentation of risk assessment, leads to a better recognition of frailty and adequate access to critical care post-operatively.

**References**

- NELA Project. *English Patient Report of the National Emergency Laparotomy Audit, 2023*. London: Royal College of Anaesthetists.

## Dr Paul Ryan

Perioperative Medication Administration A Service Evaluation and Quality Improvement Project



**Background**

- Comorbidities and polypharmacy are increasingly prevalent among our aging surgical population.
- There is no formal system for medication review prior to surgery.
- Patient safety issue associated with increased morbidity/mortality identified.

**The Problem**

Poor perioperative medication compliance

**Medication Classification**

Medication Classification	% of each drug class taken
CCB	16%
Beta Blocker	44%
ACEI/ARB	12%
Anti-coagulants	9%
Anti-platelets	54%
Inhalers	79%
Anti-epileptics	100%
Anti-hyperglycaemics	0%
PPiis	48%

**47%** of patients had  $\geq 1$  medication(s) incorrectly held or given preoperatively

**Why?:**

- Lack of clarity on fasting status (95%)
- Uncertainty over which meds to omit
- Fear of cancellation of surgery
- Failure of doctors to correctly prescribe regular meds

**PICO**

**Population being studied:** Adult surgical patients at UHL.

**Intervention:** Creation of new 'Perioperative Medication Administration Guideline' (with Pharmacy assistance). Colour-coded and divided into drug classifications. Approved by Drugs and Therapeutics Committee.

**Dispersal:** Guideline published in Intern Handbook  
 • Made available on UHL Hospital Staff App  
 • Laminated page (single sheet/double-sided) hung from every medication trolley on hospital wards

**Education Campaign:**

- Intern Teaching and Nurse Education sessions.

**Comparison:** Perioperative medication compliance before and after implementation of guideline/education.

**Outcomes:** Rate of patients who had medications incorrectly held or given preoperatively at UHL over a 1 week period fell from 47% overall to 21%

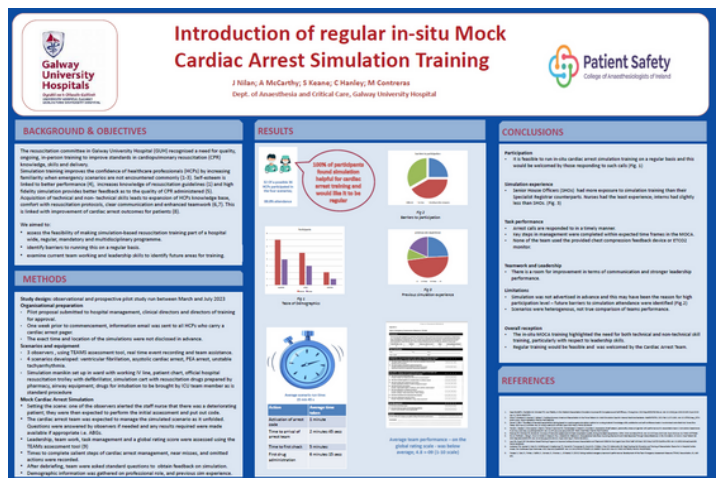
**THE SOLUTION**

**21%** of patients on re-audit had  $\geq 1$  medication incorrectly held or given preoperatively after implementation of new guideline + education

**Conclusion:** Simple, cost-efficient QI initiative to improve perioperative medication compliance. Future aim: To have this guideline endorsed and implemented nationally across all sites.

## Jemima Nilan

Introduction of a Regular in situ Mock Cardiac Arrest (MOCA) Training in Galway University Hospital



**Background & Objectives**

The resuscitation curriculum in Ireland currently requires 1000 minutes of a cardiac arrest training, in-person training to improve standards in cardiovascular resuscitation (CPR) knowledge, skills and safety.

Simulation training improves the confidence of healthcare professionals (HCPs) by increasing familiarity with emergency situations and real assessment scenarios (1,2). Self-reflection and peer feedback are also essential for learning (3). Regular in-situ training provides better feedback on the quality of CPR performance (4). Incorporation of feedback and real feedback into the resuscitation curriculum, combined with resuscitation scenarios, case simulation and enhanced teamwork (5). This is critical with implementation of cardiac arrest resuscitation for patients (6).

**Methods**

Single-stage observational and prospective pilot study ran between March and July 2023

**Operational preparation**

- Identify the location of the simulation, information used and used as an in-situ training for all staff.
- The exact time and location of the simulation were not disclosed to clinicians.
- Scenario and equipment
- 2 scenarios using BLS assessment tool, real time event recording and team assistance.
- Quality feedback on training on the spot.
- Simulation was set up as used with working 02 box, patient chart, official hospital resuscitation policy with definitions, simulation card with resuscitation drugs prepared by pharmacy, anaesthetist, drugs for simulation to be brought to 02 room as per usual.

**Mock Cardiac Arrest Simulation**

- On the day of the simulation, the HCPs were alerted that there was an emergency. They were then expected to perform the initial assessment and call for help.
- The patient was then expected to undergo the simulated cardiac arrest.
- Resuscitation was initiated by the HCPs.
- Questions were answered by doctors if needed and any specific input was made.
- Quality of equipment in 02 room.
- Simulation was set up as used with working 02 box, patient chart, official hospital resuscitation policy with definitions, simulation card with resuscitation drugs prepared by pharmacy, anaesthetist, drugs for simulation to be brought to 02 room as per usual.
- After simulation, there were held debriefed sessions to obtain feedback on simulation.
- During debriefed sessions, good and professional staff and practice were highlighted.

**Results**

47% of participants had a successful outcome for the simulation and would like to be regular.

**Conclusions**

Perceptions

- It is a need to have in-situ cardiac arrest simulation training on a regular basis and this could be achieved by using regular training for staff (7, 8).

**Quality Improvement (QI)**

- Quality Improvement (QI) had more emphasis on simulation training than other quality improvement projects. Hence, the best practices, lessons had learnt, best team (9, 10).

**Key performance indicators**

- QI was used to measure the quality of the simulation training.
- The QI was used to measure the quality of the simulation training.
- The QI was used to measure the quality of the simulation training.

**Recommendations**

- There is a need for implementation in terms of communication and ongoing feedback mechanisms.
- There is a need for implementation in terms of communication and ongoing feedback mechanisms.
- There is a need for implementation in terms of communication and ongoing feedback mechanisms.

**Conclusion**

- The in-situ training highlighted the need for both technical and non-technical training, particularly with respect to leadership skills.
- Regular training would be helpful and well-received by the cardiac arrest team.

**References**

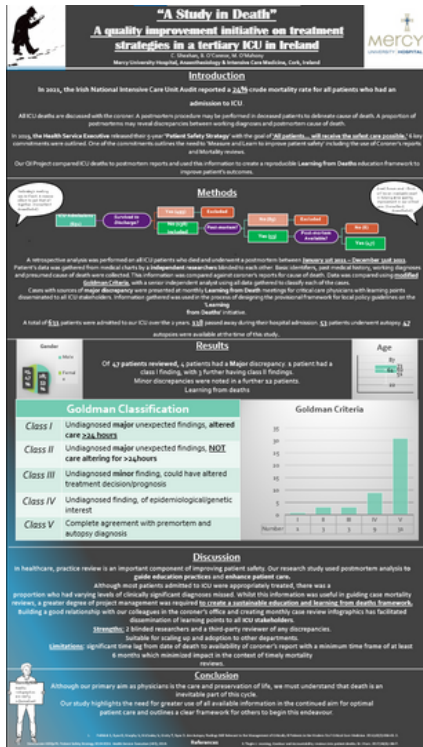
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# POSTER ELEVATOR PITCH

## Dr Ciaran Sheehan

*A Study in Death<sup>TM</sup> - A quality improvement initiative on treatment strategies in a tertiary ICU in Ireland*



**"A Study in Death"**  
A quality improvement initiative on treatment strategies in a tertiary ICU in Ireland

**Introduction**  
In 2015, the Irish National Intensive Care Unit Audit reported a 24% crude mortality rate for all patients who had an admission to ICU.

**Methods**  
A retrospective analysis was performed on all ICU patients who died and underwent a post-mortem between January 2016 and June 2017. A 10-question survey was designed to identify issues with current practice in ICU, which could be done to improve them and what they would like to see included in the checklist.

**Results**  
Of 42 patients reviewed, 4 patients had a Major discrepancy, 1 patient had a Class I finding, with 3 further having class II findings. Minor discrepancies were noted in 10 other patients. Learning from death.

**Goldman Classification**

Class	Description	Count
Class I	Undisposed major unexpected findings, altered care >24 hours	4
Class II	Undisposed major unexpected findings, NOT care altering for >48 hours	1
Class III	Undisposed minor finding, could have altered treatment decision/prognosis	10
Class IV	Undisposed finding, of epidemiological/genetic interest	3
Class V	Complete agreement with pre-mortem and autopsy diagnosis	24

**Conclusion**  
Our study highlights the need for greater use of all available information in the context of an optimal patient care and defines a clear framework for others to begin this endeavor.

## Dr Declan McDonnell

*Enhancing Patient Safety in Prone Surgical Procedures. A Multidisciplinary Approach and Comprehensive Checklist for Mitigating Immediate and Long-term Risks*



**Enhancing Patient Safety in Prone Surgical Procedures. A Multidisciplinary Approach and Comprehensive Checklist for Mitigating Immediate and Long-term Risks**

Adhí Sheir, Declan McDonnell, Dónal Roche, Pat Conroy, Ann Mohammed  
Tallaght University Hospital, Tallaght, Dublin, Ireland

**Introduction**  
The prone position is necessary for optimal access in many surgical procedures, however, this manoeuvre carries inherent risks, these range from immediate such as accidental extubation, loss of vascular access, and haemodynamic instability to long-term, such as pressure-related injuries, vision impairment, and pressure ulcers.

**Aim Objectives**

- To design a multidisciplinary checklist based on input from experienced personnel regarding all relevant aspects involved in patient preparation within ICU for anaesthetic, prone, turning, surgery.
- To mitigate the risks of immediate and long-term harm to patients undergoing a prone in the OR/ICU.
- To enhance team communication and efficiency during patient preparation.
- To evaluate the response to checklist implementation through staff feedback.

**Methodology**

The combined data from an in-house survey and in-depth discussions with theatre colleagues, along with observations of clinical sites, with national and international guidelines and developed a comprehensive checklist to be performed post induction and pre-prone checklist.

**Results**

Feedback questionnaires were given to Anaesthetists, Surgeons, Nurses, and Porters following the implementation. Response was largely positive with 100% of respondents highlighting that the checklist was comprehensive and was likely to improve patient safety through repetitive use.

**Conclusion**

Our checklist has been implemented as a critical element of care provision and patient safety in the multi-disciplinary team. Through the production of this initiative we hoped to create a clear and comprehensive with to repeatedly ensure a high-risk manoeuvre while increasing the chance of human error while there were initial difficulties with uptake given the plethora of checklists and "to-do's" required in modern theatre settings, our results and feedback from the teams involved prove encouraging.

## Dr Orlagh O'Brien

*Facial Hair and Beards in Anaesthesia Understanding Attitudes Towards Safety and Empowering Patients*



**Facial Hair and Beards in Anaesthesia: Understanding attitudes towards safety and empowering patients**

Robert Owens<sup>1</sup>, Orlagh O'Brien<sup>2</sup>, Amy Donnelly<sup>3</sup>  
<sup>1</sup>St Vincent's University Hospital, Dublin 8, Ireland

**Introduction**  
The risks associated with facial hair and beards is a recognised hazard of airway management under general anaesthesia.

**Methods**  
100 anaesthesia providers were surveyed as to their opinions and airway management plans regarding facial hair and beards.

**Results**  
32% of respondents were consultants. 62% had >10 years anaesthesia experience.

**Conclusion**  
Nobody had been asked to shave their beard for the anaesthetic. 10% of people initially said they would not shave their beard if asked, 3% would still not shave their beard after being informed that it could make it safer for managing their airway.

## Dr Sean Boyd

*Simulating high-fidelity transfer of the critically ill obstetric patient; evaluating a handover communication tool to improve patient care.*



**The Coombe Hospital** | **ST JAMES'S HOSPITAL**

**Simulating high-fidelity transfer of the critically ill obstetric patient between two hospital sites; evaluating a handover communication tool to improve patient care.**

Sean Boyd, Adrian Fox, Carmel Sheridan, Cathy Munnell, Raj Dominic, Bridgette Byrne, Terry Tan

**Introduction**  
Transfer of obstetric patients to ICU occurs at a rate of 1.3% (Republic of Ireland). This is a very high-risk scenario.

**Methods**  
The scenarios involved a pregnant woman (gravida) with respiratory arrest in ICU. They clinically deteriorate and require transfer to ICU (L&A) by ambulance.

**Results**  
Feedback was very positive, particularly in terms of confidence in managing the difficult scenario. Benefits derived included knowledge transfer between different disciplines, understanding of communication pathways, and identification of further potential improvements in the transfer process.



# POSTER PRESENTATIONS

## ICU

**Dr Shane O'Brien**

*Delirium in the ICU, an underrecognized morbidity*

**Dr Meave Egan**

*ICU Handover Evaluation Enhancing Patient Care through Comprehensive Assessment*



### An Audit of ICU handover quality in a Tertiary Referral University Affiliated Hospital

St. Vincent's University Hospital Department of Anaesthetics, Critical Care and Pain Medicine, Elm Park, Dublin 4.

#### Background

Handover in the Intensive Care Unit is a critical communication exercise with a large body of research to show that structured handover leads to improved patient and economic outcomes<sup>1</sup>. The RCOA provides a structured guide on how best to handover in ICU in line with best practice<sup>2</sup>. Multiple studies to date have shown that poor handover can be associated with an increase in significant medical errors<sup>3</sup>.

#### Results

- 21% of handovers in SVUH meet the minimum standard as set by the RCOA.
- Apart from new admissions, 100% of handovers were consultant led handovers
- 42% of handovers started within 5 minutes of the designated handover time.
- Pages for consults interrupted 57% of ICU handovers
- 42% of handovers were interrupted by other medical and nursing teams.
- Only 42% of handovers had full attendance
- 21% of handovers had background distractions
- In 36% of handovers, members of staff left handover before it was complete.

#### Objective

- Ideal performance would mean 100% compliance with key performance indicators in ICU handover as set by the RCOA. These indicators include
- 100% of key staff attending handover
  - 100% of handovers starting within five minutes of designated time
  - 100% of handovers finishing before a designated time
  - 100% of relevant information handed over

#### Methodology

An Auditor, who themselves were not taking part in the handover attended the handover and recorded the audit in a standardised proforma. Items included in the proforma were taken from the RCOA guidelines on key indicators of good audit and proposed standards for best practice. Morning and evening Handovers were audited over a week long period giving a total of 14 audited handovers.

