BRITISH TRAUMA SOCIETY

BRITISH TRAUMA SOCIETY ANNUAL SCIENTIFIC MEETING 2025

IN COLLABORATION WITH THE SCOTTISH TRAUMA NETWORK

SCOTTISH TRAUMA NETWORK

18-20 NOVEMBER 2025
EDINBURGH, SCOTLAND

www.britishtrauma.com

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Day 2: 20th November 2025

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www.britishtrauma.com

British Trauma Society Introduction

Founded in **1988**, the **British Trauma Society (BTS)** has been at the heart of trauma care across the UK.
We unite **surgeons, emergency physicians, nurses, paramedics, and allied health professionals** — all driven by one shared mission:

To improve trauma outcomes through excellence in education, research, and collaboration.

WHAT WE DO

🎓 **Education & Training**
Delivering **dynamic courses, hands-on workshops, and national conferences** to empower trauma professionals.

🔬 **Research & Innovation**
Supporting **evidence-based practice** through **funded studies** and **collaborative projects** that shape the future of trauma care.

🤝 **Networking & Collaboration**
Building a **strong professional community** that connects trauma experts across the UK.

📜 **Guidelines & Standards**
Contributing to **national policies and clinical guidelines** to ensure consistent, high-quality trauma management.

WHY JOIN BTS?

Become part of a **national community of innovators and leaders** in trauma care.

✨ Membership Benefits:

- Access to **exclusive webinars, resources, and online learning**
- **Discounted rates** for the BTS Annual Scientific Meeting
- Opportunities to **publish, present, and collaborate**
- Quarterly **Trauma Updates & Newsletters**
- Connection to a **nationwide trauma network**

GET INVOLVED

Whether you're beginning your journey or leading in trauma care — **BTS welcomes you.**

Join our mission to **advance trauma care, support professionals, and save lives.**

💻 **Visit:** www.britishtrauma.com

📧 **Email:** info@britishtrauma.com

📍 **Established 1988**

BTS Executive Committee

President: Dr Sarafina Vatharkar

I am an Emergency Medicine Consultant at University Hospitals Birmingham. I have always been passionate about the care of the injured patient, within the trust I also work as a Major Trauma coordinating consultant and am actively involved in trauma-related research. I feel privileged being part of the British Trauma Society.

Immediate Past-President: Mr Ansar Mahmood

I am a Consultant in Trauma & Orthopaedic Surgery and the Major Trauma Service at the Queen Elizabeth Hospital Birmingham (QEHB), part of University Hospitals Birmingham, which is the largest trust in the UK. QEHB is the regional Major Trauma Centre for the City of Birmingham and one of the highest volume major trauma receiving units in the UK. We are currently also home to the largest hip fragility fracture unit in Europe. I am the research lead for major trauma at UHB and a Honorary Senior Clinical Lecturer at University of Birmingham.

I have been a proud member of the British Trauma Society since 2003 and wish to see it continue to thrive and grow as an inclusive multi-disciplinary society associated with all those interested in Trauma at any level from student through to senior clinician/manager that is looking after injured patients.

Director of Education: Professor Ian Pallister

Ian's interest in trauma surgery began as a medical student in Thailand in 1987. This was consolidated working at the Birmingham Accident Hospital. After Trauma Surgery Fellowships in Denver and Oxford, and completion of an MD researching the inflammatory response to major trauma, he started work in Swansea, initially as Senior Lecturer, becoming Professor in 2012.

After setting up the MSc Trauma Surgery Programme, Ian developed increasing cooperative links to the UK Defence Medical Services, including development of more complex trauma simulation models. His clinical work focuses on major trauma, pelvic and acetabular fractures, and Ortho-Plastic reconstruction of complex limb injuries. Recovery from these injuries and major trauma remain his main research interests. Ian is also heavily involved in education, helped establish the Damage Control Orthopaedic Trauma Surgery Course and is President of AOUK&I.

Past President: Mr Stuart Matthews

Highly and widely experienced Trauma Surgeon and Educator used to working in austere as well as in cutting edge environments with French as a Mother Tongue and medicolegal expert for Personal Injury since 1989 and Clinical Negligence since 1994. Stuart's medical interests include the management of multisystem trauma and complex fractures.

Trustee: Mr Amratlal D Patel

I have had a life-long interest in trauma ever since my first DHS in Sheffield in 1979. My training was on the South-west rotational training scheme based in London and Surrey followed by one year on a trauma fellowship at Sunnybrook Medical Centre, Toronto with Dr Schatzker, learning about multiply injured patients and pelvic and acetabular surgery. I also learnt about the shoulder at Royal National Orthopaedic hospital in Stanmore. I have retired from clinical work. I am now Orthopaedic lead for Norwich Medical school.

I have been a member of British trauma Society (BTS) since its formation in 1988 and served as a president recently. I am now a trustee of BTS and remain involved with the running of the society.

I am very keen to encourage young surgeons to take up trauma, and although demanding it is very rewarding.

Deputy Director of education: Ms Justine (JJ) Lee

Major Trauma Specialist Doctor at Queen Elizabeth Hospital NHS Trust.

Scientific Officer and President Emeritus: Professor Peter Giannoudis

I work as the Professor (School of Medicine, University of Leeds) and Honorary Consultant at Leeds General Infirmary (LGI), a major teaching hospital serving a population in the region of 3.5 million. It is a major trauma unit, accepting complex trauma through it's busy Accident and Emergency Department and from other hospitals in the region. I have successfully completed an AO Trauma Fellowship in Hannover, Germany and a Trauma Fellowship at Louisville, Kentucky USA.

Web Officer, Advisor to Comms Team: Mr Paul Andrzejowski

One of the reasons I became a doctor was to work one day in Trauma. It's what I get up for in the morning and I always look forward to another day at the coal face!

I got my first taste of Major Trauma as a student in Nottingham and FY in the East Midlands, thence to Yorkshire for Core and Higher Specialty Registrar training in Trauma and Orthopaedics on the HEYH Deanery rotation. I've been fortunate to learn my trade from some excellent trainers around the region in acute and elective surgery, with Major Trauma experience at the MTC in Leeds – where I am the Principal Investigator of the FIT Study as part of my MD research project supervised by CI Prof Peter Giannoudis, looking into Functional outcomes In 'Major' Trauma – which should help to deepen our insight into what's most important for patient recovery following serious injury. It was an honour to deliver the initial results of this and my review paper on the subject as a Keynote Speech at the 2023 ASM. Other academic output includes notably an update on the 'Diamond Concept' of bone healing, and specialist management of non-union in fracture healing, amongst other papers, presentations and book chapters.

Working to organise and publicise BTS national meetings and events, from web and email design to handling abstract submission, grading and invitations, to the ASM itself and much more for the past few years has been both enthralling and rewarding in equal measure which I have learnt a lot from and very much enjoyed, especially alongside such a fantastic team! It is an exciting privilege to help expand BTS and bring in people from all clinical backgrounds as part of increasing our reach with the new website and the comms team as well. If anyone has any suggestions or would like to get involved, I'd be very glad to hear more!

Treasurer: Mr Jamie Large

I'm currently a Trauma and Orthopaedics themed Core Surgical Trainee based in Bristol. My interest in trauma began as a medical student through attending undergraduate conferences which led me to complete my elective in major trauma and intercalate in Trauma Science. Having worked as the British Trauma Society Membership Secretary and Student Liaison Officer, I look forward to now working as the BTS Treasurer. Any colleagues from medical and allied healthcare professionals, or students who'd like to hear more about BTS and get involved with trauma please do contact me.

Membership Secretary: Mr Richard Doxey

After completing my Foundation Training in London, I undertook Core Surgical Training in the East Midlands, followed by a post as a Trauma and Orthopaedics teaching registrar. I am now a Surgical Education Fellow at the Royal Derby Hospital. My interest in trauma was first sparked as a medical student at Birmingham University and has continued to grow throughout my training. I became involved with the British Trauma Society in 2023 after attending the Annual Scientific Meeting, and I now serve as Membership Secretary. I am passionate about medical education and enthusiastic about improving trauma education and inspiring others to get involved in the field.

SCOTTISH TRAUMA NETWORK

Scottish Trauma Network Overview

Saving lives, giving life back.

Each year there are approximately 8,700 cases of significant traumatic injury in Scotland. The Scottish Trauma Network (STN) is a bespoke, inclusive and equitable solution to strive for the best possible outcome for these patients.

The network involves the Scottish Ambulance Service (SAS) and hospitals across Scotland working in four regional networks: the North, East, South-East and West. Each region has a Major Trauma Centre and works collaboratively to deliver high quality, integrated, multi-specialty care to severely injured patients.

The vision of the STN is that every person in Scotland who experiences a severe traumatic injury should have equity of access to major trauma services to achieve as good an outcome as possible.
There are four areas of focus for the network to improve the care provided to trauma patients in Scotland. These are:

- Improved quality of care
- Enhanced trauma education and workforce
- Improved equity of access to services and in the care delivered
- Improved data and outcomes

The network will work across five dimensions of trauma care, from Prevention to Rehabilitation and Major Incident Planning. Each of these dimensions are critical in improving trauma care in Scotland.

Key components of the STN:

- Provide equitable, high-quality care
- Establish an integrated trauma system
- Optimise patient outcomes
- Standardise trauma care delivery
- Promote continuous education and training
- Facilitate multidisciplinary collaboration
- Support data collection and trauma audit
- Reduce preventable deaths and disabilities associated with major trauma
- Improve patient and family experience
- Foster research and innovation in trauma care & rehabilitation
- Ensure resilience and preparedness of trauma services
- Promote prevention strategies

Find out more:

🌐 **www.scottishtraumanetwork.nhs.scot**

X @ScotTraumaNet | #SavingLivesGivingLifeBack

ASM Sponsors

With Thanks to Our Sponsors

A huge thank you to all our fantastic sponsors for their generous support, we simply couldn't deliver a conference like this without them. Their backing helps us bring the trauma community together to share knowledge, innovate, and improve patient care. Please take a moment during the conference to visit their stands, chat with their teams, and learn more about the great work they're doing to support the BTS and our members.

Trauma App

Trauma APP: *thetraumaapp.com*

The Trauma App is an iPad application designed for digitally documenting Major Trauma patient care replacing error-prone, incomplete, and retrospectively completed paper notes
requiring time-consuming manual upload.
Following ATLS protocols, the app provides real-time data capture, helping clinicians focus on care while automating report generation. Key benefits include; enhanced care delivery with cognitive aids, improved team performance through real-time analysis, and efficient
audit reporting that saves time and resources. Integrated with the EPR, the app fits naturally within existing workflows, ensuring compatibility and efficiency for hospital teams.

ZIMMER BIOMET

Zimmer Biomett

It is our mission to alleviate pain and improve the quality of life for people around the world. With 90+ years of trusted leadership and proven expertise, our legacy continues to come to life today through our progressive culture of evolution and innovation. Stop by the Zimmer Biomet stand to see our latest range of products with Bactiguard Technology which offers the combination of a unique non-antibiotic-eluting, anti-infective coating with a clinically successful intramedullary nailing system. This pairing is designed to provide a promising solution for addressing implant associated infections and improving patient outcomes.

Raise Healthcare

Raise Healthcare delivers innovative wound care solutions for trauma reconstruction, featuring BioBridge, AROA, and NATROX. BioBridge is a resorbable collagen matrix designed to support soft tissue regeneration and restore structure in traumatic wound sites. AROA's Myriad Matrix, derived from ovine forestomach, has demonstrated rapid soft tissue fill and coverage for complex traumatic wounds, with positive clinical outcomes and low complication rates. NATROX offers continuous topical oxygen therapy, accelerating healing in hard-to-heal wounds, including complex trauma cases.

AAST

The American Association for the Surgery of Trauma is the premier scholarly organization for surgeons dedicated to the field of trauma and the care of critically ill surgical patients. The AAST is dedicated to the discovery, dissemination, implementation, and evaluation of knowledge related to acute care surgery (trauma, surgical critical care, and emergency general surgery) by fostering research, education, and professional development in an environment of fellowship, collegiality, and inclusion.

Irwin Mitchell

Irwin Mitchell is the UK's leading serious injury* law firm. We understand that after a life-changing injury, our clients want the highest standard of medical care and legal advice, and reassurance that their families will be looked after. Rated excellent on Trustpilot, everything we do centres around exceptional client experience.

We recognise that compensation is only part of the story. We follow developments in medicine and technology to ensure our clients can access the best treatments and rehabilitation. We're also committed to working with healthcare professionals and charity partners towards better outcomes for all.

Whether it's advice on welfare benefits, employment, family matters, or future planning, our friendly and professional teams are here for all our clients' legal needs.

*Legal 500 and Chambers.

Technologies for Advancing Patient Care

Hospitals go above and beyond to tackle the challenge of providing the highest standards of patient care. Backed by over five decades of industry expertise, our technologies are designed to drive procedural effectiveness and elevate the patient experience. We deliver quality hospital solutions that prioritise patient outcomes, so that clinicians can confidently provide the best possible care.

Haemostasis Management:

Critical haemostasis information where and when it matters most.

Understanding a patient's complete haemostasis status quickly can have a significant impact on clinical outcomes and blood product utilisation. Haemonetics' comprehensive portfolio of haemostasis systems deliver fast, accurate information where and when needed to help clinicians respond with confidence and optimise patient care.

Annual Scientific Meeting British Trauma Society and Scottish Trauma Network – Keynote Speakers

19th November 2025

Lecture 1: An overview of the Scottish Trauma Network and Scottish Ambulance Service

Dr Tim Hooper
FRCA, FFICM, Dip IMC

Consultant in Anaesthesia & Intensive Care Medicine, Raigmore Hospital, Inverness

Lead Clinician Scottish Trauma Network (STN)

Tim gained extensive trauma management experience in both civilian and military settings including a fellowship at the Shock Trauma Centre in Baltimore and multiple overseas operational tours. Prior to taking on the National Clinical Lead role he was the clinical lead for the North of Scotland Trauma Network.

Tim qualified from Guy's and St Thomas's in 2000 and became an anaesthetic and critical care consultant in the major trauma centre in Bristol in 2012. This was initially as an honorary military consultant, but on retiring from the Army in 2018 he became a permanent NHS consultant. Before relocating to the Highlands in 2021 he was the quality governance lead for the Severn Major Trauma Network and the hospital transfusion service, being instrumental in implementing prehospital blood on the local air ambulance.

Although no longer clinically active in prehospital care, previous posts have included London and Great Western Air Ambulances and adult critical care retrieval, giving him first-hand experience of much of the trauma patient pathway.

Dr Tim Parke
MBCHB, DA, FRCP, FACEM, FRCEM

Associate Medical Director Scottish Ambulance Service

Emergency Medicine Consultant QEUH Glasgow

Consultant Emergency Medical Retrieval Service

Dr Tim Parke has worked in senior leadership positions in Emergency Medicine for over 20 years as a Clinical Director in South Glasgow and Auckland City Hospital, as an Unscheduled Care Lead for QEUH, and as an Associate Medical Director for the Scottish Ambulance Service. Major projects in these roles have included the reorganisation of Emergency Departments in Glasgow, the introduction of National Health Targets in NZ, and the development of the Scottish Trauma Network prehospital strategy.
In addition to Emergency Medicine specialist accreditation in the UK and Australasia, he has subspecialty recognition in intensive care and extensive experience in prehospital & retrieval medicine. His main fields of expertise are in resuscitation, trauma, major incident management, and remote & rural emergency care. He is the clinical lead for the Advanced Critical Care Practitioner programme for Scottish Ambulance Service and has served on multiple government groups in both Scotland and NZ dealing with preparation for mass casualty events and tackling Emergency Department overcrowding. He has authored a number of published articles in the media supporting the concept of Universal Health Care.

Lecture 2: *A summary of 6 years of paediatric trauma injury data from the Scottish Trauma Audit Group*

Dr Marie Spiers
MBChB FRCEM

Consultant in Paediatric Emergency Medicine, Royal Hospital for Children, Glasgow
West of Scotland Clinical Lead

Marie has been a consultant in Paediatric Emergency Medicine at the Royal Hospital for Children, Glasgow since 2012. She dual accredited in adult and paediatric Emergency Medicine and trained in the WoS and North West of England after graduating from Glasgow. Marie has a specific interest in trauma management and adolescent medicine and has been the national paediatric representative for the Scottish Trauma Audit Group (STAG) since 2014. Prior to taking on the role of West of Scotland clinical lead she was the joint paediatric trauma clinical lead for the WoS from 2018 until 2025

Lecture 3: *Measuring excellence in trauma care-is it possible in 2025?*

Mr Robert Paul Bentley
FDS,RCS(Eng), FRCS (Eng), FRCS (OMFS)

Consultant Craniofacial and Oral and Maxillofacial Surgery, King's College Hospital London

National Clinical Director for Major Trauma & Burns

Mr Robert Bentley is an Oral & Maxillofacial Surgeon specializing in Craniofacial Surgery. He is based at Kings College but also runs private clinics at The Harley Street and HCA UK at The Shard. Mr Bentley's practice encompasses paediatric and adult craniofacial surgery. He specializes in congenital and acquired deformities as well as skull base access work for certain brain tumours.

After graduating from the University of Wales with degrees in Dentistry and Medicine, he undertook specialized training in oral and maxillofacial surgery. He was awarded a Fellowship in Cleft Lip and Palate Surgery at University of Leipzig in Germany, followed by two further Fellowships in Craniofacial Surgery at University of Heidelberg in Germany and the Birmingham Children's.

