HUMAN FACTORS IN HEALTHCARE CONFERENCE 2025

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Programme at a Glance

Programme of Events		
0830	Registration	
0900-0915	Prof Peter Brennan	**Welcome and Introduction to HF in Healthcare**
0915-0945	Prof Helen Higham	**How Things go Right in Healthcare (and What we Should do When They Don't)**
0945-1030	Lt Col (Retd.) Langley Sharp MBE	**Leadership, Followership and Unleashing the Power Between**
1030-1100	Coffee Break	
1100-1145	Prof Kevin Fong OBE	**We're Wrong About Risk**
1145-1215	Dr Steve Jarvis	**Whose Decision was That?**
1215-1315	Lunch	
1315-1400	Research Presentations	
1400-1430	Prof Kevin Turner	**Supporting Surgeons When Things go Wrong**
1430-1530	Ms Barbara Wren	**The Human Impact of Healthcare Work**
1530-1545	Coffee Break	
1545-1615	Dr Dale Whelehan	**First, Do No Harm – to Ourselves: Rethinking the Working Week in Medicine**
1615-1645	Prof Eva Doherty	**I wouldn't Start from Here - Future Directions in Human Factors Training**
1645-1700	Prof Peter Brennan	**Close**

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Guest Speakers

Professor Peter Brennan

Professor Peter Brennan is a Consultant Oral and Maxillofacial Surgeon in Portsmouth, specialising in head and neck oncology with a personal chair for his research and education achievements, He has over 830 publications, with 80+ on patient safety and human factors. He is a committed trainer and educator. Peter won the Association of Surgeons in Training (ASiT) 2022 Silver Scalpel Award – the most prestigious accolade across all UK surgical specialties for training excellence.

He has edited 10 specialty surgery textbooks and is Lead Editor of Gray's Surgical Anatomy which receives worldwide acclaim. The book begins with a chapter on minimising error in the operating theatre.

Peter is interested in human factors (HF) and patient safety, and has established unique collaborations with HF experts, airline pilots, National Air Traffic Services (NATS) and the Royal Air Force Aerobatic Team (Red Arrows). His work improves practice across surgical and medical specialties and includes reducing authority gradients, enhancing team working and raising awareness of many personal factors to reduce medical error. In 2019, he was awarded a PhD entitled 'Applying HF to Improve Patient Safety.' He works with the Royal Colleges, GMC, specialty associations and others to help improve patient safety and better teamworking. He promotes equality, diversity and training at every opportunity. Peter was awarded an OBE in the recent King's Birthday list for services to Surgery and Patient Safety.

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Professor Helen Higham

Helen is an Associate Professor in the Nuffield Department of Clinical Neurosciences at the University of Oxford, a Consultant Anaesthetist at the Oxford University Hospitals NHS Foundation Trust and Associate Dean for Simulation and Patient Safety at NHSE-Thames Valley.

She is the Director of OxSTaR, the University of Oxford's simulation and patient safety research centre, (www.oxstar.ox.ac.uk). Helen has led and supported many safety incident investigations in the NHS and has delivered national training programmes in systems-based incident investigation. She was a founding executive member and a past president of the Association for Simulated Practice in Healthcare in the UK and provides expert input for national committees in patient safety and human factors training, the Foundation Curriculum and the Safe Anaesthesia Liaison Group. She currently leads the Human Factors module on the Masters in Surgical Science and Practice in the University of Oxford.

Her research interests include human factors and simulation-based education in healthcare with current projects focused on system based approaches to safety in primary care, human factors in low to middle income healthcare settings and the use of virtual reality to train healthcare professionals.

Outside work she is a keen baker and a "fair weather" diver.

Lt Col (Retd.) Langley Sharp MBE

Langley Sharp MBE is the former head of the Centre for Army Leadership, responsible for championing leadership excellence across the British Army. Having himself graduated from Sandhurst two decades ago, his career in the Parachute Regiment, which included operational command at every rank, saw him deployed to Northern Ireland, North Macedonia, Afghanistan and Iraq. Among his many varied roles, he led a counter-insurgency Task Force operation, commanded a Parachute

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Regiment Battalion and delivered the Ministry of Defence's training programme for the London 2012 Olympics venue security, for which he was awarded an MBE. He is the author of the British Army's official account of leadership, *The Habit of Excellence*, distilling over three centuries of the Army's experience in the art, science and practice of leadership.

The breadth of Langley's life experiences has fostered in him a steadfast belief in the potential of people. As an executive coach and leadership consultant, working with executives and senior leadership teams across the private and public sectors, his passion is to help unleash this potential. Langley is the Founder and Director of Frontier Leadership.

Dr. Steve Jarvis

Dr. Jarvis is a leading aviation human factors scientist and well-known educator. Steve's core work includes scientific research in pilot attention and monitoring, human-performance air accident investigations, procedure reviews, validations and re-designs, and training. Steve authored and updated the UK Civil Aviation Authorities 'Flight Crew Human Factors Handbook' (CAP 737) used across the world.

Steve has been at the cutting-edge of aviation human factors and CRM for several decades, conducting research for airlines, helicopter operators and militaries. He provides (and has written) training for large airlines, regulators, manufacturers and militaries. For many years Steve has provided voluntary expertise to the healthcare domain, particularly the Royal College of Surgeons in England, to help progress medical safety. This has included assistance creating human factors training courses, conference presentations, chairing workshops, and co-authoring articles and chapters.

