

# **EBPOM Ireland 2023**

# **Abstract Competition Booklet**

# Gabapentanoid prescribing patterns in chronic pain patients – a single centre analysis.

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# Abstract

#### Introduction

Gabapentanoids (pregabalin and gabapentin) are effective treatments for chronic neuropathic pain<sup>1</sup>. There is limited evidence demonstrating efficacy for non-neuropathic pain. Despite this, increasing numbers of patients are presenting to our clinic who have been prescribed these for other chronic pain types. These patients are potentially being exposed to avoidable adverse drugs reactions, dependency<sup>2</sup> and polypharmacy.

Our study aimed to identify gabapentanoids prescribing patterns and quantify the extent of the issue.

#### Methods

We conducted a retrospective analysis of 174 new patient referrals to a chronic pain management service Dublin, Ireland (April 2021-June 2022). Data from standardised clinic correspondence following initial consultation during this period was assessed. Past medical history, medication list and differential pain diagnosis according to a consultant pain specialist were recorded. Simple statistical analysis was conducted via Microsoft excel.

#### Result(s)

Of 174 patients reviewed, ~30% (n=53) were prescribed gabapentinoids; Patients with a differential diagnosis of chronic neuropathic pain accounted for 51% (n=27). Patients with purely chronic musculoskeletal pain represented 28.3% of patients in all age groups. This number increased to 31.58% in the >65yrs groups. 71.7% (n=38) were prescribed Pregabalin. The number of males and females prescribed gabapentinoids was roughly equal. 45% (n=24) of referrals were from primary care providers.

### Conclusion(s)

Many patients are prescribed gabapentinoids for conditions for which they are not licensed and where there is a paucity of proven efficacy. Worryingly increased prescribing was noted in >65yrs patients. Given the adverse effects that can be seen with these agents, prescriber education regarding appropriate use of these drugs is needed.

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#### Poster keywords

Pregabalin, Polypharmacy, Analgesia, Chronic Pain, Gabapentin

# Oral Ketamine for treatment resistant chronic pain: "Special K; is this a game changer?"

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# Abstract

# Introduction

Chronic pain is defined as pain lasting longer than 3 months. The prevalence of chronic pain conditions approaches 20% worldwide (1). It significantly impacts quality of life, resulting in anxiety, depression and a decreased life expectancy. (2,3,4). Emerging evidence suggests that oral Ketamine therapy may have a specific role in managing treatment-resistant chronic pain.

# <u>Methods</u>

This study was a clinic-based retrospective descriptive study of 79 patients with a broad range of chronic pain diagnoses and treated with oral ketamine over a period up to 12 years. Changes in pain, mood and quality of life (QoL) were assessed using a numerical pain severity score, the Brief Pain Inventory (BPI), the Public Health Questionnaire (PHQ-9) and American Chronic Pain Association Quality of Life (QoL) scale.

# <u>Results</u>

73 patients were accessible for follow-up (mean daily dose and treatment duration were 193.84 mg and 22.6 months respectively). Pain scores decreased (p<0.0001) on both numerical scores (41.6% decrease) and BPI scoring (mean decrease 2.61). Mood improved (p<0.0001) across both PHQ-9 and BPI measurements. Patients also reported less difficulty with daily activities and improved QoL. The most common adverse reaction was drowsiness (21.9%), with 30.1% reporting no adverse reactions from Ketamine.

# **Conclusion**

This work adds to the growing body of evidence that oral ketamine therapy is a safe tolerable and effective treatment across a variety of chronic pain conditions in a real world clinic setting. Further research is required to produce a more accurate understanding of its chronic use.

#### References

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		n	%
Adverse React	ion:		
None:		22	30.14
Memo	ory impairment:	8	10.96
Impac	t on mood:	1	1.37
Nause	a & vomiting:	9	12.33
Impac	t on sleep:	4	5.48
Dizzin	ess:	6	8.22
Drows	iness:	16	21.92
Halluc	inations:	2	2.74
Cystiti	s:	3	4.11
Heada	che:	2	2.74
Numb	ness:	1	1.37
Hot Fl	ushes:	2	2.74
Diarrh	oea:	1	1.37

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	n	Mean	SD	Min.	Max.	P-value	% Change
Pain Score:							
Pre-Ketamine:	73	8.82	1.25	6	10		
Post-Ketamine:	73	5.15	2.09	1	9	<0.0001	- 41.61
Quality of Life:							
Pre-Ketamine:	72	3.88	2.35	0	9		
Post-Ketamine:	73	6.31	2.03	2	10	<0.0001	+ 62.63
Difficulty with ADLs:							
Pre-Ketamine:	71	3.08	0.98	1	4		
Post-Ketamine:	69	2.26	0.9	1	4	<0.0001	- 26.62
PHQ-9:							
Pre-Ketamine:	73	15.07	6.45	0	27		
Post-Ketamine:	73	9.97	5.42	1	21	<0.0001	- 33.84

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Treatment resistant, Chronic pain, Ketamine, Depression, Morbidity

# **Placental Vessel Reactivity to Lactate**

<u>Eva Corcoran</u>, Peter Moran, David Cosgrave, Joseph Costello, Brendan Higgins Galway University Hospital, Galway, Ireland

# Abstract

INTRODUCTION: The aim of the study was to evaluate responses of placental arteries to lactate.

METHODS: Vessel samples were taken from placentas delivered during elective Caesarean section. Vascular rings from each placenta were prepared and mounted in isolated tissue water baths under both optimal passive tension and maximal tension in Physiological Saline Solution. Cumulative concentration-response curves to lactate were measured. Full ethical approval was acquired prior to the study and consent was given by each patient.

RESULTS: Exposure to lactate caused placental artery relaxation in both the optimal passive tension and maximal tension states. This effect was observed at all concentrations of lactate used. There was a linear relationship between the vessel relaxation and increasing lactate concentration.

CONCLUSION: Lactate has a vasodilatory effect on placental arterioles in placentas delivered following elective Caesarean section. Lactate levels in both mother and foetus can be elevated above normal levels during routine spontaneous vaginal delivery and reflect a rise from maternal, placental and foetal sources during this time. We hypothesise that placental vessel vasodilatation in relation to increasing lactate may serve a purpose to maintain foetal blood flow at a time when the uterine contractions are causing compression of the spiral arteries and thus distal dilatation of the vessels in response to proximal constriction of the supply.

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Placenta, Lactate, Vessel, Reactivity, Obstetrics

# Conscientious objection to providing care to Jehovah's Witnesses: A survey of attitudes among Irish cardiac anaesthesiologists

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# Abstract

**Introduction:** Conscientious objection (CO) as a right of the physician is outlined in Section 49 of the Irish Medical Council's Guide to Professional Conduct and Ethics1 - "49.1 Subject to compliance with paragraphs 49.2-49.7 below, you may refuse to provide, or to participate in carrying out, a procedure, lawful treatment or form of care which conflicts with your sincerely held ethical or moral values ... 49.7 In an emergency situation, you must provide – as a matter of priority – the care and treatment your patient needs." The refusal of blood transfusions is a widely held belief amongst Jehovah's Witnesses (JW) - such individuals can be considered high-risk patients, given that we cannot replace blood lost during surgery.2,3 This project explores the views of Irish cardiac anaesthesiologists and identifies the extent to which they will refuse to provide the anaesthetic that facilitates these high-risk surgeries in the setting of blood transfusion refusal.

**Methods:** An anonymised mixed-methods survey of Irish cardiac anaesthesiologists was conducted. Descriptive statistics were completed using STATA 17 and qualitative analysis took place using thematic analysis.

**Results:** 26 valid survey responses were recorded. Only 1 respondent reported exercising their right to CO, while 88.5% of respondents said that they would support a colleague in exercising their right. More than half of the respondents (57.9%) said their perioperative management of JW differed from non-JW patients. Thematic analysis revealed wide heterogeneity in doctors' anaesthetic management of JW. One key theme generated was the use of a checklist to identify the interventions that each patient would accept in the face of profuse hemorrhage.

**Conclusion:** Very low rates of CO were observed, however high rates of support were seen for those exercising their right. Heterogeneity in anaesthetic approach and a lack of standard practice were also observed. Doctors may benefit from a standardized perioperative assessment tool particularly surrounding the interventions that are deemed acceptable by this cohort on a case-by-case basis.

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Jehovah's Witness, Cardiac Surgery, Conscientious Objection, Transfusion, Consent

# Anastomotic stricture post oesophagectomy in a National Oesophageal and Gastric Centre

<u>Ciara Tansey</u><sup>1</sup>, Niamh Flanagan<sup>1</sup>, Sandra Brady<sup>1</sup>, Claire Donohoe<sup>2</sup>, Narayanasamy Ravi<sup>2</sup>, John Reynolds<sup>2</sup> <sup>1</sup>Department of Clinical Nutrition, St James's Hospital, Dublin, Ireland. <sup>2</sup>Department of Surgery, St James's Hospital, Dublin, Ireland

# Abstract

Title

Anastomotic stricture post oesophagectomy in a National Oesophageal and Gastric Centre

Authors and affiliations

C Tansey1, N Flanagan1, S Brady1, CL Donohoe2, N Ravi2, JV Reynolds2

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#### Introduction

Benign anastomotic stricture formation post-oesophagectomy has a significant impact on postoperative recovery, nutritional status and quality of life.

Aim

To describe the incidence and risk factors for benign anastomotic stricture post-oesophagectomy in our population and compare this to the literature.

#### Methods

Data was collected retrospectively via electronic patient record for patients who underwent oesophagectomy in St James's Hospital over a 2-year period (2021-2022) with a focus on the occurrence of anastomotic strictures. Data was analysed using descriptive statistics.

#### Results

A total of 119 patients underwent oesophagectomy, with single layer hand sewn anastomosis [(2-stage, n=59 (50%); 3-stage, n=31 (26%); Transhiatal, n=29 (24%)]. 76% of patients received neoadjuvant therapy [chemotherapy only, n=41 (34%); chemoradiation, n=49 (41%)]. Anastomotic stricture

(diagnosed via requirement for endoscopic dilatation) developed in 28 patients (24%) which corresponds with the literature. Our anastomotic stricture cohort was predominantly male (n=22; 79%) with a mean age of 67 years (range 46 - 88). Cardiovascular disease was identified in 79% of patients (n=22). No patient experienced a preceding anastomotic leak. All patients had a normal albumin (>35g/L) pre operatively. Tumour location within the lower third of the oesophagus was highest (upper third n=2, 7%; middle third n=5, 18%; lower third n=21, 75%). Median time from operation to developing a stricture was 105 days (32-217). Following initial dilatation, tailored dietary advice was provided by the oesophagogastric surgery Dietitian in line with our protocol [fluids (n = 1), liquidised (n = 4), puree (n = 11), soft and bite sized (n = 9), easy to chew (n = 2), regular (n = 1)] Median dilations required for resolution of stricture was 4 (range 1-16). Refractory strictures were defined as needing  $\ge$  5 dilations of which 36% of patients experienced (n=10). Fishers exact test was undertaken to assess effect of type of surgery and neoadjuvant therapy on risk however due to small sample size did not reach significance. We note a trend towards the transhiatal with nil neoadjuvant treatment subgroup as having the highest incidence of anastomotic strictures in our cohort, followed by the 2-stage with nil neoadjuvant and 3stage with chemoradiation subgroups.

# Conclusion

The incidence of anastomotic stricture post oesophagectomy in our population was 24%, this corresponds with the literature. A larger sample size is required to assess the impact of type of surgery and neoadjuvant therapy has on risk of anastomotic stricture occurrence which can be achieved by further retrospective data collection.