In 2000 he was appointed as Consultant in Oral and Maxillofacial Surgery at King's College. He is now Clinical Director for both the Southeast London Major Trauma Network and for Major Trauma at Kings. He is also the Training Programme Director for the South Thames Oral & Maxillofacial Surgeon Deanery. He was one of the first

National Clinical Chair NHSE Trauma Programme of Care	surgeons to perform titanium cranial reconstruction with the world's largest single operator, a single technique with the lowest infection rate.

Lecture 4: ***Concepts around the Role of Imaging in immediate life and limb threatening injuries***

Dr Susan Cross

Consultant Radiologist
Royal London Hospital,
Barts Health NHS Trusts

At Barts, dual Clinical Lead roles in Musculoskeletal Radiology and Trauma Radiology

Dr Susan Cross is a Consultant Radiologist at Barts Health NHS Trust, specialising in Musculoskeletal and Trauma Radiology.

At Barts, Dr Cross holds dual Clinical Lead roles in Musculoskeletal Radiology and Trauma Radiology. She is a committed educator and regularly teaches and lectures on trauma and musculoskeletal imaging at both national and international levels.

Dr Cross studied medicine at Queen's University Belfast and completed her radiology training at the Royal London and St Bartholomew's Hospitals.
Her academic contributions include co-authoring a chapter on Trauma Imaging in the Sutton Textbook of Radiology and Imaging, serving as an expert panel member for the Royal College of Radiologists, and publishing articles in peer-reviewed radiology journals. She has also developed major incident protocols to improve the management of mass casualty events and was a faculty member at the inaugural Mass Casualty Hands-On Workshop at the American Society of Emergency Radiology's 30th Annual Scientific Meeting. She returned the following year to help deliver the successful workshop once again.

Lecture 5: *Clinical effectiveness of the implementation of regional trauma networks in England: a study of open fractures*

Professor Xavier Griffin

Honorary Consultant Orthopaedic Trauma Surgeon, Royal London Hospital, Barts Health

Chair, Bone and Joint Health
Queen Mary University of London
President of Orthopaedic Trauma Society UK

Professor Xavier Griffin spearheads academic orthopaedics at Queen Mary and Barts Health, having joined in August 2020 as the inaugural chair of Bone and Joint Health. Xavier's vision is for world-class excellence in research and clinical academic training; providing opportunity for the next generation of clinician scientists to realise their aspirations. Xavier has been awarded over £10m of research funding and over 80 peer reviewed publications.

He is driven by having meaningful impact on patient care; his research is focused on the clinical and cost effectiveness of new and existing treatments to improve bone and joint health and has been cited by the National Institute of Clinical Excellence. He has a passion for developing methodologies which harness the speed, power and efficiency of routinely - collected data but are coupled with the great advantages of randomisation.

Xavier's clinical expertise is orthopaedic trauma surgery specialising in pelvic and acetabular fractures. He enjoys working as part of the team at the busiest orthopaedic trauma hospital in Europe – The Royal London.

Having graduated from the University of Cambridge in 1999 before attending medical school at the University of Oxford, Xavier trained in orthopaedic surgery as a National Institute of Health Research integrated clinical academic fellow. Xavier completed a world-renowned clinical fellowship in Melbourne, Australia specialising in complex fractures of the pelvis and hip. Xavier serves in HM Reserve Forces, outside of work Xavier can be found mountain biking or rock climbing usually with his young sons in tow!

Lecture 6: *Introducing Vestibular Screening in the West of Scotland Major Trauma Service*

Catriona Ralph
BSc Hons

Physiotherapy
Clinical Specialist
Physiotherapist
Queen Elizabeth University
Hospital, Glasgow

Cat is a Clinical Specialist Physiotherapist based at the Queen Elizabeth University Hospital in Glasgow. She has over 17 years of experience across a range of clinical settings in regional and national units, including Neurosciences, Spinal Injuries, Neurorehabilitation, and the West of Scotland Major Trauma Service.

Following seven years in Glasgow's Neurorehabilitation Unit, Cat transitioned to a new role within Major Trauma, contributing to the launch of the Hyperacute Rehabilitation Service in April 2023. Her current role focuses on the early assessment and management of patients with complex Category A rehabilitation needs following trauma. She works within a cohesive interdisciplinary team delivering early, intensive rehabilitation.

Cat is a qualified Non-Medical Prescriber and injector, with experience in outpatient spasticity services. She has a strong clinical interest in traumatic brain injury and has led the development of a regional screening process for vestibular dysfunction—particularly BPPV—in all West of Scotland Major Trauma patients who have sustained a head injury.

Lecture 7: Damage control orthopaedics and the effect of fat embolus

Mr Andrew Gray
MBChB BSc Hons Physiology and sports science MD FRCS (Orth)

Consultant Orthopaedic and Trauma Surgeon - James Cook University Hospital, Major Trauma Centre, Middlesbrough

President Elect for the UK Orthopaedic Trauma Society - 2026-2027

Andrew Gray is a consultant T&O surgeon based at James Cook University hospital major trauma centre in South Tees. He has a specialist interest in fragility fractures being a previous orthopaedic representative on both the global board of the Fragility Fracture Network (FFN) and the UK Royal Osteoporosis Society (2020-2023). He is the current secretary for the UK FFN and also co-chair of the F.A.N. (2019-present day) - Fracture Liaison Service (FLS) and Academy Network - a European initiative committed to starting new and making current FLS services more effective. He was the lower limb editor for the trauma journal 'Injury'. 2014-2021 and has been faculty for all level AO trauma courses since 2010. His qualifications include a Doctorate in medicine with distinction from the University of Edinburgh and a first-class honours degree in Physiology and Sports Science. He is a founder member of the UK Orthopaedic Trauma Society and is their current communications lead and president elect for 2026-2027. Hobbies and interests are now focused on recurring attempts to improve fitness and his future fragility fracture risk score, whilst chairing the Northern Counties Medical Golf society.

Lecture 8: Evaluation of a severely injured hand and modern principles of management

Mr David Leonard
BSc (Hons), MBChB, MRCS, PhD, FRCS (Plast)

Consultant Plastic, Reconstructive & Hand

David Leonard is a Consultant Plastic, Reconstructive & Hand Surgeon at Leeds Teaching Hospitals NHS Trust. In addition to serving as a core member of the UK Hand Transplant Service, he has subspecialty interests in hand surgery, nerve surgery and limb reconstruction, including the multidisciplinary care of amputees.

Dr Leonard completed his PhD in reconstructive transplantation and immune tolerance at the University of Manchester and Harvard Medical School. He has active research interests spanning transplant immunology and immune tolerance, outcome measures in reconstructive transplantation, the surgical management of pain, and scleroderma. He maintains an international network of collaborators

Surgeon, Department of Plastic, Hand & Reconstructive Surgery, Leeds Teaching Hospitals Trust Deputy Editor, Journal of Plastic Reconstructive & Aesthetic Surgery Councillor, International Society for Vascularised Composite Allotransplantation	and is a contributing investigator to a number of multinational collaborative trials. He is a previous recipient of both the Hunterian Professorship from the Royal College of Surgeons of England and the Tom Gibson Memorial Award from the Royal College of Physicians & Surgeons of Glasgow. He serves on the council of the International Society for Vascularized Composite Allotransplantation and is Deputy Editor of the *Journal of Plastic, Reconstructive & Aesthetic Surgery*.

Lecture 9: ***Severe paediatric head trauma- case report from West of Scotland***

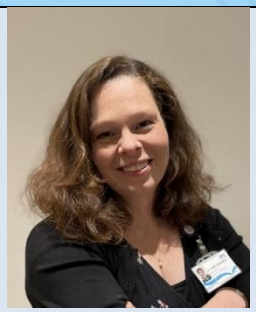
Mr Roddy O'Kane
MBChB, BSc, MEd, FRCS(SN)

Consultant Neurosurgeon
Royal Hospital for Children
Glasgow

Roddy completed undergraduate medical training at University of Glasgow. He undertook basic surgical training in the West of Scotland. He completed his higher Neurosurgical training at Leeds General Infirmary. He has completed a fellowship in Paediatric Neurosurgery at SickKids Hospital in Toronto.

His major interests are in paediatric neurosurgery, neuro-oncology, awake craniotomy, hydrocephalus & neuroendoscopy, neuro-traumatology and epilepsy surgery.
He has published, lectured and presented both nationally and internationally in his fields of interest.

In 2014 he made it to the semi-final of the best-looking neurosurgeon in the world (beaten by an Italian who had used performance enhancing plastic surgery). At the age of 16 he signed for Arsenal youth team but gave this up to pursue a career in Medicine, a decision he thoroughly regrets to this date. Outside of work he is a keen ballet dancer, loves to drive his submarine and makes a mean Victoria sponge.



Dr Sarah Abernethy
MBChB MRCPCH

Dr Sarah Abernethy has been a consultant paediatric neurologist at the Royal Hospital for Children in Glasgow since 2016. Her primary interest is in neurorehabilitation and she is the clinical lead for the West of Scotland Paediatric Neurorehabilitation Service, a multi-disciplinary team looking after babies, children and young people with acquired brain and spinal cord injuries in the inpatient setting. This is complemented by her other interests in complex motor disorders and neuroinflammatory conditions.
She has been delighted to be involved with the Major Trauma Network and the developments that this had brought about in the care of children and young people with traumatic brain and spinal cord

Consultant Paediatric Neurologist, Royal Hospital for Children, Glasgow	injuries in the West of Scotland, notably the development of outpatient pathways for mild and moderate head injury. Sarah is currently working collaboratively with other neurorehabilitation centres across the UK to develop a database to establish predictive models for prognosis in children with acquired brain injury.

<u>Lecture 10:</u> The highs and lows of Orthopaedic trauma over my career.

Professor John Keating
MB, BCh, FRCSI, FRCSEd, FRCS(Tr & Orth), M.Phil

Consultant orthopaedic surgeon at the Royal Infirmary of Edinburgh and Honorary Professor at Edinburgh University.

Professor John Keating is a consultant orthopaedic surgeon at the Royal Infirmary of Edinburgh and Honorary Professor at Edinburgh University. He was appointed in 1994 and has a particular expertise in management of orthopaedic trauma. He has a busy orthopaedic trauma practice with a subspecialist expertise in the management of pelvic and acetabular trauma and complex lower limb injuries.

In his elective practice he performs a wide range of knee surgery including arthroscopic surgery, knee ligament reconstruction, joint replacement and osteotomies around the knee for management of arthritis in younger patients.

He has been actively involved in clinical research throughout his career and has published over 100 peer reviewed papers in scientific journals and numerous book chapters. He was the president of the Orthopaedic Trauma Society in 2016-2017. He is currently the Deputy Editor for Trauma for the American Journal of Bone and Joint Surgery and has previously been on the editorial board of the Journal of Orthopaedic Trauma

Wednesday 19th November 2025 – BTS ASM Day 1

08:30 – 09:00: **Registration and refreshments**

09:00 – 09:30: **Conference welcome by British Trauma Society President**
Dr Sarafina Vatharkar, *Emergency Medicine Consultant and Clinical Lead, University Hospitals Birmingham.*

BTS ASM Session 1

Keynote

09:30-10:30: ***An overview of the Scottish Trauma Network and Scottish Ambulance Service***
Dr Tim Hooper and Dr Tim Parke

Dr Tim Hooper - Objectives:

- Developing and implementing a trauma network
- Proving the worth of a trauma network
- Understanding how a network can mature to the needs of a nation
- The future of trauma management in Scotland

Dr Tim Parke - Objectives:

- Describe the aims of pre-hospital trauma care in saving life and preventing disability
- Explain the identification, care and triage of trauma patients by SAS
- Outline the tiers of care available and their capabilities
- Describe the system of governance, review and continuous improvement

10:30 – 11:00: **Oral Presentation Session 1**

Chairs: Dr Sarafina Vatharkar and Dr Tim Hooper

Time	Abstract Number	Title	Presenting Author
10:30	16	Seasonality of Major Trauma in the West of Scotland Major Trauma Network	**Helen Pybus** Specialist Physiotherapist, QEUH
10:35	32	Retrospective review of the changes in demands on a major trauma pelvic referral service between 2017 and 2024	**Thomas Marks** Specialty registrar ST5, Hull Royal Infirmary
10:40	33	Evaluating Surgical Response Times in Category 1 Major Trauma: A Retrospective Audit from a UK Major Trauma Centre	**Lloyed Gerard** FY2, UHNM Royal Stoke Hospital
10:45	65	Green Wheels, Red Flags: E-Bikes and the Orthopaedic Load	**Mustafa Albayati** SHO, Barts Health NHS trust
Q+A			

11:00 – 11:20: **Refreshments**

BTS ASM Session 2

Keynote

11:20 – 11:50: **A summary of 6 years of paediatric trauma injury data from the Scottish Trauma Audit Group**

Dr Marie Spiers, *Consultant in Paediatric Emergency Medicine, West of Scotland Clinical Lead, Royal Hospital for Children, Glasgow*

11:50 – 12:20: **Oral Presentation Session 2**

Chairs: Dr Sarafina Vatharkar and Dr Tim Hooper

Time	Abstract Number	Title	Presenting Author
11:50	132	Trauma Scans and Incidentalomas: An Audit Investigating the Communication of Significant Incidentalomas.	**Sherin Thambu** Resident Doctor, FY2, University Hospitals Birmingham NHS Foundation Trust
11:55	30	A Retrospective Analysis of Outcomes in Titanium Elastic Nailing for Paediatric Both Bone Forearm Fractures.	**Reece Travis** Medical Student, King's College London
12:00	79	Enhancing Neurovascular Assessment Documentation in Paediatric Supracondylar Fractures: A Closed Loop Audit	**Usman Fuad** Registrar, Royal Cornwall Hospital
Q+A			

12:20 – 12:50: **Oral Presentation Session 3**

Chairs: Mr Stuart Matthews and Dr Susan Cross

Time	Abstract Number	Title	Presenting Author
12:20	21	The clinical efficacy and patient satisfaction of the virtual fracture clinic: A systematic review	**Joseph Johnson** 4th year Medical Student, Wythenshawe Hospital
12:25	27	Anaesthetic Techniques for Operative Fixation of Pelvic Fractures in Major Trauma Centres in the UK: A National Survey	**Liam Schneider** ST6 in Anaesthesia, Queen Elizabeth University Hospital
12:30	34	Bridging the Treatment Gap: Assessing Osteoporosis Risk in Parkinson's Disease	**Tara Edwards** FY2, Basingstoke & North Hampshire Hospital
12:35	40	Long-Term Functional Outcomes Following Fasciotomy for Acute Compartment Syndrome of the Leg: A Retrospective Study	**Sunandan Datta** Senior Clinical Fellow, T+O, Aneurin Bevan University Health Board
Q+A			

12:50 – 13:50: **Lunch**

Lunchtime Symposium – Raise Healthcare (Myriad)
Duddingston Room
Matrix Reloaded: Advanced Soft Tissue Reconstruction in Trauma Surgery using Myriad Matrix.
Dr Brandon Bosque

BTS ASM Session 3

Keynote

13:50 – 14:20: **Measuring excellence in trauma care - is it possible in 2025?**
Mr Robert Paul Bentley, *Consultant Craniofacial and Oral and Maxillofacial Surgery, King's College Hospital London.*
National Clinical Director for Major Trauma & Burns, National Clinical Chair NHSE Trauma Programme of Care.

Objectives:

This session introduces the new **National Major Trauma Registry (NMTR)**, developed over the past two years to form the foundation of the **Quality Assurance Programme** within the **Outcomes and Registries Programme (ORP)**. The NMTR represents a major step forward in improving data-driven quality oversight and underpins the new **Major Trauma Service Specification**, which is currently awaiting formal approval. Once implemented, it will support the **National Peer Review Programme**, with planned collaboration from **GIRFT (Getting It Right First Time)**.

Session Theme:
Standard Setting, Measurement, and Quality Assurance in Major Trauma Care

Learning Outcomes:
Participants will gain an understanding of the national approach to quality assurance in Major Trauma provision across **England, Wales, and Northern Ireland**, including:

- The development and implementation of the National Service Specification
- The role and responsibilities of the Clinical Reference Group
- The purpose and function of the National Major Trauma Registry
- The production of national reports, outlier reporting, and quality metrics
- The structure and process of National Peer Review

14:20 – 14:50: **Oral Presentation Session 4**

Chair: Mr Stuart Matthews and Dr Susan Cross

Time	Abstract Number	Title	Presenting Author
14:20	29	Diagnostic Performance of a Deep Learning Model for Fracture Detection on Radiographs with Gradient-Weighted Class Activation Mapping (Grad-CAM): A Statistical and Regional Validation Study.	**Simon Palmer** Consultant Orthopaedic and Trauma Surgeon, University Hospitals NHS Trust, West Sussex
14:25	39	Diagnostic Accuracy of Magnetic Resonance Imaging in Meniscal Tears	**James Bottomley** CT2 T+O, South Tyneside and Sunderland NHS FT.
14:30	54	An evaluation of routine post-operative radiographs following hip hemiarthroplasty.	***Shanen Emmanuel*** *CTF T+O, Somerset Foundation trust.*
14:35	60	Emergency department service evaluation of acute CT head turnaround times after new changes: a closed-loop audit.	***Ashwin Kalyana/ Zahra Rose Almansoor*** *FY2, Walsall Manor Hospital*
Q+A			

Keynote

14:50 – 15:20: **Concepts around the Role of Imaging in immediate life and limb threatening injuries**

Dr Susan Cross, *Consultant Radiologist, Royal London Hospital, Barts Health NHS Trusts.*
Clinical Lead roles in Musculoskeletal Radiology and Trauma Radiology
Objectives of lecture:
Appreciate rationale for different imaging modalities in Trauma.
Understand potential limitations of Imaging.
Don't forget your ABC in a sea of Imaging.
Understand the importance of clinicoradiological collaboration.