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Professor Kevin Fong OBE

Kevin Fong is consultant anaesthetist at UCLH and professor of public engagement and innovation in the Department of Science, Technology, Education and Public Policy (STEaPP) at University College London. Dually accredited in anaesthesia and critical care medicine, he also works as a helicopter emergency medical service (HEMS) doctor with Air Ambulance Kent Surrey Sussex. In March 2020, Kevin was seconded to NHS England as National Clinical Advisor in Emergency Preparedness Resilience and Response for the COVID-19 incident.

He is an honorary senior lecturer in physiology at University College London, where he organises and runs an undergraduate course in Extreme Environment Physiology. He studied astrophysics and medicine at University College London and a masters in astronautics and space engineering at Cranfield University. He is a member of Royal College of Physicians, a Fellow of the Royal College of anaesthetists and has completed postgraduate clinical training in Anaesthesia and Critical Care Medicine. Kevin has a long standing interest in human space exploration and space medicine and has worked with NASA's Human Adaptation and Countermeasures Office at Johnson Space Centre in Houston.

Professor Kevin Turner

Kevin Turner was appointed as a Consultant Urological Surgeon in Bournemouth in 2007 and is a Visiting Professor at Bournemouth University. He trained in Urology in Oxford, Edinburgh and Melbourne. His clinical interests are in urological cancer, particularly resectional surgery for pelvic cancer and robotic / minimally invasive surgery. He was elected an Hunterian Professor of the Royal College of Surgeons of England whilst still a trainee, was awarded the European Association of Urology Thesis Award for his research in renal cancer, and is co-editor of the Oxford Handbook of Urological Surgery. In 2015 he co-founded the Bournemouth Adverse Events Research Team with colleagues in the Department of Psychology at

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Bournemouth University. The aim of the team is to generate original research data concerning the impact of adverse events on surgeons and to develop and trial novel interventions designed to ameliorate that impact. Results of the team's national survey have been published in the BJS and BJS Open, an RCT of the effectiveness of a resilience training intervention for surgical trainees has been completed and is in press in BMC Surgery , and in 2020 (in conjunction with RCS England) the team led the multidisciplinary panel that wrote the RCS Good Practice Guide "Supporting surgeons after adverse events". In 2024 Kevin was appointed as national clinical lead for the RCS England SUPPORT programme which is a multi-site improvement collaborative designed to enable participating Trusts to design, deliver, sustain, and evaluate peer-peer support for surgeons.

Barbara Wren

Barbara Wren is an experienced Consultant Psychologist and organisational consultant, and a skilled facilitator, coach, trainer, mediator, presenter and writer. She is a Chartered Psychologist, Director of Barbara Wren Psychology, and an Honorary Fellow of the Occupational Medicine Division of the Royal College of Physicians in Ireland.

Barbara Wren Psychology provides bespoke therapy, coaching, training, mediation, group reflection and organisational culture interventions to a range of organisations in the UK and Ireland. Barbara has wide ranging experience of working with doctors, having also spent 25 years at the Royal Free Hospital in London developing interventions for doctors and for medical teams in difficulty.

For the past seven years she has designed and delivered bespoke sessions to the Royal College of Surgeons in Ireland Human Factors Programme within which the human impact of high stakes medical work is explored and the emotional consequences of system error, adverse medical outcomes, dysfunctional teamwork experiences and working in systems under high strain are shared, and the courage needed to sustain oneself throughout a medical career explored.

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She has a keen interest in using narrative to develop individual, role and system resilience as demonstrated in her book "True Tales of Organisational Life" (Karnac 2016). It describes how she developed a unique staff psychology role at the Royal Free and then used this experience to bring psychology expertise and conceptual thinking to the development of the European Schwartz Round model, and to support the UK and Irish rollout of Schwartz Rounds. The book ends with a consideration of the containment that needs to be available to enable healthcare staff to manage the impact of their work, while staying effective in role.

Since then, she has further developed this work to create a unique bespoke psychological intervention model to sustain wellbeing and effectiveness in a range of professional groups including doctors, lawyers and social care professionals. For further information go to barbarawrenpsychology.com

Dr. Dale Whelehan

Dr. Dale Whelehan is a behavioural scientist and former CEO of 4 Day Week Global, a pioneering organisation driving the global movement towards reduced-hour, productivity-focused work. With a background in physiotherapy and a PhD in behavioural science, Dale's work explores how cognitive load, fatigue, and decision-making impact performance in high-stakes environments like healthcare.

He brings a systems-thinking lens to the redesign of work and training in surgery, advocating for flexible, psychologically safe, and human-centred approaches. His research challenges traditional models of healthcare delivery, offering evidence-based insights into how we can improve both clinician wellbeing and patient outcomes through better design of the environments in which we work.

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Professor Eva Doherty

Eva is a practising Chartered Clinical Psychologist, Associate Professor and Director of the Human Factors in Patient Safety (HFPS) training, research and assessment programmes at the National Surgical Training Centre, Department of Surgical Affairs, RCSI University of Medicine and Health Sciences, Dublin, Ireland.