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Anastomotic stricture, Oesophagectomy, Oesophageal Cancer, Dietary Texture Modification

# Dedicated home enteral feeding dietitian: benefits for patients with oesophagogastric cancer and the hospital

<u>Joanne McAnulty</u><sup>1</sup>, Ciara Tansey<sup>1</sup>, Sandra Brady<sup>1</sup>, Waqas Butt<sup>2</sup>, Narayanasamy Ravi<sup>2</sup>, John V Reynolds<sup>2</sup>, Claire Donohoe<sup>2</sup>

<sup>1</sup>Department of Clinical Nutrition, St James Hospital, Dublin, Ireland. <sup>2</sup>Department of Surgery, St James Hospital, Dublin, Ireland

# Abstract

## Introduction:

Home enteral feeding (HEF) discharge planning is an integral component of the role of the oesophagogastric dietitian with such discharges increasing by 50% in our service in recent years (73 discharges in 2017 versus 111 discharges in 2020). In November 2020, a dedicated HEF dietitian was appointed to oesophagogastric surgery at St James's Hospital as a pilot initiative to demonstrate earlier safe discharge and admission avoidance. It was proposed that the dietitian would expedite discharge for patients admitted electively for feeding tube placement, establish a reactive outpatient and telephone clinic to manage enteral tube complications and facilitate hospital discharges on nasoenteric tube feeding.

#### Aim:

The aim of this service evaluation was to look at the impact the HEF dietitian had on reducing length of stay (LOS) and preventing avoidable admissions. In May 2021, an additional objective was introduced to facilitate an accelerated discharge path for patients admitted electively for placement of an oesophageal stent.

# Methods:

Data was collected prospectively from the electronic patient record on all patients under the care of the HEF dietitian from November 2020 to November 2022. Data was analysed using descriptive statistics (Excel Software). Where expedited discharge was not achieved, reason was documented. Cost analysis was undertaken based on previous average LOS and inpatient cost in this patient group.

#### **Results:**

There were a total of 54 elective feeding tube admissions over the 2-year period. LOS was reduced in 60% of these patients. Barriers to expediting discharge included disruptions to elective admissions related to COVID-19, completion of cancer work-up in the inpatient setting and unforeseen medical complications. Additionally, 58 enteral tube complications were managed in outpatients and 11 patients were discharged on nasoenteric tube feeding. Furthermore, LOS was reduced in 16 patients with oesophageal stents.

In total, an estimated 442 surgical bed days were saved, including 58 admissions avoided, equating to €442,000 in hospital savings.

Conclusion:

Despite disruption to surgical activity with COVID-19, a dedicated HEF dietitian improved flow by expediting discharge and preventing admissions in patients with oesophagogastric cancer, demonstrating significant hospital cost savings.

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# Dedicated Home Enteral Feeding Dietitian: facilitating nasoenteric feeding tube discharges within a specialist oesophagogastric service.

<u>Joanne McAnulty</u><sup>1</sup>, Ciara Tansey<sup>1</sup>, Sandra Brady<sup>1</sup>, Waqas Butt<sup>2</sup>, Narayanasamy Ravi<sup>2</sup>, john V Reynolds<sup>2</sup>, Claire Donohoe<sup>1</sup>

<sup>1</sup>Department of Clinical Nutrition, St James Hospital, Dublin, Ireland. <sup>2</sup>Department of Surgery, St James Hospital, Dublin, Ireland

# Abstract

# Introduction:

A dedicated home enteral feeding (HEF) dietitian was appointed to oesophagogastric surgery in St James Hospital as a pilot initiative. A primary objective of this project was to facilitate hospital discharges on nasoenteric feeding within the oesophagogastric service in order to reduce length of stay (LOS). Patients going home on nasoenteric tube feeding require intensive education to facilitate a safe discharge. It was intended that the HEF dietitian would lead on this service and identify patients suitable for discharge home on nasoenteric tube feeding in collaboration with the oesophagogastric surgical team.

Aim:

The aim of this service evaluation was to look the impact the HEF dietitian had on facilitating nasoenteric feeding tube discharges and as a result reduce the length of stay (LOS) for patients who otherwise would have remained in hospital.

# Methods:

Data was collected prospectively from the electronic patient record on all patients discharged on nasoenteric feeding in 2021 and 2022. The number of bed days saved was estimated based on the indication for feeding tube placement i.e. for bridging purposes until oncological treatment was commenced versus nutrition support for late effects post oesophagogastric surgery.

# **Results:**

There were a total of 17 nasoenteric feeding tube discharges over the 2-year period with a significant increase of 58% in 2022 (12 nasoenteric discharges) compared to 2021 (5 nasoenteric discharges). There was an estimated total of 221 surgical bed days saved, ranging from 2 to 75 days per patient. Nutrition support through neo-adjuvant or palliative treatment of oesophagogastric cancer was the most common indication for discharge home with nasoenteric feeding accounting for 53% of this patient cohort. Other such indications were nutrition support secondary to late effects of bariatric or oesophagogastric cancer surgery (24%) or nutrition support for early post op complications or patients with benign oesophageal pathology.

## Conclusion:

Our experience has shown that with a dedicated HEF dietitian, successful discharge of patients requiring nasoenteric tube feeding can be achieved. The HEF dietitian's dedicated time facilitated education, training and management of these patients and resulted in reduced length of hospital stay.

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# The benefit of a dietetic led, reactive enteral feeding tube clinic in preventing avoidable hospital admissions and Emergency Department presentations.

<u>Joanne McAnulty</u><sup>1</sup>, Ciara Tansey<sup>1</sup>, Sandra Brady<sup>1</sup>, Narayanasamy Ravi<sup>2</sup>, Waqas Butt<sup>2</sup>, John V Reynolds<sup>2</sup>, Claire Donohoe<sup>2</sup>

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# Abstract

## Introduction:

In November 2020, a dedicated home enteral feeding (HEF) dietitian was appointed to the oesophagogastric service in St James hospital as a pilot initiative. As part of this initiative, a dietetic led, reactive home enteral feeding clinic was set up. The average length of stay (LOS) for a feeding tube complication was estimated at 3 days, based on previous average length of stay. It was intended that the dietitian would troubleshoot and manage enteral feeding tube complications in order to prevent avoidable admissions and Emergency Department (ED) presentations, where possible.

## Aim:

The aim of this service evaluation was to look at the impact the HEF dietitian had on preventing avoidable admissions and presentations to the emergency department. Additionally, the resulting surgical bed days saved and cost savings to the hospital were also analysed.

# Methods:

Data was collected prospectively from the electronic patient record on all patients under the care of the HEF dietitian from November 2020 to November 2022. The type of feeding tube and reason for presentation was recorded and the data was analysed using descriptive statistics (Excel Software). Cost analysis was undertaken based on previous estimated average LOS for tube complications (~3 surgical bed days) and inpatient cost in this patient group.

#### **Results:**

Over the 2-year period, there were a total of 58 feeding tube complications managed through the reactive dietetic clinic, and therefore 58 admissions/ED presentations avoided. Of the 58 tube complications managed in outpatients, 43% were surgical feeding jejunostomy tube complications (of which 24 were blocked tubes & 1 had a damaged adaptor). An additional 26% of tube complications were blocked nasoenteric feeding tubes. Furthermore, 21% of presentations to clinic were percutaneous endoscopic gastrostomy feeding tubes with broken or damaged y-adaptors. The remaining 10% were complications related to radiological inserted jejunostomy (RIJ), percutaneous endoscopic gastrostomy

with jejunal extension (PEG-J) or percutaneous endoscopic jejunostomy (PEJ). An estimated 174 surgical bed days were saved with a cost saving of €174,000.

Conclusion:

Our experience has shown that a reactive, home enteral feeding tube clinic lead by a dedicated HEF dietitian prevents avoidable admissions and emergency department presentations with proven cost savings for the hospital.

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# Post-operative temperature monitoring in elective caesarean delivery.

<u>Conor Mac Dermott Casement</u>, Dulmi Nawarathna, Nuala Treanor Coombe Hospital, Dublin, Ireland

### Abstract

Post-operative temperature monitoring in elective caesarean delivery.

Background: Normothermia is an important factor in the peri-operative period in reducing blood loss, coagulopathy and improving wound healing (1). The RCOA Quality Improvement Compendium (2) recommend active warming measures in hypothermic peri-operative patients.

Objective: This audit aimed to examine the utility of temperature monitoring and rewarming in patients undergoing elective cesarean section in the Coombe Hospital.

Methods: Any patient who underwent elective caesarian section in the Coombe Hospital from February – April 2023 were included. Peripheral axillary temperature was measured using infra-red thermometer (SureTemp Plus 692 Thermometer). Patients found to be hypothermic received active rewarming using a forced air device (Bair Hugger, 3M, Minnesota, US). Temperature on discharge from the recovery room was also documented.

Results: In total 87 patients were included and 100% had a post-operative temperature measured on arrival in the recovery room. Patients (n=87) showed an average post-operative temperature of 36.3 Celsius and 5% (n=4) had a temperature below 36°C. All hypothermic patients (n=4) received active rewarming and were normothermic on discharge from the recovery room, with an average body temperature of 36.4C.

Conclusions: The rate of temperature monitoring post elective cesarian section in the Coombe Hospital during the study period was 100%. Encouragingly, all hypothermic patients identified were treated appropriately and all were normothermic on discharge from theatre. It is worth noting peripheral temperature devices demonstrate decreased accuracy compared with core temperature devices (3). This could be an area for improvement in our unit as core temperature monitoring is more accurate and is in accordance with current RCOA guidelines. There is scope for re-auditing at our hospital given these findings including core temperature monitoring and active warming intraoperatively for surgeries over 30 minutes duration as per RCOA guidelines.

References

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temperature, caesarian , warming, hypothermia, guidelines

# Adequacy of peri-operative pain management at MRHP

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# Abstract

#### Introduction

Inadequate management of pain is associated with increased hospital admission length, higher rates of readmission and a longer time before ambulation(1). Patients who report higher levels of post-operative pain ( $\geq$ 4) have an increased incidence of functional limitations, poor global recovery, lower quality of life and higher rates of opioid use 6 months after surgery(2)(3). Previous studies have found that up to 41% of patients experience pain above the acceptable threshold (>4) post-operatively (4).

The aim of this audit was to assess and document the level of pain reported by patients just prior to leaving the post anaesthetic care unit (PACU) to assess whether guidelines were being adhered to.

#### Methods

Patients who underwent a surgical procedure over a 10-day period (19/9/2022 –28/9/2022) in Midland's Hospital Portlaoise (MRHP) were included in this audit. Details of age, gender, procedure, pain scores and perioperative anaesthesia & analgesia were all documented on a paper collection form. In total, 24 patient charts were assessed. All data was stored in the hospital in accordance with GDPR.

Guidelines audited against were the from Royal College of Anaesthetists (RCOA) 2012. These recommend that less than 5% of patients should experience pain above 4 on the 11-point numerical pain scale (0-10) post-operatively.

#### Results

All 24 chart assessments were deemed appropriate for inclusion in this audit. Age ranged from 25-86, with 67% (n=16) being female. (Table 1) outlines the overview of procedures. (Table 2) outlines the range of patient pain scores within the PACU. 96% of patients (n=23) reported pain of less than 4 when leaving the PACU. This is in line with the recommendations by the RCOA.

#### Conclusion

This audit suggests that patients undergoing surgery in Midlands Regional Hospital Portlaoise (MRHP) are receiving appropriate pain relief in the peri-operative period.