15:20 – 15:40: **Refreshments**

BTS ASM Session 4

Keynote

15:40 – 16:10: **Clinical effectiveness of the implementation of regional trauma networks in England: a study of open fractures**

***Professor Xavier Griffin**, Honorary Consultant Orthopaedic Trauma Surgeon, Royal London Hospital, Barts Health*
Chair, Bone and Joint Health, Queen Mary University of London
Incoming President of Orthopaedic Trauma Society

16:10 – 16:40: **Oral Presentation Session 5**

Chair: Prof John Keating and Prof Xavier Griffin

Time	Abstract Number	Title	Presenting Author
16:10	56	Long-term outcomes following complex acetabular fracture fixation with coned hemipelvis hip arthroplasty	**Amy Jones** CT1, NHS North Bristol
16:20	2	Direct Anterior Approach to Hip Hemiarthroplasty Associated with Significantly Shorter Length of Stay: a Retrospective Cohort Study.	**Alice Nicholson,** CT1, York and Scarborough Teaching Hospitals NHS Trust
16:25	36	A retrospective cohort study of distal radius fracture manipulation under different methods and its impact on surgical rates.	**Serena Patel** CT2, Nottingham University Hospitals
Q+A			

British Trauma Society Annual General Meeting 2025 : 17:00 – 18:00 Holyrood Room

- Refreshments available
- All BTS members' welcome
- If you would like to put yourself forward for a committee position, please make yourself known to one of the current committee members to discuss the opportunities available.

British Trauma Society ASM Dinner & Ceilidh Dance

Wednesday, 19th November 2025
South Hall

Join us for a memorable evening of fine dining, music, and dancing as we celebrate the Annual Scientific Meeting in true Scottish style!

Enjoy a drinks reception, a delicious three-course meal, and a traditional Ceilidh with live band — no experience required!

Tickets available via the ASM registration portal
Dress code: smart casual

Hosted by the British Trauma Society
www.britishtrauma.com

Thursday 20th November 2025 – BTS ASM Day 2

08:30 – 09:00: **Registration and refreshments**

BTS ASM Session 5

Keynote

09:00-09:30: **Introducing Vestibular Screening in the West of Scotland Major Trauma Service**

Catriona Ralph, *Clinical Specialist Physiotherapist, Queen Elizabeth University Hospital, Glasgow.*

Objectives:

- Brief overview of the pathophysiology of BPPV
- BPPV prevalence and impact in our Major Trauma population
- Brief overview of Vestibular screening set up
- WoS data and outcomes for our BPPV positive patients.
- Case study

09:30 – 10:00: **Oral Presentation Session 6**

Chair: Dr Tim Hooper and Mr Robert Bentley

Time	Abstract Number	Title	Presenting Author
09:30	3	Aeromedical Trauma Admissions in UK Military Personnel a Decade After Afghanistan	**Emma Lloyd** Military Foundation Doctor, Royal Centre for Defence Medicine, Birmingham
09:35	25	Addressing Barriers in Surgical Training: Evaluating the Impact of Increased Competition and Stagnant Training Numbers on the Future of the Surgical Workforce	**Abdulrahman Kashkosh** CST2, T+O, Doncaster and Bassetlaw Teaching Hospitals NHS FT
09:40	115	Identifying and Managing Atypical Ankle Fractures Beyond the Lauge-Hansen Classification System	**Ahmad Joumah** Clinical Fellow Orthopaedics, SHO, Sherwood Forest Hospitals

09:45	139	The rising prevalence of drone attacks in warfare and terrorism, and the implications for medical management of major incidents.	**Glen Wilson** Major Trauma Service, Core Surgical Trainee (CT1), University Hospitals Birmingham.
Q+A			

Keynote

10:00 – 10:30: **Damage control orthopaedics and the effect of fat embolus**

Mr Andrew Gray, *Consultant Orthopaedic and Trauma Surgeon - James Cook University Hospital, Major Trauma Centre - Middlesbrough*
President Elect for the UK Orthopaedic Trauma Society - 2026-2027

Objectives:

- What are the principles of damage control surgery
- Describe the physiological processes at play in the first 2-3 days after injury and how can surgery influence them
- What injury pattern and physiological profiles after injury risk systemic complications such as ARDS and FES
- Principles of Early appropriate care
- How can we improve the trauma team structure to optimise outcome in seriously injured patients

10:30 – 11:00: **Oral Presentation Session 7**

Chairs: Dr Tim Hooper and Mr Robert Bentley

Time	Abstract Number	Title	Presenting Author
10:35	7	Pre-filmed simulation videos of novel presentations in major trauma	**Rakesh Khunti** Anaesthetics ST6, University Hospitals Coventry & Warwickshire
10:40	19	Assessment and Documentation of Functional Outcomes Following Trauma Laparotomy	**Olivia Cunningham** Medical Student, The University of Birmingham
10:45	23	Optimal Timing of Definitive Abdominal Wall Reconstruction After Damage Control Laparotomy for Trauma: A Systematic	**Abdelrahman Abdelaal** Core Surgical Trainee - Norfolk and

		Review and Meta-Analysis of Early versus Delayed Strategies.	Norwich University Hospital
10:50	109	Management and outcomes following Blunt Abdominal Trauma (BAT) at a Major Trauma Centre (MTC) in 2024.	**Sarah Baxter/ Kathrine Lee-A-Ping** Leeds General Infirmary
Q+A			

11:00 – 11:20: **Refreshments**

BTS ASM Session 6

Keynote

11:20 – 11:50: **Evaluation of a severely injured hand and modern principles of management**

Mr David Leonard, *Consultant Plastic, Reconstructive & Hand Surgeon, Department of Plastic, Hand & Reconstructive Surgery, Leeds Teaching Hospitals Trust*
Deputy Editor, Journal of Plastic Reconstructive & Aesthetic Surgery
Councillor, International Society for Vascularised Composite Allotransplantation

Objectives:

- Describe the key priorities in the initial assessment of a severely injured hand, including recognition of time-critical threats such as ischemia and compartment syndrome.
- Perform a structured clinical examination of the injured hand, assessing vascularity, motor and sensory function, skeletal stability, and tendon integrity.
- Select and interpret appropriate investigations to support diagnosis and operative planning.
- Explain the modern principles of surgical management.
- Discuss the role of multidisciplinary decision-making in choosing between salvage, reconstruction, or amputation, with emphasis on functional outcomes and rehabilitation.

11:50– 12:20: **Oral Presentation Session 8**

Chairs: Dr Tim Parke and Mr Andrew Gray

Time	Abstract Number	Title	Presenting Author
11:50	41	Jaws, Claws, What More?: A 10-year Review of Orthopaedic Burden from Animal Bites at a Major Trauma Centre	**Nicholas Ng** Nottingham Clinical Fellow, ST3+, Queen's Medical Centre, Nottingham
11:55	68	Service Beyond Barriers: Our Collaborative In–reach JourneyService Beyond Barriers: Our Collaborative In–reach Journey	**Jacqueline Hamilton** Physiotherapist, West of Scotland Major Trauma Service.
12:00	112	Retrospective analysis of outcomes of Hindfoot nailing in complex ankle fractures in High-risk Geriatric population	**Chandan Noel Vincent** Senior reg, Manchester royal infirmary.
12:05	35	Enhancing Informed Decision-Making: The Impact of eConsent on Patient Experience and Timing in Elective Orthopaedic Surgery and Applications in Trauma Surgery	**Bethany Sykes** FY2, Basingstoke & North Hampshire Hospital
Q+A			

12:20– 12:50: **Oral Presentation Session 9**

Chairs: Dr Tim Parke and Mr Andrew Gray

Time	Abstract Number	Title	Presenting Author
12:20	42	Investigating the Creation and Validation of Dynamic Prediction Models in the Traumatic Brain Injury Domain	**Zainab Ahmed Alani** Medical Student, University of Glasgow
12:25	91	Paediatric Tertiary Trauma Surveys: Completion, Barriers, and Strategies in a Major Trauma Centre	**Hetta Friend** Doctor, FY2, Imperial College NHS Trust
12:30	81	Effective Management of Traumatic Venous Sinus Injuries In a Low-to-Middle Income Country Neurosurgical Centre	**Alex Pantelides** Junior Clinical Fellow in Neurosurgery, Royal Victoria Infirmary, Newcastle upon Tyne
12:35	63	Cervical Spine Clearance in Unconscious Trauma Patients: UK Major Trauma Centre Experience	**Ashka Moothoosamy** T&O CT2, LUHFT
Q+A			

12:50 – 13:50: **Lunch**

BTS ASM Session 7

Keynote

13:50 – 14:30: **Severe paediatric head trauma- case report from West of Scotland**

Mr Roddy O'Kane, *Consultant Neurosurgeon Royal Hospital for Children Glasgow.*
Dr Sarah Abernethy, *Consultant Paediatric Neurologist, Royal Hospital for Children, Glasgow.*

14:30– 15:00: **Oral Presentation Session 10**

Chairs: Dr Tim Parke and Mr Andrew Gray

Time	Abstract Number	Title	Presenting Author
14:30	101	Pediatric Cervical Spine Computed Tomography Utilization in an American Community-Based Emergency Department Network- A Multicenter Study	**Shawn Anthony Haupt** Pediatric Emergency Medicine Fellow, PGY-6, Good Samaritan University Hospital, West Islip, New York, USA
14:40	140	Identifying High-Risk Features in Complex Trochanteric Femur Fractures: Predictors of Fixation Failure	**Hetta Friend** FY2 Imperial College NHS Trust
14:40	75	Benchmarking mobilisation practice and functional outcomes in traumatic brain injury patients admitted to the intensive care unit: a three-year service evaluation	**Fiona Howroyd** Senior Physiotherapist Critical Care, University Hospitals Birmingham NHS Foundation Trust
14:45	99	The Hundred-Year Challenge: Optimising Trauma Care for Centenarian Patients	**Alwin Puthiyakunnel Saji** Medical Student, Imperial College London
Q+A			

15:00 – 15:20: **Refreshments**

BTS ASM Session 8

Keynote

15:20 – 15:50: **The highs and lows of Orthopaedic trauma over my career**

***Professor John Keating**, Consultant Orthopaedic Surgeon, Royal Infirmary of Edinburgh, and Honorary Professor at Edinburgh University.*

Objectives:

- Cover the history of orthopaedic trauma evolution in last 40 years
- Describe changes in philosophy of multiple trauma management.
- What innovations in orthopaedic trauma have made most difference to clinical practice
- Research – why you should do it
- The limitations of the randomised controlled trial in orthopaedic trauma
- Lessons I have learnt in how to avoid problems in orthopaedic trauma surgery

15:50– 16:20: **Oral Presentation Session 11**

Chairs: Prof John Keating and Mr David Leonard

Time	Abstract Number	Title	Presenting Author
15:50	8	Traumatic Rupture of Aorta – Epidemiology, treatment and outcome in Western Australia	**Amyna Jiwani** Fellow at Royal Perth Hospital
15:55	28	Ketamine and Post-Traumatic Stress Disorder: A Narrative Review of Its Influence on Symptomatology in Trauma-Exposed Populations	**Minaal Ahmed Malik** SHO Trust Grade, Worthing Hospital, University Hospitals Sussex
16:00	31	Fit To Fly? Evaluating Airline Guidance For Passengers With Orthopaedic Immobilisation	**Ella Burwell** Medical student, King's College London
16:05	87	Trauma Care, the current set-up of Trauma Team Leaders in Major Trauma Centres within the United Kingdom.	**Cieran McKiernan** Consultant in Emergency Medicine and PhD student
Q+A			

Presentation of prizes and closing remarks

Thank you for joining us in Edinburgh, we hope you have enjoyed it as much as we have.

Look out for next year's ASM.

Oral Presentation Abstracts

Abstract Number	Title	Co-Authors
16	**Seasonality of Major Trauma in the West of Scotland Major Trauma Network**	**Helen Pybus, Emma Brough**

Introduction
The West of Scotland (WoS) Major Trauma (MT) Network was established in August 2021. Seasonal variation in trauma incidence has been described in other regions, with patterns linked to weather, time of year, and activity levels. However, these patterns are often location-dependent. Understanding local trends in major trauma admissions is critical to inform service planning and injury prevention strategies.
Aim(s)
To identify seasonal patterns in the number and mechanism of trauma admissions within the WoS MT service.
To compare local findings with national and international trauma data.
To support future service planning, education, and targeted prevention strategies.
Methods
Data on major trauma admissions to the WoS MT Centre were collected for 2022 and 2023. Mechanism and date of injury were recorded. Mechanisms were grouped into nine categories, based on biomechanical impact and anecdotal frequency. Monthly admission trends were analysed across categories. A literature review of UK and international trauma studies was also conducted to compare findings. Of 70 articles identified, 16 were included after manual screening.
Results
Admission rates were higher during warmer months, consistent with UK and international findings. Sports-related injuries were highly seasonal, peaking in summer, while low-level falls (from standing or stairs) remained constant year-round—highlighting the impact of an aging trauma population. Falls from height peaked in autumn, though intentionality was not analysed. Motorbike-related injuries were more frequent in summer. Despite some year-to-year variability, clear seasonal trends emerged. These patterns support the relevance of external comparisons and justify further investigation into other factors such as day-of-week patterns.
Conclusions
Major trauma admissions in the WoS MT Centre demonstrate identifiable seasonal patterns, aligning with those seen nationally and internationally. Sports injuries and motorbike trauma peak in summer, while low-level falls persist throughout the year. These findings have implications for local resource planning, targeted prevention strategies, and service development. Further analysis of temporal factors, including weekday trends, is recommended to optimise trauma care delivery.

32	**Retrospective review of the changes in demands on a major trauma pelvic referral service between 2017 and 2024**	**Thomas Marks, Thomas Robinson**

Introduction
There is evidence nationally that the number of pelvic fractures diagnosed is increasing.

This is likely due to an aging, frail population alongside the increased use of cross sectional imaging for patients with a 'normal' pelvic radiograph who are struggling to ambulate. In our region, the large majority of patients diagnosed with a pelvic or sacral injury are referred on for assessment by the major trauma pelvic and acetabular (P&A) team.

Aim(s)

1. Our aim was to review the changes in patient demographics, mechanism, classification of injury and management planning.
2. To review how this had changed between the creation of the referral service in 2017 and the most recent complete year 2024

Methods

We collated the patients and collected data points for demographics, mechanism and management using the trauma referral system (Refer a patient). Classification of fracture patterns were identified through PACS imaging.

Results

Our results showed a six fold increase in annual referrals from 50 in 2017 to 306 in 2024. There was a consistent increasing trend for all years between this period. The average age of patient increased from 67.4 to 75.5 years. There was an increase in total number of co-morbidities from 1.5 to 3.1 with an increasing frailty score. With respect to mechanism there was an increase in proportion of cases representing low energy trauma from 57.8% to 69.28%. This mainly represented cases of falling from standing height. There was also an increase in atraumatic case referrals from 2.2% to 7.5% of total referrals. When reviewing the classification of injury there was an increase in the percentage of pelvic ring type fractures from 28.3% to 40.8%. A large percentage of these being lateral compression (LC) type 1 injuries. There was also a rise in referrals for peri-prosthetic acetabular fractures. With regards to management, there was a decrease in the percentage of patients which required operative management from 17.4% to 6.6%.

Conclusions

Our data suggests the increasing referrals within our region represent those of a frail older patient with a low energy mechanism. This increase in referral volume is putting strain on the services and diluting the resources away from cases which require specialist input. Based on this data, it would seem referral numbers will continue on an upward trajectory. We need to create national guidelines to assist in more robust local triaging services. This should avoid unnecessary referrals and imaging in this elderly patient group.

33	**Evaluating Surgical Response Time in Category 1 Major Trauma: A Retrospective Audit from a UK Major Trauma Centre**	**Lloyed Gerard, Ffion Eccleson, Tamzin Burrows**

Background:

Category 1 (Cat1) trauma activations represent the most severely injured patients, requiring immediate multidisciplinary input. National guidelines emphasise early surgical review, yet in practice surgical teams may not be consistently alerted at the point of trauma call. Delays could contribute to missed interventions, prolonged intensive care unit (ICU) stays, and increased mortality.

Aim:

To evaluate the timeliness and appropriateness of surgical team involvement in Cat1 trauma cases, assessing associations with injury severity, ICU outcomes, and mortality.

The audit also aimed to explore whether a structured bleep system might improve early surgical activation.

Methods:

A retrospective audit was conducted at Royal Stoke University Hospital, a tertiary Major Trauma Centre, including Cat1 trauma cases from October 2024 to April 2025. Thirty-seven patients were identified, of whom 30 (81%) met Cat1 criteria on re-review. Data were extracted from electronic patient records, imaging, and operative reports. Key measures included time from arrival to surgical review, specialty attendance, ICU admission and length of stay, and 30-day mortality. Analyses were stratified by Abbreviated Injury Scale (AIS) scores and Injury Severity Score (ISS).