The HFPS training is a mandatory component of the postgraduate professional training for surgical, emergency medicine, radiology and ophthalmology trainees. Each year over 100 interactive workshops and high fidelity simulation training courses are delivered to trainee doctors, doctors not currently in training and consultants on topics which include medical error, risk management, communication, teamwork, conflict resolution, decision-making, open disclosure, emotional intelligence, crisis management, stress and well-being, professionalism and leadership. Eva pioneered and directs the academic Postgraduate Diploma/MSc in Human Factors in Patient Safety which is an inter-professional one/two year part-time online programme.

Eva has over 50 peer reviewed publications on topics relevant to clinical communication issues, curriculum development and personality factors in medical education and assessment. Eva acts as advisor to the National Healthcare Communication Programme in Ireland, HSE. She is a member of the ISQUA Expert Panel and the Independent National Patient Safety Council in the Department of Health. In recognition of Eva's contribution to medical education and to communication training in healthcare, Eva was awarded a Principal Fellowship by the Higher Education Academy in the U.K. and an honorary fellowship by EACH International, the International Association for Communication in Healthcare.

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Research Presentations

Time	Title	Presenter
13:15-13:22	Prevalence of Workplace Mistreatment among UK Surgeons and Surgical Trainees: A Scoping Review	Dr. Katherine Maxi Jachens
13:22-13:29	The Matrescence: A Human Factors Approach to Enhancing Patient Safety for Women Returning to Work after Maternity Leave.	Dr. Isabelle Williams
13:29-13:36	Paediatric Surgery Burnout – A Closed Loop Audit and Quality Improvement Project	Dr. Dylan Wills
13:36-13:43	Human Factors at the Bedside: Implementing an In-Situ Simulation Programme in the Intensive Care Unit	Dr Ashwini Virgincar
13:43-13:50	Ergonomic Burden in Surgery: A Pilot Cross-Sectional Study Among Surgeons at the University Hospitals of Leicester NHS Trust	Dr. Hasan Asfour
13:50-13:57	Ten Years of Clinical Negligence Claims in Otolaryngology: Trends, Costs, and Preventable Harm in the UK National Health Service	Dr. Behrad Barmayehvar

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The Human Factors in Surgery Network

The Human Factors in Surgery Network (HFSN) is a UK based, cross-specialty national organisation dedicated to advancing the understanding and application of human factors in the surgical field.

The network adopts a collaborative, trainee-led model which aims to undertake research projects that enhance surgical safety and efficacy. Current projects include CROSSCHECK, A multi-centre CROSS-sectional study and audit of surgical safety CHECKlist Modification.

HFSN provides a platform for trainee doctors to engage with experts, network with peers, and develop their careers in the domain of human factors and surgical safety. For more information see our website
https://humanfactorsinsurgerynetwork.wordpress.com/

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Research Abstracts

Oral Presentations

Prevalence of Workplace Mistreatment among UK Surgeons and Surgical Trainees: A Scoping Review

Katherine M Jachens(1), Liza Jachens(1), Jonathan Houdmont(1), Dileep N Lobo(2)

1. Mental Health and Clinical Neurosciences Unit, School of Medicine, Faculty of Medicine and Health Sciences, University of Nottingham
2. Division of Translational Medical Sciences, School of Medicine, Faculty Medicine & Health Sciences, University of Nottingham

Aim: We aimed to scope the evidence of workplace mistreatment among surgeons and surgical trainees in the UK, the prevalence of mistreatment and explore directions for future research.

Method: We carried out a scoping review following a published protocol. We retrieved 540 results from searches of the MEDLINE, Embase and PsychINFO databases. Thirteen additional sources were identified through Google scholar, Google search and citation searching. After full-text screening, 25 records were included in the review. Data charting was completed using a pre-determined table.

Results: Results report prevalence of bullying (6%-68%), undermining (0%-90%), harassment (7%-28%), sexual harassment (4%-63%), sexual assault (7%- 30%), rape (0.1%-0.8%), discrimination (38%-45%) and grouped measures of experiencing mistreatment “bullying, undermining and harassment” (7%-65%). Qualitative data describe experiences related to gender, ethnicity, maternity or pregnancy-related discrimination, and bullying behaviours. Demographic groups most at risk included women, trainees, ethnic minorities and those taking less than full-time (LTFT) work. The most reported perpetrators were senior medical colleagues and/or consultant surgeons (38%- 88%). Outcomes associated with mistreatment include barriers to career progression and attrition of surgical trainees.

Conclusion: The current evidence indicates mistreatment among surgeons in the UK is a widespread and persistent issue. Future research must establish standardised definitions and measurement for mistreatment for more effective pan-surgery collaboration and consistency in research. Further investigation on the hierarchical culture of surgery, gender, ethnic and intersectional disparities, barriers to reporting, leadership accountability and policy development are vital to further holistic understanding and strategic, preventative action.

The Matrescence: A Human Factors approach to enhancing patient safety for women returning to work after maternity leave

Isabelle Williams (1), Katrina Mason (2), Miss Eleanor Crossley(1), Tiffany Munroe-Gray (1), Natalie Watson (1), Helen Higham (3,4)), Lauren Morgan (5).