#### References

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Procedure	N	%
Hysteroscopy with Dilation & Curettage	5	21
Laparoscopic Cholecystectomy	9	38
Hernia repair	4	17
Incision & Drainage of abscess	1	4
Skin tag removal	1	4
Vulval biopsy	1	4
Circumcision	1	4
Mirena coil replacement	1	4
Salpingectomy	1	4
Total	24	100

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Numerical pain score	Ν	%
Zero	19	79
Two	1	4
Three	3	13
Seven	1	4
Total	24	100

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Pain, Post-operative, Analgesia, Recovery, Morbidity

# Anterior Lumbar Plexus via Inguinal Entry (ALPINE) Catheter - a novel ultrasound-guided approach to analgesia in hip fractures

Nathan G Fritts, Patrick R Hartmann Dartmouth-Hitchcock Medical Center, Lebanon, NH, USA

# Abstract

Introduction: Hip fracture is a challenging presentation accounting for high morbidity and mortality, due in part to the difficult balance of pain management and comorbidities. Societal recommendations support the use of peripheral nerve blocks regardless of primary anesthetic type.<sup>1</sup> Lumbar plexus blockade provides analgesia in hip fracture, and reduces opioid consumption and blood loss in total hip arthroplasty.<sup>2</sup> However, commonly-used posterior approaches can be cumbersome for the provider and an uncomfortable patient. Here we describe the simplified ALPINE catheter approach.

Methods: Consenting patients admitted to our institution with hip fracture receive a femoral nerve block followed by an ALPINE catheter. With the patient supine in their hospital bed, an ultrasound femoral view is obtained at the inguinal crease. A needle is inserted out-of-plane lateral to the femoral nerve and deep to the fascia iliaca, through which a catheter is threaded cranially until resistance is met. Local anesthetic is infused via the catheter until surgery, at which point it is bolused and removed or left for postoperative use depending on surgical plan and patient factors.

Results: In 2023, we have successfully placed over 40 ALPINE catheters using this technique with improvement in pain control in our hip fracture patients. Correct anatomical placement was verified with fluoroscopy in early cases (Figure 1). These findings echoed our cadaveric observations, in which a catheter could be threaded between fascia ilaca and iliacus to the lumbar plexus from below the inguinal ligament.

Conclusion: Lumbar plexus blockade provides effective analgesia in hip fracture patients, perhaps superior to other peripheral blocks due to broadened coverage of the hip's innervation. Inguinal paravascular approaches using anatomical landmarks have been described for decades.<sup>3,4</sup> However, cadaveric studies suggest such single shot techniques are insufficient for lumbar plexus coverage.<sup>5</sup> The ALPINE technique represents a novel and simplified approach. Future research is warranted to explore the impact on pain scores, functional outcomes, and overall mortality.

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# Poster keywords

regional, nerve block, nerve catheter, hip fracture, hip surgery

# A Quality Improvement Study and Education Initiative to Improve the Understanding and Skills for Shared Decision Making among Physicians within an Anaesthetic Department of an Irish Tertiary Level Hospital

<u>Noelle Healy</u>, Andrea Haren St Vincent's University Hospital, Dublin, Ireland

# Abstract

**Introduction**: Shared decision making is an important consultation tool that is central to the provision of patient centred care. This has been reflected by organisations such as the NHS (1), the GMC (2) and The National Institute for Health and Care Excellence (NICE) (3) advocating for increased levels of SDM within consultations. This call for its implementation has been matched by the provision of tools and guidelines for physicians and patients alike to aid its use in clinical practice. Despite this, the practice is still not widely adopted. We undertook a quality improvement (QI) and education program to improve the knowledge and skills of shared decision making among anaesthetists within the anaesthesia department of St Vincent's University Hospital.

## Methods:

We used the Model for Improvement QI methodology for planning and implementation. Over the course of the period from February 1st 2023 to May 1st we ran an education and awareness campaign of SDM skills and tools to a department of 64 anaesthetists (26 consultants, 28 Fellows/ Registrars/SHOs). We took a baseline survey to assess current knowledge and attitudes, which was repeated at the end of the intervention. 31 respondences were received from the initial survey. A modified control preference scale (5) and the validated SDM tool the SDM-Q-Doc questionnaire (4) were used to assess for a change in attitudes and practice, 21 responses were received in total. Despite a reduction in numbers between the pre- and post- intervention respondents, the breakdown in demographics of the group in terms of years of anaesthesia experience of respondents remained very similar.

**<u>Results:</u>** We demonstrated low levels of previous SDM education (>70% had never received formal SDM education) or awareness of SDM tools (>80% were not aware of any tools) among our department. Following our departmental wide education initiative we achieved an increase in both overall awareness of SDM tools as well as an improvement in preference towards an SDM style of consultation ( 48% -> 57%). Unfortunately we did not demonstrate an increase in subjective level of SDM practice within a consultation with a decrease in mean SDM Q-Doc scores from 60 to 52.

**Conclusion:** We identified very low levels of knowledge and previous training in SDM among anaesthetists within our department. Through our QI initiative we were able to influence a change in attitudes and knowledge, but did not manage to cause a change in practice.

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# Poster keywords

Shared Decision Making, Quality Improvement, Education

# The introduction of a pre-operative assessment clinic (POAC) spinal surgery guideline and proof of concept with departmental surveys

<u>Josh Patch</u>, Owen Thomas, Aled Evans University Hospital of Wales, Cardiff, United Kingdom

# Abstract

#### Introduction

Spinal surgery pre-assessment differs from other surgical specialties a few subtle but important ways. Surgical concern over haemostasis is significant and factors that affect blood coagulation are highly important when considering patients for surgery. Rigorous plans should be in place in the POAC to screen for patients who may be at risk of coagulation deficiencies. This is most commonly due to extrinsic factors such as anti-coagulant medications. Before introduction of our guideline, patients were cancelled due to not omitting certain medications. We aimed to reduce cancellations by creating a guideline to highlight patients in POAC and provide clear instructions in days prior to surgery.

In addition, we aimed to provide guidance to POAC teams on pre-operative testing. For most spinal surgery procedures bar scoliosis and multi-level procedures, blood loss is usually non-significant. As such, unless for certain procedures or severe anaemia (Hb<100), we elected to reduce POAC burden on haematinic testing by referring patients with mild anaemia to general practice. Additionally, our spinal surgeons preferred coagulation screens preoperatively, therefore, this was incorporated, with provision for day before surgery testing for patients on anti-coagulants.

#### Method

In order to create the guideline, a working party was launched including members of the anaesthetic, surgical, POAC nurses and pharmacists. The theatre management program was also interrogated to determine the reasons for on the day cancellations. Together, the multidisciplinary team was able to discern key issues in the pre-operative optimisation of these patients. From here, the guideline was created. Then followed an iterative process to ensure all parties were satisfied the guideline met all requirements.

To gauge need and acceptability of the guideline a survey was conducted with the POAC nurses prior to introduction. After introduction of the guideline and information dissemination, the survey was repeated to confirm successful implementation.

#### Results

Prior to introduction of the guideline 6 POAC nurses responded (1 consultant), 4/7 were confident in pre-assessing spinal patients, 1/7 were confident in managing anti-coagulant medications prior to surgery and 7/7 thought a guideline would be helpful. Post introduction of the guideline 6 nurses responded, 6/6 were confident in pre-assessing spinal patients, 6/6 were confident in managing anti-coagulant medications and 6/6 found the document useful.

#### Conclusions

Through collaboration and multidisciplinary working, a pre-assessment guideline was created for patients presenting for spinal surgery. The need and workability pre-introduction and subsequent increase in confidence after rolling out the guideline was demonstrated by surveying POAC nurses.

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#### Poster keywords

Spinal surgery, Survey, Specialist nurses, POAC

## Survey to evaluate the introduction of a chronic pain management guideline to pre-operative assessment clinic (POAC). A before and after success story.

<u>Josh Patch</u>, Amrit Dhadda, Charlotte Oliver University Hospital of Wales, Cardiff, United Kingdom

#### Abstract

Introduction

Chronic pain is a significant problem affecting a substantial proportion of the population. It is common for this cohort of patients to present for surgery. As such, robust management strategies for dealing with these complex patients are required.

The importance of peri-operative management of opioids has been highlighted in an international consensus statement published in Anaesthesia and multidisciplinary guidelinesendorsed by the Faculty of Pain Medicine and Centre for Perioperative Care.1,2

Key principles2 are:

- Ensuring patients taking opioids are identified.
- Ensuring deprescribing procedures exist at the interface between hospital and primary care.
- Ensuring chronic post-surgical pain is recognised and treated.

POAC provides excellent opportunities to identify complex pain patients. This guideline aimed to provide screening toolsfor identifying complex pain patients at risk of perioperative pain management issues. The success of the guideline was assessed by surveying the pre-assessment nurses before and after introduction.

#### Methods

A flowchart was designed to act as a recognition tool for at risk patients and to highlight the referral pathway. Patientswould be directed to the pain team and/or anaesthetist to formulate management

plans. Including; setting realistic expectations, making pain a management priority, consideration for PACU/HDU and advising on specialist pain medications/pain management devices.

The POAC nurse cohort completed a survey to assess their confidence in managing this group of patients and to ascertain whether a guideline would be helpful. This survey was repeated after the introduction of the guideline and in person teaching to demonstrate the usefulness of the work.

#### Results

The survey reached 10 POAC nurses initially. From those surveyed 0/10 felt confident/very confident in managing chronic pain patients, 0/10 felt confident/very confident in managing patients already on opioids, 0/10 calculated oral morphine equivalents. The repeat survey reached 12 POAC nurses. From those surveyed 11/12 felt the guideline was useful in managing chronic pain patients, 9/12 felt more confident in the area, 9/12 felt the guideline would pick up patients at risk of pain crises.

#### Conclusion

Management of complex pain patients presenting for elective surgery was an area of unfamiliarity with nurses delivering pre-assessment services. Using surveys we confirmed the utility of a new POAC complex pain guideline.

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# 1. How of in POAC

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# 1. Do you feel chronic pain

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#### Poster keywords

Pain, Guidelines, Survey, Specialist nurses, Chronic

## The Need for Consensus Guidelines on the Perioperative Management of Low Dose Naltrexone (LDN)

<u>Gerard Kerins, MD</u>, Bruce Vrooman, MD, Kimberly Youngren, MD Dartmouth Hitchcock Medical Center, Lebanon, USA

#### Abstract

#### Introduction

Low Dose Naltrexone (0.5-5mg) has gained popularity as a low-risk opioid alternative to managing a variety of chronic pain conditions.1 Because of this, a growing number of patients taking LDN are presenting for surgical procedures without consensus on how to manage dosing perioperatively, causing confusion and apprehension for both patients and providers. In 2018, a cohort at Dartmouth-Hitchcock Medical Center (DHMC), including members of the Chronic Pain and Acute Pain services, proposed a variety of dosing strategies including the potential benefits of holding LDN based on its opioid antagonism effects and the resulting risk for increased opioid requirements to achieve postoperative analgesia.2 Because of this, current guidelines at DHMC are to hold LDN for three days prior to surgery.3 Given these were recommended guidelines with variable compliance, certain patients taking LDN continued their dosing preoperatively, and anecdotally reported sufficient post operative pain control. In fact, a recent review of the literature suggests that LDN may potentiate opioid analgesia.4,5 Because of this, further studies are needed to evaluate optimal guidelines for its perioperative management.

#### Methods

Several patients that were found to have continued LDN preoperatively were anecdotally noted to have sufficient intra and postoperative pain control. A literature search was performed seeking potential mechanisms by which LDN interacts with opioids. The proposed analgesic mechanisms of LDN were reviewed.