Handover	100% of key staff attending handover	100% of handovers starting within five minutes of designated time	100% of handovers finishing before a designated time	100% of relevant information handed over
1	Yes	Yes	Yes	Yes
2	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	Yes
5	Yes	Yes	Yes	Yes
6	Yes	Yes	Yes	Yes
7	Yes	Yes	Yes	Yes
8	Yes	Yes	Yes	Yes
9	Yes	Yes	Yes	Yes
10	Yes	Yes	Yes	Yes
11	Yes	Yes	Yes	Yes
12	Yes	Yes	Yes	Yes
13	Yes	Yes	Yes	Yes
14	Yes	Yes	Yes	Yes

#### References

1. O'Connell, M. et al. (2017) The impact of structured handover on patient safety in the intensive care unit. *Journal of Intensive Care Medicine*, 32(1), 1-7.
2. RCOA (2017) *Handover in the Intensive Care Unit*. Royal College of Anaesthetists, London.
3. O'Connell, M. et al. (2017) The impact of structured handover on patient safety in the intensive care unit. *Journal of Intensive Care Medicine*, 32(1), 1-7.



### Delirium in the ICU, an underrecognized morbidity.

Dr Shane O'Brien, Colin Keenan



#### INTRODUCTION

Delirium is a complex neurological presentation described by the DSM-5 as "an acute disturbance of attention characterized by fluctuations in awareness over the course of a day, with attention that is severely reduced". The reported incidence of delirium is between 10-20% in ICU patients and is linked to increased severity of illness, increased length of hospital & ICU stay, and increased in-hospital mortality<sup>1,2</sup>.

Delirium remains an under-recognized and under-researched phenomenon<sup>3</sup>, prompting the use of standardized screening tools to more accurately diagnose affected patients<sup>4</sup>. The Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) is a validated tool for the diagnosis of delirium in ICU patients, and has a high inter-rater reliability<sup>5</sup>.

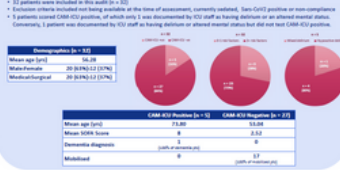
#### METHODS

CAM-ICU assessment was performed routinely on patients in an Irish tertiary hospital's intensive care unit at the same time each day (08:00-10:00) over a 4-week period. Each patient was deemed to have a delirium-free day only if:

- They were awake and oriented to person, place and time.
- They were able to follow simple commands.
- They were able to sustain attention for at least 10 minutes.
- They were able to follow a simple sequence of commands.

Calculations of the sequential organ failure assessment score were added using MedCalc.com and descriptive statistics were generated using Microsoft Excel version 16.07.3.

#### RESULTS

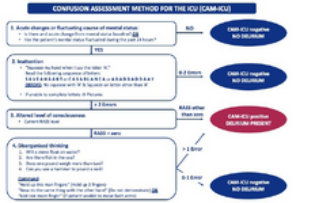


#### DISCUSSION

The incidence of delirium recorded during this 4-week audit was 15.8%, in line with the reported figures in the current literature. The incidence was lower than expected, believed to be due to the lower average age of ICU patients (60 years) and a high admission rate due to acute trauma cases (mean trauma age, 30.6 years), common diagnosis of trauma, and lack of information as opposed to the risk factors for delirium. In contrast, multistep approaches are a protective factor but the highest negative predictive value of this report's risk factors.

#### REFERENCES

1. O'Connell, M. et al. (2017) The impact of structured handover on patient safety in the intensive care unit. *Journal of Intensive Care Medicine*, 32(1), 1-7.
2. RCOA (2017) *Handover in the Intensive Care Unit*. Royal College of Anaesthetists, London.
3. O'Connell, M. et al. (2017) The impact of structured handover on patient safety in the intensive care unit. *Journal of Intensive Care Medicine*, 32(1), 1-7.
4. O'Connell, M. et al. (2017) The impact of structured handover on patient safety in the intensive care unit. *Journal of Intensive Care Medicine*, 32(1), 1-7.
5. O'Connell, M. et al. (2017) The impact of structured handover on patient safety in the intensive care unit. *Journal of Intensive Care Medicine*, 32(1), 1-7.



**Dr Bianca Nicholls**

*A Concern for Patient Safety in many Irish Hospitals*

**Dr Bianca Nicholls**

*An Audit of Turnaround Times for Daily Critical Care Blood Sample Processing for ICU patients at the Mercy University Hospital*

### Aspergillus: A Concern for Patient Safety in Many Irish Hospitals

Nicholls B, O'Mahony M  
Department of Anaesthesia and Critical Care, Mercy University Hospital, Cork  
Contact: bianca.nicholls@gmail.com

#### Introduction

The health protection and surveillance teams notify the patient safety team about the occurrence of Aspergillus and the need for further investigation. Aspergillus is a common cause of invasive aspergillosis in immunocompromised patients. It is a filamentous fungus that can cause a range of clinical presentations, from allergic reactions to invasive aspergillosis. Invasive aspergillosis is a life-threatening condition that can affect various organs, including the lungs, sinuses, and brain. It is caused by the inhalation of Aspergillus spores, which are ubiquitous in the environment. The risk of invasive aspergillosis is increased in immunocompromised patients, particularly those with neutropenia, corticosteroid therapy, and hematological malignancies.

#### What is Aspergillus?

Aspergillus is a filamentous fungus that belongs to the Ascomycota phylum. It is a common environmental fungus that can be found in soil, air, and water. There are over 300 species of Aspergillus, with *Aspergillus fumigatus* being the most common. Aspergillus is a filamentous fungus that can cause a range of clinical presentations, from allergic reactions to invasive aspergillosis. Invasive aspergillosis is a life-threatening condition that can affect various organs, including the lungs, sinuses, and brain. It is caused by the inhalation of Aspergillus spores, which are ubiquitous in the environment. The risk of invasive aspergillosis is increased in immunocompromised patients, particularly those with neutropenia, corticosteroid therapy, and hematological malignancies.


#### Methodology

A retrospective analysis of the performance of all critical care ward sampling during September 2017. A total of 100 samples were collected for Aspergillus testing. The results were compared to the current standards for Aspergillus testing in critical care wards. The results showed that 15% of samples were positive for Aspergillus, which is significantly higher than the current standards. This highlights the need for improved infection control measures in critical care wards to reduce the risk of Aspergillus infection.

#### Results

There were 100 samples collected for Aspergillus testing during September 2017. The results showed that 15% of samples were positive for Aspergillus, which is significantly higher than the current standards. This highlights the need for improved infection control measures in critical care wards to reduce the risk of Aspergillus infection.

#### ICU Aspergillus Air Sampling



The graph shows the number of Aspergillus positive samples collected in the ICU during September 2017. The x-axis represents the date, and the y-axis represents the number of positive samples. The data shows a significant increase in positive samples towards the end of the month, with a peak of 15 positive samples on September 28th.

#### Re-Audit

Following the initial audit, a re-audit was conducted to assess the impact of the findings. The re-audit showed that the number of positive samples had decreased to 10%, which is closer to the current standards. This suggests that the findings of the initial audit led to improved infection control measures in the ICU.

#### Conclusion

The results of this audit highlight the need for improved infection control measures in critical care wards to reduce the risk of Aspergillus infection. The findings show that 15% of samples were positive for Aspergillus, which is significantly higher than the current standards. This highlights the need for improved infection control measures in critical care wards to reduce the risk of Aspergillus infection.

#### Results

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#### Discussion

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#### Conclusion

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### An Audit of Turnaround Times for Daily Critical Care Blood Sample Processing for ICU Patients at the Mercy University Hospital

Nicholls B, O'Mahony M  
Department of Anaesthesia and Critical Care, Mercy University Hospital, Cork  
Contact: bianca.nicholls@gmail.com

#### Introduction

Delays in blood sample processing can lead to inaccurate test results and patient safety concerns. This audit aimed to assess the turnaround times for daily critical care blood sample processing in the ICU at the Mercy University Hospital. The results showed that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

#### Review and interventions

The results of this audit highlight the need for improved workflow management in the ICU to ensure timely blood sample processing. The findings show that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

#### Results - Re-audit

Following the initial audit, a re-audit was conducted to assess the impact of the findings. The re-audit showed that the number of samples processed within the target turnaround time had increased to 85%, which is a significant improvement. This suggests that the findings of the initial audit led to improved workflow management in the ICU.

#### Methods - Initial Audit

A retrospective analysis of daily blood profiles of ICU patients was performed from December 2017 to January 2018. The turnaround times for blood sample processing were recorded for each sample. The results showed that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

#### Results - Initial Audit

The results of this audit highlight the need for improved workflow management in the ICU to ensure timely blood sample processing. The findings show that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

#### Conclusion

The results of this audit highlight the need for improved workflow management in the ICU to ensure timely blood sample processing. The findings show that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

#### Comparison

The results of this audit highlight the need for improved workflow management in the ICU to ensure timely blood sample processing. The findings show that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

#### Percentage Improvement on Turnaround Times

The results of this audit highlight the need for improved workflow management in the ICU to ensure timely blood sample processing. The findings show that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

#### Conclusion

The results of this audit highlight the need for improved workflow management in the ICU to ensure timely blood sample processing. The findings show that the majority of samples were processed within the target turnaround time of 30 minutes. However, there were some delays, particularly during peak periods. This highlights the need for improved workflow management in the ICU to ensure timely blood sample processing.

# POSTER PRESENTATIONS

## ICU

### Dr Meave Egan

*A clinical audit of central venous catheters in the critical care settings*

### Dr Claire Healy

*Use of methylene blue in refractory shock due to metformin overdose*

**ST VINCENT'S UNIVERSITY HOSPITAL**

**UCD DUBLIN**

**CONTACT**  
 Name: [Redacted]  
 Email: [Redacted]

**A clinical audit of central venous catheters in critical care and associated complications.**  
 Maeve Jennings, Andrea Haren,  
 University College Dublin, St Vincent's University Hospital

**INTRODUCTION**  
 Central venous catheters (CVCs) are utilised in the ICU setting, most commonly for haemodynamic monitoring, total parenteral nutrition (TPN) [1], drug therapy and also for the management of critically ill patients. CVCs are associated with substantial complication rates. The most common complication rates are 1.1% for central line-associated bloodstream infections (CLABSI), 1.6% for catheter-related bloodstream infections (CRBSI) [2]. The overall literature rate for complications ranges from 1.2% [3] and can be as high as 15% [4]. Complications such as catheter-related bloodstream infections, catheter tip malposition, pneumothorax, and pulmonary embolism occur early with CVC-related bloodstream infections, thromboses and pulmonary embolism occurring later.

**RESULTS**  
 Eighty three CVC patients (47 males and 36 females) were included in the study. 80% of all central venous catheters and 10% of haemodialysis catheters were inserted. The indications for CVC insertion were haemodynamic support (34%), total parenteral nutrition (32%), and drug therapy (32%). Eighty three percent of CVCs were inserted in the right internal jugular, 2% in the left internal jugular, 1% in the femoral vein and 1% in the subclavian vein (Figure 1). The average CVC duration was 14 days (SD: 12.8). Thromboses and CRBSI monitoring was used. During the duration of the study, CRBSI was observed in 60 patients to include 48 patients (80%) [5].

**DISCUSSION**  
 This study demonstrated a high compliance with recommendations and 80% of all for each guideline. However, it was highlighted that 10% of CVCs were inserted in the wrong vein. There were a number of indications that are not guideline compliant. It is possible that to ensure CVC insertion and complications being avoided due to limited documentation.

**RECOMMENDATIONS**  
 1. Distribution of standardised CVC insertion forms detailing site and level of insertion, insertion site, indication for CVC, duration of insertion, type of ultrasonography and aseptic site insertion. 2. Address areas of PPE for insertion sites. 3. Document CVC insertion and complications being avoided due to limited documentation.

**REFERENCES**  
 1. [Redacted]  
 2. [Redacted]  
 3. [Redacted]  
 4. [Redacted]  
 5. [Redacted]

**Use of methylene blue in refractory shock due to metformin overdose**  
 Dr Claire Healy, Dr Anne Coulter, Dr Emma Hughes, Dr Jennifer Whyte,  
 St Vincent's University Hospital, Dublin

**Introduction**  
 Methylene blue (MB) is a drug commonly used (light purple/blue) in medicine.  
 1. A common pharmacological and increasing potential toxicity associated with its use, especially in high doses, which is methemoglobinemia (MeHb).  
 2. A clinical case scenario involving toxicity associated with high doses which is methemoglobinemia (MeHb).  
 3. The report presents a case of refractory shock due to metformin overdose with associated methemoglobinemia. The patient was treated with high doses of MB, which resulted in a clinical improvement.

**Method Case**  
 A 68-year-old patient with a history of alcohol consumption and smoking (20 pack-years) and hypertension presented to the Emergency Department with acute onset of breathlessness and tachycardia. The patient had a recent diagnosis of metformin overdose. The patient had a recent diagnosis of metformin overdose. The patient had a recent diagnosis of metformin overdose.

**Discussion Case**  
 This case highlights the importance of recognizing and treating methemoglobinemia in patients with refractory shock. The patient's clinical presentation, including tachycardia and tachypnea, was consistent with methemoglobinemia. The patient's clinical presentation, including tachycardia and tachypnea, was consistent with methemoglobinemia.

**Conclusion**  
 Methylene blue can be used as a first-line treatment for methemoglobinemia. It is a safe and effective treatment for methemoglobinemia. It is a safe and effective treatment for methemoglobinemia.

**Table 1 - All 8 Blood gases**

Parameter	1	2	3	4	5	6	7	8
pH	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35
pO <sub>2</sub>	110	110	110	110	110	110	110	110
pCO <sub>2</sub>	40	40	40	40	40	40	40	40
HCO <sub>3</sub> <sup>-</sup>	24	24	24	24	24	24	24	24
Base Excess	0	0	0	0	0	0	0	0
SBP	90	90	90	90	90	90	90	90
HR	110	110	110	110	110	110	110	110
RR	20	20	20	20	20	20	20	20
SpO <sub>2</sub>	92	92	92	92	92	92	92	92

**Table 2 - C12 Blood gases**

Parameter	1	2	3	4	5	6	7	8
pH	7.35	7.35	7.35	7.35	7.35	7.35	7.35	7.35
pO <sub>2</sub>	110	110	110	110	110	110	110	110
pCO <sub>2</sub>	40	40	40	40	40	40	40	40
HCO <sub>3</sub> <sup>-</sup>	24	24	24	24	24	24	24	24
Base Excess	0	0	0	0	0	0	0	0
SBP	90	90	90	90	90	90	90	90
HR	110	110	110	110	110	110	110	110
RR	20	20	20	20	20	20	20	20
SpO <sub>2</sub>	92	92	92	92	92	92	92	92

**References**  
 1. [Redacted]  
 2. [Redacted]  
 3. [Redacted]  
 4. [Redacted]  
 5. [Redacted]

# POSTER PRESENTATIONS

## Medication Safety

### Dr Murtaza Hassan

A Loop closure quality improvement audit project on location of emergency Anaesthesia equipment and drugs

**INTRODUCTION & Aim**  
Anesthesia emergency equipment and drugs play a vital role in anesthesia. Emergency. By knowing their location, can lead to prompt action and timely intervention. Our aim in this audit was to find out how much anesthesia doctors are aware of Location of emergency anesthesia drugs and equipment.