Results:

Of 30 Cat1 patients (mean age 49.6 years; 77% male), road traffic collisions were the leading mechanism of injury. ICU admission was required in 83%, with mean stay 14.8 days; 30-day mortality was 46.7%. Anaesthetic attendance was highest (83%), followed by Trauma & Orthopaedics (73%), cardiothoracic (53%), general surgery (40%), and neurosurgery (40%). Mean arrival times varied: general surgery 86.8 min, cardiothoracic 140.3 min, T&O 160.4 min, and neurosurgery 177.6 min. Damage-control surgery was most rapid in cardiothoracic cases (mean 69 min) and most delayed in T&O (231 min). Patients reviewed by ≤1 surgical specialty had four-fold higher mortality compared with those seen by ≥2 (66.7% vs 33.3%; OR 4.0, p = 0.12). Logistic regression demonstrated patterns of increased mortality with general surgical delay, cardiothoracic and T&O in severe extremity (AIS 4–5) and neurosurgical (AIS 2–3) injuries, though most associations were not statistically significant due to sample size.

Conclusion:

This audit highlights variable surgical response times in Cat1 trauma, with a trend towards poorer outcomes when specialist review was delayed or limited to a single team. Although not statistically significant, findings suggest potential clinical benefit from earlier and broader surgical involvement. Introducing a structured bleep system for immediate activation of relevant surgical specialties may improve coordination, reduce delays, and ultimately enhance outcomes in Cat1 trauma.

65	**Green Wheels, Red Flags: E-Bikes and the Orthopaedic Load**	**Kayaththery Varathan, Mustafa Albayati, Shanmukha Koppolu, Mark Bowditch, Joshua Lee, Jaison Patel**

Introduction:

E-bikes have become increasingly popular in the UK, offering a sustainable and cost-effective alternative to traditional transport. However, their rising use has been accompanied by growing safety concerns, particularly regarding orthopaedic injuries.

Aim:

This retrospective review examined e-bike-related injuries managed at the Royal London Hospital, a level 1 major trauma centre, between January and June 2025.

Methods

Operating theatre records and virtual fracture clinic appointments were screened to identify cases linked to e-bike incidents. Data on patient demographics, mechanisms of injury, and treatment methods were collected.

Results:

A total of 125 patients sustained 155 e-bike-related injuries, with ages ranging from 16 to 66 years. The highest incidence occurred among individuals aged 20–29. Nearly half of the injuries (45.6%) required operative management, including six open fractures. Upper limb fractures were most prevalent, particularly forearm and radius injuries, while lower

limb injuries such as tibial plateau and tibia-fibula fractures were commonly associated with high-energy trauma. Periarticular injuries accounted for 46 cases and presented significant long-term management challenges.
The financial impact of e-bike-related trauma was substantial, with estimated theatre costs exceeding £99,000 and inpatient bed costs averaging £3,519 per patient, excluding additional care and rehabilitation. These findings highlight not only the clinical burden of e-bike-related orthopaedic injuries but also their considerable economic implications for the NHS.
Conclusion:
E-bikes remain a valuable and eco-friendly mode of transport, yet this study emphasises the need for improved safety measures, better clinical documentation, and further research into factors such as bike speed, intoxication, and long-term patient outcomes. Policymakers, manufacturers, and healthcare providers must work collaboratively to mitigate the risks associated with e-bike use while supporting their role in sustainable urban transport

132	**Trauma Scans and Incidentalomas: An Audit Investigating the Communication of Significant Incidentalomas**	**Sherin Thambu , Toby Dale, Umesh Salanke**

Introduction:
Incidentalomas are incidental findings on imaging performed for an unrelated reason. These discoveries have potential health impacts and should prompt discussion on the need for further investigation or management. Incidentalomas defined as "significant" should be communicated to the patient's general practitioner (GP), who are best placed in the UK healthcare system to organise necessary follow-up.
Aims:
1. To identify incidentalomas on trauma CT scans completed in a Major Trauma Centre Emergency Department (MTC ED).
2. To identify if incidentalomas defined as "significant" have been communicated to the patients' GP.
Methods:
This study was a re-audit of a previous cycle conducted in June 2020. This cycle was conducted retrospectively between 20th July-28th August 2025, including all patients that had a trauma CT, at a MTC ED. Imaging reports were investigated for significant incidental findings. The criteria for non-significant findings were anticipated changes, anatomical variants and findings reported as such by the radiologist. Patients who died within the admission, had incomplete records, or had no registered GP were excluded.
Results:
156 patients had a trauma CT during the study period; 39 were discarded due to death or incomplete details. 78 incidentalomas were detected in the remaining 117, of which 52 were classed as significant and 26 as non-significant. Of the 52 significant incidentalomas, 17 (32.7%) were communicated to the GP, compared to the previous cycle finding of 10.3%. 6 of the 52 (11.5%) significant findings required further investigation or specialist review within the admission. The discharging team and length of stay did not have any effect on the communication of significant findings.
Conclusion:
While there has been improvement since 2020, progress needs to be made to meet the standard that all significant findings should be reported back to primary care. Lack of

communication between hospital clinicians and GPs can disrupt continuity of care, leading to missed diagnoses and increased morbidity and mortality. Furthermore, it opens both clinicians and Trusts to litigation and complaints, with associated reputation loss.
Suggestions to improve communication include raising awareness within clinical teams through educational presentations and audit feedback presented to the multidisciplinary team. Discharging clinicians can be reminded to include all significant scan findings on discharge letters and to clarify if patients themselves have been informed of scan findings. This may be implemented through an electronic alert or through discharge letter proformas, with a dedicated section for significant scan findings. This study will be re-audited in 6 months, post-intervention, to assess for improvement.

30	**A Retrospective Analysis of Outcomes in Titanium Elastic Nailing for Paediatric Both Bone Forearm Fractures**	**Reece Travis, Ella Burwell, William H F King, Timothy P Davis, Khaleel Chilimi, Sunil Bajaj**

Introduction
Both bone forearm fractures represent a substantial proportion of paediatric injuries, and titanium elastic nailing system (TENS) fixation is increasingly used when conservative management is unsuitable. However, UK outcome data remain limited.
Aims
This study aimed to evaluate outcomes, complications, and implant selection in paediatric both bone forearm fractures managed with TENS fixation at a UK district general hospital.
Methods
A retrospective review of patients under 16 years who underwent TENS fixation between January 2021 and January 2025 was conducted. Demographic, clinical, operative, and radiographic data were collected. Functional outcomes were assessed using the Flynn criteria. Nail diameter was compared with canal diameter to assess implant selection.
Results
Fourteen patients (mean age 8.5 years, 57% male) underwent fixation. Most fractures were midshaft (86%). In six patients, only one bone required TENS fixation. Median time to surgery was 1 day; median length of stay was 1 day. A total of 22 nails were inserted; only 5% met the recommended 30–40% canal fill, with the remainder oversized (mean 57.8% canal fill). Four complications occurred: one nail left in situ, one loss of reduction requiring ORIF, and one superficial infection with median nerve injury post-removal. Functional outcomes (n=12) were excellent in 75%, satisfactory in 17%, and poor in 8%. No statistically significant relationship was found between oversizing (>60% canal fill) and outcome (Fisher's exact, p=1.00).
Conclusion
TENS fixation provided satisfactory to excellent outcomes in the majority of children. Despite frequent oversizing of nails beyond recommended guidelines, outcomes were not adversely affected. Larger, multicentre studies are warranted to confirm these findings and optimise implant selection in paediatric both bone forearm fractures.

79	Enhancing Neurovascular Assessment Documentation in Paediatric Supracondylar Fractures: A Closed Loop Audit	Ahmed Mohamed, Usman Fuad, Sagaurav Shrestha, Alaa Elasad

Title

Enhancing Neurovascular Assessment Documentation in Paediatric Supracondylar Fractures: A Closed Loop Audit

Introduction

Supracondylar fractures represent 50-60% of all paediatric elbow injuries. These fractures carry significant neurovascular risk, with nerve injuries occurring in 11-15% and vascular injuries in 3.2-14.3% of cases. BOAST guidelines advice to assess and document neurovascular status for radial, ulnar, median and anterior interosseous nerves. Additionally, vascular status including assessing radial pulse and CRT must be documented. Poor baseline documentation delays recognition of complications, complicates medicolegal situations, and makes distinguishing between traumatic and iatrogenic injuries challenging.

Aim(s)

First aim was to evaluate our compliance in the T&O department at Royal Cornwall Hospital with BOAST guidelines for neurovascular documentation in paediatric supracondylar fractures.

Second aim was to implement targeted quality improvement interventions and assess their effectiveness in improving documentation standards and patient safety.

Methods

A closed-loop audit was conducted comparing practice against BOAST standards. Cycle 1 (January-September 2022) retrospectively reviewed 24 patients under 15 years with surgically-managed supracondylar fractures. Following presentation at departmental audit meeting, educational interventions were implemented including email dissemination emphasizing medicolegal importance, inclusion in resident induction programs, and distribution of standardised five-parameter assessment proformas. Cycle 2 (October 2022-June 2023) assessed 34 patients using identical methodology. Inclusion criteria comprised skeletally immature patients (<15 years) with supracondylar fractures requiring surgery. Exclusion criteria included Gartland 1 fractures, incomplete medical records, and patients aged 15 or older.

Results

First Cycle showed only 45.8% (11/24) of patients had complete neurovascular documentation. Post-intervention analysis demonstrated significant improvement to 76.5% (26/34) compliance, representing 30.6% absolute improvement. Preoperative neurovascular compromise occurred in 12.5% and 14.7% respectively, with all cases resolving postoperatively.

Conclusions

Simple, low-cost educational interventions and standardised documentation tools effectively improved adherence to national guidelines. This audit demonstrates that targeted staff education, proforma implementation, and systematic quality improvement approaches can successfully enhance documentation quality, patient safety, and medicolegal protection while maintaining high clinical standards in paediatric trauma care.

91	Paediatric Tertiary Trauma Surveys: Completion, Barriers, and Strategies in a Major Trauma Centre	Hetta Friend, Natalia Sanchez-Thompson, Shehan Hettiaratchy, Kevin Tsang,Jay Patel

Introduction:
Tertiary trauma surveys (TTS) help detect injuries missed during initial assessment in paediatric trauma, yet completion is highly variable across centres.
Aim(s):
To evaluate paediatric TTS completion rates, identify barriers to completion, and propose strategies to improve practice.
Methods:
We retrospectively reviewed paediatric (0–16 years) trauma calls from March to September 2024 at a major trauma centre. We assessed TTS frequency, timing, admission length, performing clinicians, and new findings. A supporting survey of 19 major trauma doctors and 19 paediatricians evaluated confidence and understanding of responsibilities for TTS in younger children.
Results:
Of 141 trauma calls, 30 (21.2%) received a TTS. Mean completion time was 41.2 hours, with over half performed within 24 hours. Completion rates increased with admission length: 16% for 1-day stays vs 50% for 3-day stays. TTS were disproportionately performed in children >12 years (24.5% >12 year olds, 18.75% in <12 year olds). Most TTS were completed by major trauma SHOs (47%) and advanced nurse practitioners (23%), but in children <12 years, a broader range of clinicians performed them, mostly senior paediatricians. Twelve of 30 (40%) TTS revealed new findings.
Non-completion was apparent in the following scenarios:
Inappropriate trauma calls
Discharged directly from A&E/UTC
Admitted solely for neuro-observations
Surgical specialty admissions without major trauma input
Lengthy ITU admissions
Survey data highlighted uncertainty among both paediatricians and major trauma clinicians regarding responsibility for TTS in younger children. Major trauma doctors were less confident performing TTS in younger age groups, with only 7/19 confident examining 9–12-year-olds. Among paediatricians, only 30% reported confidence performing a TTS.
Conclusions:
TTS completion in paediatric trauma calls remains suboptimal, particularly in short admissions and younger children, despite almost half identifying new findings. To improve completion rates, emphasis must be placed on training clinicians to confidently perform paediatric TTS.
To address this, paediatricians have been educated at their departmental meeting on which patients require a TTS, and paediatric consultants will receive teaching from major trauma consultants on how to perform TTS. This aims to enable shared responsibility between major trauma and paediatrics for TTS completion. Combined with trust-wide guidelines clarifying patient eligibility and incorporation into departmental inductions, these interventions aim to support consistent and safe practice.

21	The clinical efficacy and patient satisfaction of the	Joseph William Johnson, Abdul-Hadi Kafagi, Anand Pillai

	virtual fracture clinic: a systematic review	

Introduction: Virtual fracture clinics (VFCs) have been proposed as an efficacious alternative to face-to-face (FTF) fracture clinics. Better usage of clinical time and resources, increased accessibility, decreased patient wait times and reduced cost may be advantages of the VFC.
Aims: This study aims to assess the clinical efficacy and patient satisfaction of the VFC in the UK since introduced in 2011 and determine whether VFCs should become the leading pathway for acute traumatic orthopaedic (ATO) care.
Methods: A systematic review of studies from 2011 up to April 2025 was conducted, identifying all relevant literature to the safety and efficacy of VFCs. MEDLINE, PubMed and the Cochrane library were searched according to our search strategy. Systematic screening and application of our inclusion and exclusion criteria resulted in twenty-five included studies. These studies included retrospective cohort studies, case series and interrupted time series, prospective and cross-sectional cohort studies, closed loop AUDITs and service evaluations. Key clinical efficacy outcomes assessed included; VFC discharge rates, adherence to BOAST 72-hour guidelines, missed injuries, inappropriate referrals/radiographs, reattendances, and the number of FTF fracture clinic follow ups following VFC review. Additional outcomes assessed were patient reported outcome measures and patient satisfaction data.
Results: A cohort of 63,367 patients contributed to the clinical efficacy summative outcomes. VFCs reported an 83.6% mean compliance rate with British Orthopaedic Association Standards for Trauma 72-hour guidelines, compared to 5.7% for FTF fracture clinics. VFCs make minimal diagnostic errors and rarely miss injuries. As a result, VFCs reported a low mean reattendance rate following discharge of 4.9%. Patients have good health outcomes, a high mean satisfaction rate of 85.4% for VFCs and prefer them to FTF fracture clinics.
Conclusions: This systematic review demonstrates that VFCs are highly efficacious in managing ATO patients in the UK and that patients are satisfied with their care. VFCs outperform FTF fracture clinics and should become the standard pathway for management of ATO injuries across the UK.

27	**Anaesthesia for Pelvic Fracture Fixation in Major Trauma Centres – A National Survey**	**Liam Schneider, Katherine Walker, Katherine Livingstone**

Introduction:
Pelvic fracture fixation in trauma patients presents a unique anaesthetic challenge, balancing the need for haemodynamic stability, adequate analgesia, and early mobilisation. As part of a quality improvement project to improve the care of this patient group in our centre a national survey of practice was undertaken.
Aims:
To assess the use of intraoperative cell salvage and regional anaesthetic techniques of patients undergoing operative fixation of pelvic fractures.
Methods:
We conducted a national survey targeting all UK Major Trauma Centres (MTCs) to assess anaesthetic approaches used during operative fixation of pelvic fractures. Data were collected on the use of neuraxial techniques (spinal and epidural), regional anaesthesia, and intraoperative cell salvage.
Results:
Of the 31 MTCs contacted, 23 (74%) responded.

Spinal anaesthesia was used at least occasionally in 11 centres (50%), with some variation in timing (e.g. before or after general anaesthesia).
Epidural anaesthesia was rarely used, with only 2 centres reporting intermittent use.
Other regional techniques were varied and infrequent, including surgical infiltration, TAP blocks, fascia iliaca, and lumbar plexus blocks, with 8 centres utilising one or more of these methods.
Cell salvage was used in 97% of responding centres.
Conclusion:
There is significant heterogeneity in the anaesthetic management of pelvic fracture fixation across UK MTCs. While cell salvage is near universally used, the use of neuraxial and regional techniques varies widely. These findings highlight the need for further research and potentially national guidelines to optimise perioperative care in this complex trauma population.

34	**Bridging the Treatment Gap: Assessing Fracture Risk in Parkinson's Disease**	**Tara Edwards, Bethany Sykes, Sam Arianayagam**

Introduction
Parkinson's disease (PD) is recognised as both increasing the risk of falls and contributing to the development of osteoporosis. As a result, there is an elevated risk of fragility fractures, potentially leading to reduced quality of life and increased mortality. National Osteoporosis Guideline Group (NOGG), 2024, recommends that diagnosis of PD should prompt comprehensive assessment of fracture risk. Furthermore, updated guidance advises that clinicians modify FRAX scoring in patients with PD to ensure more accurate risk stratification. BONE-PARK 2 (BP2) algorithm was developed as a method of appropriately assessing risk in line with this guidance.
Aims
To identify whether the increased risk of fragility fractures in PD patients is being appropriately identified and treated per NOGG guidelines
Methods
50 patients reviewed in PD clinic in the past year were selected at random. Using clinical noting and GP encounters, FRAX and BP2 scores were calculated for each patient. A numerical score of 1-5 was allocated based on FRAX/BP2. Whether they are, or have previously been, prescribed bone protection was recorded. Scores were analysed by paired t-test to assess if the difference was statistically significant. The aim of this analysis was to determine if the increased fracture risk in the local PD population is sufficiently managed.
Results
T-test showed a statistically significant difference ($p<0.05$) between severity scores when FRAX & BP2 were used. A significant proportion of patients met treatment thresholds for FRAX (score 4-5) but were not prescribed bone protection. Many who were recommended lifestyle advice or measurement of BMD by FRAX, fall into treatment categories when BP2 is used.
Conclusions
These findings highlight a significant difference between FRAX and BP2 scoring, with BP2 identifying more individuals as requiring bone protection. Potential for improving care was also identified as many who met FRAX threshold for intervention were not prescribed bone protection. This highlights the need for proactive risk assessment and implementation of prescribing guidance in this high-risk population.