#### Result

No available data suggests LDN antagonized opioid receptors to a clinically significant degree that necessitated increased opioid dosing or resulted in poor postoperative pain control. In fact, a recent study suggests a biochemical pathway by which LDN inhibits the inflammatory cascade associated with TLR4, which may contribute to the anecdotal analgesic and opioid sparing effects seen in the perioperative period.4 Other data suggest LDN may in fact potentiate the effects of opioids, working to cause a transient receptor blockade that "prompts the body to compensate for reduced receptor

activity by upregulating both endogenous opioids and opioid receptors," and may have positive immunomodulatory effects as well.5

#### Conclusion

No consensus exists on perioperative management of LDN, an increasingly popular and low risk chronic pain therapy. Prior research led many to conclude that holding LDN preoperatively may result in improved pain control and decreased opioid requirements. Anecdotal evidence to the contrary sparked a more recent review of the literature that suggests LDN may potentiate opioids' analgesic effect. In addition, consensus guidelines for LDN may mitigate apprehension faced by perioperative/surgical teams unsure of how to manage dosing, in the same way guidelines served to educate the benefits of Suboxone continuation. Further studies are needed to explore this and to formulate optimal perioperative guidelines for LDN to optimize patient care.

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Poster keywords

Low Dose Naltrexone, Consensus Guidlines, LDN, Opioid Alternative, Pain Management

# Use of methylene blue in refractory shock due to metformin overdose, a case report

<u>Claire Healy</u>, Anne Coakley, Emma Hughes, Jennifer Whyte Mercy University Hospital, Cork, Ireland

#### Abstract

Introduction:

A patient with a history of previous polypharmacy overdose presented following intentional overdose of their prescribed metformin and warfarin tablets. They had a background history of depression, mitral valve replacement, non-insulin dependent diabetes and chronic kidney disease. They were brought, confused, to A&E where they progressively deteriorated becoming more acidotic and agitated. They developed multiorgan failure due to refractory shock and were intubated, ventilated, and transferred to ICU for high pressor support and continuous venovenous haemofiltration.

#### Clinical Case:

The patient remained persistently acidotic with pH <7 and lactate measuring greater than 20 despite maximal noradrenaline and vasopressin and CVVH. Methylene blue was commenced in light of refractory shock and acidosis. An initial loading bolus of 2mg/kg was administered and an infusion of 0.5mg/kg/hour ran for 24 hours. The highest measured INR was 6.24. Haematology advised administration of Octaplex and daily Vitamin K. Within 36 hours of commencing methylene blue the patient was haemodynamically stable, on minimal noradrenaline and off vasopressin. Their INR was 1.23, they had experienced no bleeding complications. The patient extubated successfully and CVVH was discontinued. They were transferred to an inpatient psychiatric facility when medically well.

#### Discussion:

Metformin use can result in a lactic acidosis even with standard, safe use. Overdose is often lethal and can result in severe, refractory shock due to lactic acidosis, with mortality increasing as the degree of acideamia worsens. Data regarding methylene blue use is limited. Multiple case reports exist in the literature discussing its use in the treatment of patients following drug overdose, though few pertain to metformin specifically. It prevents nitric oxide-mediated vasodilation. It is an option often overlooked in vasoplegic shock.

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#### Poster keywords

Metformin, Overdose, Methylene blue, Polypharmacy, ICU

#### The Experience and beliefs of the role and attitudes towards Peri-operative Medicine amongst Anaesthesia trainees in a tertiary Irish hospital

<u>Noelle Healy</u>, Amy Donnelly St Vincent's University Hospital, Dublin, Ireland

#### Abstract

**Introduction**: We undertook a snapshot survey of the attitudes and beliefs of a cohort of anaesthesia trainees within the anaesthesia department in St Vincent's Anaesthesia Department in January 2023.

Peri-operative planning is one of the core competencies outlined in the curriculum for the national specialist training programme in anaesthesia among Irish trainees (1). With this survey we hoped to gain an insight into the use and knowledge of tools such as those for risk scoring and functional capacity, as well as the attitude of trainees towards peri-operative planning and the anaesthetist role within in. This was with a view to help design a peri-operative medicine curriculum within our department and pre-operative assessment clinics.

<u>Methods</u>: We collected data via a "google forms" e-survey that was circulated to all trainees via e-mail. Data was input to excel spreadsheet for interpretation.

**<u>Results</u>**: Responses were received from 21 trainees (55%). Overall trainees had a positive attitude to the anaesthetist role in the peri-operative journey, with 85% of trainees feeling the clinics improved a patients peri-operative journey. Our survey also demonstrated that despite positive attitude towards pre-op assessment, less than 50% of respondents knew what resources to use to aid decision making in a pre-assessment review, only 38% felt comfortable using risk assessment tools, with the most commonly used risk tool used being ASA grading. Finally, while 85% of trainees felt comfortable assessing a patients functional status, 95% of respondents were used an informal subjective assessment such as the ability to climb a flight of stairs.

**Conclusion**: Peri-operative assessment and planning is a key competency for anaesthesia trainees to learn and become comfortable with to ensure a safe pathway through the peri-operative journey for patients. This is achieved through appropriate risk calculation and communication to colleagues and the patient (2). We have demonstrated that despite a positive attitude towards peri-operative medicine and a recognition of the importance of an adequate pre-op assessment, trainees in our department were not confident in using valuable risk scoring tools and in accurately assessing functional capacity, preferring to use subjective risk scores and informal assessments of functional capacity, despite strong evidence against this as demonstrated by the METs study (3).

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Risk Tools, Education, Pre-operative assessment

#### Feasibility of Liver Ablation for day-case surgery

<u>Antonia Snell</u>, Ahmad Chishti, Abdul Muiz Shariffuddin Freeman Hospital, Newcastle Upon Tyne, United Kingdom

#### Abstract

#### Introduction

Liver lesion ablation outcomes now potentially offer increases in disease-free progression from solitary liver lesion<sup>1,2,3</sup>. Broadly, patients can be divided into HCC primary and extra-hepatic metastatic disease.

We sought to review our:

- Ablation patients' peri-operative course
- 'Potential' rate of day-case candidates

#### Methods

58 patients at the Freeman Hospital underwent retrospective cohort analysis. Demographic data; comorbid disease status (ASA, BMI, HbA1c; liver disease stability); recovery outcomes (recovery time, NEWS at discharge, highest pain score, >2 anti-emetics); length of stay (LOS); complications (pneumonia, tachyarrhythmia, MI, TIA, stroke, AKI, ARF, liver decompensation, infection, blood clot, haemorrhage, return to theatre, hospital readmission, death <30 days post-op) were gathered. Patients were globally scored by this investigator (on the basis of disease stability and surgery) for day-case 'suitability'.

#### **Results:**

10 patients were excluded for major surgery/cancellation. 48 patients were included (60% male/40% female). Microwave ablation (MWA) (54%) or laparoscopic assisted MWA (35%) were most common. 70% patients were ASA 3. 17 patients had cirrhosis.

Average initial recovery time was 129 minutes (excluding 3 PACU patients). Pain or nausea did not extend LOS. Average LOS was 1.6 days (range 1-8).

85% of patients undergoing liver lesion ablation in our patient group were discharged the next day without prolonged recovery, complications or any indication of difficulty controlling pain or nausea post op.

Our cohort saw 5 complications: 1xNSTEMI; 1xHAP; 1 x raised oxygen requirement post op; 1xSMV thrombus; 1xPUO.

22 patients (46%) were potentially suitable for day-case based on surgery/ co-morbid stability, 7 with stable cirrhosis. Reasons why patients were considered unsuitable are outlined in table.1.

#### Conclusions

Ablation patients may often be considered as suitable for day-case where surgically suitable and where disease stability (including 'stable' cirrhosis) allows. A potential pathway for stratifying this is outlined in Fig.1.

#### References:

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#### Indicator (frequency) Cirrhotic portal HTN (4) HbA1c> 69 (8) Liver transplant (1) PPM (1) Thrombocytopenia (1) Home LTOT (1) Warfarin (1) Coagulopathy (1) Social (1) Multiple metastases (1)

Table 1: Patient unsuitability for day-case

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Not suitable for day case

Fig.1 Day case Liver ablation referral pathway

\*Exclusion criteria: Coagulopathy; BMI>50; Heart failure with ejection fraction <30%; Cardiac stents within a period of DAPT; ICD in situ; consideration if known difficult airway; spO2 <93% on room air, home LTOT or home ventilation; OSA intolerant of CPAP; High pre-op opioid requirements >60mg /day oral morphine equivalent; caution in dementia/learning difficulties; stroke <9 months previous: apilepsy with poor seizure control

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#### Poster keywords

Ablation, Day-case, Pathway, Feasibility, Surgery

#### An Innovative Model of Shared Decision-Making for High-risk Cancer Surgery: Feasible and Necessary

<u>Debra Leung</u><sup>1,2,3,4</sup>, Yiying (Sally) Tsang<sup>1,5</sup>, Elizabeth Crone<sup>1</sup>, David Wang<sup>1</sup>, Grace Kennedy<sup>1</sup>, Elliot Wollner<sup>1,4</sup>, Tim Spelman<sup>1,4</sup>, Jennifer Philip<sup>1,4</sup>, Bernhard Riedel<sup>1,2,4</sup>

<sup>1</sup>Peter MacCallum Cancer Centre, Melbourne, Australia. <sup>2</sup>The Sir Peter MacCallum Department of Oncology, The University of Melbourne, Melbourne, Australia. <sup>3</sup>Centre for Organisational Change in Person-Centred Healthcare, Deakin University, Victoria, Australia. <sup>4</sup>The University of Melbourne, Melbourne, Australia. <sup>5</sup>Northern Health, Melbourne, Australia

#### Abstract

#### Introduction:

Shared Decision-Making (SDM) provides a form of decisional support that centres patients' values in their treatment decisions. Cancer journeys are complex and involve life-altering decisions. Over 80% of patients with cancer require surgical intervention for diagnostic or therapeutic purposes<sup>1</sup>. Globally, increasing comorbidity, and rising cancer incidence amplify the demand for supported decision-making. Patients undergoing cancer surgery describe a perceived lack of meaningful choice when presented with curative-intent surgery, particularly if alternative therapies confer reduced survival<sup>2</sup>. These patients could derive significant benefit from a formalised SDM process. Yet, perioperative SDM is not widely available, and some have postulated that opportunities for SDM in cancer surgery may be limited<sup>3</sup>.

'Peter Mac,' Australia's only cancer hospital, initiated a perioperative SDM service in 2019 for patients scheduled for major high-risk cancer surgery. This observational study describes our care model and outcomes.

#### Methods:

Patients attended SDM clinic, between 01/2019 and 07/2021, with the objective of identifying the treatment outcomes to which they attributed the greatest personal value. Every case underwent review at an SDM multidisciplinary meeting to discuss treatment options and their anticipated natural history. Based on their expressed goals, a treatment recommendation was formulated. The recommendation and rationale were conveyed to patients.

Patient demographics/data were collated from medical records. Those who underwent surgery had postoperative outcomes assessed. To understand their experience, patients completed evaluations on SDM quality (CollaboRATE-5), decisional support and decision regret.

#### **Results:**

A total of 85 patients (55% male, 45% female) with a median age of 73 (range: 34-93 years) accessed the service. 93% (n=79) had an ASA physical status score 3 or 4. Median mortality predicted by NSQIP was 5.2%.

The largest surgical oncology streams represented were Colorectal (41%), Upper GI (14%) and Sarcoma (12%). Of the original 85, 67% (n=54) underwent surgery. The primary reason for not proceeding was surgery no longer being regarded as an appropriate treatment option (71%). Patient choice not to proceed accounted for 26% (n=8).

By follow-up, in 2022, 54% (n=46) had died. The median duration from referral to death was 265 days. Mortality was 41% amongst those that elected against surgery (vs. 30 % for those that proceeded to surgery). Amongst those followed-up, 84% (n=27) indicated high decisional support, and the majority had high CollaboRATE scores, suggesting consistent quality of SDM. On the decision regret scale, 84% (n=27) affirmed they would replicate their initial choice.

#### Conclusion:

To our knowledge, this is the first description of a perioperative SDM service for major cancer surgery. This demonstrates it is feasible to successfully and reliably deliver SDM to a highly co-morbid surgical oncology cohort. Despite high mortality rates, patients reported high satisfaction levels and minimal decision regret. This innovative model could be applied to other surgical settings where SDM has been historically challenging, like emergencies or where clinical equipoise is lacking.