**01 method**  
It was Prospective audit and only those Anesthetists were included in audit who spent more than 6 months in Anesthesia department and the location of equipment and drugs in main theatre complex only was audited. Data was collected from 35 doctors

**02 Results**  
NCHDS

**03 DISCUSSION & conclusion**  
There was significant deficiency in knowledge about location of most of anesthesia emergency drugs and equipment in main theatre complex among Doctors. There was good knowledge about location of US machine, McGrath Scope and roppagadines. As loop closure audit the guidance page attached to Anaesthesia machine in each theatre and audit was re-conducted with improvements in knowledge of location of the equipment and drugs commonly used in Anaesthesia Emergencies but still deficiencies were there.

### Dr Siuan Mannion

Surgical Antibiotic Prophylaxis 2022 a review of adherence to local prescribing policy

**SURGICAL ANTIBIOTIC PROPHYLAXIS: A review of adherence to local prescribing policy**

**Introduction:** Surgical antibiotic prophylaxis (SAP) is used to prevent post-operative surgical site infection. This depends on presence of antimicrobial drugs in cutaneous tissue before first incision and at time of wound closure. **Aim:** to review adherence to local prescribing policy available on the Galway antimicrobial prophylaxis policy (GAPP) app<sup>1</sup> in Galway University Hospital (GUH).

**Method:** **Cohort:** Patients who underwent a surgical procedure in the main theatre complex in GUH. **Seven consecutive days in July 2022** **Data collected:** The EVOLVE electronic patient record system for the collection of data – then anonymized. Selection of intra-operative SAP timing of administration, post-operative continuation of agent, surgical procedures performed, anaesthesia type, allergies<sup>2</sup>

**Results:** Data from 142 patients included (n=142). 75% of cases were conducted solely under GA. 32% of intra-operative SAP was administered prior to the start time of the operation. 84% received the correct intra-op agent. 50% of patients who met re-dosing criteria received a repeat dose of intra-operative SAP. Recommended post-op duration was exceeded in 67% patients<sup>3</sup>. 5% of patients received SAP when not indicated. 1 patient did not receive SAP when it was indicated.

**Conclusions:** Adherence to local SAP prescribing guidelines (GAPP) in GUH is variable. 1 in 7 patients received incorrect SAP intra-operatively, mainly due to incorrect choice of one or more agents. Education is required on antibiotic prophylaxis, especially: **Timing of administration**, **Agent choice/ GAPP app use**, **Re-dosing depending on duration of operation**

### Dr Salma Selim

Preoperative medications management for patients with Cardiovascular diseases presenting for elective surgery

**Preoperative Management of Medications in Patients with Cardiovascular disease presenting for Elective surgery**

Salma Khalil, Sherif Elmahgoub, John Fitzgerald  
Department of Anaesthesia, Intensive care and Pain Management

**Introduction**  
Patients presenting for elective surgery with known cardiovascular disease are maintained chronic medications to optimize such conditions. These include antihypertensives, antiarrhythmics and heart failure medication. Inappropriate perioperative management of these medications can result in various issues such as, delay/ cancellation of surgery, perioperative bleeding and adverse cardiac events.

**Results and Discussion**  
43 Patients  
2 WEEKS  
INPATIENT 47%  
DOSA 53%

**Aims and Objectives**  
Assess the Preoperative chronic medications management in patients with cardiovascular disease presenting for elective surgery in Beaumont Hospital and compare this to the published guidelines.

**Methodology**  
Audit Standards: ESC, ESC, European Society of Anaesthesiology and Intensive Care, BHS

**Conclusion**  
There is considerable deviation of appropriate perioperative medication administration in patients with CV disease undergoing elective surgery from best practice. We need some improvement in our hospital to achieve 100% compliance with perioperative cardiovascular medications.

**Future Recommendations**  
**Inpatients:** Circulating Memo to all surgical wards, Charting chronic medications on drug Kardex once the patient is admitted should be a priority by the primary team, DO TAKE and DO NOT TAKE laminated sheets in every ward and on the Beaumont APP.

**DOSA:** Designing clear Green and Red area in the Preassessment sheet which highlight Do Take and Do Not Take medications, Improve communication in Nurse led PAC by providing a patient information card or Phoning the patients, Patients requiring assistance with their medications, early involvement of providing pharmacy will help.

### Dr Megan McEnery

Do "opioid prescription stickers" enhance compliance with HSE Guidelines A Quality Improvement Project

**Do "opioid prescription stickers" enhance prescribing compliance with HSE Guidelines: A Quality Improvement Project**

Dr M. McEnery, Dr F. Qutub, Dr. D. Moore, Dr A. Abbas, Department of Anaesthesiology, Beaumont Hospital

**Background**  
Phase 1 of this quality improvement project gathered baseline data assessing doctors' compliance with HSE guidelines for opioid prescribing in the post-operative period. It is well known that inappropriate opioid prescribing can lead to serious long-term consequences including addiction and accidental overdose.<sup>1</sup> We introduced an "opioid sticker" with a mandatory stop date of 4 days for all anaesthesia prescribers to use in the post-operative period. We also repeated educational interventions for theatre and hospital staff on the HSE guidelines.

**Methodology**  
Respectively, 100 post-surgical patients were reviewed over a 3-week period. We aimed to answer the following questions:  
- Do "opioid stickers" with documented stop dates improve compliance with HSE guidance?  
- Are staff compliant with using the stickers?  
- Are staff compliant with the documented stop date instructions?  
- Do we consider multimodal analgesia to minimise opioid consumption?

**Results**  
SR opioid, IR stop date, Adjuvant analgesia (Paracetamol, NSAIDs)

**Conclusion**  
Introduction of an "opioid sticker" with a mandatory stop/review date of 4 days does improve compliance with HSE guidelines and influences the documentation of such, even when not used. However, consistent documentation of stop/review dates, and ward staff compliance, remains an issue. There is still a lot of continued work to do to achieve 100% usage and compliance with responsible opioid prescribing.

**Future Recommendations**  
Continued use of the opioid stickers, Continued education surrounding opioid prescribing, Biannual presentation at medical/surgical grand rounds; July and January to coincide with NCHD changeover, Pain management at ward level for Intern NCHDs, Re-audit in 6 months.



# POSTER PRESENTATIONS

## Medication Safety

**Dr Jane Creech**

*Patient awareness of medications in the outpatient & perioperative setting*

**Dr Niamh Ni Leathlobhair**

*Safe Sex after Sugammadex - Creation of a National Patient Information Leaflet*

**Patient awareness of medications in the outpatient & perioperative setting**  
Authors: Jane Creech (CUH), Prof. Carl Vaughan (MUH)

### Introduction

Service consistently faces a significant challenge in the provision of anaesthesia. The complex environment and medication management is critical to ensuring patient safety. Patient awareness of medications in the outpatient & perioperative setting is a key area for improvement. Studies have shown that less than half of patients are aware of their medications. Lack of medication and awareness can affect the time of diagnosis and treatment.

Outpatients who are on medication pre-operatively, often do not have a list of their medications which is not only a barrier to safe anaesthesia but also safety, and potentially harmful to patients. It is critical to ensure that patients are aware of their medications and are able to provide a list of their medications to their anaesthetist.

With the increasing prevalence of anaesthesia being used to treat a wide range of conditions, and the increasing number of patients who are on medication, it is essential that anaesthetists are aware of their patients' medication. This is essential for ensuring patient safety and for providing a high quality of care.

### Aim

The aim of this study was to identify the extent to which patients attend treatment encounters without adequate knowledge of their current medication. A secondary outcome was to identify potential barriers to increased patient awareness of their medication regime and explore potential strategies to improve this.

### Method

30 patients were recruited to complete a survey regarding their medication awareness. Surveys were distributed to patients in the outpatient and perioperative settings. The survey included questions regarding their knowledge of their medications, their awareness of their medications, and their awareness of their medications. The survey was distributed to patients in the outpatient and perioperative settings. The survey included questions regarding their knowledge of their medications, their awareness of their medications, and their awareness of their medications.

### Results & Discussion

38% of patients reported having a complete list of medications. Inadequate or no list of medications was reported by 62% of patients. The majority of patients who did not have a list of medications were in the outpatient setting. The majority of patients who did not have a list of medications were in the outpatient setting. The majority of patients who did not have a list of medications were in the outpatient setting.

### Conclusion

The majority of patients do not have a complete list of their medications. This is a significant barrier to safe anaesthesia. It is essential that patients are aware of their medications and are able to provide a list of their medications to their anaesthetist. This is essential for ensuring patient safety and for providing a high quality of care.

### Limitations

The survey was a cross-sectional study and did not include a control group. The survey was distributed to patients in the outpatient and perioperative settings. The survey included questions regarding their knowledge of their medications, their awareness of their medications, and their awareness of their medications.

### References

1. Vaughan C, Creech J. Patient awareness of their medications in the outpatient and perioperative setting. *Journal of Anaesthesia and Intensive Care Medicine*. 2023;38(1):1-5.

### Results & Discussion

27 of 33 patients (81.7%) managed all of their medications independently. 12.7% used an assistance device such as a pill box. 11.2% patients advised of their current medications from their pharmacy. 1 patient required assistance from a family member to organize their medications. 1 patient required assistance from a family member to organize their medications. 1 patient required assistance from a family member to organize their medications.

The two highest reasons cited for not having a list of medications were to have a list of their medications or to have a list of their medications. The majority of patients who did not have a list of medications were in the outpatient setting. The majority of patients who did not have a list of medications were in the outpatient setting. The majority of patients who did not have a list of medications were in the outpatient setting.



### Conclusion

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### Limitations

The survey was a cross-sectional study and did not include a control group. The survey was distributed to patients in the outpatient and perioperative settings. The survey included questions regarding their knowledge of their medications, their awareness of their medications, and their awareness of their medications.



Knowledge of Medications



Timing of Updates to Medication Lists

**Dr Maeve Jennings**

*Perioperative drug dosing and Management of Patients Living with Obesity*

**PERI-OPERATIVE DRUG DOSING AND MANAGEMENT OF PATIENTS LIVING WITH OBESITY**  
Dr Maeve Jennings, Dr Riona Tully, Dr Corina Soare

### INTRODUCTION

Obesity and obesity pose significant public health challenges in the WHO European Region affecting over 60% of the adult population (WHO, 2022).

The HSE National Clinical Programme for obesity emphasizes the need to incorporate formal teaching on obesity dosing, medications and treatments into academic training programs (HSE, 2023).

The AACSB recommends the presence of a lead anaesthetist in each hospital for managing patients living with obesity.

Additionally, anaesthesia for bariatric surgery is recognized in the RCIA curriculum as level 3 special interest area. (RCIA, 2021)


### METHODS

An anonymous online survey, consisting of 18 questions, was distributed to all 28 anaesthetic trainees in St. Vincent's Hospital, Dublin in October 2023. The survey pertained to:

- Knowledge of common anaesthetic drugs dosing for bariatric patients.
- Awareness regarding anaesthetic management particularities for patients living with obesity.
- Familiarity with current guidelines and opinion on training and education regarding anaesthesia for bariatric surgery.

### RESULTS:

- Survey response rate = 63%
- Response of 18
- 25.0% required for all patients
- 28.0% required for high BMI patients only



- 35.7% trainees were aware of particularities for dosing bariatric living with obesity.
- 100% awareness need for further education on this topic

### CONCLUSION

To address these gaps, our next step for improving training on bariatric anaesthesia involves designing a teaching module using a multidisciplinary approach, including anaesthesiologists, surgeons and pre-operative specialists aiming to raise knowledge and awareness of guidelines and reference literature, improving patient safety and clinical practice.

**Safe Sex After Sugammadex: Creation of a National Patient Safety Leaflet**

*Niamh Ni Leathlobhair, Conor Shanley  
Specialist Anaesthesiology Trainee, Consultant Anaesthesiologist, University College Dublin  
Department of Anaesthesia, Intensive Care & Pain Medicine, Mater Misericordiae University Hospital, Dublin, Ireland*

### 1. Background

Sugammadex is a modified gamma cyclodextrin which forms a complex with anaesthetics and neuromuscular blocking drugs. This reduces the amount of available parenteral agent at the neuromuscular junction. As it is a **reversal agent**, it also binds oestrogens and progestogens. Pharmacokinetic modelling suggests that sugammadex may reduce progesterone levels by as much as 36% in patients taking hormonal contraception. In women taking hormonal contraceptives, Sugammadex may lead to unplanned pregnancy.



### 2. Safety Leaflet

Initial studies have indicated that up to 47% of women of child bearing potential are on hormonal contraception. This represents a large cohort of the population who are at an increased danger of unwanted pregnancy following Sugammadex administration. Despite this, changes and updates to the patient information leaflet (PIL) have not been implemented. It is essential that patients have the necessary information about the potential consequences of Sugammadex, or given information about the potential consequences of Sugammadex, or given information about the potential consequences of Sugammadex, or given information about the potential consequences of Sugammadex.

### 4. Discussion

The issue that the creation of this leaflet serves as an important prompt and safety feature for anaesthesiologists in Ireland, to ensure that women of child bearing potential are adequately informed about the potential for Sugammadex to interfere with their contraceptive management. It is imperative that women be given full disclosure about these risks, in order to properly safeguard against unwanted pregnancy and ensure that reproductive autonomy.

### 3. Outcome

The Sugammadex Patient Information Leaflet is now available for all anaesthesiologists via a downloadable document in the national patient website. We will provide ongoing education about the issue and about the existence of this leaflet to anaesthetists who have already commenced on a local level by way of grand teaching sessions, the re-issuing of this leaflet to anaesthetist hospital groups, in the hope that it will serve as a valuable prompt to anaesthesiologists delivering care to women.



Scan this QR code (only directly in the Mater Misericordiae Patient Information Leaflet) to access the leaflet and to receive further information on bariatric dosing.

# POSTER PRESENTATIONS

## Paediatric Safety & Neuro Muscular Blockade

**Dr Jill Creman**

*Re-audit An auditsurvey of parental satisfaction; preoperative information, role and presence during induction of anaesthesia, and overall*



**Re-audit: An audit/survey of parental satisfaction; preoperative information, role and presence during induction of anaesthesia, and overall anaesthesia/recovery service provision**

J. Creman, S. Mannion, R. O'Doherty, O. Murphy, N. Cribbin

**Introduction**  
In paediatric anaesthesia, addressing parental anxiety is essential in shaping a child's perioperative journey. Evidence-based research indicates that providing pre-operative information reduces parental anxiety, improves efficiency and facilitates scheduling. While we aim to provide a patient-centred approach, we must also consider the family as a whole. Previous data from an initial audit involving 80 participants showed high parental satisfaction rates in the anaesthesia service in relation to parental pre-operative assessment, induction of anaesthesia and recovery within the department at Galway University Hospital. In the present study, 80% of parents consulted with an anaesthetist before the procedure, and 50% felt well-informed. All parents reported having the opportunity to ask questions and felt supported in theatre for induction. 80% expressed satisfaction with recovery arrangements.