115	Identifying and Managing Atypical Ankle Fractures Beyond the Lauge-Hansen Classification System	Ahmad Joumah, Thomas Downs, Mahir Yousuff, Peyman Bakhshayesh

Introduction:
The Lauge-Hansen (LH) classification system remains a cornerstone in the evaluation of ankle fractures, effectively categorising the majority of injury patterns based on predictable mechanisms. However, a significant subset of ankle fractures eludes classification within this system. This study aims to identify and characterise these atypical fractures, evaluating their prevalence, radiographic features, surgical management, and the necessity for syndesmotic fixation.
Aim:
To identify and characterise ankle fractures not captured by the Lauge-Hansen classification system, and to evaluate their imaging requirements, surgical management, and need for syndesmotic fixation.
Methods:
We conducted a retrospective review of all ankle fractures treated at a single major trauma centre (Leeds Teaching Hospitals) over a 12-month period (2022–2023). Atypical fractures were defined as those demonstrating anterior or posterior talar subluxation/dislocation on lateral radiographs, which could not be classified under the LH system. However, these fractures could be characterised by alternative mechanisms—namely hyper-flexion pronation, hyper-flexion supination, hyper-extension supination, and hyper-extension pronation. We compared these atypical fractures with LH-classifiable patterns in terms of frequency, preoperative CT utilisation, surgical approach, and syndesmotic fixation rates.
Results:
Of all 350 ankle fractures reviewed, 20% (n=70) were identified as atypical and unclassifiable using the LH system. These fractures demonstrated distinct management characteristics:
Syndesmotic fixation was required in 100% of atypical cases, compared to 20% in LH-classifiable fractures.
Preoperative CT imaging was utilised in 60% of atypical cases versus 20% in typical cases.
Combined surgical approaches were more commonly required (40% vs 20%), with posterior-lateral (PL), posterior-medial (PM), and modified posterior-medial (MPM) approaches frequently employed. Notably, combinations such as PL + direct lateral approaches were uniquely used in this cohort at our centre.
Conclusion:
A significant proportion (20%) of ankle fractures fall outside the scope of the traditional LH classification system. Unlike typical LH injuries, which assume a fixed foot subjected to rotational forces, these atypical fractures may result from mechanisms where the foot is not fixed at the time of injury—suggesting a different biomechanical origin. These injuries are associated with a markedly higher requirement for syndesmotic fixation, advanced imaging, and complex surgical approaches. Our findings support the need for a modified classification system that accommodates these unique injury patterns and guides appropriate surgical planning.

29	Diagnostic Performance of a Deep Learning Model for Fracture Detection on Radiographs with	Simon H Palmer

	Gradient-Weighted Class Activation Mapping (Grad-CAM): A Statistical and Regional Validation Study	

Introduction: Accurate and timely diagnosis of fractures on X-rays is critical for effective clinical management.
Aim:We evaluated the diagnostic performance of a deep learning-based artificial intelligence (AI) model developed to classify radiographs as either fracture or non-fracture cases.
Methods: A total of 195 anonymized X-ray images (97 fracture, 98 non-fracture) were analyzed using the AI model. Output probabilities were compared using both parametric (Welch's t-test) and non-parametric (Mann-Whitney U test) methods. Discriminatory performance was quantified using effect size (Cohen's d) and receiver operating characteristic (ROC) analysis. Subgroup analysis by anatomical region was performed to assess model robustness and regional variability.
Model Architecture and Pipeline: The AI model was implemented in TensorFlow/Keras and trained over 50 epochs using binary cross-entropy loss. It utilizes a sigmoid output node, which returns a probability (0 to 1) indicating the likelihood of fracture, enabling binary classification. Input X-ray images are resized to 233×233 pixels and normalized. The system also includes an integrated image quality assessment module that scores technical quality (resolution, contrast, brightness, noise, edge clarity, and multi-view detection) and can block poor-quality images unless overridden. Predictions are only made when image quality is acceptable or when forced by the user.
Results: The AI model demonstrated statistically significant discrimination between fracture and non-fracture groups ($p < 0.001$ across all tests), with a large effect size ($d = 1.23$), indicating excellent clinical relevance. The overall area under the ROC curve (AUC) was 0.731, with an optimal threshold of 0.730 yielding 77.3% sensitivity and 69.4% specificity. Regional analysis revealed superior performance for wrist (AUC = 0.955, sensitivity = 100%), tibia (AUC = 0.810, sensitivity = 83.3%), and hip (AUC = 0.795, sensitivity = 81.8%). Performance was moderate to good in most other regions, though limited in the ankle (AUC = 0.567) and humerus (AUC = 0.542), likely due to small sample sizes or overlapping features.
Conclusions: This AI model exhibits strong potential for clinical deployment, with statistically robust and clinically meaningful discrimination between fracture and non-fracture X-rays. Threshold optimization and region-specific performance tuning further enhance its utility. The next stage is to improve the model by repeating the training of the AI model with a substantially larger dataset of fracture radiographs from the NHS.

39	**Diagnostic Accuracy of Magnetic Resonance Imaging in Meniscal Tears**	**James Bottomley, Oday Al-Dadah**

Introduction:
The knee menisci are fibrocartilaginous structures which play a key biomechanical role in load transmission, shock absorption, stability and ultimately preservation of articular cartilage. Magnetic resonance imaging (MRI) is vital in assessment of meniscal pathology and guiding subsequent management options.
Aim:
This study aims to evaluate the diagnostic accuracy of MRI for isolated meniscal tears, as compared to subsequent arthroscopic findings.
Methods:
This comparative clinical study screened 334 patients who underwent arthroscopic knee

surgery. Pre-operative knee MRI scan results using standardised and uniform protocols were compared to arthroscopic surgical findings, to assess the accuracy, sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of initial radiological reports.
Results:
A total of 79 patients who underwent arthroscopy for isolated meniscal tears were included in the analysis. MRI demonstrated a sensitivity of 90%, specificity of 83%, PPV of 96%, NPV of 63%, and accuracy of 89% for medial meniscal tears. In lateral meniscal tears, pre-operative MRI demonstrated a sensitivity of 65%, specificity of 88%, PPV of 68%, NPV of 87%, and accuracy of 81%.
Conclusions:
This study demonstrated high diagnostic accuracy of MRI scans for both medial and lateral meniscal tears but radiological findings should not to be used in isolation, but instead incorporated as a diagnostic adjunct in the wider clinical picture when making therapeutic decisions. Clinical acumen remains the priority in the context of evaluating these knee injuries.

54	**An evaluation of routine post-operative radiographs following hip hemiarthroplasty.**	**Shanen Emmanuel, Oliver Gosling, Cathy Monaghan, Philip Bewley**

Introduction
The incidence of hip fractures in patients over 65 is increasing in the UK contributing to significant financial and environmental burdens on the NHS. Routine post-operative radiographs are commonly performed after hip hemiarthroplasty to detect complications, despite limited evidence supporting their clinical value. As the NHS strives for greater cost efficiency and sustainability, this study aims to evaluate the utility and cost-effectiveness of these routine radiographs in identifying postoperative complications.
Methods
A single-centre retrospective analysis was performed on all patients who underwent hip hemiarthroplasty over 12 months. Post-operative notes, clinical notes and imaging were analysed to identify complications occurring immediately and within 90 days post-operatively. A prospective analysis was conducted to measure the additional anaesthetic and radiographer time.
Results
200 hip hemiarthroplasty operations were identified in the National Hip Fracture Database during the data collection period. 199 patients had no complications found on intra-operative, formal and imaging within 90 days post-operative. One patient experienced an intra-operative complication which was managed intra-operatively, post-operative imaging was satisfactory, and no complications were noted within the 90 days post-operative. 15 patients received formal departmental X-rays instead of intra-operative imaging, while 2 patients had both. 25 patients required further imaging after their initial post-operative X-ray, most commonly due to a fall (n=15) with no complications related to the original hemiarthroplasty. The time spent by the Radiographers from the initial call to the return to the department was an average time of 34.1 minutes and the additional time under anaesthesia was an average of 4.6 minutes.
Conclusion
This study highlights the limited value of routine post-operative check radiographs following hip hemiarthroplasty. We propose that check radiographs be reserved for cases

with a clear clinical indication thereby reducing costs to the NHS, optimising resource utilisation and improving patient care.

60	**Emergency department service evaluation of acute CT head turnaround times after new changes: a closed-loop audit**	**Ashwin Kalyana - Joint 1st Author, Zahra Almansoor - Joint 1st Author**

Introduction: Traumatic brain injuries (TBI) are associated with high levels of morbidity and mortality. CT Heads are the most important imaging modality for acute portals to diagnose TBIs. Rapid identification and early diagnosis can expedite appropriate management and improve patient outcomes. National Institute of Clinical Excellence (NICE) (2023) provided updated guidance on one-hour and eight-hour targets for scans and one-hour targets for provisional reports.
Aims: This closed-loop audit assessed and improved adherence of a UK Major Trauma Centre to NICE 2023 guidelines on TBIs.
Methods: Data was collected from adults (>18 years) presenting with TBI between the 23rd and 29th September 2024 (first loop) and 21st-27th May (second loop) to Royal Stoke University Hospital acute portals and compared to a previous cycle (7th and 13th October 2019) across the same acute portals. Recommendations from the 2019 audit included implementing a second CT scanner; direct protocolling of CT scans; and greater onus on consultant reporting rather than registrars.
Results: Following implementation of 2019 recommendations as above, there was a 68% increase in the total number of scans (57 to 96) completed over the one-week period with a 12% increase in the number of scans meeting NICE one-hour and eight-hour targets (from 67% to 79%). There was no improvement meeting the one-hour target for the availability of a provisional report (47% in both audit cycles). The recommendations from 2024 audit included educational reminders to both radiology and ED departments, increased reporting numbers and for reporting onus to fall on both consultant and on-call registrar to report scans. The 2025 loop showed a noticeable improvement in reporting times – 63% (up from 47%) and that 96% scans had a provisional report within 1 hour of the missed deadline. However, there was no significant improvement with regards to scanning targets between 2024 and 2025 loops, with both audits showing that only 79% of scans conducted were conducted as per NICE guidelines.
Conclusions: Improving the resource base alone does not seem to improve the recommended scan reporting time. Further improvements are required to meet the 1-hour and 8-hour scanning standards. New recommendations include improved requesting proformas and a colour-coded system to aid radiologists in risk-stratifying importance of CT Head scans. Monthly educational email reminders to both ED and Radiology staff has shown better awareness of one-hour NICE criteria, demonstrated by significant improvements in reporting statistics. These audit loops leave the potential to be re-audited once again in the future, alongside comparisons with other non-MTC sites. This will help to acknowledge both good practice, as well as areas of improvement across the board.

56	**Coned hemipelvic arthroplasty for acetabular fragility fracturesA retrospective study with minimum 3y follow up**	**Amy Jones, Kalina Hristova, Tim Chesser**

Complex acetabular fractures in frail patients are a significant surgical challenge associated with significant morbidity and mortality risks. Current reconstructive options are associated with a variety of mechanical and non-mechanical complications. Preliminary studies propose the coned hemipelvis hip replacement as a viable alternative to acetabular fracture fixation.

To determine the frequency of primary (surgical site infection, dislocation and implant failure), secondary (re-operation, DVT, death, periprosthetic fracture) and functional outcomes following complex acetabular fracture fixation with coned hemipelvis reconstruction.

Retrospective data analysis of all 18 frail, elderly patients (19 hips) with underlying osteoporosis who underwent a coned hemipelvis reconstruction with total hip arthroplasty for complex acetabular fracture at Southmead Hospital, North Bristol NHS Trust between January 2019 – April 2025. Surgical technique and post-operative instructions remained consistent. Retrospective data analysis was performed via analysis of the Bluespier database.

18 patients (19 hips, 10 female) were included with a mean age of 81 years (range 60-94) and mean ASA score of 3.2 (range 2-4). Minimum 12 months follow-up was achieved in 11 (61%) patients. The majority (n= 17, 89%) of acetabular fractures occurred secondary to low-energy trauma. As per the Letournel acetabular fracture classification: 7 associated both column, 5 anterior column with posterior hemitransverse, 2 anterior wall, 2 transverse with posterior wall fractures. 3 were non-classifiable due to tumour presence. 11 hips (58%) received a MUTARS® LUMiC® implant (implantcast, Germany) and 8 hips (42%) received a Stanmore METS® implant (Stryker, UK). All hips received a dual-mobility EcoFit® (Implantcast, Germany) acetabular cup with a cemented Exeter® (Stryker, UK) femoral stem. 4 patients developed post-operative complications: Guillain-Barre syndrome (n=1), E. coli bacteraemia (n=1), deep vein thrombosis (n=1), prosthesis loosening (n=1). There were no reported episodes of prosthesis dislocation, infection or need for re-operation. 17 patients were full-weight bearing post-operatively, 1 remained wheelchair-bound, and 14 (74%) patients returned to pre-operative mobility status. 1-year mortality rate was 11% (n=2), with both deaths occurring secondary to advanced metastatic cancer. The mean Oxford Hip Score was 31.9 (range 20-43) and mean EQ-5D-5L index score was 17.5 (range 13-23).

Our retrospective analysis of patients undergoing a coned hemipelvic replacement indicates this is a viable reconstructive option which involves minimal surgical insult, allows immediate post-operative full weight bearing and is associated with a low complication rate. Consequently, it should be considered in treating frail patients who have sustained a complex acetabular fracture.

140	**Identifying High-Risk Features in Complex Trochanteric Femur Fractures: Predictors of Fixation Failure**	**Hetta Friend, Ignatius Liew, Martyn Parker**

Introduction

A distinct variant of trochanteric hip fracture is characterised by a short proximal fragment (comprising the femoral head and neck which is lying nearly horizontally on anteroposterior radiographs), combined with comminution of the greater trochanter causing medial displacement of the femoral shaft due to loss of lateral support. Angulation at the fracture site is often observed on lateral views.

Aims

We hypothesised that this fracture subtype is associated with a higher rate of fixation failure and complications compared to a more typical trochanteric hip fracture.

Methods
We conducted a prospective cohort study of 4620 consecutive patients with a trochanteric hip fracture (AO/OTA 31A1, 31A2 and 31A3) from a hip fracture database (January 1989–February 2021). Patients were categorised into two groups: basal trochanteric fractures with associated greater trochanteric comminution (Group 1, n=206, 4.4%) and other trochanteric
fractures (Group 2, n=4414). Fixation failure, defined as implant cut-out, plate detachment, non-union, implant breakage, secondary fracture, or avascular necrosis was assessed with a one-year follow-up.
Results
Fixation failure occurred in 21 (10.2%) of Group 1 compared with 148 (3.4%) of Group 2 (p<0.0001; OR 3.26, 95% CI 2.01–5.26), indicating a significantly increased risk for those with the fracture pattern in Group 1, specifically for plate detachment (OR 5.40; 95% CI 1.51–19.27). When comparing the two most common fixation types- the sliding hip screw (SHS) and nail fixation- there was no difference in the overall complication rate for group 2 (3.1%, 87/2841 in SHS vs 3.8%, 55/1453 in nail fixation). However, for group 1, there was almost twice the complication rate in SHS fixation (11.4%, 17/149) when compared with nail fixation (6.0%, 3/50).
Conclusion
Basal trochanteric fractures with greater trochanteric comminution demonstrate a significantly higher risk of fixation failure than other trochanteric fractures, highlighting the
need for tailored surgical strategies and further research into optimal management.

2	**Direct Anterior Approach to Hip Hemiarthroplasty Associated with Significantly Shorter Length of Stay: a Retrospective Cohort Study.**	**A Nicholson, S Jehan, S Prasad, M Andrews**

Introduction: Direct anterior approach (DAA) to hip hemiarthroplasty has been popularised as a technique to minimise muscle damage. is currently considered to be a superior approach for improving early recovery following surgery. However, the most commonly used approach for hemiarthroplasty in the United Kingdom is modified Hardinge approach (MHA).
The aim of this study was to compare the outcomes for patients who underwent hip hemiarthroplasty via a DAA or MHA.
Methods: A retrospective analysis was conducted on patients in our institute who underwent hip hemiarthroplasty between May 2019 and June 2024. Patients were grouped into DAA or MHA. A total of 95 patients were identified in whom DAA was used. We then selected 95 age and gender matched patients who had hemiarthroplasty via MHA. Primary outcomes included post-operative Hb changes, length of hospital stay, and discharge destination. Secondary outcomes included mortality rates.
Results: There were 95 patients in each group. The average age in the DDA group was 83.7 (63-100). The average age for MHA group age was 81 (46-99). The DAA group demonstrated a shorter length of stay (14.5 vs 29.8, p<0.001). In the DAA cohort, 82.2% of patients were discharged to the same destination they were admitted from, compared to 59.8% in MHA (p=0.011). Post-operative change in Hb was not significant (p=0.67). The difference in the inpatient mortality rates among the two groups was not significant (p=0.41). And mortality overall since the admission was 55.8% in DAA and 47.4% in MHA

(p=0.29).
Discussion: The results from this study are in keeping with current research that DAA is associated is shorted inpatient stays. However, there were no other statistically significant findings during this study. Further detailed research in a larger population size would be recommended to assess early mobility and other long-term outcomes.