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#### Poster keywords

Shared Decision-Making, Perioperative Medicine, High-Risk Cancer Surgery, Prehabilitation, Patient-Centred Care

#### Ventriculoperitoneal Shunt in the Heart

<u>Matt McLellan</u>, Athos Rassias, Nathan Fritts Dartmouth, Lebanon, USA

#### Abstract

39 year old male with congenital hydrocephalus and most recent ventriculoperitoneal (VP) shunt placed 11 months prior presented with symptoms of increased intracranial pressure (headache and emesis). His valve was tapped and patent proximally indicating a distal tip malfunction. On CT imaging the VP shunt was found to be coursing into the right internal jugular vein, through the right heart, and coiled into the pulmonary arterial system with the distal tip ending up in a sub-segmental arterial branch of the right upper lung lobe (see attached images). Presumably the VP catheter was inadvertently tunneled through the right internal jugular vein, superior vena cava, inferior vena cava, and into the peritoneal cavity as both ends were originally in proper position. The patient was scheduled for percutaneous extraction of the shunt with a snare by interventional cardiology. Due to the precarious position of the catheter, the cardiac surgery team was available in the operating room in case of major damage to the pulmonary artery or right heart. Potential surgical complications included but were not limited to massive hemorrhage, hemothorax, cardiac tamponade, and arrhythmias. Anesthetic considerations for this case included management of elevated intracranial pressure and preparation for aggressive resuscitation in case of damage to major vascular structures in proximity to the catheter. The patient had a transthoracic echo which showed no intrinsic abnormalities other than mild pulmonic valve regurgitation and the presence of the coiled catheter in the right heart and outflow tract. The patient had a 20g peripheral IV, a radial arterial line was placed prior to induction, an 18g IV was placed post-induction, and the patient was intubated with a 7.5mm endotracheal tube. The patient was induced with a combination of propofol, lidocaine, rocuronium, and fentanyl. Infusions and bolus syringes of phenylephrine, norepinephrine, and epinephrine were setup as well as blood tubing running through a warming device. Transesophageal echocardiography was utilized during the case. Strategies to manage elevated intracranial pressure included neuromuscular blockade with rocuronium, hyperventilation to goal EtCO2 of 30mmHg, and utilization of 0.9% normal saline. The case lasted just under two hours and the catheter was retrieved with no complications. The patient had another VP shunt placed the following day. This case study provides an example of an anesthetic plan for an extremely rare scenario with minimal reference data which emphasizes the importance of planning and preparation.

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Ventriculoperitoneal Shunt, ICP, Interventional cardiology, Neuroanesthesia, TEE

# An Audit of Perioperative Patient Blood Management Systems at the Mercy University Hospital (MUH)

<u>Christopher Mckeon</u>, David O'Keeffe, Michelle O'Mahony Mercy University Hospital, Cork, Ireland

#### Abstract

Introduction

The current practice of transfusion medicine emphasizes the judicious use of transfusions

within defined patient blood management systems 1. Anaemia management is a major focus

of these systems. Patients for elective major surgery with untreated iron deficiency anaemia

have an increased postoperative morbidity and mortality 2 .

The Aims of this audit were:

1) Establish the incidence of intraoperative blood transfusions.

2) Identify the incidence of pre-operative anaemia in those patients requiring

intraoperative blood transfusions.

3) Establish the proportion of patients which had iron studies performed and received an

iron transfusion in the 3 months preceding surgery.

#### Methodology

A retrospective medical records review of all MUH patients receiving intraoperative blood transfusions was conducted between January 1st to June 30th, 2022. Descriptive statistics were used to analyse the data.

#### Results

42 patients had an intraoperative blood transfusion with 90 units of intraoperative RCC transfused over the 6-month period. The prevalence of preoperative anaemia in the patients who received intraoperative blood transfusions was 74%. Of the 31 patients with pre-operative anaemia, iron studies were performed on 19% of those patients. For those patients which had pre-operative irons studies, 50% of those patients were found to be deficient in iron and no patient received an iron infusion in the pre-operative period.

#### Conclusion

There is a growing body of evidence in favour of preoperative intravenous iron replacement in iron deficient anaemic patients undergoing major surgery with expected high blood loss 2,3 . This project highlighted the significant prevalence of preoperative anaemia and lack of local compliance with best practice recommendations for iron studies and possible iron replacement therapy. The results indicate a predominant reliance on intraoperative blood transfusions. Following this audit, we are working towards implementation of mandatory iron studies for all patients identified as being anaemic in the pre-assessment clinic and subsequent iron replacement therapy prior to proceeding to major surgery. This should reduce reliance on intraoperative blood transfusions and improve patient outcomes.

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Lancet. 2020 Oct 24;396(10259):1353-1361. doi: 10.1016/S0140-6736(20)31539-7. Epub 2020 Sep 5.

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#### Table 1: Utilisation of pre-operative iron studies & result detected

Total patients with pre-operative anaemia	31 (74%)
Iron Studies performed	Yes – 6 (19%) No – 25 (81%)
Iron Deficiency Detected	Yes – 3 (50%) No – 3 (50%)

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#### Poster keywords

Perioperative, Blood Management Systems, Transfusion medicine, Anaemia

#### Sustainability: Waste Recycling in Anaesthesia at Beaumont Hospital

Alyssa Kaplan, Ciana McCarthy, <u>Megan Mcenery</u> Beaumont Hospital, Dublin, Ireland

#### Abstract

Introduction

Globally, the healthcare sector is said to contribute significantly to climate change. A quarter of all hospital waste comes from the operating theatre and approximately 25% of this waste is recyclable. The EPA's Green Healthcare Programme (GHCP) states that in Ireland, a significant proportion of the waste generated in the theatre is in the form of recyclable materials, mainly from single use packaging. In order to encourage and increase recycling, and thus reduce associated waste management costs, Green Healthcare's Best Practise Guide advises that healthcare facilities should try to maximise the quantity of waste material segregated into recycling waste streams.

This audit aimed to assess the availability of recycling stream facilities in the anaesthetic induction rooms in the Beaumont Hospital Theatre Complex.

Methods:

12 induction rooms in the theatre complex were objectively assessed for the type of waste stream bins provided and the location of each bin in the room in relation to the anaesthetic work station.

**Results:** 

50% of the induction rooms were found to have a recycling stream bin and a healthcare risk waste stream bin. The other 50% of the rooms provided 2 healthcare waste stream bins, one and one non-risk. In the 50% of induction rooms that offered access to recycling stream bins, these bins were located on the opposite side of the room to the anaesthetic preparation bench. The hazardous medical waste stream bins were positioned closer to the work station.

Conclusions:

This audit highlights the potential room for improved recycling facilities in the theatre complex. Providing a bin for recycling in all of the anaesthetic induction rooms, is the first step in improving the

proportion of waste that is recycled. However, the presence of the bin alone is not enough to encourage its regular use. The location of the bin should make its use easy and efficient, hence close to the area of most waste formation - in this case the anaesthetic work station. Where space is limited, guidelines even recommend the use of mobile recycling bins. In order to make the most of facilities provided, regular encouragement and reminders on what healthcare waste meets recycling criteria is needed.

References:

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- 2. Best Practice, Waste Bin Provision and Placement, EPA Green Healthcare. Online. 2020
- 3. Best Practice, Healthcare Risk Waste Reduction in Theatres, EPA Green Healthcare. Online. 2020
- 4. Best Practice, Maximise Recycling and Reduce Landfill Waste, EPA Green Healthcare. Online. 2020

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#### Poster keywords

Sustainability, EPA, Recycling , Anaesthesia , Waste

#### Audit: Pre-operative Fasting Times in Vascular Surgery

Alyssa Kaplan, Ciana McCarthy, <u>Megan Mcenery</u> Beaumont Hospital, Dublin, Ireland

#### Abstract

Introduction:

To minimise the potential risk of aspiration in patients undergoing general anaesthesia, international guidelines have been developed with regards to pre-operative fasting times. Both the American and European Society of Anaesthesiologist's preoperative fasting guidelines recommend fasting for 6 hours of solid foods and 2 hours of clear fluids prior to induction of general anaesthesia in adults.<sup>1,2</sup> Research suggests, patients are often fasted for durations exceeding these recommendations.<sup>3</sup> While the theoretical risk of aspiration may be reduced, many unwanted adverse perioperative effects are associated with prolonged fasting, including pre-operative hypoglycaemia, dehydration, hypovolaemia, haemodynamic instability and patient discomfort.<sup>4,5</sup> Post operatively, insulin resistance, resultant hyperglycaemia and PONV are reported.<sup>5</sup> Thus, we sought to assess the adherence to internationally recommended fasting guidelines in a cohort of adult patients undergoing unplanned vascular surgery at Beaumont Hospital.

#### Methods:

A retrospective review of patient charts for all unplanned adult vascular surgery cases performed between March and July 2023.

Data collected: 1.Time last ate and drank 2. Time of arrival into theatre (from this the period of fasting was deduced) 3. Co-morbidities 4. Pre-op chronic medications and missed doses 5. Where relevant blood glucose and ketone levels.

#### **Results:**

The charts of 40 patients who underwent various unplanned vascular surgery cases were reviewed. 10 patients were excluded due to missing documentation. Of the 30 charts assessed, all were inpatients at the time of surgery. The average pre-operative fasting period for solids was 12 hours and 23 minutes, while for fluids it was 10 hours and 48 minutes. 1 patient met the recommended 2 hour fasting of fluids. No patients met the recommended 6 hours fasting for solid foods. The most prevalent co-morbidities among the patients assessed were hypertension, hyperlipidaemia, type 2 diabetes mellitus, and atrial fibrillation respectively. Of the 8 diabetic patients, 5 had their metformin held on the day of surgery, while 3 had their insulin held. Only 1 patient was placed on a sliding scale. Blood glucose levels of these

8 patients were between 4-10mmol/L on arrival to theatre. Other chronic medications commonly held due to patient fasting included Bisoprolol, Aspirin and statins. No chronic medications were held for longer than 1 day.

#### Conclusion:

This audit highlights a discrepancy between pre-operative fasting times observed in clinical practice and the established current guidelines. The results suggest a need for targeted interventions to reduce unnecessary fasting durations, in turn avoiding disruptions in the administration of chronic medications, many of which are required to optimise patient physiology to withstand the stressors of anaesthesia and surgery. Implementing streamlined communication between anaesthesiologists, patients and their perioperative teams, is needed to ensure pre-operative fasting periods are kept within the recommendations, thereby prioritising patient optimisation and safety for theatre.

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- 2. Girish P. Joshi, Basem B. Abdelmalak, et al., Anesthesiology. 138:132–15. 2023
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- 4. Fawcett WJ, Thomas M. Anaesthesia. 74(1):83-8. 2019
- 5. Morrison CE, Ritchie-McLean S, Jha A, Mythen M. British Journal of Anaesthesia. 124(4):363–66. 2020

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#### Poster keywords

Fasting, ESAIC, Beaumont, Perioperative, Aspiration
## Intravascular Epidural Catheter Recognized Using Routine Use of Fluoroscopy

Daniel Mikhail, Patrick Hartmann Dartmouth Hitchcock Medical Center, Lebanon, USA

#### Abstract

#### Introduction:

The epidural space consists of nerve roots, fat, vasculature and extends from the foramen magnum to the sacral hiatus. At our institution, thoracic and lumbar epidural catheters are routinely placed for post operative pain management under fluoroscopy by our Acute Pain Medicine anesthesia team. They are placed for a variety of surgeries including gynecologic, thoracic, general, urologic and pediatric procedures. Fluoroscopy allows our anesthesia team to directly visualize the epidural catheter in relation to vertebral bodies, and more accurately provide analgesia based on dermatomal distribution of pain in relation to location of incision. In addition, fluoroscopy allows confirmation of placement via epidurogram and recognition of inadvertent intrathecal or intravascular placement.