**Results**  
We contacted 52 parents. 80% reported receiving relevant information prior to attending theatre. 70% of all parents reported their (DASH) assessment by an anaesthetist before the procedure, and 50% had opportunities to ask questions and expressed satisfaction with their pre-op visit. A significant portion (80%) accompanied their child to the waiting room for induction, with 80% feeling ease about their role in theatre. All parents (100%) felt supported by staff on the day of the procedure, and 80% expressed satisfaction with their recovery room experience. Dissatisfaction mainly revolved around inadequate information and time. Limited communication with the surgical team, and unanswered post-operative questions.

**Discussion**  
The findings of this study shed light on the role of addressing parental anxiety in paediatric anaesthesia. The research reaffirms existing knowledge that providing pre-operative information significantly reduced parental anxiety, while ensuring factors contributing to parental anxiety. The study aims to identify specific concerns that parents face throughout their child's perioperative journey. **Aims & Objectives**  
1. Evaluate Parental Anxiety: The primary aim of this study is to assess and understand parental anxiety in the context of paediatric anaesthesia. By identifying factors contributing to parental anxiety, the study aims to identify specific concerns that parents face throughout their child's perioperative journey.  
2. Assess the Impact of Preoperative Information: This study seeks to evaluate the effectiveness of providing pre-operative information in reducing parental anxiety. By analyzing the experiences of parents who received relevant information before the procedure, the research aims to determine the correlation between well-informed parents and reduced anxiety levels.  
3. Explore Parental Satisfaction: The study aims to gauge parental satisfaction with the perioperative process. The research focuses on various aspects, including interactions with the anaesthetist team, opportunities for questions, clarity of roles in theatre and support from staff. The research aims to identify areas of satisfaction and also highlight improvement.  
4. Identify Areas for Improvement: Through on-depth analysis of parent responses, the study aims to pinpoint specific areas within the perioperative process that require refinement.  
5. Contribute to Best Practices: Ultimately, this study aims to contribute to valuable insights to the field of paediatric anaesthesia. By understanding the nuances of parental anxiety and satisfaction, the research seeks to inform best practices in healthcare institutions. The aim is to facilitate continuous improvement, ensuring a patient-centred approach that prioritizes the well-being of children undergoing surgical procedures.

**Methods**  
Based on methods of the previous study, we contacted parents of children who had undergone procedures under a general anaesthetic via telephone and conducted a re-audit questionnaire.

Parental Assessment	Percentage
Consulted with anaesthetist	80%
Well informed	50%
Opportunity to ask questions	100%
Supported in theatre	100%
Satisfied with recovery	80%

**Conclusion**  
Despite the absence of a dedicated paediatric pre-operative assessment pathway, Galway University Hospital maintains high parental satisfaction rates in paediatric anaesthesia. To enhance communication, a parent information leaflet outlining the peri-operative process, from pre-operative assessment, could be beneficial. Moving forward, the anaesthesia department should prioritize addressing these high satisfaction rates.

**Dr Adil Sher**

*Throat Pack Checklist in Paediatrics Theatre at Tallgh University Hospital A Multidisciplinary Approach*



**Throat Pack Checklist in Paediatrics Theatre at Tallgh University Hospital: A Multidisciplinary Approach.**

Dr. Adil Sher, Dr. Mark Campbell  
Tallgh University Hospital, Dublin, Ireland

**Introduction**  
Throat packs are used to collect blood, saliva or external fluids and other material that may collect in the airway during dental and ENT procedures. It is the responsibility of the anaesthetist or surgeon who inserts a throat pack at the start of a procedure to remove it at the end of that procedure.

**Participation in Survey**  
If a throat pack has been inserted but not removed at the end of a procedure, it may cause severe airway obstruction. Unfortunately, removed throat packs are a "Never Event". The risk of a "Never Event" is approximately 1:17,000 operations per the Association of Anaesthetists.

**Aims & Objectives**  
To design a multidisciplinary checklist based on the input of experienced personnel directly involved in paediatric cases where throat packs are used in T&A.  
To reduce the risk of "NEVER EVENT" associated with Throat pack use.  
To improve patient safety.

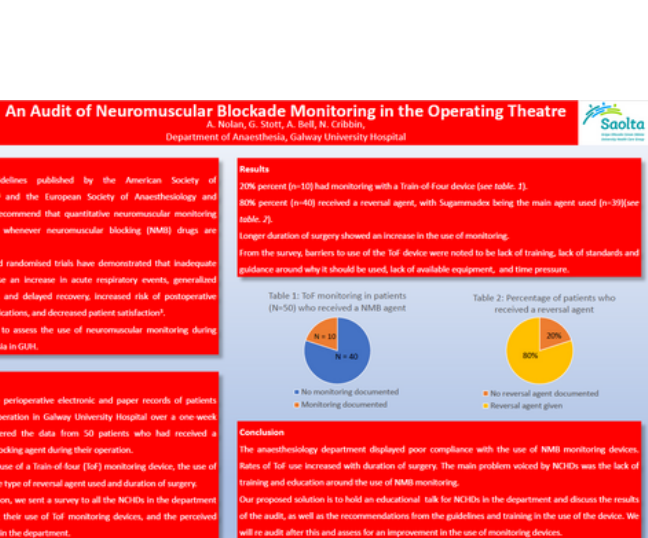
**Methodology**  
A 3 question survey was conducted among the Paediatric Theatre team in T&A. 18 individuals participated in a survey of which 13 were anaesthetists and 5 were nurses.  
Top anaesthetists theatre specific checklist was created after combining feedback from the survey with interventional guidelines.  
A training checklist was developed to ensure the safe insertion and removal of throat packs. This was included in verbal announcements during time out and sign out, applying and removing a throat pack either over the Endotracheal Tube (ET) and forehead, and checking the box on the anaesthetic chart.  
Throat Pack specific stickers were designed and made available in theatre.  
An infographic was created and displayed in the theatre.  
The effectiveness of the checklist will be assessed by monitoring it, implementation and gathering feedback from the Multidisciplinary team (MDT).

**Results**  
100% participants agreed on the introduction of the checklist and adding it to the timeout and sign out.  
2/17 participants had observed a "NEVER EVENT" related to a throat pack in the last 12 months.  
1/17 participants wished to make a part of a future needs audit.  
1/17 participants mentioned that the throat pack should be taped at angle through if a next ENT was used.

**Conclusion**  
In conclusion, effective communication and multidisciplinary checklist development are imperative for patient safety. Ongoing education, training and audit are crucial for compliance and minimizing complications.

**Dr Aisling Nolan**

*An Audit of Neuromuscular Blockade Monitoring in the Operating Theatre*



**An Audit of Neuromuscular Blockade Monitoring in the Operating Theatre**

A. Nolan, G. Stott, A. Bell, N. Cribbin,  
Department of Anaesthesia, Galway University Hospital

**Introduction**  
New 2023 guidelines published by the American Society of Anaesthesiologists<sup>1</sup> and the European Society of Anaesthesiology and Intensive Care<sup>2</sup> recommend that quantitative neuromuscular monitoring should be used whenever neuromuscular blocking (NMB) drugs are administered. Observational and randomized trials have demonstrated that inadequate reversal can cause an increase in acute respiratory events, generalized muscle weakness and delayed recovery. Increased risk of postoperative pulmonary complications, and decreased patient satisfaction.<sup>3</sup> Our audit aimed to assess the use of neuromuscular monitoring during general anaesthesia in G&A.

**Results**  
20% percent (n=10) had monitoring with a Train of Four device (see table 1); 80% percent (n=40) received a reversal agent, with Sugammadex being the main agent used (n=39) (see table 2).  
Longer duration of surgery showed an increase in the use of monitoring.  
From the survey, barriers to use of the ToF device were noted to be lack of training, lack of standards and guidance around why it should be used, lack of available equipment, and time pressure.

**Table 1: ToF monitoring in patients (N=50)**

Monitoring Status	Count
No monitoring documented	30
Monitoring documented	20

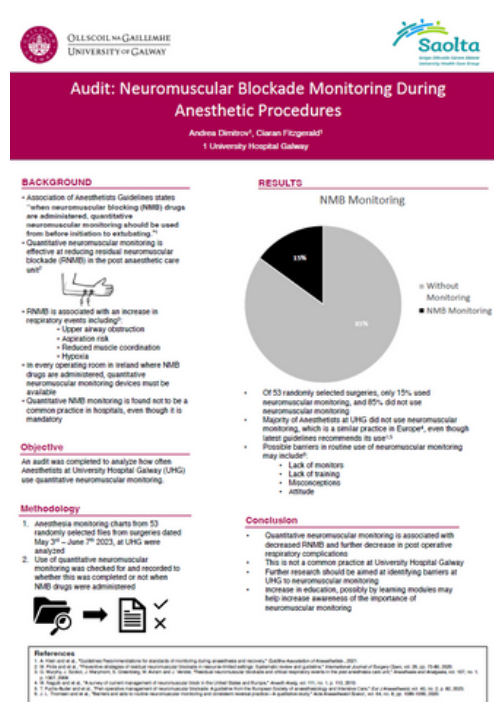
**Table 2: Percentage of patients who received a reversal agent**

Reversal Agent	Percentage
No reversal agent documented	20%
Reversal agent documented	80%

**Conclusion**  
The anaesthesiology department displayed poor compliance with the use of NMB monitoring devices. Rates of ToF use increased with duration of surgery. The main problem solved by NCIHDs was the lack of training and education around the use of NMB monitoring. Our proposed solution is to hold an educational talk for NCIHDs in the department and discuss the results of the audit, as well as the recommendations from the guidelines and training in the use of the device. We will re-audit after this and assess for an improvement in the use of monitoring devices.

**Dr Andrea Dimitrov**

*Monitoring Neuromuscular Blockade During Anesthetic Procedures*



**Audit: Neuromuscular Blockade Monitoring During Anesthetic Procedures**

Andrea Dimitrov<sup>1</sup>, Cleara F Fitzgerald<sup>2</sup>  
1 University Hospital Galway

**BACKGROUND**  
• Association of Anaesthetists' Guidelines states "when neuromuscular blocking (NMB) drugs are administered, quantitative neuromuscular monitoring should be used from before induction to emergence."<sup>1</sup>  
• Quantitative neuromuscular monitoring is effective at reducing residual neuromuscular blockade (RNMB) in the post anaesthetic care unit.<sup>2</sup>  
• RNMB is associated with an increase in respiratory events including:  
- Upper airway obstruction  
- Aspiration risk  
- Reduced muscle coordination  
- Hypoxia  
• In every operating room in Ireland where NMB drugs are administered, quantitative neuromuscular monitoring devices must be available.  
• Quantitative NMB monitoring is found not to be a common practice in hospitals, even though it is mandatory.

**Objective**  
An audit was completed to analyze how often Anaesthetists at University Hospital Galway (UHG) use quantitative neuromuscular monitoring.

**Methodology**  
1. Anaesthesia monitoring charts from 53 randomly selected files from surgeries dated May 2<sup>nd</sup> - June 7<sup>th</sup> 2023, at UHG were analyzed.  
2. Use of quantitative neuromuscular monitoring was checked for and recorded to whether this was completed or not when NMB drugs were administered.

**RESULTS**  
NMB Monitoring

Monitoring Status	Percentage
Without Monitoring	80%
NMB Monitoring	20%

• Of 53 randomly selected surgeries, only 15% used neuromuscular monitoring, and 85% did not use neuromuscular monitoring.  
• Majority of Anaesthetists at UHG did not use neuromuscular monitoring, which is a similar practice in Europe,<sup>3</sup> even though latest guidelines recommends its use.<sup>1</sup>  
• Possible barriers in routine use of neuromuscular monitoring may include:  
- Lack of monitors  
- Lack of training  
- Misconceptions  
- Allocated

**Conclusion**  
• Quantitative neuromuscular monitoring is associated with decreased RNMB and further decrease in post operative respiratory complications.  
• This is not a common practice at University Hospital Galway.  
• Further research should be aimed at identifying barriers to UHG to neuromuscular monitoring.  
• Increase in education, possibly by learning modules may help increase awareness of the importance of neuromuscular monitoring.



# POSTER PRESENTATIONS

## Theatre

**Dr Orlagh O'Brien**

*Theatre Temperature and Considerations for a Safe Working Environment*

**Dr Kevin Zhou**

*Use of Spectral Entropy; Another Variable to the Depth of Anaesthesia*

**Theatre Temperature and Considerations for a Safe Working Environment**

ST. VINCENT'S UNIVERSITY HOSPITAL  
Orlagh O'Brien, Keith Granger, Amy Donnelly  
St Vincent's University Hospital, Elm Park, Dublin 4, Ireland

**INTRODUCTION**

- Following challenges with extremes of temperature (13-39°C) in theatre, we performed a literature review to identify patient and staff safety issues to be considered.
- Appropriate ambient theatre temperature can reduce patient perioperative complications, but also improve staff performance, leading to improved patient safety [1].

**Importance of Theatre Temperature Control**

- The combination of anaesthetic-induced impairment of thermoregulatory control and exposure to a cold theatre causes most patients to become hypothermic.
- Mild intraoperative hypothermia prolongs immediate post-op recovery, increases peri-operative blood loss, post-op wound infections and cardiac events [2].
- Increased temperatures can cause staff discomfort, increased incidence of syncope [3] and operative field contamination by sweating surgeons [4].
- However, studies have shown that increasing ambient temperature to levels recommended for prevention of intraoperative hyperthermia (26C) does not greatly decrease technical performance[5] and no difference was noted in reaction time[6].
- But high temperatures were associated with worse self-rated performance among healthcare providers [6].
- A further consideration is the safe storage of medications and equipment function. Manufacturer recommendations are illustrated in figure 1.

**Figure 1. Manufacturer recommendations for commonly used Anaesthetic drugs**

Medication	Recommended storage temperature
Propofol	Below 25°C
Etomidate	18 to 25°C, below 30°C for up to 48 hours
Midazolam	Below 25°C
Propofol	No special temperature storage conditions
Etomidate	Below 25°C
Desflurane	Below 25°C
Sevoflurane	Below 25°C
Propofol pre-filled syringe	No special temperature storage conditions
Epidural pre-filled syringe	No special temperature storage conditions
Subcutaneous pre-filled syringe	Below 25°C
Insulin pre-filled syringe	No special temperature storage conditions
Etomidate	Below 25°C
Etomidate	Below 25°C

**Conclusion**

- When determining theatre temperature, patients' needs must be balanced against staff safety and comfort.
- To prevent hypothermia NICE recommend theatre temperature to be at least 21°C [8], (similar to the temperature recommended by the Association of Anaesthetists in guidelines on Ergonomics in the Anaesthetic Workplace [9]). These fall within the range recommended by the HSE, who advise 18-23C as a comfortable workplace environment [10].
- As anaesthetists, knowledge of and responsibility for safe working environments is imperative. We all have a role to ensure we are adequately informed.