36	**A retrospective cohort study of distal radius fracture manipulation under different methods and its impact on surgical rates.**	**Luanne Lai, Serena Patel, Nicholas Ng, Nidhruv Ramikumar, Alan Norrish**

Introduction
Distal radius fractures commonly present to emergency departments. Manipulation methods include manual traction (MT) and finger trap traction (FTT), combined with haematoma block, Bier's block or entonox. Whilst previous studies assessed outcomes via radiological parameters, pain, and complications, none evaluated surgical rates as a measure of successful reduction. This study compares manipulation methods and their impact on surgical intervention rates.
Methods
Retrospective data were collected between December 2019 - December 2024. Inclusion criteria were patients aged 18-65 years with isolated, closed distal radius fractures and dorsal angulation. 149 patients were grouped into FTT + Bier's block, FTT + haematoma block or MT + any anaesthesia. Radiological parameters (volar tilt, radial height and radial inclination) were measured at multiple timepoints to assess adequacy of reduction. Multinomial logistic regression examined associations between manipulation method and patient characteristics. Binary logistic regression (adjusted for gender) assessed odds of requiring surgery.
Results
Initial fracture characteristics (radial angulation, radial height, volar tilt) were similar across groups. Age was not significant (p=0.279), but males were more common in the FTT + Bier's group (p=0.007). MT patients were 2.94 more likely to require surgery compared to those with FTT (OR 2.94; CI 1.17-7.76). No significant difference in surgical rates was found between the two FTT groups.
Conclusions
Manual traction is associated with higher surgical rates compared to finger trap traction, however anaesthetic type did not influence outcomes. These findings support further investigation into FTT as the preferred reduction method for distal radius fractures.

3	**Aeromedical Trauma Admissions in UK Military Personnel a Decade After Afghanistan**	**Alice Taylor*, Emma Lloyd*, David Naumann (*Equal contributors and joint first authors)**

Introduction
The Royal Centre for Defence Medicine (RCDM), based at University Hospitals Birmingham Foundation Trust (UHBFT), has been the aeromedical evacuation site for UK military patients since 2001, providing hospital care within the UK Role 4 (R4) facility framework. Since cessation of combat operations in Afghanistan in 2014, UK Defence has been engaged in contingency operations worldwide. Although combat injuries receive significant attention, non-battle injuries are currently more common and significantly impact our forces' operational capacity.
Aim(s)
To investigate UK military aeromedical evacuation admissions to UHBFT following non-

battle trauma between September 2023 to March 2025.
Methods
Military patients admitted over an 18-month period were retrospectively identified from RCDM records. Demographic and clinical data were derived through manual searches of the UHBFT electronic patient record system. Institutional approval preceded data collection (CARMS-22849).
Results
During this period, 231 military patients arrived via aeromedical evacuation, 68% (n=143) with traumatic injuries. These admissions included 27.3% Royal Navy (n=39), 61.5% British Army (n=88), and 11.2% Royal Air Force (n=16) personnel. 90.2% (n=129) were male, with a median age of 28 years (IQR 23-35). Median time from injury to admission was 5 days (IQR 3-8), and median hospital stay was 5 days (IQR 3-8). Surgery was required in 60.1% (n=86) of patients, with 32.9% (n=28) operated on before admission. Of these, 42.9% (n=12) needed further surgery at UHBFT. Winter sports (22%; n=31) and role-specific training (17%; n=24) were the most common mechanisms of injury. The most affected regions were isolated lower limb (48%; n=69) and isolated upper limb (20%; n=29).
Conclusions
UHBFT has treated a substantial number of military patients with non-battle injuries, with winter sports and role-specific training emerging as major risk factors. This highlights the healthcare burden and resource demands of military trauma patients, even outside of combat periods. Efficient treatment and aeromedical evacuation pathways are crucial for optimal care and operational readiness.

25	**Addressing Barriers in Surgical Training: Evaluating the Impact of Increased Competition and Stagnant Training Numbers on the Future of the Surgical Workforce**	**nan**

Introduction
Surgery remains the most popular speciality among UK medical students, yet training accessibility has declined dramatically. While surgery attracts the highest number of applicants, the pathway to becoming a consultant surgeon faces significant bottlenecks that threaten the future surgical workforce.
Aim
This review aims to examine how increased competition and stagnant training capacity impact trainees, workforce sustainability, and patient care within the NHS.
Methods
We conducted a narrative literature review using PubMed, EMBASE, Google Scholar, and UK healthcare authorities (HEE, RCS, NHS England). Keywords included "surgical training UK," "workforce shortage," and "surgeon burnout." Sources from 2015-2024 included peer-reviewed studies, government reports, and professional surveys focusing on training metrics, competition ratios, trainee well-being, workforce demographics, and patient outcomes.
Results
Core Surgical Training (CST) posts have remained static at ~650 annually while applications surged from 2,322 (2020) to 3,384 (2024), creating competition ratios that increased from 3.84:1 to 5.25:1, respectively. Over half of surgical trainees consider leaving due to burnout and financial pressures. The ageing workforce compounds this crisis, with 64% of consultants aged 55-64 planning retirement within four years. NHS

waiting lists exceed 7.5 million patients, with increased private outsourcing correlating with higher mortality rates.

Conclusions

The supply-demand imbalance in surgical training creates systemic threats to UK healthcare. Without expanding CST/HST posts, investing in training infrastructure, and supporting trainee well-being, the UK faces severe surgeon shortages that will compromise patient safety and innovation.

139	**The rising prevalence of drone attacks in warfare and terrorism, and the implications for medical management of major incidents.**	**Glen Wilson**

Introduction

Over the past 10 years the number of terrorist attacks involving the use of drones has been increasing. In addition, the ongoing conflict in Ukraine has seen extensive use of small, commercially available drones to strike targets. As drone technology becomes more sophisticated, particularly through use of AI swarming techniques and ability to carry larger and more varied payloads, large-scale drone attacks become more likely as a method of terrorism with significant challenges for the medical management of major incidents.

Aim(s)

The aim of this study is to understand the trend in incidence of terrorist attacks involving drones, and the common injury patterns associated with FPV drone strikes in Ukraine in order to identify the likely challenges to be encountered when managing major incidents involving drones in the civilian setting.

Methods

A literature search and review of the global terrorism database will be used to determine the trend in incidence of drone-involving terrorist attacks over the past 10 years. A literature search will also be conducted to evaluate the common injury patterns identified from drone injuries in the military and civilian setting. From this the Major Incidence Medical Management and Support principles will be used to identify key challenges. This work is currently ongoing.

Results

This work is currently ongoing; however it has been noted that the incidence of terrorist attacks involving drones has been increasing over the last 10 years. It is also clear that the common injury patterns involve the head and neck, upper limbs and chest, reflecting the airborne nature of the devices used. The use of AI controlled drone swarms poses a significant mass-casualty risk to civilians and emergency services, and the variable payloads including explosive devices and CBRN weapons poses a significant risk of multi-modal attack.

Conclusions

As drone technology advances, the likelihood of their use in terrorism increases. The emergence of AI controlled drone swarms and ability to carry alternative payloads poses significant challenges and risks to civilians and emergency services, and the injury patterns observed from explosive device-equipped drones tends to affect predominantly the head and neck, chest and upper limbs. Should such an incident occur, the demand

on head and neck specialties would likely be overwhelming.

7	**Pre-filmed simulation videos of novel presentations in major trauma**	**Rakesh Khunti, Matthew Bishop, Laura May, Laura Conway**

There are many common major trauma scenarios which clinicians will be well versed in managing due to frequent exposure clinically or in simulation. However, there remains a group of uncommon but life-threatening presentations for which clinicians may not have previous knowledge, experience or awareness about. Simulation teaching is recognised to help with maintaining skills and following a set standard of care [1]. At University Hospitals Coventry & Warwickshire (UHCW), anaesthetic resident doctors receive a specific induction to major trauma highlighting salient points through oral presentations and a pre-filmed trauma scenario simulation [2]. This is supplemented through face-to-face high fidelity major trauma simulation sessions which is attended by a multidisciplinary group of candidates. We recognised that rare presentations in trauma would not lend itself well to face-to-face simulation for these candidates and may detract from the full potential of high fidelity simulation.

Aims

Evaluate previous exposure to resuscitative thoracotomies and if a pre-filmed scenario involving a resuscitative thoracotomy was beneficial in improving understanding of the core principals.

Method

A survey of attendees at local departmental teaching. A pre-filmed simulation scenario involving a resuscitative thoracotomy was shown to the attendees alongside a questionnaire to be completed before and after. This collected information on previous exposure to thoracotomies and their confidence, scored on a one to ten Likert scale, in being involved in a scenario which required one.

Results

We obtained twelve responses from residents in both anaesthesia and intensive care medicine. Four attendees had previously witnessed a resuscitative thoracotomy with only one having been directly involved in the patient's care. The mean confidence in being involved in a situation requiring a resuscitative thoracotomy before and after watching the pre-filmed scenario was 1.9 and 5.6 respectively.

Conclusions

Using pre-filmed simulation scenarios has demonstrated an improvement in learners' confidence with the core principals of resuscitative thoracotomy. This is in addition to an established multi-modal major trauma induction held at UHCW. The introduction of the key concepts of management with this teaching method allows us to progress learners onto more high fidelity simulation in the same situation in the future while also providing immediate improvement in clinician awareness of the scenario. We aim to expand this method of providing teaching of novel major trauma scenarios and skills to include other uncommon but life-threatening presentations.

References

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19	**Assessment and Documentation of Functional Outcomes**	**Zahra Butt, Olivia Cunningham, Nicholas Newton**

	Following Trauma Laparotomy	
Trauma laparotomies (TL) have long-term impacts on both psychological and physical symptoms. Improvements in acute trauma management have improved overall survival, but the long-term functional impact of TL has been neglected. The aim of this audit was to evaluate FO assessment in patients undergoing TL at a single mixed urban-rural Major Trauma Centre (MTC). Aims included determining whether FO scores were disaggregated into their component parts, the timing of FO assessments, and the factors influencing the assessments being performed. A retrospective review of all TL performed between 2017 and 2020. Data was extracted from the hospital's electronic patient record system. The two validated FO reporting scales currently used at the MTC are the Barthel Index and Rehabilitation Complexity Scale (RCS). The Barthel Index assesses 10 ADLs, each activity is scored, and the cumulative score reflects the patient's level of independence. The RCS captures the complexity of rehabilitation needs, considering factors like care dependency, need for special equipment, or involvement of healthcare professionals. 194 patients underwent TL- 112 penetrating injuries and 82 blunt injuries with a mean Injury Severity Score (ISS) of 23 (2-66). The median age was 36 (15-78) years. The cohort was predominantly male- 153 (79%). Women most commonly had blunt injuries from RTC and men penetrating trauma from stabbings. FO were assessed in 124 (64%) patients. However, in all cases, the scores were recorded only as cumulative totals, without breakdown into individual components. Only 57% of rehabilitation prescriptions were countersigned by a consultant as required by institutional protocol. Polytrauma patients were more likely to have their FO assessed (72%) compared to those with single-site injuries (53%). The timing of FO assessment ranged from the day of injury to 127 days post-injury, with a mean of 13 days. The Barthel Index & RCS are validated rehabilitation tools that offer valuable insights into rehabilitation needs these scores were often recorded cumulatively and not broken down into individual component. This limited the utility of the data and impeded the ability to tailor specific rehabilitation interventions effectively. Future efforts should consider the adoption of alternative or complementary FO assessment tools depending on the mechanism of trauma to provide a more individualised rehabilitation plan, this should include a psychological assessment. To address current shortfalls, the introduction of electronic prompts, to produce scores based on clinical presentation may enhance compliance. AI could be utilised to assess patients carrying out functional tasks and providing individualised rehabilitation goals, based on inputted videos. Collaboration with the rehabilitation team will be essential in identifying and overcoming barriers.		
23	**Optimal Timing of Definitive Abdominal Wall Reconstruction After Damage Control Laparotomy for Trauma: A Systematic Review and Meta-Analysis of Early versus Delayed Strategies**	**Abdelrahman Abdelaal, Ahmed Hassanein, Mohamed Saltah**

Introduction
Damage control laparotomy (DCL) is a life-saving procedure in major trauma that creates a subsequent dilemma regarding the optimal timing of definitive abdominal wall reconstruction. Surgeons must choose between an 'early' reconstruction during the index hospital admission or a 'delayed' strategy, involving a planned ventral hernia repair 6-12 months later. Current practice is guided by conflicting single-centre reports rather than high-level evidence.
Aim(s)
The aim of this study was to be the first to quantitatively compare the rates of hernia recurrence and surgical site infection between early and delayed abdominal wall reconstruction strategies in trauma patients who have undergone DCL.
Methods
A systematic review was conducted following PRISMA guidelines, searching MEDLINE and Embase through May 2025. We included cohort studies of adult trauma patients post-DCL comparing early (index admission) versus delayed (>3 months) reconstruction. Primary outcomes were hernia recurrence and surgical site infection (SSI), analyzed using a random-effects model to calculate pooled Odds Ratios (ORs).
Results
Three retrospective cohort studies met our inclusion criteria, providing data on 246 patients (158 managed with an early strategy, 88 with a delayed strategy). The meta-analysis revealed no significant difference in hernia recurrence rates between the two groups (11.4% vs 10.2%; OR 1.13, 95% CI 0.51-2.50). In contrast, early reconstruction was associated with a significantly higher risk of major surgical site infection (21.5% vs 12.5%; OR 1.95, 95% CI 1.02-3.71).
Conclusions
Our analysis reveals a critical trade-off. While hernia recurrence is unaffected by timing, an early reconstruction nearly doubles the risk of major infection. This suggests that despite the convenience of a single-stage repair, a planned, delayed approach represents the safer paradigm for this patient population.

109	**Management and outcomes of Blunt Abdominal Trauma (BAT) at a Major Trauma Centre (MTC) in 2024**	**Sarah Baxter, Kathrine Lee-A-Ping, Dimitra-Ilektra Lerou, Rebecca Austin, Venugopal Shankar**

Introduction
Leeds General Infirmary (LGI) MTC is one of the few trauma centres in the UK where the initial management including resuscitative surgery is led by vascular surgeons. Over the last few years, there has been a significant shift towards conservative management in the approach of solid organ injuries in patients with BAT.
Aim
To review the management and outcomes of all adult trauma-call patients with BAT admitted to LGI in 2024.
Method
Demographic data, clinical details and outcomes were collected from all adult patients with BAT who were admitted to LGI (n=128) between 01/01/2024 and 31/12/2024. Using the hospital online system, patient records were reviewed to assess the mechanisms of injury, clinical condition at the time of presentation, imaging, management, complications and the outcomes.
Results
During this study, 128 patients were admitted following BAT. 92 (72%) of these patients were male, and their mean age was 48 +/- 23. Road traffic collisions (58%) were the

predominant mechanism of injury. Those presenting with at least one component of the lethal triad included 58 (46%) with acidosis, 18 (12%) with hypothermia and 9(7%) with coagulopathy. Amongst solid visceral injuries, the spleen was the most injured organ in 58 (45%) patients, followed by kidney/bladder injures in 34 (27%) patients and liver injuries in 24 (19%) patients. 42 (33%) patients received immediate resuscitation. 20 (16%) were transferred to the operating theatre for resuscitative surgery with 18 (90%) having a trauma CT prior to surgery. 8 (40%) patients underwent immediate laparotomy, and 8 patients (40%) had definitive surgery. 4 (20%) of these 20 patients required immediate angiography and embolisation for life threatening haemorrhage. Amongst the 20 patients who underwent immediate resuscitative surgery, 5 (25%) of these required further operations carried out by relevant specialities for other injuries. The average length of stay in this study was 20 +/- 27 days. 5 (4%) patients were readmitted within 30 days. In-hospital mortality was 12 (9%) patients. Increased age was associated with higher mortality (mean age 62 +/- 25).

Conclusion

This study has provided an insight into the management of BAT at a MTC. It highlights an understanding of the mechanisms of injury, injuries sustained, initial management and patient outcomes. The majority of patients were managed conservatively. A large multi-centre prospective study involving BAT patients may provide a further understanding that can lead to improved outcomes moving forward.

41	**Jaws, Claws, What More?: A 10-year Review of Orthopaedic Burden from Animal Bites at a Major Trauma Centre**	**Nicholas Ng, Khemerin Eng, Alan Norrish**

Introduction:

Animal bites represent a significant yet underreported burden on orthopaedic services, with potential for severe soft tissue and bony injuries, infections, and long-term complications. While most epidemiological studies focus on emergency department presentations, there remains a critical knowledge gap regarding the Orthopaedic burden of these injuries, particularly those requiring specialist intervention.