1, Guy's and St Thomas' NHS Foundation Trust, 2, Evelina London Children's Hospital, 3. Nuffield Division of Anaesthetics, University of Oxford, 4. OUH NHS Foundation Trust, 5. Morgan Human Systems Ltd

Aims

Returning to surgical practice following a prolonged period of leave presents unique challenges, with technical skill, precision and physical endurance all requiring continuous practice and refinement. Without structured reintegration, return to work (RTW) poses risks to both patient safety and professional well-being. Current RTW processes remain variable and inconsistent across specialties, departments and trusts, are often poorly utilised and lack national standardisation.

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Methods

Three ENT surgeons due to RTW following maternity leave participated in a six-month pilot quality improvement (QI) project, registered and approved internally. Participants completed a pre-RTW questionnaire and undertook a semi-structured RTW session with a facilitator (KM), their educational supervisor and departmental manager based on the Systems Engineering Initiative for Patient Safety (SEIPS) 101 Human Factors model. The SEIPS 101 People, Environment, Tools, Tasks (PETT) Scan tool was used to identify barriers and facilitators to RTW, with findings analysed thematically to develop a personalised RTW checklist. The project was supported by a WENTS Shyamala educational grant which funded two Human Factors experts to guide the project's methodology.

Results

RTW barriers included limited awareness of breastfeeding facilities, immediate return to on-call duties without a phased return to work process, as well as delays in obtaining access to email chains, necessary contacts and servers (EPIC). Facilitators included reduced patient numbers in planned outpatient clinics, flexible clinic scheduling to enable breastfeeding/pumping, supervised operating lists as well as the recognition of paid Keeping in Touch (KIT) days.

Conclusions

This small QI pilot effectively supported the RTW of three surgeons, illustrating how a structured Human Factors model can identify support channels that form the foundation of a personalised RTW scheme applicable to surgeons in diverse contexts. Collateral benefits of the project included fostering of departmental collaboration, the establishment of a RTW WhatsApp group, and increased trust-level awareness of breastfeeding facilities. We highlight the potential for scalable, system-wide improvements in surgical RTW practice.

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Paediatric Surgery Burnout – A Closed Loop Audit And Quality Improvement Project

D Wills (1), E Coates (1)

1. Department of Paediatric Surgery, John Radcliffe Hospital, Oxford University Hospitals NHS Foundation Trust

Aim: To assess the departmental burnout at the point of rotation of Resident Doctors.

Method: This is a multicycle quality improvement project where the Maslach Burnout Inventory – Human Services Survey for Medical Personnel (MBI) was administered anonymously to the department (Consultants, Registrars and SHOs). MBI was assessed at 3 intervals: before staffing shortage, immediately after shortage and 4 months later. MBI scores three domains, Exhaustion (EE) and Depersonalisation (DP) or Personal Achievement (PA). These have been classified as high, moderate and low risk for burnout. Burnout was defined as high risk EE(>27) and DP(>13) or PA(<31). Interventions were instituted between cycles 2 and 3 and included improved staffing, regular teaching, closer teamworking and protected administrative time.

Results: Survey response rate was 61% [n, %] (15, 65%; 12, 57%; 14, 61%). Response rate was 86%, 73%, 25% for SHO, Registrars and consultants respectively. Rate of burnout was 33, 42 and 36% for each cycle respectively. The median [IQR] score for EE, DP and PA were 32[22-37], 9[3-14] and 36[32-39]. There was no difference in burnout between registrars and consultants (17%[1/6], 20%[3/15], p=0.68) but there was a difference between registrars and SHOs (20%[3/15], 55%[11/20], p=0.04). Following interventions, only low risk PA score improved significantly. (3/27 vs. 7/14. p=0.02)
Time away from work and positive relationships were protective factors. Poor staffing and senior support were aggravating factors.

Conclusion: Overall burden of burnout is higher than published data, with the highest burden on SHOs. Interventions were successful at improving PA only.

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Human factors at the bedside: implementing an in-situ simulation programme in the intensive care unit

Dr Ashwini Virgincar (1,2), Dr Khairil Musa (2), Dr Ehsan Ahmadnia (2).

1 London School of ICM, 2. Guy's and St Thomas' Hospital

Aim:

To establish a multi-disciplinary in-situ simulation teaching programme enabling exploration of, and learning from, technical and human factors surrounding the management of high risk scenarios in a tertiary general intensive care unit.

Methods:

Our faculty run one simulation per month, covering varied scenarios using high fidelity simulation equipment. A twenty-minute scenario is followed by a forty-minute debrief allowing reflection on closed loop communication, the psychological benefit of algorithms, leadership, situational awareness when working within a confined side room and team dynamics within a hierarchical structure.

Early allocation of dates alongside the use of lower fidelity equipment allows us to overcome the challenge of shared or unavailable high-fidelity equipment. Use of a communication scenario in a family room ('management of angry family member') mitigates lack of unit bed spaces. We have optimised and emphasised psychological safety of participants within the pre-brief and have adjusted timing to minimise disruption of clinical activities.