#### Methods:

Fluoroscopy guided epidurals are placed preoperatively in Acute Pain Medicine procedure suite in the prone position. Intravenous sedation is provided by nursing and patients vitals are monitored for duration of procedure. Once in position, patients are prepped and draped in sterile fashion. Images are obtained to locate desired vertebral body to leave catheter and entry point at skin is infiltrated with 1% lidocaine. 18G Tuohy needle is advanced via midline or paramedian approach under direct visualization and LOR is obtained via LOR syringe. Catheter is thread to desired location and confirmed with fluoroscopy. Aspiration test is conducted followed by injection of Omnipaque contrast agent to obtain epidurogram and confirm appropriate placement.

#### **Results:**

In addition to confirming correct epidural catheter placement, obtaining epidurograms allows for recognition of inadvertent intrathecal, intravascular and subcutaneous catheter placement. In this particular instance, this patient had convincing LOR and aspiration of CSF or blood was negative. After injection of contrast agent the image seen in figure 1 was obtained. This image shows intravascular uptake of contrast agent which was subsequently confirmed with additional imaging shortly after showing resolution of uptake confirming an intravascular catheter.

#### Conclusion:

Fluoroscopy guided epidural placement provides added benefit in recognizing inadvertent intrathecal and intravascular catheters prior to any dosing of medication which prevents unwanted hemodynamic effects of a positive test dose. It also allows precise placement of tip of catheter in relation to anticipated location of incision, and perhaps more reliable pain control post operatively.

References:

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## Poster keywords

Epidural , Intravascular , Fluoroscopy

## Sip 'Til Send - Revolutionising Pre-Operative Fasting

<u>Ameesh Patel</u>, Deborah Elf, Haresh Mulchandani Homerton University Hospital, London, United Kingdom

#### Abstract

#### Introduction

Currently most institutions have two to three hour fasting for clear fluids which often translates to greater than six hours. Prolonged fasting results in patient discomfort, dissatisfaction, anxiety and potentially harm<sub>1</sub>. It does not necessarily result in a reliably empty stomach and drinking water may paradoxically reduce gastric volume and increase pH. Furthermore, aspiration of water is very unlikely to result in morbidity. Using the framework developed in NHS Tayside we introduced Sip 'Til Send<sub>2</sub>, allowing all adult patients to sip water until they are sent to theatre.

#### Method

To simplify the initiative we allowed all patients to sip **water only**, using a hospital glass (170ml) allowing maximum one cup per hour until they go to theatre. If there are concerns about aspiration i.e. in the case of gastrointestinal obstruction or severe reflux then the the patient would be nil by mouth.

We undertook staff education sessions with the anaesthetic department, theatre staff, pre-operative assessment team and surgical colleagues before implementation.

We performed a pre-implementation audit of water fasting times and a post implementation audit two months after introduction of the initiative to see if our initiative had been successful.

#### Results

Water Fasting Times. (p=0.007)	Pre-Implementation of Sip'TilSend n=32)	Post-Implementation of SipTilSend (n=12)
Mean Time	5 hours 48 minutes	2 hours 40minutes
Mode Time	12 hours	45 minutes

#### Discussion

Our preliminary audit although small, showed an **improvement in average fasting times from 5 hours 48 minutes to 2 hours 40 minutes**. This was a vast improvement but it is still very far from our goal of encouraging all patients to sip water until they go to surgery. Surveying the department, nearly all the anaesthetic team agree that this is much better for patients in terms of satisfaction and

comfort. Changing the dogmatic views on fasting is very difficult and requires ongoing education and reinforcement from the anaesthetic team and all others in the peri-operative team. As Sip 'Til Send becomes the norm across the UK, we will hopefully see this change and make a huge improvement to the patient journey.

1. Two hours too long: time to review fasting guidelines for clear fluids Morrison, Christa E. et al. British Journal of Anaesthesia, Volume 124, Issue 4, 363 - 366

2. https://www.shfa.scot.nhs.uk/Resources/\_docs/SHFA-SipTilSend-v1.1-November-2021.pdf?1

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## A suspected case of gabapentin induced central apnea

#### <u>Usama Rehman</u>

Cork University Hospital, Cork, Ireland

#### Abstract

INTRODUCTION: Gabapentin is widely used for neuropathic pain but its central nervous system complications aren't commonly reported. We report a suspected case of gabapentin induced central apnea.

CASE: A 62 year old male with a background history of ischemic dilated cardiomyopathy (EF 25-30%), atrial fibrillation and diabetic neuropathy was admitted for the treatment of right foot osteomyelitis and MSSA bacteremia under orthopedic surgeons. During his ward stay he was treated with intravenous antibiotics while he continued to take his regular medications which also included gabapentin (300mg T.D.S). His stay was complicated by a worsening of his heart failure leading to acute pulmonary edema, pleural effusions and lower limb edema. This exacerbation of heart failure was successful treated with diuretics. On his 43rd day of ward stay, he developed new onset confusion and became increasingly drowsy. On his 44th day he fell down from his bed and hit his head. He didn't loose consciousness but his brain was scanned because he was on apixaban. His CT brain was unremarkable. On his 47th day, his drowsiness, sleepiness and confusion kept on increasing and he even lost his orientation to time and place. The next day, patient became hypoxic, cyanotic and unresponsive but did not become pulseless nor did he require CPR. Thereby, a diagnosis of gabapentin induced central apnea leading to this hypoxic and cyanotic spell was made and it was decided to dialyze the patient for 48 hours to filter the gabapentin out of his system in ICU. Clinical improvement was seen after 48 hours of dialysis with measurable outcomes including reduced drowsiness, sleepiness and confusion could clearly be seen.

OUTCOME: On his third day of ICU stay, a dramatic deterioration in his condition was seen, as his lactate gradually kept rising and went up to 12.9 over the course of 6 hours. His lactate kept on climbing despite adequate fluid resuscitation and he went into fast unstable AFib. He was started on amiodarone on the background of his already running therapeutic clexane. His bedside echo revealed global hypokinesis and a state of cardiogenic shock. He was intubated , ventilated and taken for CT Scan of his abdomen to localize the source of his rising lactate. His CT mesenteric angio revealed 10mm embolus occluding proximal SMA, bilateral renal infarcts but patent celiac trunk and common iliac arteries. The CT scan did not demonstrate any bowel ischemia. Despite being on maximum doses of inotropes and vasopressors, he continued to deteriorate and could not be revived as he went into cardiac arrest.

DISCUSSION: One of the under recognized complications of gabapentin is its effect on apnea – hypopnea index in patients who do not have obstructive sleep apnea. Though not a recognized entity, symptoms of upper airway obstruction could be attributed to gabapentin toxicity, as we found in this case

CONCLUSION: Heightened awareness about the central nervous system complications of gabapentin is important when prescribing it to patients with multiple comorbidities. As there is no confirmatory test for this condition, it is purely a clinical diagnosis and further studies are recommend.

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#### Poster keywords

Gabapentin toxicity, Central apnea, Apnea hypopnea index, Neuropathic pain, Obstructive sleep apnea

# Magnesium Matters: Should magnesium be screened in an at risk perioperative group?

#### Usama Rehman

Cork University Hospital, Cork, Ireland

#### Abstract

INTRODUCTION: Magnesium plays a vital role in many enzymatic reactions, homeostasis, membrane stability, cell division and generation of action potentials. Keeping in view its important role, its deficiency can present with neurologic, neuromuscular and cardiac manifestations. One of the most common electrolyte imbalance in hospitalized and critically ill patients is hypomagnesemia[1]. A recent meta-analysis has shown an association of hypomagnesemia with greater risk of mortality, sepsis, mechanical ventilation, and prolonged length of ICU stay[1]. Cardiac muscle and pacemaker action potentials are related to the changes in permeabilities of various cation channels including sodium, potassium and calcium and alterations in the functions of these channels is linked to the development of arrhythmias. Mg acts as a membrane-stabilizer by blocking calcium channels and adjusting cell membrane sodium-potassium transport and also inhibiting catecholamine release from the adrenal gland and adrenergic nerve endings. These properties result in an anti-arrhythmic effect of Mg. The main identified benefits of magnesium correction are linked to controlling ventricular response in atrial fibrillation, decreasing the recurrence of ventricular ectopies and stopping episodes of the particular form of ventricular arrhythmia called torsade de pointes. Magnesium has also been described to have beneficial effects on the incidence of polymorphic ventricular tachycardia and supraventricular tachycardia.

Various biochemical investigations are carried out preoperatively in various ASA grade patients which rarely includes magnesium. It is postulated that low preoperative magnesium levels can precipitate post operative arrhythmias unless corrected preoperatively or intraoperatively. The aim of this audit was to see if magnesium was being screened in high risk patients i.e patients above 70 or patients with pre existing cardiac issues and if this could be implemented as an institutional policy to include serum magnesium levels in preoperative bloods of the patients deemed to be at a higher risk of developing arrhythmias.

METHODS: In our audit, 25 patients, above 70 were randomly selected from the theatre lists of university hospital kerry. Preoperative serum magnesium levels, whether taken or not taken, prior to surgery were documented. Patients were then followed up post-operatively for the development of any new arrhythmias or change in baseline cardiac rhythm.

RESULTS: Surprisingly all patients had their preoperative magnesium levels done except one. Of note particular note was that 4 out of 25 patients i.e 16% had low serum magnesium levels. Lowest magnesium levels observed were 0.34 and the highest ones were 1.02. The mean magnesium level observed was 18.4/24= 0.76 and the median was 0.77+0.78/2=0.77. The most frequently observed values were 0.74 and 0.78 (three patients each). Although there is an increased risk of developing

arrhythmias post operatively, we didn't observe any post operative rhythm changes associated with low magnesium levels (less than 0.7mmol/l).

CONCLUSIONS: Despite the results of our audit, it is recommended that serum magnesium be screened preoperatively in high risk patients i.e those who are old age or have pre existing cardiac conditions[2].

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#### Poster keywords

Magnesium, Atrial fibrillation, Hypomagnesemia, Preoperative investigations, Torsades de pointes

## Unveiling unequal pupils : A young patient's journey through vascular surgery -Case Report

#### Iram Hassan

Mater Misericordiae University Hospital, Dublin, Ireland

#### Abstract

#### Introduction

Peri-operative stroke is a fatal complication that is lesser recognised compared with other complications peri-operatively. Patients undergoing non-cardiac and non-neurological surgery showed an estimated incidence of peri-operative stroke up to 0.1-1.9%. This is a rare occurring complication and anaesthetist play a crucial role in early detection and immediate management to reduce overall patient morbidity and mortality.

Case: A 19-year old male incurred a forearm degloving injury, having fallen while climbing a wire fence. It initially seemed to involve the left antecubital fossa and lateral forearm. There was inconsistent numbness in some fingers and weakness of finger flexion in the median nerve distribution, but otherwise the hand examination was normal. There was no medical or surgical history except occasional use of cannabis. Plastic and reconstructive surgical team began a forarm exploration anticipating perhaps tendon repair requiring anaesthesia of 1-2 hr. He declined regional anaesthesia, therefore an LMA was sited after straightforward induction of general anaesthesia.

However, complete brachial artery transection was identified and the surgical and anaesthesia plan changed. Vascular surgery began an arterial reconstruction with saphenous vein interposition graft. The patient was therapeutically anticoagulated, targeting APTT 40-60. The patient was intubated, with invasive arterial monitoring and urethral catheter established, anticipating prolonged surgery.