**References**

1. National Institute for Health and Care Excellence. 2012. Depth of anaesthesia monitors - Bispectral Index (BIS), Entropy and Neurotrend-Compact M (DOI) from 10.1136/nihc.2012.026000
2. Association of Anaesthetists. 2021. Recommendations for standards of monitoring during anaesthesia and recovery from https://anaesthetists.org/Home/Resource-publications/Outlines-recommendations-for-standards-of-monitoring-during-anaesthesia-and-recovery-2021

**CAI Patient Safety ST VINCENT'S UNIVERSITY HOSPITAL**

**Use of Spectral Entropy; Another Variable to the Depth of Anaesthesia**  
Zheng Zhou, Daniel O'Regan, Dave Rowan, Abigail Walsh  
St. Vincent's University Hospital

**Introduction**

National Institute for Health and Care Excellence (NICE) and Association of Anaesthetists (AAGBI) guideline committees considered that depth of anaesthesia monitoring is most likely to be cost-effective and of clinical benefit in patients receiving total intravenous anaesthesia and in patients considered at higher risk of unmonitored anaesthesia (conscious use of muscle relaxants) or of excessively deep levels of anaesthesia (linked with cognitive dysfunction in older patients).

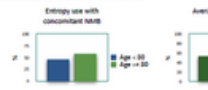
**Methods**

Within the span of a week, surgical cases across all specialties were analysed for the use of GE Entropy™. Module inclusion criteria included the use of neuromuscular blockade (NMB) or total intravenous anaesthesia (TIVA). Each case examined for the use of entropy, the median and average response entropy (IRE) and state entropy (SE) achieved, and the average percentage of time during each case RE/SE remained either above 50 or below 45.

**Results**

82 participants met inclusion criteria including a subset of 7 older patients (age>60). Entropy compliance was 100% using TIVA alone or TIVA with NMB. Entropy was used on 45% of total patients requiring NMB. The median and mean IRE/SE achieved were 30/17 and 42/30, respectively. The average percentage of time RE/SE hovered above 50 was 75.5% with a fall below 40 at 46.51%.

In our subset of older patients, entropy was used on 57% of patients requiring NMB, and the average percentage of time RE/SE fell below 40 was 54.03%.



**Discussion**

Our study found excellent use of entropy with TIVA. The use of entropy in older patients with concomitant NMB was appropriate higher than the general population. Throughout each case, entropy fell below 40 almost the time even for older patients.

Despite controversy surrounding the application of entropy, it is recommended by both the AAGBI and NICE as an option for patients at higher risk of unmonitored anaesthesia or excessive deep anaesthesia.

**References**

1. National Institute for Health and Care Excellence. 2012. Depth of anaesthesia monitors - Bispectral Index (BIS), E-Entropy and Neurotrend-Compact M (DOI) from 10.1136/nihc.2012.026000
2. Association of Anaesthetists. 2021. Recommendations for standards of monitoring during anaesthesia and recovery from https://anaesthetists.org/Home/Resource-publications/Outlines-recommendations-for-standards-of-monitoring-during-anaesthesia-and-recovery-2021

**St. Vincent's University Hospital**

**Dr Bryan Traynor**

*The Anaesthetic Machine Check It Takes Two To Tango*

**Dr Chris Lock**

*Updating the official anaesthesia record for our hospital A quality improvement project*

**Galway University Hospital**

**The Anaesthetic Machine Check: It Takes Two To Tango**

Dr. Bryan Traynor, Dr. Siobhán Morrison, Dr. Niall Cribben  
Galway University Hospital

**Introduction**

AAGBI guidelines with regard to checking anaesthetic equipment recommend testing the breathing system to ensure patency and the absence of leaks. In order to achieve this, it is recommended that a two bag test be performed. This involves attaching a second bag or mechanical lung to the breathing circuit.

The test is performed by attaching the patient end of the breathing system (including right check and filter) to a test lung or bag. The fresh gas flow is then set to 5 L/min, and manual ventilation performed. The whole breathing system is checked for patency and the unidirectional valves are assessed for movement if present. The function of the APL valve is assessed by squeezing both bags. The ventilator is turned on to ventilate the test lung. Fresh gas flow is turned off to reduce the system. In turn, each applier is opened and closed - there should be no loss of volume in the system.

The guidelines also recommend that breathing systems should be primed with a test lung or bag when not in use to prevent evaporation of bagge bodies.

A previous audit was performed in 2019 in Galway University Hospital (GUH) to check for the presence of a second bag or mechanical lung in each of the anaesthetic machines in all of the operating theatres. 18 anaesthetic machines were assessed and all machines were found to have the necessary equipment to perform the necessary checks on the system for leaks and patency.

**Aims & Objectives**

This audit aims to assess the presence of a second bag or mechanical lung in each anaesthetic machine to determine if the stock necessary for compliance with the guidelines has been maintained. Standard: AAGBI Safety Guideline: Checking Anaesthetic Equipment 2012

**Results**

- n=18
- 17 machines were equipped with a second bag.
- 1 machine did not have a bag from the machine or anywhere in the theatre.

**Discussion & Conclusion**

17/18 (94.4%) of anaesthetic machines had the necessary equipment to perform a full anaesthetic check in accordance to the AAGBI guidelines.

This is lower when compared with 18/18 (100%) of machines in 2019.

To be in accordance with the AAGBI guidelines, it is necessary for a second bag or mechanical lung to be present in all anaesthetic machines to ensure that the breathing system is adequately tested for patency and leaks prior to the administration of an anaesthetic.

**Quality Improvement**

The AAGBI guidelines for checking anaesthetic equipment were distributed electronically to all HCPs in the anaesthesiology department in GUH. The importance of the presence of the necessary equipment was also highlighted.

The anaesthetic machine that did not have a second bag was restocked and the theatre staff informed. Regular stock checking and replacement of materials is relevant to achieve 100% equipment presence rates in order to perform the two bag test in accordance with the AAGBI guidelines.

**Methods**

A visual inspection of anaesthetic machines in the operating theatres of GUH was performed. 18 anaesthetic machines were inspected located in main theatre, gynaecology, bronchology and 2 main theatres in Martin Park Hospital (MPH). Each anaesthetic machine was assessed for the presence of a second bag or mechanical lung.

**References**

1. Checking Anaesthetic Equipment 2012 Membership of the Working Party: A. Taylor (Chair), E. Anderson, V. Byfield, S. Bennett, J. Jones, D. Mulvaney, A. Patterson, P. Sim, I. Walker

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**Patient Safety**  
College of Anaesthesiologists of Ireland

**Galway University Hospital**

**Updating the official anaesthesia record for our hospital: A quality improvement project**

Lock, C., Mackay, P., O'Neil, S., O'Donnell, D., Moran, D  
Department of Anaesthesia, Westford General Hospital, Ireland

**Introduction**

The anaesthesia record is the main document of the intraoperative course of anaesthesia administration and, as such, is an essential part of patient safety in anaesthesia. When organised and completed in a standardised format that follows a logical sequence, it is extremely valuable as a data sheet during anaesthesia, as a source of information for future anaesthetic management, and as a legal document. Furthermore, when accurately completed, it doubles as a tool for teaching, research and audit. Finally, it serves as an aid to the maintenance of vigilance.<sup>1,2</sup>

**Method**

Direct comparison of current literature on anaesthesia records was made to our current anaesthetic record. Deficits were noted in the following areas:

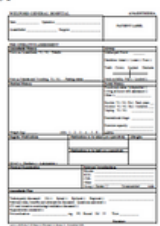
- Entire document confined to one A4 page for all 3 pre, intra, and post-operative sections.
- Very short pre-operative section confined to the top of the page with risk of overlooking several aspects of the medical history
- No standard for documenting premedications/techniques resulting in risk of over-variability in documentation of same.
- No time/sig system for accurately documenting the time of events.

**Results**

Formulation of a new anaesthesia record for our department paying particular attention to the following areas:

- Standardisation and expansion of the pre-operative record ensuring certain aspects of the medical history/patient background are not overlooked
- Standardisation and expansion of the intra-operative record to ensure all aspects of procedures/techniques are documented routinely and uniformly
- Incorporation of a time/sig system so that correlation between time and events (ie: drug administration/surgical stress responses) can be completed/reconstructed accurately

**Figure 1**



**Discussion**

The document layout is based upon an analysis of anaesthetic record layouts from multiple other hospitals considered to have a high standard of anaesthetic care. By comparing all aspects of these documents (ie: what parameters were commonly included across each variant), a new layout for the anaesthesia record for WGH was formulated. Focused primarily on updating the minimum requirements for such a document regarding patient safety while also being mindful of the ease of use for WGH.

Additionally, the anaesthesia department in WGH utilizes a hybrid documentation system consisting of both a manually completed paper document and an electronic printout of all recorded intra-operative parameters from patient status to inappropriate/legged gas. The updated anaesthesia record reflects this by incorporating a system that focuses primarily on drug doses at the time given. However, the new grid-based format can also be inclusive of whatever extra parameters the documenting anaesthetist sees fit to include.

Field testing of the record occurred at various theatres and updates were made following feedback from consultants and registrars within the department. The record, in its current state, is still undergoing development and is close to being approved for official use within WGH.

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# POSTER PRESENTATIONS

## Obstetrics

**Dr Cathy Maher**

Reducing Risks of Major Haemorrhage in Obstetric Patients



**Reducing Risks of Major Haemorrhage in Obstetric Patients**  
Cathy Maher, Seamus Flynn, Ryan Howle, Sabrina Hoerni  
The Coombe Hospital

**Background**  
Haemorrhage remains a major cause of direct maternal death in Ireland and the UK. The anaesthetist plays a leading role in reduction of bleeding patients. Group and antibody screening used on risk stratification for obstetric haemorrhage (OPH) is imperative to ensure patient safety. Despite these benefits, not all at risk patients are being identified and screened prior to delivery.

**Aim**  
We aimed to improve patient safety at the Coombe Hospital by ensuring and improving compliance to hospital group and screen guidelines. After implementing this project, a secondary aim of auditing was hospital guidelines to reflect the updated national PPH guideline.

**Methodology**  
Patients for elective caesarean section (CS) during March 2022 were assessed for presence or absence of a valid group and screen on day of surgery for those with a group and screen, time of result was compared with time patient was called to theatre. Descriptive analysis was conducted to identify patients with risk factors for PPH who were either not valid group and screen prior to CS.

**Results**  
In accordance with hospital guidelines, a group and screen was obtained in 50 (80%) of the 62 elective CS patients during March. A valid sample was available for 30 (50%) at time called to theatre (Figure 1). 22 patients (35%) had a group and screen which was received after the patient's arrival in theatre.

**Discussion**  
At the time of audit, the hospital's Maternal Blood Ordering Schedule (MBOOS) recommended group and screen in patients at high risk of bleeding only. However, 'high risk of bleeding' was not clarified further. We believe that the large proportion of patients arriving to theatre without an indicated group and screen is due to the lack of clear guidelines stating which patients are high risk of bleeding.

**Dr Ciara Crotty**

A Pain in the Head – Post-Dural Puncture Headache Documentation in a Maternity Hospital with Electronic Health Records



**A pain in the head; post-dural puncture headache documentation in a maternity hospital with electronic health records**  
Dr Ciara Crotty, Dr James Duncan, Dr Caitriona Murphy

**Introduction**  
Neuraxial procedures are commonly performed in obstetric anaesthesia, providing optimal labour analgesia, and anaesthesia for surgical delivery. Accidental dural puncture (ADP) is a relatively common (approximately 1/2000) and may result in a post-dural puncture headache (PDPH), potentially causing significant distress and disability. Thorough history-taking is essential for assessment and follow-up.

**What next?**  
The anaesthesiology department were surveyed to investigate the reasoning behind poor PDPH notes.

**Methods**  
From January to July 2023, patient notes from the Rounds Hospital PDPH clinic were reviewed and assessed for use of the electronic PDPH proforma. Two points at which this was deemed appropriate included initial headache assessment and following epidural blood patch (EBP).

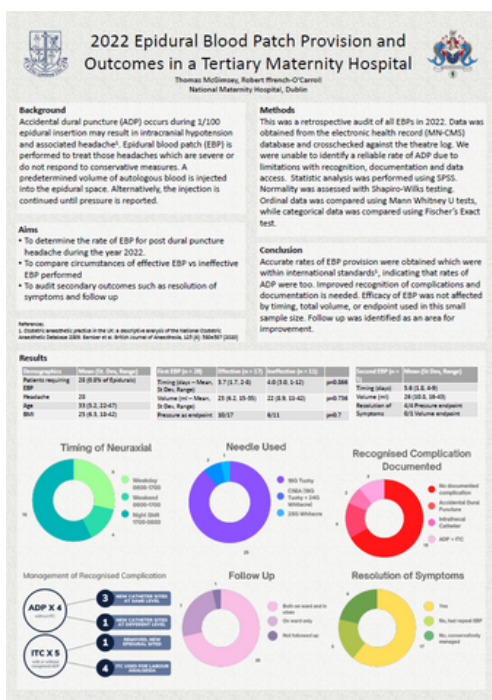
**Results**  
Procedure causing PDPH:  
Epidural (11) 29%  
Spinal (9) 23%  
CSE (6) 16%

**Proforma use**  
Initial assessment: 28%  
Pre-EBP: 10%  
Post-EBP: 62%

**Conclusion**  
PDPH is relatively common following neuraxial anaesthesia. Documentation using a standardized proforma is important for clear, on-going communication regarding management and follow-up. This audit highlights poor compliance of PDPH documentation using the current MN-CMS PDPH proforma in one maternity hospital, how user-unfriendly design discourages day-to-day use and the importance of accessible national feedback for improving MN-CMS user experience.

**Dr Tommy McGimsey**

2022 Epidural Blood Patch Provision and Outcomes in a Tertiary Maternity Hospital



**2022 Epidural Blood Patch Provision and Outcomes in a Tertiary Maternity Hospital**  
Thomas McGimsey, Robert French-O'Carroll  
National Maternity Hospital, Dublin

**Background**  
Accidental dural puncture (ADP) occurs during 1/100 epidural insertion may result in intrathecal hypotension and associated headache. Epidural blood patch (EBP) is performed to treat those headaches which are severe or do not respond to conservative measures. A predetermined volume of autologous blood is injected into the epidural space. Alternatively, the injection is continued until pressure is reported.

**Aims**  
• To determine the rate of EBP for post dural puncture headache during the year 2022.  
• To compare circumstances of effective EBP vs ineffective EBP performed.  
• To audit secondary outcomes such as resolution of symptoms and follow up.

**Methods**  
This was a retrospective audit of all EBPs in 2022. Data was obtained from the electronic health record (MN-CMS) database and crosschecked against the theatre log. We were unable to identify a reliable rate of ADP due to limitations with recognition, documentation and data access. Statistical analysis was performed using SPSS. Normality was assessed with Shapiro-Wilk's testing. Ordinal data was compared using Mann-Whitney U tests, while categorical data was compared using Fisher's Exact test.