Results

83% of participants felt that the teaching session was 'very relevant' to their clinical practice and that the debrief session was 'very helpful' for highlighting key learning points. Qualitative feedback emphasises the advantages of multi-disciplinary involvement, maintaining high fidelity and a non-judgemental environment. Suggestions for improvement include technical considerations to enhance fidelity and increasing availability of simulation teaching to all medical juniors and other units.

Conclusions

This project provides proof of principle for regular in-situ simulation teaching and its benefit in cultivating teamwork and reflection upon the impact of human factors in high-risk scenarios.

Ergonomic Burden in Surgery: A Pilot Cross-Sectional Study Among Surgeons at the University Hospitals of Leicester NHS Trust

Hasan Asfour (1), Imran Kais(1), Aya Mebaoudj(1), Israt Jahan(1), Ahmed Alemam(1), Hisham Z Butt(1).

1. Department of General Surgery, University Hospitals of Leicester NHS Trust, Leicester, UK

Aim

Ergonomics in surgery is a crucial field that aims to promote surgeons' well-being and career sustainability. Prolonged static postures, repetitive tasks, and suboptimal setups of operating room significantly contribute to work-related musculoskeletal disorders (WMSDs) among surgeons. Despite growing awareness, ergonomic practices remain inconsistently applied in clinical settings.

Methods

A pilot, cross-sectional, survey-based study was conducted among 49 surgical doctors working at one of three University Hospitals of Leicester NHS Trust. The questionnaire assessed surgeons' demographics, surgical workload, ergonomic awareness and practices, and WRMD experiences.

Results

Descriptive analysis showed that most respondents were aged 30–39 and work in general surgery. Majority of participants performed open or laparoscopic procedures lasting over an hour. Ergonomic tool usage was limited: only 14% used anti-fatigue mats, and 24% used arm supports. While 61% engaged in general physical activity, fewer than 20% performed targeted ergonomic exercises. Correlation analysis revealed a notable association between poor ergonomic practices and chronic pain, particularly in the lower back, neck, and shoulders. Pain prevalence was higher among those with longer years in practice and higher BMI.

Conclusion

This study demonstrated that suboptimal ergonomic practices are prevalent among surgeons at this UK centre, with a significant proportion reporting chronic WRMD. There is a clear need for structured ergonomic training and increased access to supportive equipment in the operating theatre to promote surgeon health and career sustainability. Findings from this pilot study will serve as a foundation for a broader multicentre or nationwide study.

Ten Years of Clinical Negligence Claims in Otolaryngology: Trends, Costs, and Preventable Harm in the UK National Health Service

Behrad Barmayehvar(1), Christopher Metcalfe(1), Jameel Muzaffar (1)
Birmingham Children's Hospital

Aims

With greater pressures on the NHS, litigation is increasing across surgical specialties. We aimed to analyse NHS litigation data in otolaryngology over the last decade, exploring the impact of the pandemic on claim volumes and costs, and to identify common areas of concern.

Methods

National-level anonymised negligence claims data for the financial years 2013/14 to 2023/24 were obtained from NHS Resolution via a Freedom of Information request. The data included claim status, claimant's age group, incident and notification dates, primary cause and injury codes, and the associated costs.

Results: A total of 1,450 claims were received and 1,594 cases were closed. Number of received claims declined from 2020/21 onwards, whereas, total costs followed the closed claim numbers, both gradually increasing with spikes in 2018/19 and 2022/23. The total costs were also driven up by a sharp increase in damages and steadier increase in claimant legal costs. Of the closed cases, 58% resulted in damages payment. The most frequent claim cause was delay in treatment or diagnosis, whilst inadequate intra-operative monitoring led to the highest mean payout. The most frequent injury code was

unnecessary pain, whilst brain damage, although rare, was the costliest. We identified six Never Event categories, with foreign body left in situ being the most common.

Conclusion

Whilst received claims are declining since the pandemic, litigation costs in otolaryngology continue to rise. The results highlight areas of care for targeted improvement, including earlier diagnosis and treatment, robust monitoring, and better communication to reduce preventable harm.

Research Abstracts (continued)

Poster Presentations

Audit of current understanding of human factors in the Orthopaedic department

E Lindsay, C Tinning
NHS Forth Valley

Background: Human factors play a critical role in clinical performance and patient safety, particularly in surgery. Despite their significance, formal training in human factors remains inconsistently delivered across healthcare settings.

Aim: This audit aimed to assess the baseline understanding of human factors among staff in an orthopaedic department, identify gaps in training, and evaluate the impact of a targeted educational intervention.

Methods: A structured questionnaire was distributed to all staff within the orthopaedic department, including consultants, resident doctors and nurses. The survey assessed knowledge, relevance to clinical practice, safety culture, and prior exposure to human factors training. Following the initial assessment, an eLearning package based on aviation industry principles was implemented. Staff who completed the module received CPD certification. A re-audit was conducted using a follow-up questionnaire to evaluate The intervention's effectiveness.

Results: Initial responses indicated unanimous agreement on the relevance and importance of human factors in orthopaedics; however, 77% had not received prior training. Post-intervention, 100% of participants stated the training was beneficial and all reported learning new strategies to mitigate human error. 83% identified learning new strategies to help manage interruptions and 100% reported positive changes regarding communication and teamwork following completion training.