Aims:

This audit aims to evaluate the epidemiology, management, and outcomes of animal bite injuries admitted to the Orthopaedic service in a UK Major Trauma Centre over 10 years to understand its burden on the service.

Methods:

A retrospective analysis of a prospective trauma database between December 2015 and March 2025 was conducted. All patients admitted to the orthopaedic service following animal bites were included. All animals including mammals, reptiles, birds, fish and amphibians were included. Human, insect and fight bites were excluded. Data collected include patient demographics, animal type, injury characteristics, surgical interventions, complications, length of stay and readmission rates.

Results:

Of 168 patients identified, the majority were adults (94.4%) with a female predominance (53.0%). Dogs were most commonly involved (65.5%), followed by cats (33.3%). Upper limb injuries predominated, with 10.7% involving more than one limb. Majority required surgical intervention (64.9%), including wound debridement, soft tissue reconstruction, or fracture fixation. 17.3% had a significant soft tissue injury and open fractures were seen in 6.5%. The mean time from injury to presentation and length of stay were 2.0 and 2.7 days respectively. 11.0% of surgically managed patients required secondary procedures during admission. The postoperative infection rate was 5.5%. 1.2% of injuries

resulted in significant morbidity in the form of compartment syndrome or an amputation.
Conclusions:
Animal bites are an increasing source of orthopaedic trauma. This audit highlights the morbidity and burden of care associated with these injuries. Further cost effectiveness analyses and health outcome studies are required to guide public health strategies in mitigating these injuries.

68	**Service Beyond Barriers: Our Collaborative In–reach JourneyService Beyond Barriers: Our Collaborative In–reach Journey**	**J. Hamilton, C. McGeehan, F. Scott, E. Traynor, E. Waterhouse**

Background
The West of Scotland (WoS) Major Trauma Centre (MTC) was established in August 2021 with the aim of "Saving Lives. Giving Life Back."(Scottish Government, 2017). The Scottish Trauma Network (STN) identified a gap in Level 1 Rehabilitation facilities (BSRM, 2015). A Hyper Acute Major Trauma (HAMT) Unit was proposed within the Queen Elizabeth University Hospital (QEUH). Significant financial challenges post COVID 19 resulted in a funding shortfall for this unit.
Despite challenges, the HAMT team was launched on an in-reach basis in April 2023, providing early, intensive, interdisciplinary rehabilitation to patients with Category A rehabilitation needs, following trauma (BSRM, 2015).
The team includes Physiotherapists, Occupational Therapists, Speech and Language Therapists, Registered Dietitians, Clinical Neuropsychologists, Rehabilitation Support Workers (RSW), Consultant AHP and receives Rehabilitation Medicine support.
Aim
This service evaluation aims to demonstrate the impact of a new method of working to support complex rehabilitation and improve functional outcomes.
Methods
Data gathered from January to December 2024. Referrals were received from multiple professions and clinical areas via MS Teams and E-mail. Patient Categorisation Assessment Tool (PCAT) scores of ≥ 30 were accepted for intervention (BSRM, 2015). Scores of 28-29 were discussed case by case. Treatment sessions/hours, FIM/FAM and RCS-ET functional outcome measures (Turner-Stokes et al 2007: Nayar et al 2016), length of stay (LoS) and treatment location were collated. Patients received comprehensive initial assessment, identifying therapy needs and frequency.
Results
83 referrals received. 33 (38%) accepted. Therapy was delivered across 6 different clinical areas, covering 16 wards. Average accepted PCAT score 34.6 (Range 28-40). Average LoS under HAMT was 40 days (Range 5-112). 100% of patients had 4 and 57.5% had 5 therapy professions involved. Average 99 total therapy hours (Range 17-152), with additional average 27 hours (Range 6-136) from RSWs.
Admission and discharge FIM/FAM and RCS-ET scores (Mean FIM/FAM admission 40 (Range 30-83) and discharge 98.1(Range 30-183); Mean RCS-ET 16 (range 11-21) and discharge 10.9 (range 2-17)), both significantly differed ($p<0.001$), indicating improve functional outcomes.
Conclusion
This unique team successfully navigated challenges to provide an in-reach service across multiple specialties and wards for 33 patients with complex rehabilitation needs. Early intervention and interdisciplinary team collaboration was effective in reducing rehabilitation complexity, dependency and improving functional independence, as

demonstrated by the significant change in RCS-ET and FIM/FIM scores.
Further explorative and comparative evaluation of service delivery will identify areas for improvement and allow continued delivery of high quality patient-centred care.

112	**Retrospective analysis of outcomes of Hindfoot nailing in complex ankle fractures in High-risk Geriatric population**	**Chandan Noel vincent, Saif Abdul sattar, Shahid Mir, Gopal krishna Verma, Mostafa elfakhrany, Vishal Kumar.**

Introduction:
Ankle fractures in the frail & elderly population are challenging to manage. Especially in patients with frailty, obesity, diabetes, neuropathy, and compromised soft tissue envelope / open fractures are prone to complications. Hind-foot nailing offers a versatile method of fixation in these challenging circumstances with minimal soft tissue disruption and aids early mobilisation. We present our outcomes on a series of complex lower limb fractures treated with hind-foot nailing.
Aims:
To analyse outcomes, mortality, and complications following hindfoot nailing for high-risk geriatric ankle fractures.
Methods:
A retrospective review of all identified patients (Age > 65 years) who underwent hind-foot nailing for ankle/distal tibia fractures from 2021 to 2023. A comprehensive analysis of the pre-operative profile of the patients (demographics & co-morbidities). Outcomes examined include mortality, union rates, improvement in mobility and complications.
Results:
Sixty patients underwent hind-foot nailing for ankle & distal tibia fractures from 2020 to 2023 in an MTC (major trauma centre). The majority of the patients were frail and had high-risk co-morbidities. The average RFS (Rockwood Frailty Score) was 6-8 in 58.6%, and 84% belonged to ASA classes 3 & 4. Seventy-three percent (73%) were open fractures, with 12% requiring complex Ortho-plastic interventions. The patients were followed up for a period of 2 years. The one-year mortality rate was 23.2%, with a further 8.8% deceased during further follow-up. Revision surgery for non-union & implant-related issues was 5.3% and 1.8% amputation. Fifty percent (50%) of the patients declined from their pre-op mobility status.
Conclusion:
Hind-foot nailing offers a versatile modality of fixation, especially in High-risk patients with compromised soft tissue envelope and poor bone quality. Nevertheless, the mortality rate for fractures in this subset of high-risk elderly population is relatively high. Evident decline in mobility following these severe fractures despite the nail offering the advantage of immediate full weight-bearing mobilisation.

35	**Enhancing Informed Decision-Making: The Impact of eConsent on Experience & Timing of Consent in Elective and Trauma Surgery**	**Tara Edwards, Bethany Sykes, Neil Marshall, Jonathan Kosy**

Introduction
RCS Consent: Supported Decision-Making A Guide to Good Practice highlights that the consent process should begin well in advance of the treatment to allow patients enough time to make informed decisions about their treatment. The introduction of electronic consent (eConsent) aims to improve the quality, consistency, and timing of informed consent, enabling patients to review information remotely and ahead of time, enhancing

understanding, allowing time for research and supporting shared decision-making.
Aims
The primary objective was to determine whether the use of eConsent increased the number of days between patients being consented for surgery and the procedure itself. The secondary objective was to assess the patient experience of using eConsent compared to paper consent.
Methods
Patients undergoing elective orthopaedic procedures at one hospital site from 01/10/24-31/12/24 were included (n=550). Use of traditional consent or eConsent was identified using hospital notes, the date of consent and surgery, and risks consented for were recorded.
Results
Unpaired t-test found a statistically significant difference in number of days from consent to surgery with traditional consent (mean=2.37, SD=23.06, 95% CI [-0.149-4.889] and eConsent (mean=31.66, SD=26.41, 95% CI [28.232-35.088]); t=13.8115, p<0.0001.
Conclusion
eConsent was shown to statistically significantly increase the time between consent and surgery, allowing patients to thoroughly consider the risks and benefits and make informed decisions about their care. eConsent also subjectively improves the patient experience going through the consent process. As well as giving them the opportunity to consider those risks whilst in their home environment and with supporting written or multimedia information as appropriate. The use of eConsent offers an opportunity to align the consent process with RCS guidance, offering patients more time to deliberate on available options and to consider their goals and wishes in terms of their treatment. In future, this may be expanded to optimise the consent process for trauma patients, maximising the limited time available whilst preparing for urgent surgeries for them to spend on further research and consideration.

42	**Investigating the Creation and Validation of Dynamic Prediction Models in the Traumatic Brain Injury Domain**	**Zainab Ahmed Alani, Martin Shaw, Laura Moss**

Introduction
Traumatic Brain Injury (TBI) is a major socioeconomic burden, set to remain in the top three causes of morbidity and mortality until 2030. Outcome prediction is integral to TBI management, with the Glasgow Outcome Scale (GOS) being the preferred scoring modality. With a mutable patient population whose outcomes fluctuate, dynamic outcome prediction remains underexplored. Dynamic refers to a model which updates as patients are added to a dataset. Dynamic modelling is not only pertinent but necessary. While TBI classically affects male adolescents, an ageing population is changing the landscape of TBI. Falls amongst older adults have become the major driver in high-income countries. With increasing diversity, it is critical to explore dynamic models for TBI.
Aims
This study explores the creation and validation of dynamic models using neuromonitoring indices and injury data to predict long-term outcome, taken as the extended GOS (GOSE), following TBI. Model creation takes a non-machine learning (ML) approach. ML algorithms often operate opaquely; this can reduce trust and hinder interrogatability for the clinical domain. A non-ML approach may yield models with greater transparency, engendering trust, and confer improved clinical applicability.
Methods

This work utilises the BrainIT dataset; a validated database of 2.9 million datapoints obtained prospectively on 262 patients from 22 neurointensive care units across 11 countries in Europe. R version 4.4.1 was used. Proportional odds logistic regression was employed to retain the full GOSE scale and maximise available data to improve accuracy. To simulate the dynamic process of patients being added, data was truncated and sequentially introduced. Accuracy statistics and calibration plots were produced to allow interrogation of model performance across dynamically expanding population sizes.

Results

Covariates identified by univariate regression as a strongly predictive combination and inserted into the model were age, maximum blood pressure, lesion volume on first computed tomography, and whether hyponatraemia or delayed haematoma occurred. Factor covariates demonstrated variable trends while numeric covariates displayed predictable trends across 149 expanding population sizes. The necessary population size for dynamic model initiation was 164 patients, with 7300 models created. Models iteratively demonstrated increasing stability. Rare outcomes and outlying data affected stability.

Conclusion

This novel work demonstrates that dynamic modelling is feasible for TBI. Pragmatic incorporation into the clinical workflow is dependent on data accrual rates, dictating how rapidly the initiating threshold for dynamicity can be met, and future research into handling of rare and outlying data. The expanding capabilities of automation may facilitate future utilisation of dynamic models.

59	**Traumatic optic neuropathy management: a systematic review**	**Richard J Blanch, Iric John Joseph, Kimberly Cockerham**

Introduction

Traumatic optic neuropathy (TON) is classically described in up to 8% of patients with traumatic brain injury (TBI), but subclinical or undiagnosed optic nerve damage is much more common. When more sensitive testing is performed, at least half of patients with moderate to severe TBI demonstrate visual field defects or optic atrophy on examination with optical coherence tomography. Acute optic nerve compression and ischaemia in orbital compartment syndrome require urgent surgical and medical intervention to lower the intraocular pressure and diminish the risk of permanent optic nerve dysfunction. Other manifestations of traumatic optic neuropathy have more variable treatments in international practice.

Aim(s)

To evaluate potential treatments for TON.

Methods

We conducted a systematic review of traumatic optic neuropathy treatments in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement.

Results

We included three randomised controlled trials of intravenous methylprednisolone (IVMP), erythropoietin, and levodopa-carbidopa combination, with no evidence of benefit for any treatment. In addition, large studies in TBI have found strong evidence of increased mortality in patients treated with megadose IVMP.

Conclusion

There is therefore no evidence of benefit for any medical treatment and strong evidence of harm from IVMP. There is also no evidence of benefit for optic canal decompression

for traumatic optic neuropathy. Orbital compartment syndrome is a separate entity that requires both medical and surgical interventions to prevent visual loss.

81	**Effective Management of Traumatic Venous Sinus Injuries In a Low-to-Middle Income Country Neurosurgical Centre**	**Alexandros Pantelides, Brendan Blackbeard, Ruan Grobler, Armin Gretschel, Zahier Ebrahim, Adriaan J Vlok**

Introduction:
Traumatic venous sinus injury (VSI) is a rare but severe complication associated with significant morbidity and mortality. Harvey Cushing's World War I study of military head injuries, found a mortality rate of 79% for dural sinus injuries. Modern units show improved, but still high rates of mortality ranging between 5 and 41%. In low-to-middle-income countries (LMIC), limited access to advanced imaging modalities such as CT venography (CTV) or magnetic resonance venography (MRV) complicates VSI diagnosis.
Aims:
This study aimed to: (1) Quantify the effectiveness of resource constrained imaging protocol; (3) assess the protocol's impact on patient outcomes (3) and identify predictors of VSI.
Methods:
We conducted a retrospective cohort study of adult patients admitted with skull fractures overlying dural venous sinuses at Tygerberg Academic Hospital, South Africa. All patients underwent initial non-contrast CT (NCCT), with selective use of contrast-enhanced CT (CCT) based on clinical or radiological suspicion. Intraoperative findings were used as the diagnostic gold standard for VSI, allowing imaging diagnostic accuracy analysis. Outcomes measured included Glasgow Outcome Scale Extended (GOSE) at discharge, length of hospital stay, septic complications, and mortality. Regression analyses identified predictors of VSI and GOSE outcomes.
Results:
Of 110 patients analysed, VSI was confirmed intraoperatively in 13.6%. NCCT showed a sensitivity of 33.3% and specificity of 75.9%, while selective CCT had a lower sensitivity (20%) but higher specificity (96%). VSI was independently associated with significantly worse GOSE outcomes (OR = 0.26; 95% CI: 0.08–0.87; $p<0.05$), even when controlling for admission Glasgow Coma Scale (GCS) and other intracranial injuries. Radiological evidence of raised intracranial pressure (ICP) was the strongest independent predictor of VSI (OR = 4.40, 95% CI: 1.17–21.48, $p < 0.05$). No statistically significant outcome differences were observed between patients evaluated with NCCT alone versus those receiving CCT. There were five (4.5%) mortalities, 40% of which had a VSI.

Conclusions:
In an LMIC trauma setting, selective use of CCT, guided by clinical judgment and initial NCCT findings, effectively supported management of traumatic VSI without adversely impacting patient outcomes. In our setting, routine use of CCT in all suspected VSI cases is unlikely to enhance outcomes significantly and may impose unnecessary radiation and economic burdens. Radiological markers of raised ICP and depressed skull fractures should prompt heightened suspicion and clinical vigilance for VSI. VSI remains a critical determinant of patient outcomes, underscoring the importance of clinical awareness and targeted imaging strategies in resource-limited environments.

63	**Cervical Spine Clearance in Unconscious Trauma**	**Ms Ashka Moothoosamy, Mr Sam Marsden, Dr Emily**

	Patients: A UK Major Trauma Centre Experience	**Wyman, Mr Michael Hughes**

Introduction:
Cervical spine immobilisation is routinely used in trauma patients to prevent potential spinal cord injury. However, prolonged collar use significantly increases the risk of pressure sores and respiratory infections. The 2021 BOAST guideline stipulates removal of cervical collars in unconscious patients following a normal CT scan.
Aim:
This study aimed to describe current cervical spine clearance practices in unconscious trauma patients, and assess adherence to BOAST recommendations.
Methods:
We retrospectively reviewed trauma patients at our Major Trauma Centre (MTC) over 12 months, identifying all unconscious patients (GCS<13 or intubated shortly after arrival) who underwent cervical spine CT. Patients who died within 24 hours or were consistently conscious were excluded. Data collected included initial GCS, CT findings, timing of collar removal, adherence to BOAST guidelines, and documentation quality.
Results:
47 patients met the inclusion criteria; 40 (85%) were intubated prior to arrival in the Emergency Department, with the other 7 intubated after arrival. Cervical spine CT was performed in all patients, of which 38 (80%) were reported as normal. 4 patients did not have a collar applied at any stage. Of the 34 patients with collars and normal cervical spine CT findings, only 18 (53 %) had documented removal within 48 hours. Prolonged collar use (>48 hours) occurred in 3 patients despite normal CT. Of those 21 with documentation, the mean time in collar was 27 hours, and median 16 hours (range 3-108 hours).
Conclusions:
Adherence to BOAST guidelines on cervical spine clearance is currently inconsistent and poorly documented, resulting in prolonged, unnecessary collar immobilisation despite highly sensitive CT clearance. Our results highlight an important area for quality improvement, particularly through increased awareness of decision-making protocols, and improved documentation.