**Conclusion**  
Accurate rates of EBP provision were obtained which were within international standards<sup>1</sup>, indicating that rates of ADP were too. Improved recognition of complications and documentation is needed. Efficacy of EBP was not affected by timing, total volume, or endpoint used in this small sample size. Follow up was identified as an area for improvement.

**Results**

Demographic	Mean CS Day Range	Total EBP (n=35)	Effective (n=13)	Ineffective (n=11)	Failed (n=11)
Patients requiring EBP	29 (8.6% of Epidurals)				
Response	25				
Age	33 (5.2-44.4)				
BSI	23 (8.3-32.42)				

**Timing of Neuraxial**  
• Epidural (28)  
• Spinal (7)

**Needle Used**  
• 18G Tuohy (28)  
• 18G Tuohy (2)  
• Tuohy (1)  
• 18G Whitacre (3)

**Recognised Complication Documented**  
• No documented (28)  
• Documented (7)  
• Headache (6)  
• Hypotension (1)  
• ADP (1)

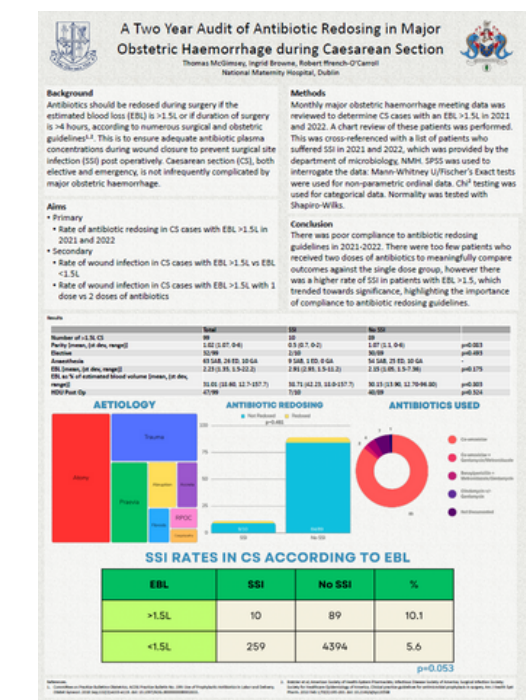
**Management of Recognised Complication**  
• ADP X4  
• ITC X5

**Follow Up**  
• Both head and in (1)  
• In head only (1)  
• Not followed up (5)

**Resolution of Symptoms**  
• Yes (13)  
• No, but required EBP (1)  
• No, not required EBP (1)

**Dr Tommy McGimsey**

A Two Year Audit of Antibiotic Redosing in Major Obstetric Haemorrhage during Caesarean Section



**A Two Year Audit of Antibiotic Redosing in Major Obstetric Haemorrhage during Caesarean Section**  
Thomas McGimsey, Ingrid Browne, Robert French-O'Carroll  
National Maternity Hospital, Dublin

**Background**  
Antibiotics should be redosed during surgery if the estimated blood loss (EBL) is >1.5L or if duration of surgery is >4 hours, according to numerous surgical and obstetric guidelines<sup>1,2</sup>. This is to ensure adequate antibiotic plasma concentrations during wound closure to prevent surgical site infection (SSI) post operatively. Caesarean section (CS), both elective and emergency, is not infrequently complicated by major obstetric haemorrhage.

**Aims**  
• Primary  
• Rate of antibiotic redosing in CS cases with EBL >1.5L in 2021 and 2022.  
• Secondary  
• Rate of wound infection in CS cases with EBL >1.5L vs EBL <1.5L.  
• Rate of wound infection in CS cases with EBL >1.5L with 1 dose vs 2 doses of antibiotics.

**Methods**  
Monthly major obstetric haemorrhage meeting data was reviewed to determine CS cases with an EBL >1.5L in 2021 and 2022. A chart review of these patients was performed. This was cross-referenced with a list of patients who suffered SSI in 2021 and 2022, which was provided by the department of microbiology. MMH, SPSS was used to interrogate the data. Mann-Whitney U/Fischer's exact tests were used for non-parametric ordinal data. Chi testing was used for categorical data. Normality was tested with Shapiro-Wilk's.

**Conclusion**  
There was poor compliance to antibiotic redosing guidelines in 2021-2022. There were too few patients who received two doses of antibiotics to meaningfully compare outcomes against the single dose group, however there was a higher rate of SSI in patients with EBL >1.5, which trended towards significance, highlighting the importance of compliance to antibiotic redosing guidelines.

**Results**

Year	EBL >1.5L CS	EBL <1.5L CS
2021	99	50
2022	152 (1.07: 0.4)	151 (0.1: 0.2)
Duration	52:09	52:08
EBL (mean, [n, 95% CI])	673 (8, 95, 10-64)	1508 (10, 15-64)
EBL (mean, [n, 95% CI])	225 (8, 95, 10-62)	218 (8, 95, 10-62)
EBL (mean, [n, 95% CI])	55.61 (58, 62, 12-187.7)	55.75 (42, 55, 10-157.7)
EBL (95% CI)	47:00	47:00

**ETIOLOGY**  
• Trauma (10)  
• Placenta (10)  
• Uterine (10)  
• VTE (10)  
• Sepsis (10)

**ANTIBIOTIC REDOSING**  
• 1 dose (10)  
• 2 doses (10)

**ANTIBIOTICS USED**  
• Amoxicillin (10)  
• Clindamycin (10)  
• Vancomycin (10)  
• Cefazolin (10)  
• Cefuroxime (10)

**SSI RATES IN CS ACCORDING TO EBL**

EBL	SSI	No SSI	%
>1.5L	10	89	10.1
<1.5L	259	4394	5.6

p=0.053

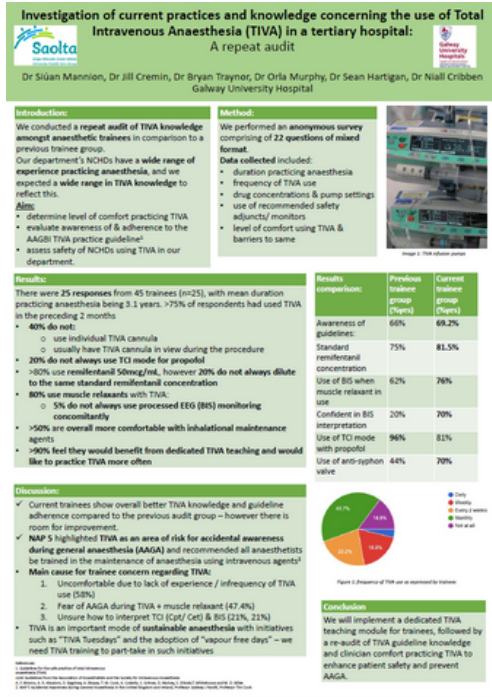


# POSTER PRESENTATIONS

## TIVA

### Dr Suan Mannion

Investigation of current practices and knowledge concerning the use of Total Intravenous Anaesthesia (TIVA) in a tertiary hospital



**Investigation of current practices and knowledge concerning the use of Total Intravenous Anaesthesia (TIVA) in a tertiary hospital: A repeat audit**

Dr Suan Mannion, Dr Jill Cremin, Dr Bryan Traynor, Dr Orla Murphy, Dr Sean Hartigan, Dr Niall Cribben  
Galway University Hospital

**Introduction:** We conducted a repeat audit of TIVA knowledge amongst anaesthetic trainees in comparison to a previous trainee group. Our department's NCHDs have a wide range of experience practicing anaesthesia, and we expected a wide range in TIVA knowledge to reflect this.

**Aims:**

- Determine level of comfort practicing TIVA
- Evaluate awareness of adherence to the AAGBI TIVA practice guideline<sup>1</sup>
- Assess safety of NCHDs using TIVA in our department

**Method:** We performed an anonymous survey comprising of 22 questions of mixed format. Data collected included:

- Frequency of TIVA use
- Drug concentrations & pump settings
- Use of recommended safety
- Level of comfort using TIVA & barriers to same

**Results:** There were 25 responses from 45 trainees (n=25), with mean duration practicing anaesthesia being 3.1 years. >75% of respondents had used TIVA in the preceding 2 months

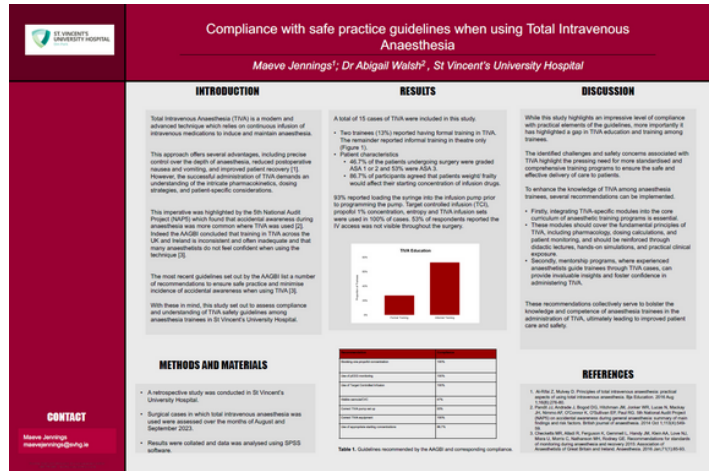
- 40% do not:
  - usually have TIVA cannula in view during the procedure
  - do not always use TCI mode for propofol
  - >80% use remifentanyl 50mcg/ml, however 20% do not always dilute to the same standard remifentanyl concentration
  - 80% use muscle relaxants with TIVA
  - 5% do not always use processed EEG (BIS) monitoring concomitantly
  - >50% are overall more comfortable with inhalational maintenance agents
  - >90% feel they would benefit from dedicated TIVA teaching and would like to practice TIVA more often

**Conclusion:**

- Current trainees show overall better TIVA knowledge and guideline adherence compared to the previous audit group – however there is room for improvement.
- NAP's highlighted TIVA as an area of risk for accidental awareness during general anaesthesia (AAGA) and recommended all anaesthetists be trained in the maintenance of anaesthesia using intravenous agents<sup>2</sup>
- Main cause for trainees concern regarding TIVA:
  - Uncomfortable due to lack of experience / infrequency of TIVA use (53%)
  - Fear of AAGA during TIVA & muscle relaxant (47.4%)
  - Unclear how to interpret TCI (Coff/Coff & BIS (23%, 21%))
- TIVA is an important mode of sustainable anaesthesia with initiatives such as 'TIVA Tuesdays' and the adoption of 'vapour free days' – we need TIVA training to part-take in such initiatives

### Dr Meave Jennings

Compliance with safe practice guidelines when using Total Intravenous TIVA; a clinical audit



**Compliance with safe practice guidelines when using Total Intravenous Anaesthesia**

Maeve Jennings<sup>1</sup>, Dr Abigail Walsh<sup>2</sup>, St Vincent's University Hospital

**INTRODUCTION**

Total Intravenous Anaesthesia (TIVA) is a modern and advanced technique which relies on continuous infusion of intravenous medications to induce and maintain anaesthesia. This approach offers several advantages, including precise control over the depth of anaesthesia, reduced emergence nausea and vomiting, and improved patient recovery [1]. However, the successful administration of TIVA demands an understanding of the pharmacokinetics, dosing strategies, and patient-specific considerations.

This initiative was highlighted by the 5th National Audit Program (NAP5) which found that accidental awareness during anaesthesia was more common when TIVA was used [2]. Indeed the AAGBI concluded that training in TIVA across the UK and Ireland is inconsistent and often inadequate and that many anaesthetists do not feel confident when using the technique [2].

The most recent guidelines set out by the AAGBI list a number of recommendations to ensure safe practice and minimise incidence of accidental awareness when using TIVA [3].

With these in mind, this study set out to assess compliance of anaesthetists with TIVA safe practice guidelines.

**RESULTS**

A total of 16 cases of TIVA were included in this study

- Two females (13%) reported having formal training in TIVA. The remainder reported informal training in theatre only (Figure 1).
- Patients characteristics:
  - 43.7% of patients undergoing surgery were graded ASA 1 or 2 and 56% were ASA 3.
  - 43.7% of participants agreed that patients were frailty graded.
- 83% reported loading the pump into the infusion pump prior to programming the pump. Target controlled infusion (TCI) provided 1% concentrations, entropy and TIVA infusion were used in 100% of cases. 53% of respondents reported the 24 cases were not visible throughout the surgery.

**DISCUSSION**

This study highlights an impressive level of compliance with practical elements of the guidelines, more importantly it has highlighted a gap in TIVA education and training among trainees.

The identified challenges and safety concerns associated with TIVA highlight the pressing need for more structured and comprehensive training programs to ensure the safe and effective delivery of care to patients.

To enhance the knowledge of TIVA among anaesthetists trainees, several recommendations can be implemented:

- Formal, integrated TIVA-specific modules into the core curriculum of anaesthesia training programs is essential.
- These modules should cover the fundamental principles of TIVA, including pharmacokinetics, dosing guidelines, and patient monitoring, and should be reinforced through clinical scenarios, hands-on simulations, and practical clinical exposure.
- Formal mentorship programs, where experienced anaesthetists guide trainees through TIVA cases, can provide invaluable insights and foster confidence in administering TIVA.

These recommendations collectively serve to bolster the knowledge and competence of anaesthetists in the administration of TIVA, ultimately leading to improved patient care and safety.

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1. AAGBI. (2017) Anaesthesia Practice Guidelines for General Anaesthesia. London: Anaesthesia Society of Ireland.
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3. AAGBI. (2018) Anaesthesia Practice Guidelines for Total Intravenous Anaesthesia. London: Anaesthesia Society of Ireland.

# Safety Culture

### Dr Bryan Trainer

The Anaesthetic Emergency Manual A Cognitive Aid For Patient Safety

### Dr James Colly

An audit on the adherence to the WHO Surgical Safety Checklist



**The Anaesthetic Emergency Manual: A Cognitive Aid For Patient Safety**

Dr Bryan Traynor, Dr Suan Mannion, Dr Tom Wall, Dr Mark Ross  
Galway University Hospital

**Introduction**

Checklists and cognitive aids are widely used by high-risk industries, such as aviation, as tools to aid in safety management. There is a growing movement towards the use of cognitive aids and checklists in the operating room, both for routine and crisis situations. It has been demonstrated in meta-analysis that the use of cognitive aids during high-stress emergencies decreases the incidence of errors while increasing the rate of correctly performed steps and the engagement of crew members in the process. They may shift the focus from an analytical or creative approach to a more systematic and objective, rule-based mode of problem solving. Improving team performance and cohesion. A collection of cognitive aids such as flow charts and checklists for emergency use is referred to as an emergency manual.

Various emergency manuals have been developed internationally such as the Quick Reference Handbook (QRH) developed by the Association of Certified Flight Instructors (ACFI) and the Standard Operating Procedures (SOP) developed by the Standard Operating Procedures (SOP) and the Standard Operating Procedures (SOP) developed by the Society for Air Traffic Operations (SATO).