Conclusion: This audit highlights a significant training gap in human factors among all

members of the orthopaedic department. The eLearning intervention proved to be beneficial and effective in improving awareness and understanding. We recommend incorporating mandatory human factors education into departmental training and promoting a proactive safety culture through structured discussions and departmental meetings.

Team briefings are an effective way to improve the quality and experience of ENT on-call shifts

Mr Liam Hyland, ENT CT2 (1), Mr Simon Cole, ENT ST7 (2), Mr Waisum Cho, ENT Consultant (1)
1. Nottingham University Hospitals NHS Trust
2. University Hospitals of Leicester NHS Trust

Aim

Team briefings are a common undertaking in safety-critical industries and are routine practice in areas of surgery such as the operating theatre. In the QMC ENT department, it was observed that the morning on-call handover was pressured in order to commence the ward round expediently, potentially missing opportunities to enhance team communication and coordination. A shift-pattern rota involving a large medical staff pool meant ever changing team compositions. Therefore, we sought a way to compensate for these factors.

Method

Regular team briefings were conducted to purposefully improve the experience of ENT on-call shifts among team members. An instant messaging group chat was created for virtual team briefings with four cycles of team briefings undertaken over a six-month period. Feedback for the virtual briefings was established informally, via level of group use and verbal reports, and formally, via anonymous before and after questionnaires.

Results

Individual interaction with the team briefings increased over progressive cycles. Five out of six team members completed both surveys, which showed a 35% improvement across

4 criteria: educational opportunities, team expectations, introductions and planning, messenger group communication. Responses to "Having team briefings via a messenger app improved the engagement and experience of the ENT on-call shifts" generated an agreement rating of 90%.

Conclusions

There is an increasing appreciation for human factors contribution in all areas of healthcare and we believe that team briefings should be common practice. This framework for team briefing an on-call surgical team could be replicated in other units and disciplines.

Stethoscopes and Strollers: The Impact of Parenthood on the Professional Lives, Wellbeing, and Identity of Physicians

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The intersection of parenthood and medical careers remains a critical yet underexplored factor in determining physician well-being and healthcare sustainability. This narrative review synthesises evidence across Western healthcare systems, examining how systemic structures, cultural norms, and policy frameworks shape the experiences of physician-parents. Through a search of PubMed, Scopus, and Web of Science, we analysed themes of work-life balance, gender inequities, and access to mentorship.

Key findings reveal pervasive work-family conflict, with physician-parents in high-intensity specialities facing burnout due to inflexible schedules and inadequate institutional support. Gender disparities persist: female physicians encounter maternal stigma, pay gaps, and career interruptions, while male caregivers confront "flexibility stigma" that penalises paternal leave. Despite these challenges, parenthood cultivates resilience, empathy, and leadership skills that enhance clinical practice, though such competencies remain undervalued in promotion criteria. Structural barriers to mentorship further marginalise caregivers, particularly women, exacerbating leadership inequities.

The review underscores the need for systemic reforms, including mandated parental leave, subsidised childcare, and competency-based training models that decouple career advancement from rigid timelines. Culturally adaptive strategies, informed by international policies and technological innovations such as AI-driven workflow tools, are proposed to alleviate caregiving burdens. This study redefines parenthood not as an obstacle but as a catalyst for reimagining medical professionalism, urging stakeholders to harmonise clinical excellence with caregiving. By addressing these structural inequities, healthcare systems can cultivate a resilient and diverse workforce capable of meeting 21st-century challenges.

The Abscess Pathway and How Much it Cost the NHS in a Single Centre

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Aim

Operating theatres has been conservatively estimated to cost the NHS at a median of £16 min^{-1} with a range of £12 – 20 min^{-1} in 2011. The price tag to run operating theatres is expensive and therefore patient selection should be further scrutinised especially for simpler cases that may be done on the bedside such as abscesses. We aimed to provide a local recommendation and assess the expenditure of abscesses from 2021 to 2025.

Methodology

A 6-month retrospective review of abscesses was done in our trust which provided insights to develop a recommendation. We further collected data on types of abscesses done in the operating theatres from 2021 to 2025. The expenditure of abscesses was extrapolated over the years. These expenditures were adjusted to inflation rates with 3 different inflation rate indices, namely consumer product index (CPI), medical CPI and Hospital and Community Health Services Index.

Result

According to the recommendations made, 48.6%(n=188) were considered inappropriate.

It is then estimated that the trust has cumulatively spent a total median expenditure of £914,077 for abscesses in the department of General Surgery. Among this, £440,857 were considered inappropriate expenditure with a range of £326,190 – 657,641. If compared to the maximum cost of abscess treatment at Same Day Emergency Care (SDEC), which is £20 per patient without adjustment to inflation, it would cost just £3760 for the 188 patients.

Conclusion

The recommendations of this study could potentially save a median expenditure of £440,857 by treating patients in SDEC instead of the operating theatres.

Improving Surgical Education for Foundation Doctors at a UK District General Hospital

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Introduction

Foundation Year 1 doctors (FY1s) rotating through surgical departments at a UK district general hospital receive less departmental teaching than peers in medical rotations. This gap affects their preparation for surgical roles and limits fulfilment of non-core teaching hours required for ARCP.