101	**Pediatric Cervical Spine Computed Tomography Utilization in an American Community-Based Emergency Department Network- A Multicenter Study**	**Shawn A. Haupt, MD, MS; Christopher Alexander, MD; Adam White, MD; Cornelia Muntean, MD; Lauren Klein, MD; Shaun Steigman, MD**

Introduction
Cervical spine injury (CSI) is rare and occurs in approximately 1-2% of pediatric trauma patients. However, computed tomography (CT) utilization in community-based emergency departments (ED) remains substantial despite radiation risks to children. Evidence on CT utilization outside tertiary academic centers is limited.
Aim
Assess CT utilization in pediatric trauma patients and clinically meaningful subgroups to help inform more selective imaging strategies to evaluate for CSI.
Methods
We conducted a five-year multicenter retrospective chart review (from 1/2019 to 12/2023) across six community EDs, including one level II pediatric trauma center, within a single suburban health system in Long Island, New York.

A preliminary review of 552 out of 966 charts was performed.
Inclusion criteria: ED patients under 18 years old who presented due to trauma or injury and underwent C-spine CTs.
Exclusion criteria: No C-spine CT performed, prior imaging at other hospitals prior to transfer to our EDs, or MRI only evaluations.
Primary outcome: proportion of normal vs abnormal C-spine CTs with 95% confidence intervals.
Abnormal CT definition: confirmation of C-spine fracture, dislocation or occipital injury; suggestion of ligamentous tear.
Secondary outcomes: Proportions stratified by age (≤8 vs >8 years), mechanism of injury risk (low vs high), and abnormal MRI among patients with normal CTs who received MRIs.
High-risk mechanisms were defined as: high-risk motor vehicle collisions involving rollover, ejection, head-on collision, speed > 55 mph (88 km/h); fall >10 feet (3.05 meters), non-accidental trauma, diving, motorcycle, or pedestrian struck; low-risk mechanisms were defined as not meeting high-risk criteria.
Descriptive statistics, Wilson confidence intervals, odds ratios, and Fisher's exact tests were used.
Results
552 of 966 pediatric charts reviewed; N = 500 met inclusion criteria.
Median age: 14 years (IQR 11-16).
Abnormal CTs:
Overall: 7/500 = 1.4% (95% CI 0.7-2.9).
By mechanism: high-risk: 5/132 = 3.8% (95% CI 1.6-8.6) vs low-risk: 2/368 = 0.5% (95% CI 0.1-2.0), OR 7.2 (95% CI 1.4-37.6); p = 0.016 (Fisher)
By age: ≤8 years: 2/77 = 2.6% (95% CI 0.7–9.0) vs >8 years: 5/423 = 1.2% (95% CI 0.5–2.7); p=0.294 (Fisher)
MRI after normal CT:
Abnormal MRI: 1/23 (4.3%; 95% CI 0.8-21.0)
Conclusion
Preliminary findings suggest most pediatric C-spine CTs were normal, with abnormal CTs clustering in high-risk mechanisms of injury. The abnormal CT rate of 1.4% parallels PECARN's 1.9% CSI prevalence. The community-based US data are consistent with the PECARN C-spine study's data from tertiary pediatric centers, supporting selective use of C-spine CTs, especially in non-tertiary emergency settings similar to many UK-based district general hospitals.

40	**Long-Term Functional Outcomes Following Fasciotomy for Acute Compartment Syndrome of the Leg: A Retrospective Study**	**Sunandan Datta, Rahul Shah**

Introduction:
Acute compartment syndrome (ACS) is a time-critical surgical emergency requiring fasciotomy to prevent irreversible damage. While intra-compartmental pressure monitoring may support early diagnosis, its routine use remains debated. Long-term outcomes following fasciotomy for ACS are not well documented, particularly in relation to patient satisfaction and functional recovery.
Aims:
To evaluate long-term functional outcomes and complication rates in patients treated for ACS within our health board.
Methods:

A retrospective review was conducted on 30 patients who underwent fasciotomy for ACS between 2010 and 2024. Long-term outcomes were assessed using validated patient-reported outcome measures (EQ-5D and MOXFQ), with a mean follow-up of 7.8 years. Complications were identified from clinic letters and digital clinical records.
Results:
Complication rates were low: superficial infection (13%), deep infection (4.2%), and common peroneal nerve injury (6.67%). Most patients reported preserved function and quality of life (mean MOXFQ: 30.8; EQ-5D-5L: 74.3). However, satisfaction was reduced (mean 68/100), with 28% feeling self-conscious about scars and 14% altering clothing to conceal them. Notably, 93.33% of patients were unable to return to their preferred outdoor sport.
Conclusions:
Fasciotomy for ACS generally preserves long-term function and quality of life, but cosmetic concerns and reduced participation in sport significantly affect patient satisfaction. These findings support timely surgical intervention and highlight the importance of scar management and realistic patient counseling regarding long-term recovery.

75	**Benchmarking mobilisation practice and functional outcomes in traumatic brain injury patients admitted to the intensive care unit: a three-year service evaluation**	**Fiona Howroyd, James Hodson, Anne Preece, Tammy Lea, Samantha Rooney, Geoff Wu, Simran Rahania, Fang Gao Smith, Tonny Veenith, Niharika A Duggal, Zubair Ahmed, Jonathan Weblin**

Introduction: Traumatic brain injury (TBI) is a major cause of death and disability worldwide. Mobilisation is defined as the application of assisted movement and physical therapy to hospitalised patients, including progressive exercise and ambulation programmes. Whilst early mobilisation in the intensive care unit (ICU) has been shown to be a safe and effective intervention to improve patient outcomes in the general ICU cohort, there is currently limited evidence specific to patients with acute TBI.
Aim: The aim of this service evaluation was to identify current mobilisation activity and functional outcomes in patients admitted to the ICU at our institution following an acute TBI.
Methods: A single-centre retrospective service evaluation was performed for all patients admitted to the ICU at our institution (a Level 1 major trauma centre) with an acute TBI between January 2022 and November 2024. Patient demographics, ICU admission details, TBI severity (based on the Glasgow Coma Scale [GCS]) and functional outcomes were extracted. Mobilisation outcomes included the timing of the commencement of mobilisation (defined as sitting on the edge of the bed or more) and mobilisation status, defined using the Manchester Mobility Scale (MMS).
Results: The service evaluation included 353 patients, of whom 56.0% had severe TBI (GCS: 3-7), 31.8% had a moderate TBI (GCS: 8-13) and 12.2% had a mild TBI (GCS 14-15). Mobilisation was achieved in ICU for 53.0% of patients, with a further 18.1% first mobilised on a hospital ward post-ICU discharge. The first mobilisation occurred at a median of 11 days (interquartile range: 6-18) after ICU admission. In patients surviving to ICU discharge, 28.9% had an MMS of 1 (bed-based exercises) at this time and 24.7% had an MMS of 2 (sitting on the edge of the bed). Only 9.1% of patients achieved an MMS of 7 at ICU discharge (mobilising 30 metres or more), with this increasing to 54.6% at the point of hospital discharge. Analysis by TBI severity found a significant decline in in-hospital mobilisation rates with increasing TBI severity (90.7% vs. 58.4% for mild vs.

severe TBI; p<0.001), with a corresponding increase in the time to the first mobilisation (median: 6 vs. 13 days for mild vs. severe TBI; p<0.001).
Conclusions: Acute TBI patients admitted to the ICU at our institution had low rates of mobilisation and achieved low levels of mobility at ICU discharge. This service evaluation highlights the need for prospective studies into early mobilisation practices in the neurotrauma ICU.

99	**The Hundred-Year Challenge: Optimising Trauma Care for Centenarian Patients**	**Alwin Puthiyakunnel Saji, Haya Maki, Omar Haider, George Peck, Maryam Alfa-Wali**

Introduction: The number of geriatric traumas presenting at major trauma centres is increasing. Patients aged 100 and over presenting with traumatic injuries is rare. These patients pose a significant challenge due to the dynamic interplay of traumatic injuries paired with significant medical co-morbidities which leads to increased morbidity and mortality.
Aims: This study aims to investigate the outcomes of major trauma patients aged 100 and over presenting at a London major trauma centre.
Methods: A retrospective analysis between January 2019 and December 2024 of trauma patients aged 100 years and older was performed. Primary outcomes of interest were aligned to guidelines set by the British Geriatric Society which include- time to comprehensive geriatric assessment (GCA), resuscitation plans and whether a treatment escalation plan (TEP) was performed. Secondary outcomes included length of stay (LOS), in-hospital mortality and discharge destination.
Results: Twenty two patients were included with a median age of 101 years (range 100-105). The median frailty score was 6 (IQR 5-7). Most patients (n=21, 95.5%) had fall from less than 2m as their mechanism, with a median injury severity score (ISS) of 9 (IQR 4-13). A
CGA was performed in 15 (68.2%) patients within 72 hours of admission of these 6 (40%) patients having this done in the 12-24 hours since admission. All patients had resuscitation plans in place. TEP was documented for 20 (90.9%) patients with majority (70%) performed 6-12 hours from presentation. In-hospital mortality was 27.3% (n=6). For 18 patients (81.8%) their usual place of residence was their home. Of those who survived eight (50%) patients were discharged home with four (25%) requiring increase in package of care. Five (31.3%) patients were discharged to care facilities and three (18.8%) repatriated to local hospitals for ongoing care.
Conclusions: Trauma in patients aged 100 and over is a rare occurrence with low velocity falls as the most common mechanism. Majority of patients had a CGA completed, resuscitation plans and TEP documented in line with BGS guidelines. Timely CGA helps identify medical and social issues which can be managed in a multi-disciplinary manner.

8	**Traumatic Rupture of Aorta – Epidemiology, treatment and outcome in Western Australia**	**Amyna Jiwani, Warren Raymond, Fernando Picazo-Pineda, Sudhakar Rao, Kishore Sieunarine**

Introduction: Aortic injury is the leading cause of mortality in blunt trauma, and causes 80-90% of deaths at the scene. The most common site of injury is at isthmus (documented in up to 60% of cases. Blunt traumatic aortic injuries (BTAI) require timely surgical intervention to prevent death.
Aim: We describe the characteristics - mechanism, vascular intervention, morbidity, and mortality of patients managed for BTAI at a Level 1 trauma center in Western Australia from 2008-2018 with particular focus on surgical repair.
Methods: A retrospective cohort study with traumatic thoracic aortic injury (TAI) patients

admitted to the State Major Trauma Unit, from 2008 till 2018 were included. Data was extracted of State Trauma Registry and supplemented with chart review. Long-term follow-up, for vascular-surgery related complications and overall survival were recorded. Results: 57 patients with BTAI were included with male preponderance, mean age 41 years-old, mainly involved in motor vehicle crashes (MVCs), median ISS of 34 (21, 45), and a median length of stay of 15 days. Concurrent injuries occurred in nearly all patients. More than half patient with TAIs occurred just below the origin of the left subclavian artery (in 54%). The commonest TAI grading was 3 (56%) and all grade 4 patients died before vascular consultation. TAI required either endovascular surgery (TEVAR) (65%), with early TEVAR performed in 81%, open surgery (7%) or conservatively managed in 28%. Vascular procedures took a median 81 (IQR: 60, 97) minutes. Other procedures were required in 54%. After discharge (n=53), 7 patients were lost to follow up (LTFU) for surgical survival, late complications were experienced in 13.0% of vascular surgery patients (all underwent TEVAR).
Conclusion: We reported that mortality after TAI was linked to higher ISS, falls from >3 meters, and grade 4 injury. In our cohort, low rate of acute and long-term vascular surgery related complications, and excellent long-term survival given the injury profile reported

28	**The Impact of Ketamine on PTSD Symptomatology in Trauma Exposed Populations**	**Minaal Ahmed Malik, Michele Halasa, Jack Chia, Venera Derguti, Fahad Hussain, Abdel Saad**

Introduction
Ketamine, an N-methyl-D-aspartate (NMDA) receptor antagonist, is widely used in trauma and emergency medicine for its rapid analgesic and sedative properties. While its role in acute pain management is well established, uncertainty remains regarding its long-term psychological effects, particularly its potential to influence the development of post-traumatic stress disorder (PTSD). Evidence suggests ketamine may provide rapid PTSD symptom relief, yet concerns persist about its association with dissociation and maladaptive memory consolidation.
Aim(s)
To synthesise current evidence regarding ketamine's influence on PTSD symptomatology in trauma-exposed populations, with emphasis on its effects on dissociation, memory processing, and long-term psychiatric outcomes.
Methods
A narrative review of randomised controlled trials (RCTs) and observational studies was conducted. Relevant literature was identified from PubMed, MEDLINE, and Embase databases using keywords related to "ketamine," "post-traumatic stress disorder," and "trauma." Studies were selected based on relevance to trauma-exposed populations and ketamine's psychological impact. Findings were thematically analysed and synthesised to provide an overview of clinical and experimental data.
Results
RCTs indicate that a single intravenous ketamine infusion (0.5 mg/kg) can significantly reduce PTSD symptoms within 24 hours compared to midazolam, with improvements in overall clinical presentation and no persistent dissociative effects. Observational data are mixed: some studies link acute trauma-care ketamine use to increased dissociation, hyperarousal, and stress symptoms in early follow-up, while research in burn patients receiving intraoperative ketamine has shown a potential reduction in PTSD incidence. However, other studies found no significant difference in PTSD rates between ketamine

and non-ketamine groups. Effects appear to depend on dose, timing of administration, and patient factors.
Conclusions
Ketamine's relationship with PTSD is complex. Perioperative use may offer protective benefits against long-term psychiatric sequelae, while immediate post-trauma administration may exacerbate dissociative symptoms and early stress responses. Further well-controlled trials are required to optimise dosing protocols, determine ideal timing, and identify patient-specific risk factors such as pre-existing psychiatric disorders. Clarifying these factors could enhance ketamine's therapeutic role in trauma care while minimising adverse psychological outcomes.

31	**Fit To Fly? Evaluating Airline Guidance For Passengers With Orthopaedic Immobilisation**	**Reece Travis, Ella Burwell, Timothy P Davis, Stavros Tsotsolis, Kamalpreet Cheema FRCS**

Introduction
Air travel with orthopaedic cast immobilisation may increase the risk of compartment syndrome and deep vein thrombosis due to tissue swelling from cabin pressure changes and venous stasis respectively. Despite this, guidance on flying with casts remains vague and inconsistent across airlines, civil aviation authorities and the wider medical literature.
Aims
To assess the accessibility and consistency of travel policies among major airlines and civil aviation authorities, and to review literature of current guidance regarding cast immobilisation and air travel.
Methods
A cross-sectional review was conducted in July 2025. The 30 largest airlines were identified by available seat miles. Airline websites were searched for cast-related travel policies; when unavailable or unclear, information was obtained via customer service telephone contact. Data extracted included cast-splitting recommendations, permitted time from cast application to travel, requirements for medical/"fit-to-fly" certification, and restrictions such as additional seating, cabin class, stretcher use, or travel prohibition. Guidance from major civil aviation authorities was also reviewed.
Results
Information was obtained for 29/30 airlines (97%); 11 (37%) had no accessible online guidance. Policies varied substantially. 22 airlines (73%) recommended cast splitting if travel occurred within 48 hours of application. 12 (40%) required medical certification for all passengers with casts, while three required it under specific circumstances. 11 (37%) imposed restrictions for full-leg or non-flexing knee casts (extra seating 20%, business/first class only 7%, stretcher 7%, outright prohibition 7%). Among eight civil aviation authorities reviewed, only the UK CAA published cast-specific guidance.
Conclusions
Airline policies for passengers with casts are often unclear, inconsistent and difficult to access. Existing literature demonstrates that air travel can induce soft tissue swelling and increased intracompartmental pressure. These risks reinforce the need for evidence-based, standardised guidelines to ensure passenger safety. While the UK Civil Aviation Authority provides some recommendations, major authorities in the EU, USA and Australia offer no explicit guidance on cast immobilisation during air travel, highlighting a significant international regulatory gap.

87	**Trauma Care, the current set-up of Trauma Team Leaders in Major Trauma Centres within the United Kingdom.**	**Cieran McKiernan**

Introduction

There are now forty-seven (47) Major Trauma Centres (MTC) within the United Kingdom caring for casualties of major trauma of all ages. These centres are made up of paediatric only hospitals, adult only sites and those dealing with all ages. There is a lack of evidence in relation to current awareness of Trauma Team Leaders in these centres . The aim of this research was to explore various aspects of Trauma Team Leadership.

Method

Ethical approval was granted by the University of Glasgow. The survey was converted to electronic distribution form using the QualtricsXM platform. The questions were divided into eleven constructs. The sample population were the TTLs within MTCs. Decision was made to source the trauma lead in each of the MTC's Emergency Departments as the conduits for survey distribution.

Results

The ED trauma leads responded to, "who acts as TTL?' demonstrating that ED consultants (or Higher Specialist Trainee, with consultant supervision) were TTL in >95% of traumas. We obtained 325 valid responses, out of a total of 899 people who were identified as acting as TTLs by the Emergency Department trauma lead in each of the Major Trauma Centres. giving a response rate of 36%. Most participants were male (57%) and age ranged from 31 to 63 years (mean age = 44). 60% of the respondents had been a consultant for 10 years or less and only 5% had more than 20 years of experience. Participants estimated they undertook the role of trauma team lead daily by 5%, weekly by 63%, and monthly by 32%.

What characteristics are important for a good trauma team leader to have? TTLs were asked for three aspects that a 'good' TTL should have. The responses can be seen in a words cloud in Figure 1.

Conclusion

The results of this survey have found the majority of Trauma team Leaders in the UK are Consultant Emergency Physicians or supervised Higher Specialist Trainees. The most commonly described characteristics' of a good TTL are calmness and decisive communication

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