Numerous cognitive aids for specific critical incidents have also been published including Aircrew Life Support (ALS) algorithms, Critical Airway Society's (CAS) guidelines for management of unanticipated difficult intubation in adults, Midpoint Hypertension Management in adults, and the American Society of Regional Anesthesia and Pain Medicine (ASRA) presents an algorithm for the treatment of local anesthetic systemic toxicity by the American Society of Regional Anesthesia and Pain Medicine (ASRA) as well as numerous other resources endorsed by the Emergency Manual Implementation Collaborative (EMIC).

Galway University Hospital (GUH) anaesthesiology department has developed and implemented an anaesthetic emergency manual, which is a compilation of guidelines for the management of anaesthetic and medical emergencies and can be found on every anaesthetic machine in the department. The cognitive aids included in the manual are taken from various sources including the AAGBI's QRH, American Heart Association's (AHA) guidelines as well as GUH's own Major Trauma Protocol (MTP).

**Aims & Objectives**

This audit aims to assess the presence of an anaesthetic emergency manual in each operating theatre (OT) in GUH.

**Standards:**

The local standard for GUH is for an emergency manual to be present in 100% of operating theatres. Although no national or international guidelines have been published recommending the presence of an emergency manual in the OT, the publication of numerous cognitive aids by various international organisations as well as the evidence for their improvement of patient safety strongly supports the necessity for their presence.

**Methods**

A visual inspection of 0% in GUH was performed over the course of a day. 18 operating theatres were inspected, located in main theatre, preoperative, intensive care and 2 main theatres in Mater Park Hospital (Mater Park). Each OT was inspected for the presence of an emergency manual either in the anaesthetic machine or visible elsewhere in the room.

**Results**

- 100% (18/18) had an anaesthetic emergency manual present in the anaesthetic machine.
- 3.3% (6/18) had a designated or designated emergency manual present in the anaesthetic machine.
- 8.3% (15/18) had an emergency manual present in the room.

**Discussion**

An anaesthetic emergency manual was not present in almost half of operating theatres. The presence of an anaesthetic emergency manual in every OT is recommended. The inclusion of a check for an emergency manual as part of the routine anaesthetic machine check with spare manuals readily available is a potential strategy to address this.

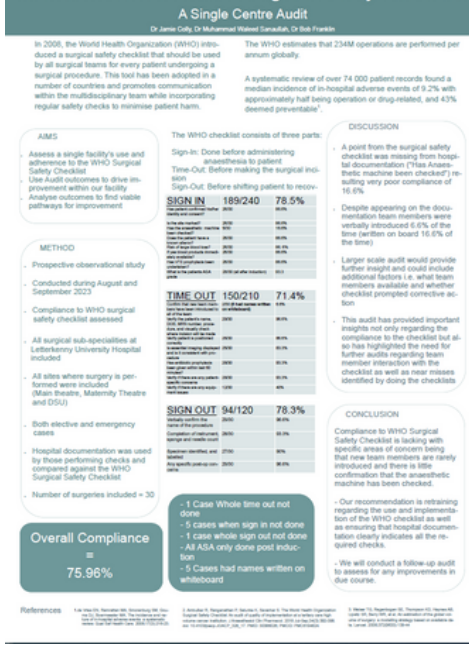
**Quality Improvement**

The 0% rate did not indicate an anaesthetic emergency folder were provided with replacement and the theatre staff working in these areas informed. Work is ongoing currently within the anaesthesiology department to incorporate a check for the presence of an anaesthetic emergency folder as part of the anaesthetic machine check. A stock of spare folders was provided in theatre reception for OTs that may need a replacement. Going forward, this presents an opportunity for re-audit to determine whether the presence of an anaesthetic emergency folder is successfully incorporated into the anaesthetic machine check and the presence of a folder in every OT is maintained.

**References**

1. AAGBI. (2017) Anaesthesia Practice Guidelines for General Anaesthesia. London: Anaesthesia Society of Ireland.
2. American Heart Association. (2015) Guidelines for Resuscitation. Circulation. 132(5):e715-732.
3. American Society of Regional Anesthesia and Pain Medicine. (2015) Guidelines for the Management of Local Anesthetic Systemic Toxicity. Regional Anesthesia and Pain Medicine. 10(2):101-110.
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### Adherence to the WHO Surgical Safety Checklist



**Adherence to the WHO Surgical Safety Checklist**

A Single Centre Audit

Dr James Colly, Dr Muhammad Waheed Sarwar, Dr Bob Franklin

In 2008, the World Health Organization (WHO) introduced a surgical safety checklist that should be used by all surgical teams for every patient undergoing a surgical procedure. This tool has been adopted in a number of countries and promotes communication within the multidisciplinary team while incorporating regular safety checks to minimise patient harm.

The WHO estimates that 234M operations are performed per annum globally.

A median review of over 74 000 patient records found a systemic incidence of in-hospital adverse events of 9.2% with approximately half reported as injury or drug-related, and 43% deemed preventable<sup>1</sup>.

A systematic review of over 74 000 patient records found a median incidence of in-hospital adverse events of 9.2% with approximately half reported as injury or drug-related, and 43% deemed preventable<sup>1</sup>.

**AIMS**

- Assess a single facility's use and adherence to the WHO Surgical Safety Checklist
- User Audit outcomes to drive improvement within our facility
- Analyse outcomes to find viable pathways for improvement.

**METHOD**

- Prospective observational study
- Conducted during August and September 2023
- Compliance to WHO surgical safety checklist assessed
- All surgical sub-specialties at Letterkenny University Hospital included
- All sites where surgery is performed were included (Main Theatre, Maternity Theatre and ICU)
- Both elective and emergency cases
- Hospital documentation was used by those performing checks and compared against the WHO Surgical Safety Checklist
- Number of surgeries included = 30

**RESULTS**

Checklist Item	Compliance (%)
Sign-In	78.5%
Time-Out	71.4%
Sign-Out	78.3%

**Overall Compliance = 75.96%**

**DISCUSSION**

A point from the surgical safety checklist was missing from hospital documentation (TIVA anaesthetic machine being checked) resulting in poor compliance of 16.6%.

Despite appearing on the documentation team members were verbally introduced 6.6% of the time (written on board 16.6% of the time).

Larger scale audit would provide further insight and could include additional factors i.e. what team members available and whether checklist prompted corrective action.

This audit has provided important insights not only regarding the compliance to the checklist but also so has highlighted the need for further audit and training to ensure consistent interaction with the checklist as well as clear roles identified by doing the checklist.

**CONCLUSION**

Compliance to WHO Surgical Safety Checklist is lacking with specific areas of concern being that team members are rarely introduced and there is no confirmation that the anaesthetic machine has been checked.

Our recommendation is retaining regarding the use and implementation of the WHO checklist as well as ensuring that hospital documentation clearly indicates the required checks.

We will conduct a follow-up audit to assess for any improvements in due course.

**REFERENCES**

1. World Health Organization. (2008) The WHO Surgical Safety Checklist: To Save Lives: A Global Challenge. Geneva: World Health Organization.
2. AAGBI. (2017) Anaesthesia Practice Guidelines for General Anaesthesia. London: Anaesthesia Society of Ireland.
3. American Heart Association. (2015) Guidelines for Resuscitation. Circulation. 132(5):e715-732.
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5. Association of Certified Flight Instructors. (2015) Quick Reference Handbook. Aviation Safety Council.
6. Society for Air Traffic Operations. (2015) Standard Operating Procedures. SATO.

# POSTER PRESENTATIONS

## Peri-operative

### Dr Murtaza Hassan

A loop closure Audit on QUALITY of Handover for Patient care to the Post-Anesthetic Care Unit (PACU)

**Introduction**  
Effective handover of a patient's care in the recovery room is essential for the continuity, quality and safety of patient care. Each handover has the potential for poor communication, which may compromise patient safety. The Association of Anaesthetists of Great Britain and Ireland (AAGBI) guidelines state that "the anaesthetist must formally hand over care of a patient to a recovery room nurse or other appropriately trained member of staff".

**Aims**  
Effective handover of a patient's care in the recovery room is essential for the continuity, quality and safety of patient care. Each handover has the potential for poor communication that may compromise patient safety.

**Methods**  
Audit done in Post Anaesthesia Care Unit (PACU) of Letterkenny University Hospital. All anaesthetists were given a PACU staff and Quality of handover was documented. We selected a PACU staff who were trained above the audit questionnaire. It was Prospective audit. Data collected from 20th September, 20th April 2017. A data of 75 handovers was collected. It was divided into 3 groups: Anaesthetist, PACU staff, and PACU staff in day time to 5 pm excluding weekends and public holidays.

**Results**  
In 2nd round after introduction of checklist of standard handover a data of 52 handovers was collected over 4 weeks by PACU staff in day time from 8 to 5 pm excluding weekends and public holidays.

**Conclusion**  
The main goal of patient handover is accurate transfer of information about the patient's care to ensure the safety and continuity of patient care. However, handover is also one of the most frequent and influential moments of the patient's journey through hospital as it plays a vital role in determining the management plan of the patient. Anaesthetists are considered as one of the leading specialists in healthcare in terms of ensuring patient safety. Postoperative patient handover from operation theatre to recovery room is one of the core aspects patient care provided by anaesthetists.

### Dr Gavin O'Connor

Assessment of Pre-, Peri-, and Post-Surgical Practices for Colorectal Patients in an Acute Hospital Setting

**Introduction**  
Enhanced recovery after surgery (ERAS) is a protocol developed in 1997 with the aim of expediting discharges in patients undergoing colorectal surgery. The protocol includes preoperative, perioperative and postoperative measures to be followed, with the ultimate goal of getting patients fit for early discharge. The ERAS protocol aims to both treat early and prevent common postoperative complications that increase patient morbidity, mortality, or length of stay in hospital. Such complications include postoperative nausea and vomiting (PONV), DVTs, ileus, fluid overload and pain. The ERAS protocol is often viewed as the gold standard in this regard by some clinicians.

**Methods**  
Ethical approval was sought from the UHL Ethics Committee. Patients were recruited from colorectal surgeons who agreed to have their theatre lists shared for patient recruitment purposes. Inclusion criteria included patients over 18 years of age, going for elective colorectal surgery, who were not cared for in a critical care environment (ICU or HDU), who were in hospital <3 days postoperatively, and agreeable to take part in the study. Exclusion criteria included emergency colorectal surgery, patients who were admitted to ICU or HDU, patients who were discharged <3 days postoperatively, and patients who declined to take part in the study. Patients were approached day 3 postoperatively and informed of the project. Patients were approached again on day 4 and asked to provide consent to participate in the study, and fill out a questionnaire which was later collected.

**Results**

ERAS Criteria	Compliance (%)
Laparoscopic surgery	97
Physio within 24 hours	100
Attended POAC	100
Provided with fasting guidelines	100
MAIST-Score on admission	73
Pre-op drink	97
Pre-op weight	100
No post-theatre	0
Fasting day 0	33
Fasting day 1	94
Fasting day 2	100
CK Intra-op	76
Single anti-emetics intra-op	79
Dual anti-emetics intra-op	21
Gastrastrom intra-op	70
PONV	42
Sexus	30
Cleanse day 0	52
Cleanse day 1	100
DVT/PE	0
Pre-op gabapentin	48
Intra-operative antibiotics	67
Antibiotics 24 hours postoperatively	91

**Conclusion**  
Compliance with the ERAS protocol in patients undergoing colorectal surgery in UHL is consistent with international standards for a variety of the elements in the ERAS protocol. Areas of the policy that require improving include oral diet day 0, intra-operative antibiotic usage and preoperative gabapentin usage.

### Dr Jane O'Sullivan

Red Cell Distribution Width (RDW) A Single-Centre, 5-Year Retrospective Study Investigating The Prognostic Role of Preoperative RDW For 1

**Introduction**  
Hip fractures occur 65,000 patients over 60 in England, Wales and Northern Ireland per annum [1]. They are associated with a high mortality with 30% of patients surviving one year [2]. RDW is a blood test, present on all full blood count profiles. It measures the variation in the size of the individual red cells. The prognostic utility of pre-operative RDW has been examined, in relation to mortality following a severe injury [3]. Furthermore, its ability to predict mortality in a hip fracture study population has been demonstrated in a previous retrospective study [4].

**Methods & Materials**  
Following local institutional approval from the research ethics committee, a retrospective database was accessed to identify for all consecutive patients undergoing emergency surgery for hip fracture from 2013-2018 in a single institution (Fingh's University Hospital). This database possesses the patient identification and their medical notes. The information in this database was confirmed, using the electronic patient management system. The most immediate RDW and haemoglobin value prior to surgery was recorded for each patient, using the electronic laboratory records. This was cross-referenced by two individuals. Further relevant variables, such as age, ASA score, length of surgery, revision length of stay, and admission to a higher level of care were collected.

**Results**

**RDW Quartiles**

Quartile	Q1	Median	Q3
Q1	12.9	13.2	13.5
Q2	13.2	13.5	13.8
Q3	13.5	13.8	14.1
Q4	13.8	14.1	14.4

**Conclusion**  
RDW is a quantitative measure of the extent of heterogeneity in the size of the red blood cells. There are many reasons why the RDW may vary, but the most common cause is iron deficiency, which is included in the full blood count result [5].

**Conclusion**  
We have demonstrated a positive correlation between raised RDW and 1-year mortality in hip fracture patients. Clinicians managing patients with a hip fracture should be aware that when they are dealing with patients with an RDW in the highest quartile, these patients represent a sicker and more complex cohort, particularly if they are elderly. They will likely need a higher level of care during their inpatient stay for the hip fracture and have a higher 1-year mortality.

# POSTER PRESENTATIONS

## Regional

**Dr Stephen Boulton**

*Hip To Be Square - A Re-Audit Of Hip Fracture Management in SVUH*

**Dr David Rowe**

*Audit of Regional Anaesthesia Practices in St. Vincent's University Hospital*

### Hip To Be Square – A Re-Audit Of Hip Fracture Management in SVUH

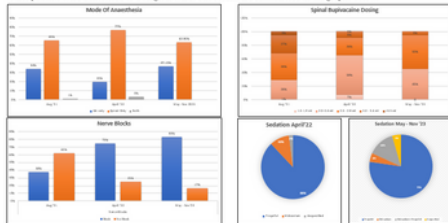
S Boulton, E Lennon, R Sweeney, T Smeaton, S Davis, A Walsh -St Vincent's University Hospital, Elm Park, Dublin 4

**Introduction:**

The AAGBI introduced new recommendations regarding the anaesthetic management of hip fracture patients in December 2020. In August 2021 St Vincent's University Hospital conducted an audit of its management of these patients. It suggested reducing the dose of spinal anaesthetics (SA), administering femoral nerve blocks (FNBs) and avoiding multiple sedatives during these cases. Teaching was carried out on these guidelines. A follow-up audit done in March/April 2022 showed decreasing doses for SA, more FNBs and reduced sedation use. We present here the latest re-audit conducted in 2023.