Methods

A pre-teaching questionnaire assessed FY1s' confidence in managing surgical patients, cross-covering subspecialties, and handling post-operative complications. A weekly surgical teaching programme was then introduced, delivered by senior house officers, registrars, and consultants. Post-teaching surveys assessed perceived impact on clinical practice and confidence.

Results

After two months of teaching, FY1s reporting increased confidence in managing acute patients and post-operative complications. Feedback highlighted the relevance and usefulness of the sessions. Qualitative comments suggested improved preparedness and satisfaction.

Conclusion
Implementing a structured surgical teaching programme enhanced FY1 education, improved self-reported confidence, and addressed a teaching disparity. Despite logistical challenges, the initiative was well-received.

Improving Patient Safety through Human Factors: Trialling a Multidisciplinary Flashcard Simulation Project in Operating Theatres

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Aim
To evaluate the impact of a multidisciplinary flashcard-based simulation initiative recommended by the RCoA on improving human factors awareness and team performance in operating theatres.

Method
Flashcard scenarios simulating emergency situations were introduced in operating theatres at UHL and QEH. Flashcards were randomly chosen and as per their instructions different members of the team had the opportunity to lead. Sessions engaged anaesthetists, surgeons, ODPs, nurses, and other staff during team briefings. A 5 minute timer was used to ensure minimal disruption to the theatre list. Post-session feedback (n=45) was collected using structured forms and analysed thematically.

Results
36 of 45 respondents provided detailed feedback. Key improvements were identified in awareness of emergency equipment and protocols (e.g. defibrillator pacing, airway trolley location), understanding of team roles (8/36), and familiarity with where to get further information such as the AAGBI Quick Reference Handbook (13/36). Clearer leadership and more effective communication were frequently noted. A notable institutional change followed the identification of inadequate fire door signage. Crucially,

participants overwhelmingly requested further sessions, one response asked for "more, more, more" — reflecting strong enthusiasm and perceived value across disciplines.

Conclusions

This low-resource, flashcard-based simulation method significantly enhanced multidisciplinary awareness of human factors in surgery, encouraging improved leadership, communication, and practical readiness. The enthusiastic call for more sessions demonstrates its effectiveness and sustainability. Integrating these tools routinely into theatre practice could foster a stronger culture of safety and continuous learning.

Ergonomic Burden in Surgery: A Pilot Cross-Sectional Study Among Surgeons at the University Hospitals of Leicester NHS Trust

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Background and Aim

Ergonomics in surgery is a crucial field that aims to promote surgeons' well-being and career sustainability. Prolonged static postures, repetitive tasks, and suboptimal setups of operating room significantly contribute to work-related musculoskeletal disorders (WMSDs) among surgeons. Despite growing awareness, ergonomic practices remain inconsistently applied in clinical settings.

Methods

A pilot, cross-sectional, survey-based study was conducted among 49 surgical doctors working at one of three University Hospitals of Leicester NHS Trust. The questionnaire assessed surgeons' demographics, surgical workload, ergonomic awareness and practices, and WRMD experiences.

Results

Descriptive analysis showed that most respondents were aged 30–39 and work in general surgery. Majority of participants performed open or laparoscopic procedures lasting over an hour. Ergonomic tool usage was limited: only 14% used anti-fatigue mats, and 24% used arm supports. While 61% engaged in general physical activity, fewer than 20%

performed targeted ergonomic exercises. Correlation analysis revealed a notable association between poor ergonomic practices and chronic pain, particularly in the lower back, neck, and shoulders. Pain prevalence was higher among those with longer years in practice and higher BMI.

Conclusion

This study demonstrated that suboptimal ergonomic practices are prevalent among surgeons at this UK centre, with a significant proportion reporting chronic WRMD. There is a clear need for structured ergonomic training and increased access to supportive equipment in the operating theatre to promote surgeon health and career sustainability. Findings from this pilot study will serve as a foundation for a broader multicentre or nationwide study.

Taking safety culture by SWARM: early insights from a multidisciplinary approach to improving PSIRF engagement in adult operating theatres at the Royal London Hospital

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Aim

Swarms - facilitated, multi-disciplinary huddles to gather immediate structured learning from patient safety incidents - form part of the NHS Patient Safety Incident Response Framework (PSIRF) toolkit. We aimed to increase the number of swarm huddles within adult operating theatres, from a baseline of one per quarter.

Methods

A quality improvement approach informed three key workstreams: logistics, awareness, and 'culture of enthusiasm'. A multidisciplinary team of anaesthetists and senior theatre nurses designed a pragmatic pathway to perform swarms and feedback learning actions. A facilitator training programme for band 6+ nurses and doctors was established.

Awareness-raising comprised educational sessions covering PSIRF culture and the System Engineering Initiative for Patient Safety (SEIPS) framework for all staff groups alongside posters, theatre TV slides and a launch week.

Results

In six months after the project launched the frequency of swarm huddles per quarter increased 250%, with increased initiation and facilitation by nursing staff. However, time and effort outlay meant only the most serious incidents were 'swarmed'; monthly Datix analysis suggests that 33-100% of highly suitable incidents are still missed. Staff confidence in theatre safety culture improved over the course of the project.