After 7 hr, the patient was extubated smoothly. However, when he remained disproportionately drowsy, his pupils were inspected and unequal pupil size (Left= NR size 6, Right NR size 2) was observed. Examination revealed impaired right arm movement and positive Babinski sign. CTBrain revealed thrombotic occlusion of the distal basilar artery extending bilaterally to involve the origins of both posterior cerebral arteries, with perfusion deficits in the left cerebellar hemisphere and the right occipital lobe.

He was transferred for immediate basilar artery thrombectomy, with resolution of hemiplegia butresidual left oculomotor palsy, ptosis, diplopia and reduced gaze. Further investigations including CTPA and TTE revealed no source of embolus or Patent Foramen Ovale. He is receiving ongoing rehabilitation.

Discussion: 'Peri-operative stroke' is an episode of brain infarction of ischaemic or haemorrhagic origin that occurs during, or within 30 days after surgery. "Overt stroke' is an acute brain infarct with symptoms lasting >24 hours and 'covert stroke' is a clinically aymptomatic infarct, diagnosed on brain imaging done subsequently. Patients undergoing non-cardiac, non-neurological surgery have an estimated incidence of peri-operative stroke 0.1-1.9%. The anaesthesiologist potentially has a crucial role in early detection and initiation of treatment to improve patient outcome.

Conclusion: This patient had no apparent risk factors for thrombotic stroke, except that he received vascular surgery, yet he was anti-coagulated while it occurred. His aetiology remains unknown. Peri-operative strokes are commonly under-recognised and underrated, at least in part because of low awareness of this complication and lack of a validated screening tool. Further research is needed to uncover the underlying mechanisms of peri-operative stroke, and strategies to prevent it.

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#### Poster keywords

Unequal pupils, Peri operative stroke, Vascular repair, Degloving injury, Thrombectomy

# An audit into the postoperative care planning in high-risk patients undergoing surgery at Broomfield Hospital during 2022

Suzie Pratt, <u>Kirsty Nweze</u>, Christopher Wright, Al Hughes Department of Anaesthesia, Broomfield Hospital, Mid and South Essex NHS Trust, Chelmsford, United Kingdom

### Abstract

**Introduction:** Research has shown that perioperative care is associated with improved clinical outcomes and reduced financial cost<sup>1</sup>. Key to good perioperative care is delivery of robust post-operative care. In Broomfield hospital, all patients determined as high risk are seen in perioperative clinic, where a plan for their immediate post-operative destination is made. Options available range from extended and overnight recovery, to intensive care. This aims to strike the balance between keeping intensive care beds available for critically unwell patients and adequate post-operative monitoring. The primary outcome of this audit was to assess whether patients received their immediate post-operative care in the intended destination. We also assessed related secondary outcomes including cancellations due to lack of beds and unplanned high dependency unit (HDU) and ICU admissions.

**Methodology:** Audit approval was sought prior to the study. We reviewed the journey of 505 patients seen in the Broomfield high risk clinic in 2022, excluding 97 patients who were cancelled, leaving 408 patients for analysis. We used two electronic hospital systems for tracking the patients' journey through the hospital and theatres. This was compared to the planned care as recorded on the database of high-risk patients. Cancellations were reviewed using the hospital database.

**Results:** Of the 408 high risk patients who underwent surgery, 398 had a documented plan for postoperative care. 232 were discharged to their intended post-operative destination (58%), 103 to a higher level of care (26%) and 63 patients were de-escalated to a lower level of care (16%). 97 patients had operations cancelled, 13 (13%) due to bed capacity issues. Other cancellation reasons included patient illness, patient refusal and clinical contraindications. 2 patients were noted to have unplanned HDU admissions and 9 patients had unplanned ICU admissions in the acute post-operative period. **Conclusions:** Our audit demonstrates a significant discrepancy between actual and planned postoperative destinations, with over a quarter of patients being escalated to level 2 or 3 care. Further research as to reasons for this, and work to predict these factors as part of a risk prediction-tool at the preoperative visit is to be done. Reassuringly, our audit revealed cancellations due to bed capacity and unplanned ICU/HDU admissions were rare, indicating an appropriate use of resources despite current NHS challenges.

**References:** 1. Centre for Perioperative Care, Impact of Perioperative Care on Healthcare Resource Use: Rapid research review. June 2020. Available at: Impact of perioperative care - rapid review FINAL -09092020MW.pdf (cpoc.org.uk)

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High risk, preassessment, recovery, cancellations, intensive care unit

## Are we living the DrEaM?: A PQIP Update

<u>Deepa Divakar</u> Royal Free Hospital, London, United Kingdom

## Abstract

Are we living the DrEaM?: A PQIP Update.

### Introduction:

Perioperative Quality improvement project was established in 2016 by consenting and recruiting patients in various hospitals and establishing data set which can be measured and used for improving patient outcome. We started re- recruiting HPB patients at our hospital to PQIP study in August - September 2022. We looked at various aspects of Perioperative data.

#### Methodology:

We looked at the data from recruited patients at our hospital over 8 months. We analyzed the data for acquisition and completeness as well. We concentrated on data relating to ERAS pathway and the DRrEaMing implementation at our Centre. We compared all the data to the national records.

**Results:** The data completeness was found above 80% for most of the period. 60-100% of patients were found to be on the ERAS pathway. 97% of the patients had a preoperative risk assessment but only 27% of them had a preop carbohydrate drink, 55% of patients had good pain control immediately post-surgery. Considering the HPB cohort, 80% of the patients had a NG tube and 100% had a drain in place.

Looking at patient satisfaction scores on Day 1, Thirst was found to be the most common complaint .

We found 52% of our patients were DrEamers with 100% drinking , 62% eating and 90% mobilizing on Day 1.

We found there were limitations in the understanding of DrEaMing concept and also inadequacy in data collection. A survey was planned to understand the areas needing improvement. Education session involving ICU and research nurses was conducted.

**Conclusion:** CQUIN encourages a goal of 70-80% of surgical inpatients to be drinking, eating and mobilizing in the first 24 hours post-surgery. DrEaMing is an indicator of restoration of intestinal, cardiorespiratory and muscular functions. We recommend a multidisciplinary approach to DrEaMing with active involvement of anesthetic, surgical, physiotherapy and intensive care teams. We are aiming for an enhanced recovery, early discharge and ultimately a more efficient health care system.

#### **Reference:**

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anaesthetics, DrEaMing, ERAS, PQIP, POM

# Assessing the Readiness of Anaesthesia in Ireland to Transition to Sustainable Anaesthesia

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#### Abstract

#### Introduction

Globally, exhaled anaesthetic gases account for approximately 5% of total healthcare emissions<sup>1,2</sup>. Anaesthetists have relative autonomy in their practice and should make choices that cause no harm to either patient or planet and assist in the transition to a sustainable future<sup>3</sup>. Multiple strategies exist that can minimise the environmental impact of anaesthesia, but the most impactful strategies including avoiding the use of desflurane and nitrous oxide, using low-flow anaesthesia and utilising either TIVA and/or regional/neuraxial anaesthesia when appropriate<sup>3,4,</sup>. The aim of this research was to investigate how many dedicated TCI pumps are available and ready for use in each hospital.

#### Methods

Data was collected from each hospital in the ROI via individual hospital switchboard.

#### Results

In total, 342 operating theatres were identified across 56 operating theatres, with 382 TCI pumps available for use. Consequently, an additional 302 TCI pumps required to facilitate the transition to a sustainable future for anaesthesia in Ireland. Only ten individual hospitals met the required two pumps available per theatre.

#### Conclusion

We are ill-prepared to transition to sustainable anaesthesia. To solve sustainability challenges, a global collaborative effort is required so that we can both develop solutions and implement them<sup>5</sup>. Anaesthetists are ideally placed withing the infrastructure of the healthcare system to assume a leadership role and take definitive steps towards mitigating climate change through transformative change within their clinical practice.

Solutions will require significant changes in current practices. It will not be a simple change however, it is necessary, and through multidisciplinary collaboration between anaesthetists, obstetricians, midwives, nursing staff and all healthcare professionals, it is achievable. With buy-in from these key stakeholders the healthcare sector can make a positive and significant contribution towards a sustainable future.

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Sustainability, TIVA, TCI

## An Audit Investigating Energy Consumption and Waste Generation in Cork University Hospital

<u>Kim O'Brien</u>, Zohaib Aslam Cork University Hospital, Cork, Ireland

#### Abstract

#### Introduction

Healthcare provision is a significant contributor to global emissions, contributing up to 4% of total global carbon emissions<sup>1,2</sup>,. Delivery of healthcare is notoriously energy intensive, compared to other commercial and service activities<sup>3</sup> with inadequate attempts at emission reduction strategies reported worldwide, largely due to concerns over patient safety<sup>4</sup>. Operating theatres are often the most resource intensive area of a hospital and are associated with substantial energy demands and significant quantities of consumables and waste, contributing up to 33% of total hospital waste5. Under the auspices of Sustainable Development Goal no.12 (Responsible Consumption and Production), I audited resource efficiency within the operating theatre complex in CUH. The aim of this resource efficiency audit was to audit energy consumption and waste generation in CUH and to provide recommendations for improvement.

#### Methods

Data was collected from the sustainable energy officer, the clinical waste manager, the pharmacy department and the clinical supplies manager in CUH.

Results

Energy consumption and waste generation have been largely static over the last three years.

#### Conclusion

Solutions include the implementation of efficiency standards such as ISO 50001 and 46001 to facilitate incorporating energy and water efficiency into the sustainable management of the hospital. Additionally, complete assessment of current resource usage by conducting a comprehensive review of current resource utilisation to further identify inefficiencies in the hospital e.g. single-use plastics, is

required. Regular monitoring and evaluation of this efficiency plan to close the audit loop and promote a culture of continuous success.

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Sustainability, Resource Usage, Anaesthesia

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# A Feasibility Study & Pilot of A Near-Peer Led Critical Skills Workshop For Junior Doctors.

<u>Aaron Blake</u><sup>1</sup>, Aaron Blake<sup>2</sup>, Aidan Spring<sup>2</sup> <sup>1</sup>UHW, Waterford, Ireland. <sup>2</sup>UHL, Limerick, Ireland

#### Abstract

#### Introduction:

Ultrasound guided intravenous (IV) cannulation is a technique that significantly increases the success rate of cannulation in difficult cases. (Tran et al., 2021, 3068-3078) Difficult IV access is a common issue encountered by junior doctors. This is a problem not only for them, but also for their patients as repeated attempts are uncomfortable and can result in delayed treatment. This project introduces a feasibility study and pilot of a workshop on Ultrasound Guided IV Cannulation for junior doctors.

The goal of this workshop is to pilot a co-produced, near-peer led, US Guided IV Cannulation workshop for junior doctors.

The secondary goals of this workshop are to introduce junior doctors to this skill, to reduce the burden on our Anaesthesiology service for cannulation, and to provide Anaesthesiology trainees with the opportunity to demonstrate soft skills in critical care by coaching junior trainees.

#### Methods:

This workshop was created by Anaesthesiology trainees in University Hospital Limerick who carried out a design session with the main outcomes including a homemade venous access simulation model, informal curriculum development on the essentials of US Guided IV Cannulation, and recruitment of trainers. Attendees registered online and completed a Pre-Evaluation Form followed by a Post-Evaluation Form after the workshop had been delivered.

#### **Results:**

Of the 60 Intern Doctors in University Hospital Limerick, 33 submitted an Expression of Interest, 24 registered for the workshop, and 22 attended. Before this workshop, 62.5% of interns had reported receiving 5 or more calls per shift from nurses for difficult IV Cannulation during their day job. 84% of interns had reported needing to call Anaesthetics for a failed IV Cannulation with more than 50% of interns reporting making the call 2 or more times.