**Methods:** Data was gathered prospectively on patients undergoing hip fracture surgery with a standardised form in a timespan that went from May to November 2023. All preoperative fractures and re-do hip operations were excluded.

**Results:** 35 patients were included in the audit. The average duration of surgery was 80 minutes and average estimated blood loss was 177 ml. 24/35 (68.5%) patients had no pre-operative risk assessment documented (such as 4AT or Nottingham Hip Fracture Score). 30/35 patients received 1g of Tracrium/Acid in concordance with hospital guidelines. No patients required a blood transfusion, 1/35 required admission to CCU post-operatively, all other patients were transferred to a surgical ward. The results are summarised in the graphs below.



**Conclusion:**

This audit highlights the ongoing improvement of use of nerve blocks and low dose single agent sedation for hip fracture patients in SVUH.

While it shows the average dose of local anaesthetics in spinals increasing, it is still lower than in 2021. This suggests that the educational sessions carried out 1.5 years ago are still guiding current practice. There remains some room for improvement with regards to pre-operative risk assessments as most cases had none documented. These risk assessments could help guide intraoperative patient care, inform as to the most appropriate discharge location and help improve patient safety.

References:  
1. Gifford, N. et al. (2020) Guidelines for the management of hip fractures 2020. Anaesthesia, 75(2), pp. 242-251. doi:10.1111/anae.15291.  
2. Smeaton, T. et al. (2021) Hip Fracture Management: A Review of Current Practice. Anaesthesia, 76(1), pp. 10-18. doi:10.1111/anae.15291.

### Regional Anaesthesia Practices in St. Vincent's University Hospital

Dr. David Rowe, Dr. Kevin Zhou, Dr. Robert Owens, Dr. Abigail Walsh

**Introduction**

- "A 'Stop Before You Block' occurs when a practitioner places a nerve block on the wrong side of a patient (Doherty et al., 2018).
- These can result in serious harm from post-operative motor deficits, and are listed as "never events" by the World Health Organization (WHO, 2022).
- The Safe Anaesthesia Checklist (SACL) and Regional Anaesthesia UK (RAUK) outlined the "Stop Before You Block" Campaign, emphasizing the importance of checking and clearing the correct side before making the needle to prevent a wrong side block.
- The present study aimed to promote adherence to best practice, as outlined by the Stop Before You Block campaign.

**Results**

- In the 2019 audit, compliance with Stop Before You Block guidelines occurred in only 11 of 30 unilateral blocks (36.6%).

**Materials and Methods**

- A re-audit of Stop Before You Block compliance was conducted, comparing current data to data collected in 2019.
- An education session was held in September 2022 to review the current departmental 'Stop Before You Block' campaign and practice guidelines.
- Staff of all levels were encouraged to implement safe practice and adhere to a STOP moment prior to performing regional anaesthesia.
- Compliance guidelines were then compared with prospectively collected data, using forms completed by staff after each unilateral regional anaesthetic block.

**Conclusions**

- Following an education session regarding existing Stop Before You Block guidelines, compliance with AAGBI and RAUK guidelines on safe regional anaesthesia by a significant margin.
- Delivering annual education sessions on departmental safety guidelines may be beneficial for promoting continued compliance long term.
- Further use of these practices, combined with staff who may produce better change, reduce risk, and improve patient safety outcomes.

**References**

- Doherty, C. L., Owen, A. A., Ng, S. L., et al. (2018) Stop Before You Block: A National Safety Alert for the UK. Anaesthesia, 73(1), pp. 10-18. doi:10.1111/anae.14500.
- World Health Organization (2022) Never Events. Available from: <https://www.who.int/news-room/fact-sheets/detail/never-events>
- World Health Organization (2022) Stop Before You Block. Available from: <https://www.who.int/news-room/fact-sheets/detail/stop-before-you-block>

**Further Information**

Please see RAUK Page Stop Block Page

**Dr Christopher Doherty**

*An audit on the documentation standards of continuous epidural analgesia for post operative patients*

**Introduction**

Continuous epidural analgesia involves delivering local anaesthetic and/or opioids into the epidural space via a catheter and infusion pump. This method provides effective pain relief after major surgery. At Beaumont Hospital, anaesthetists must document catheter details after insertion, including insertion date and time, enoxaparin administration, and pre-insertion blood tests. These should be daily reviews by the pain team and removal should also be documented by the responsible doctor or nurse.

**Results**

**Insertion documentation:** 92%  
**First dose of enoxaparin instructions after insertion:** 0%  
**Enoxaparin instructions before and after removal:** 7%  
**Catheter removal documentation:** 14%  
**FBC/Coagulation instructions:** 7%  
**Documented Pain team reviews:** None (64%), Once (29%), Twice (7%)

**Conclusion**

We found documentation standards to be lacking likely from anaesthetists not being aware of the full requirements for documentation. Our proposed solution is a clear, bright sticker that consolidates all required information and can be placed in patient notes and on the back of the anaesthetic sheet. This will save documentation time and remove the need to remember all required information and ultimately improve patient safety.

**Aim**

The aim of this Audit was to identify whether proper documentation standards were being kept and if not, to come up with solutions to ensure safe documentation practices going forward.

**Method**

We reviewed the charts of 14 Beaumont Hospital patients who had received continuous epidural analgesia post-operatively; this included looking at the clinical notes, anaesthesia record and nursing notes. We assessed charts for proper documentation from insertion to removal.



# POSTER PRESENTATIONS

## Airways Safety

### Dr Sian Mannion

Review of airway documentation by anaesthetists in University Hospital Galway

**Review of Airway Documentation by Anaesthetists in University Hospital Galway**

Dr Sian Mannion, Dr Annie Condren, Dr Bryan Traynor, Dr Ciprian Nita  
University Hospital Galway, Department of Anaesthesia

**Introduction:**  
Good airway management is the cornerstone of safe anaesthesia, and documentation of airway assessment and management plays an important role in helping future colleagues safely manage the airway.

**NAP4:** Major Complications of Airway Management in the UK highlighted the importance of airway assessment and planning. They found that poor airway assessment contributed to poor outcome.<sup>1</sup>

**NAP4** also found that in those with a **difficult airway**, the **commonest method of communication** of a previous airway problem was via **hospital notes**.

**Methods:**  
This is a **retrospective audit of adult patients' airway documentation on the anaesthetic record** for those who underwent general anaesthesia or regional anaesthesia with sedation in a 2-week period in UHG. Patients were selected at random from the recovery bay, with no patient identifiers used or stored.

**Data collected:**

- Pre-operative airway assessment documentation: dentition, mallampatti score, mouth opening, thyromental distance
- Intra-operative airway documentation: device used, device size, Cormac & Lehane grade, ease of intubation, laryngoscope used

**Results:**

- n= 48 patients
- Airway type** (e.g. ETT, LMA) was always documented, however **device size was omitted in 28% of cases**
- Ease of intubation was recorded 90% of the time (easy/ difficult)**
- Cormac and Lehane grade was recorded in 59% of applicable cases**
- Laryngoscope type** (e.g. Macintosh/ McGrath) was documented in **65% of relevant cases**

**Pre-operative airway assessment documentation results:**

Documentation of:	% yes	% no
Dentition	87	13
Mallampatti	68	32
Mouth opening	47	53
Thyromental distance	29	71

**Conclusion:**  
Accurate airway examination and documentation is vital to guide current management and help direct future management of patients undergoing general anaesthetic.

→ there is room for improvement in almost every area of our airway documentation

➢ **NAP4 recommends that all patients have an airway assessment performed and recorded before undergoing anaesthesia!**

➢ This audit has prompted the need to **educate staff** on accurately documenting airway assessment and management followed by re-audit of these parameters

### Dr Peter O'Sullivan

The Management of Post-Operative Cervical Haematoma at Galway University Hospital

**The Management of Post-Operative Cervical Haematoma at Galway University Hospital**

Peter O'Sullivan<sup>1</sup>, Áine McCarthy<sup>2</sup>, Michael Callaghan<sup>3</sup>  
Galway University Hospital

**Introduction:**  
The development of a cervical haematoma post intubation can lead to airway obstruction and death.<sup>1, 2</sup> Recent systematic review and meta-analysis<sup>3</sup> confirmed a clear association between post-operative cervical haematoma and the availability of an emergency airway with several authors<sup>4</sup> for the evaluation of a cervical haematoma.

This quality improvement project aimed:

- To assess current knowledge and training in the management of post-operative cervical haematoma.
- Review emergency equipment currently available in the University Hospital.

Following this we aimed to educate nursing, anaesthetist and surgical staff on recent updated guidelines from the Difficult Airway Society, the British Association of Endocrine and Thyroid Surgeons and the British Association of Otolaryngology, Head and Neck Surgery.

**Methods and Materials:**  
Nursing staff, surgical and anaesthetic trainees were surveyed on their knowledge and training in the recognition and management of post-operative haematoma. The availability and contents of an emergency airway kit in the post-operative ward was audited.

Following this survey, two formal education sessions were arranged:

- Updating nursing staff on DAS4 criteria (Figure 1) regarding post-operative cervical haematoma.
- Simulation workshop demonstrating the management of post-operative cervical haematoma and use of the DAS4 response kit (Image 2).

The simulation workshop took place in theatre rooms with nursing, anaesthetist and surgical staff present. The simulation was created by the Simulation Hub at University Hospital Galway and utilised the Simula SimMan. An artificial cervical haematoma was created using an airway simulator with a neck line and a Simula Neck Line Kit (Image 3).

**Results:**  
34 staff participated in the survey. 85% of participants had received formal training in the recognition and management of post-operative haematoma.

85% correctly identified up to three of the six critical symptoms outlined in the consensus guidelines.

10% of participants were aware of the location of the emergency kit contents available. The emergency kit available does not comply with the consensus guidelines and is present on two of the three relevant wards.

Emergency beds for post-operative anaesthetized were identified and named towards a hypotension emergency rather than a cervical haematoma.

**Conclusions:**  
There was a paucity in training received in the recognition and management of post-operative cervical haematoma, as well as a lack of necessary equipment on hand to emergency kit. It is hoped that the education sessions outlined will promote prompt recognition, evaluation and treatment, thus improving patient safety in university hospital setting.

### Dr Christopher Doherty

Post operative extubation practices among non-consultant hospital doctors in Ireland

### Dr Annie Condren

Throat Pack Use and Documentation at Galway University Hospital

**Post-Operative Extubation Practices among NCHD's in Ireland**

Dr Christopher Doherty, Dr Saad Mahdy  
University Hospital Limerick

**Introduction:**  
Perioperative airway management involves both tracheal intubation and tracheal extubation. It has been shown that respiratory complications are as likely if not more common during the extubation process<sup>1,2</sup> and one third of major respiratory complications occur at extubation<sup>3</sup>. Despite this, our audit shows NCHD's were familiar and often do not follow the extubation guidelines as laid out by the difficult airway society.

**Aim:**  
The aim of this project was to assess NCHD's familiarity and adherence to the DAS guidelines for extubation. We also wanted to assess their thought for planning extubation, the supervision present and their perceived ability to deal with complications that may arise.

**Method:**  
We sent surveys to anaesthesia NCHD's working in Ireland and got 101 responses. There were 20 questions relating to familiarity with the DAS guidelines, steps of the guidelines used, their clinical practice, ability to deal with extubation complications and level of supervision during extubation.

**Conclusion:**  
We sent surveys to anaesthesia NCHD's working in Ireland and got 101 responses. There were 20 questions relating to familiarity with the DAS guidelines, steps of the guidelines used, their clinical practice, ability to deal with extubation complications and level of supervision during extubation.

When asked about familiarity with the DAS (Difficult airway society) guidelines for extubation 26.7% said they were extremely familiar, 59.4% said they were somewhat familiar and 13.8% said they were not at all familiar. When asked whether it was more likely for complications to occur during intubation vs extubation 10.9% said intubation 35.6% said equal and 53.5% said extubation. When asked whether consultant supervisors were more likely to be present for intubation vs extubation an overwhelming majority of 94% said intubation vs 3% for equal and 1% for extubation. When asked about their ability to manage extubation complications without a consultant supervisor 41.6% said very likely vs 50.5% said likely and only 5.9% saying unlikely. When asked whether they would like to receive further teaching on extubation guidelines and practice 74.3% said yes and 25.7% said no. 70% of respondents said an extubation plan before extubation vs before intubation and 37% said they don't have a clear extubation plan. The results to adherence to the guidelines are summarized below.

**Results:**

Question	Yes	No
Plan	33.3%	66.7%
Supervision	1.1%	98.9%
Site check	2.0%	98.0%
Check TPR	1.0%	99.0%
Smear/look	0.0%	100.0%
Aspirate	1.0%	99.0%
Positive Pressure	1.0%	99.0%

**Galway University Hospitals**  
Ordnán na Clínicí Ceirníní  
UNIVERSITY HOSPITAL GALWAY  
SÉIUNTEACHA UNIBHEITH GALWAY

**Throat Pack Use and Documentation in University Hospital Galway**  
Dr. A. Condren, Dr. A. McCarthy, Dr. B. Horne

**Introduction:** Throat packs are used in patients undergoing nasal and maxillofacial surgery primarily to prevent aspiration of blood or tissue that may collect in the airway, though there is no clear evidence to support their use. (1) Placement of throat packs carries the risk of retention post-operatively. (2) We focused on the documentation and use of throat packs in UHG.

**Methods:** We retrospectively collected data from 34 patients who had a throat pack inserted intraoperatively, spanning a four month period in 2023. We evaluated the operation notes, the anaesthetic sheet and the nursing notes for each patient. Data were collected on throat pack insertion and removal documentation, and whether the staff member who inserted and removed the throat pack was identified.

**Results:** Insertion of throat pack was recorded 79% of the time by anaesthetists, 85% by nursing staff and 6% of the time by surgical staff. It was not documented for any case who inserted it or who removed it. Removal was documented by anaesthetists in 38% of cases, nurses in 35% and surgeons in 11% of cases. In 38% of cases, there was no documentation by any staff member that the throat pack had been removed.

**Discussion:** The role of documentation of throat packs in UHG has not been clearly assigned, nor has the responsibility for their insertion or removal. These findings highlight the need for more consistent documentation when throat packs are used, as their retention may have catastrophic consequences. We aim to introduce throat pack stickers for placement both on the patient and in our anaesthetic sheets, with education sessions for staff members involved in these surgeries in order to improve patient safety.

**Figure 1: Reactive Documentation**

Staff	Documentation
Anaesthetist	10
Nursing	10
Surgeons	1

**Figure 2: Removal Documentation**

Staff	Documentation
Anaesthetist	4
Nursing	4
Surgeons	1

**Figure 3: Patient by Specialty**

Specialty	Count
Manufactural	1
ENT	1
Other	32

**Figure 4: Throat Pack in Situ**

Staff	Count
NCHD	1
Consultant	1
Other	32



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