Conclusions

Intensive education and awareness raising has created sustained multidisciplinary engagement with PSIRF implementation, empowering staff to overcome significant logistical and psychological barriers to engaging with learning after a safety incident; however significant scope for further improvement and rollout to other areas remains. A broad team combining rotational resident doctors' enthusiasm with permanent staffs' local knowledge and longevity was crucial.

SWARM Huddle: Empowering the Wider Adult Theatre Multi-Disciplinary Team (MDT) at Royal London Hospital, Barts Health Trust

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2. *Band 7 - Theatre Nurse, Royal London Hospital, Barts Health Trust*
3. *Anaesthetic Consultant, Royal London Hospital, Barts Health Trust*

Aim

SWARM is a response tool introduced as part of the Patient Safety Incident and Response Framework (PSIRF). SWARM constitutes a facilitated debrief by staff involved shortly after a patient safety event to identify systems factors and suggest improvements. This project

aimed to increase the use of SWARM in adult theatres through a facilitator teaching programme to improve staff engagement and increase the availability of facilitators.

Method
The facilitator teaching programme was carried out in a tiered approach, starting with theatre governance leads training anaesthetic resident doctors, followed by residents leading training sessions for theatre team leaders. The programme consisted of a tutorial on PSIRF culture and working through a SWARM template involving the use of System Engineering Initiative for Patient Safety (SEIPS) framework to identify root causes followed by a simulated scenario. Feedback was obtained regarding importance of SWARM for patient safety, staff wellbeing and confidence in leading SWARM.

Results
6 teaching sessions were organised from October 2024 to March 2025. All band 7s, 8 Band 6s and 4 anaesthetic residents were trained. Feedback noted a high awareness of the importance of SWARM for patient safety, staff wellbeing and identification of learning points with mixed level of confidence in leading SWARM. Simulation training was rated more effective in increasing confidence to lead SWARMs.

Conclusion
Empowering theatre MDT as SWARM facilitators increases facilitator availability and staff engagement for a positive learning culture. Key challenges include managing theatre hierarchies and shifting mindset to a supportive safety and learning culture.

Bridging the Gap: Advancing Human Factors in Medical Device Innovation Through Academia-Industry Collaboration

Rebecca Wickham, Human Factors Consultant at OPD (Oxford Product Design)
Steve Green, Head of Medical Group at OPD (Oxford Product Design)

Human factors challenges in medical device development are rarely “solved” outright. Instead, each new design or insight represents a step in an ongoing process of refinement - an incremental upward staircasing toward safer, more intuitive, and more effective medical technologies. This talk explores the vital role of collaboration between academia

and the diverse ecosystem of industry partners - startups, consultancies, and device developer - who are bringing novel medical innovations to life.

Startups and development-focused companies are often at the forefront of innovation, moving quickly to design and launch new devices in fast-paced, resource-constrained environments. However, this speed can make it difficult to fully evaluate human-system interaction, usability risks, and long-term outcomes. Academia, by contrast, offers deep research expertise, methodological rigor, and the ability to assess and monitor the state of current practices and systems. Academic contributions - especially in the form of validated metrics and longitudinal data - are essential for industry to meaningfully evaluate the impact of their design decisions and demonstrate incremental improvement.

This presentation will share examples of effective collaborations between academic researchers and medical device innovators, highlighting how getting the metrics right not only provides the rigor required to effectively inform design direction but allows the benefits to be monitored and quantified.

Conclusion

Ultimately, this talk is a call to action: for startups and academic teams to engage in purposeful, sustained collaboration that acknowledges the iterative nature of human factors work—driving continuous improvement rather than chasing perfection in device design.

Small Changes, Big Impact: The importance of using human factors insights to drive incremental improvements in medical device design.

Rebecca Wickham, Human Factors Consultant at OPD (Oxford Product Design)
Steve Green, Head of Medical Group at OPD (Oxford Product Design)

Aim

Human factors issues in medical device design are rarely resolved with one-time solutions. Instead, they require continuous, incremental improvements informed by how real users interact with devices in clinical settings. This work explores the value of incremental design and the consequences of not incorporating incremental changes throughout the medical device design process.

ADVANCING EDUCATION, LEADERSHIP AND WELL-BEING

2025

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Consultancies have the unique opportunity to guide clients through the medical device development process and as a result have experience identifying when incremental change is required. We conduct formative studies throughout the process to inform and incrementally adjust the design to ensure regulatory requirements will be meet ahead of submitting for clinical/summative evaluation.

The aim isn't to solve every issue, or challenge faced but rather design a device that is resilient enough to adapt to the user's needs. Rather than relying on radical redesigns, incremental changes informed by real-world user feedback, ergonomic studies, and cognitive workload assessments allow for more adaptive and sustainable improvements. This iterative approach enables designers to identify and resolve usability issues early, promoting user-centred innovation that aligns with regulatory standards and clinical needs.

This presentation will share real-world examples of how incremental changes driven through human factors learning have shaped and transformed the medical device development process – resulting in a safer, efficacy, better clinical outcomes, and user satisfaction. By incorporating these incremental changes, we are progressing the medical device industry towards devices are intuitive, accessible, and aligned with the practical realities of healthcare environments.

Conclusion

Not all problems need to be solved from the outset. Through constant testing and evaluation small changes can improve the overall usability by prioritising the importance of user needs and behaviours.