80% of interns had not tried the technique before. After this workshop, the proportion of interns that described themselves as being at least slightly comfortable with US Guided IV Cannulation increased from 4% to 53%. Financially, this workshop had an overall expenditure of 60 euros and was delivered

free at the point of access. The cost per attendee was 3 euros. 85% of interns would pay for a similar workshop with a mean price of 41 euros.

#### **Conclusion:**

This feasibility study and pilot provides a foundation for the development of further critical skills workshops that are affordable, transferrable, and accessible to juniors with a mutual benefit offered to trainees and trainers alike.

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Tran QK, Fairchild M, Yardi I, Mirda D, Markin K, Pourmand A. Efficacy of Ultrasound-Guided Peripheral Intravenous Cannulation versus Standard of Care: A Systematic Review and Meta-analysis. Ultrasound Med Biol. 2021 Nov;47(11):3068-3078. doi: 10.1016/j.ultrasmedbio.2021.07.002. Epub 2021 Aug 3. PMID: 34353670.

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Medical Education, Anaesthesia, Clinical Skills, Ultrasound, Vascular Access

## An Airway Challenge presenting in Severe Oral and Maxillofacial Trauma

<u>Aaron Blake</u><sup>1</sup>, Claire Leatham<sup>2</sup>, Naomi Quigley<sup>2</sup> <sup>1</sup>UHW, Waterford, Ireland. <sup>2</sup>UHL, Limerick, Ireland

#### Abstract

#### Introduction:

Airway management of patients with maxillofacial trauma remains a challenging task for the anesthesiologist (Saini et al., 2021).

Maxillofacial trauma can cause blockage of the nasopharyngeal airway via displacement of the facial bones; airway soiling from debris including fractured teeth, blood, and vomitus (Fabich et al., 2019). Traumatic oedematous changes and soft tissue injury can cause delayed airway compromise.

Definitive airway planning is of utmost importance and maintaining a high index of suspicion for airway compromise (Walls, 1998). Non-technical skills of collaboration and communication with both clinical and non-clinical support staff also needs to be optimised (Saini et al., 2021).

#### Methods:

A 64 year old male, presented to the ED with severe oral and maxillofacial trauma following his bicycle colliding with the back windscreen of a parked car. This resulted in multiple lacerations of the face, lips, left mandibular fracture, nasal bone fractures, and dental loss and injury. (Fig 1). Adequate preparation for a predicted difficult airway was made in theatre with adherence to the Difficult Airway Society guidelines (DAS guidelines, 2015). Senior expert airway management advice was sought.

Following initial airway assessment, optimisation of airway conditions was performed to ensure firstattempt successful intubation:

- Patient was positioned at 45<sup>^</sup> angle to optimise airway positioning and to facilitate reduction in airway soiling.

- Assessment of patency of the nostrils bilaterally by asking the patient to expel air through each nostril individually. This was performed twice in succession to ensure optimal patency, followed by appropriate suction and aspiration.

- Pre-oxygenation with nasal Hi-Flo oxygen was performed for five minutes.

- Three suction apparatus of varying size were immediately available. One of these was attached to a Macintosh Laryngoscope to allow for continuous suctioning during laryngoscopy.

- Another Macintosh Laryngoscope and McGrath video laryngoscope were also safety checked by theatre staff, consultant anaesthesiologists, and were readily available.

#### **Results:**

Direct laryngoscopy was performed twice with a MAC blade 4. The first attempt required suctioning of blood, debris, and secretions in the airway to optimise the view. Second attempt revealed a Grade I Cormac & Lehane view of the glottis.

Successful intubation on second attempt with ETT 8.0 and boujie.

#### **Conclusion:**

Airway trauma carries significant risk of morbidity and mortality.

Thorough and appropriate planning of intubation was essential to minimise the risk of potentially catastrophic airway complications. Ensuring that all necessary and required equipment was available for both the initial and contingent airway plans, including suctioning, types of laryngoscope, high-flow nasal oxygen, and senior support.

Importance of communication was further exemplified in this case between the OMFS team and Anaesthesia team during the placement of the surgical tracheostomy. Again, this presents a moment of high-risk airway complication in this setting. Communication with the Intensive Care team to plan the immediate post-operative care of the patient was also necessary.

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Figure 1, Photograph #1 Facial trauma, used with consent.

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## Poster keywords

Airway, Maxillofacial, Trauma, Multidisciplinary, Emergency

## FUSIC Echocardiography Training at Limerick: What Have We Learned?

Paul Ryan<sup>1</sup>, Areebah Hassan<sup>2</sup>, Michael O'Sullivan<sup>2</sup>, <u>Catherine Nix</u><sup>2</sup> <sup>1</sup>University Hospital Limerick, Department of Anaesthesia, Intensive Care and Pain Medicine, St Nessan's Road, Dooradoyle, Limerick, Ireland, V94 YVHO;, Limerick, Ireland. <sup>2</sup>

#### Abstract

Introduction:

Increasingly, basic echocardiography is recognised as an essential skill for doctors looking after a critically ill

patient. We describe the training pathway of an Irish Specialist Anaesthesiology Trainee in the acquisition of the

skills necessary for basic echocardiographic assessment of the critically ill patient through completion of a

recognised training framework - Focused Ultrasound in Intensive Care (FUSIC). FUSIC Heart is a level 1

accreditation in echocardiography that has been adopted as a framework for teaching echocardiography to

Anaesthetic Trainees in Ireland.

Methods:

A training pathway has been put in place to teach FUSIC Heart:

1. The trainee completes a series of online lectures.

2. Attendance at practical group scanning sessions.

3. First 10 cases supervised by mentor in person. 2-3 scanning sessions with 1 tutor + 1-2 learners

4. The trainee completes a logbook of 50 cases within a 1 year period as per FUSIC curriculum.

5. Online storage of de-identified images for review by mentors/superviors.

6. Upon completion of the logbook, a 'triggered assessment' is conducted by a supervisor (+/- mentor,

cardiologist, cardiac physiologist) to assess competency in a real-life scenario e.g. on a CCU inpatient.

Learning Points: 1. The main group taking this accreditation are Intensive Care Medicine trainees and Anaesthetic trainees.

Cardiology and Emergency Medicine trainees are also engaging.

2. The time commitment is considerable for both the trainee and the mentor.

3. <25% of trainees complete accreditation process within the designated 1-year period. This has led us to

develop a better filtering process. Trainees must have uploaded scans and submitted certification of

completion of online modules prior to attendance at dedicated scanning sessions.

4. Cardiology trainees have the highest completion rate and many complete the program in 3 months or

less.

5. Integration with cardiology/cardiac physiologists allows the training platform to grow locally.

6. Teaching correct ergonomics and scanning technique from the beginning is desirable.

7. Additional mentors results in increased access to supervised scanning with more trainees taking part.

8. Having actors/ultrasound volunteers available initially for practice scanning was a useful exercise.

9. Following a structured training pathway enabled greater trainee and trainer commitment and clarity of

purpose and gave a framework for skill acquisition.

10. Frequent uploading of scans as they happened rather than all at once allowed more indepth feedback

and greater development between scans.

11. Formal rehearsal of the triggered assessment is a useful exercise.

Conclusions:

A pathway for teaching and learning basic echocardiography is now in place and growing in popularity and

recognition at UHL. This is likely to become an inceasingly utilised pathway for Irish Anaesthetic Trainees.

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The trainee completed a series of online lectures and theory assessments prior to beginning the practical echocardiography training.



A logbook of 50 performed scans was required to be completed, both supervised and self-directed. A cloud-based platform was used to facilitate remote access of the relevant images, collective review and critique and secure online storage of hundreds of images.



Upon completion of the logbook a 'triggered assessment' was conducted by two senior, qualified practitioners to assess competency in a real-life scenario.

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Echocardiography, Training, Education, Ultrasound, Intensive Care

# A clinical audit of central venous catheters in critical care and associated complications.

Maeve Jennings SVUH, Dublin, Ireland

#### Abstract

#### Introduction

Central venous catheters are utilised in the ICU setting, most commonly for vasopressor support, renal replacement therapy and total parenteral nutrition (TPN). Despite their use, CVCs are associated with substantial complications including infection, thrombosis, and pneumothorax [1]. In 2016, the AAGBI introduced guidelines to ensure safe vascular access to reduce the increasing cost and morbidity associated with CVC complications [2-3]. The aim of this study is to describe clinicians and nursing staff adherence to these guidelines in an acute ICU setting.

#### Methods

A retrospective study was conducted in the intensive care unit (ICU) of St Vincent's University Hospital over a two-month period. Data was collected from patients in ICU from July to August 2023 inclusive from Metavision Software, patient charts and radiology imaging systems.

#### Results

83 ICU participants (47 males and 36 females) with at least one CVC were included in the study. The indications for CVC insertion were vasopressor support (77%), renal replacement therapy (27%) or TPN (19%). 62% of CVC's were inserted in the right internal jugular, 17% in the left internal jugular, 17% in the femoral veins and 3% in subclavian veins. The average CVC duration was 6.7 days (*SD* = 3.95). Chest X-ray and ECG monitoring were used in 100% of cases to confirm adequate placement. Documentation of indication for line change was limited. 18% of line changes were associated with a febrile episode on the day of change. Eight patients were discharged to ward level care with a CVC in situ for TPN (4 patients) and renal replacement therapy (4 patients). Complications found associated with CVCs were bloodstream infection (5%) and arterial puncture (2%). Infection was associated with patients discharged to wards with CVCs in situ (60%).

#### Conclusion

This study demonstrated adequate compliance with recommendations laid out in the AAGBI guidelines [2]. However, it was highlighted patients discharged to wards with CVC's were more likely to develop an associated bloodstream infection.

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central venous catheters, infection, vascular access, vasopressor, line complications

## Improving the DNA rate for CPET: Do we need to look at our messaging?

#### Hannah Shereef

ST7 (North West School of Anaesthesia), Manchester, United Kingdom

#### Abstract

#### Introduction

Cardiopulmonary exercise testing (CPET) is an extremely useful adjunct for planning care around major surgery. However it is a time, personnel and resource intensive resource. Across the UK, there is a significant "did not attend" (DNA) rate for CPET. The aim of this qualitative study was to examine the language used to inform patients about CPET, and to initiate discussion about whether this could or should be changed to help reduce patient anxiety surrounding the test.

#### Methods

Patient information leaflets were examined from a sample of CPET centres in England and Wales. The focus of analysis centred on three aspects; how the purpose, nature and complications of CPET testing were conveyed.

#### Results

16 patient information leaflets were examined; of these, 15 were from centres in England and 1 was from a centre in Wales. 9 out of 16 centres (56%) contained some reference to the purpose of the test being to assess "fitness" for surgery. 7 out of 16 of centres (44%) made mention of assessing risk. 8 out of 16 (50%) centres explained that the results of CPET testing would help plan or personalise care. 6 out of 16 (38%) explained that the results of the test were modifiable, for example with prehab. With regards to the nature of the test, 2 out of 16 (13%) centres described the test as representing "mild" exercise intensity, 7 centres (44%) described the exercise intensity as mild-moderate or moderate and 1 centre (6%) described the exercise intensity as moderate-strenuous. 6 centres (38%) made no mention of exercise intensity. Finally with regards to complications, 9 out of 16 centres (56%) chose to include specific complications of the test, for example irregular heart rhythm, heart attack or stroke. Only 1 centre (6%) made mention of alternatives to CPET testing.

#### Conclusion

The language used in CPET patient information leaflets varies widely and may influence how comfortable patients feel about taking the test, as well as having implications for informed consent. Language such as "assessing fitness for" or even the word "test" may provoke anxiety in patients who believe presenting for CPET could mean potentially ruling themselves out for life changing surgery if they "fail". A single evidence based, nationally commissioned patient information leaflet may be beneficial in unifying the information patients receive about CPET.

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CPET, CPEX, consent, compliance, information