Innovate ● Collaborate ● Educate

7th June 2025

WA State Trauma Conference

Program

Royal Perth Hospital

State Trauma Office

St John Ambulance

PROGRAM

PROGRAM OVERVIEW

REGISTRATION
7.30AM - 8.30AM

SESSION ONE - SAVING LIVES
8.30AM - 10.10AM

MORNING TEA
10.10AM - 10.30AM

SESSION TWO - ADVOCACY
10.30AM - 12.00PM

LUNCH
12.00PM - 12.45PM

SESSION THREE - CONCURRENT SESSIONS
12.45PM - 2.10PM

STOP THE BLEED
2.10PM - 3.00PM

AFTERNOON TEA
3.00PM - 3.15PM

SESSION FOUR - WELLBEING
3.15PM - 4.45PM

END OF CONFERENCE FUNCTION
4.45PM - 6.15PM

PROGRAM

SESSION 1 - SAVING LIVES

Chair: Dieter Weber / Lola Sikora

8.30am **Welcome -** Professor Steve Dunjey

8.45am **Zsolt Balogh -** Haemorrhage Control in Pelvic Ring Injuries

9.05am **Andy Bell / Matt Pepper-** Tourniquet De-escalation, the Forgotten Half of the Management Picture!

9.25am **Luan Louw -** Injury Patterns, Management of Outcomes of Haemodynamically Unstable Pelvic Fractures at an Australian Level 1 Trauma Centre: A 10-year Registry Analysis

9.35am **Ben Gardiner -** From Data to Intelligence: Evolving the Queensland Trauma Data Collection into a Statewide Improvement Platform

9.45am **Dale Edgar -** Establishing a Digital Platform to Monitor Upper Limb Function, Dyspnoea and Quality of Life After Chest Trauma

9.55am **Panel Discussion**

10.10 - 10.30 - Morning Tea

SESSION 2 - ADVOCACY

Chair: Martin Jarmin / Jeni Thomas

10.30am **Keynote Speaker Andre Campbell -** Gun Violence in the United States

10.50am **Daniel Fatovich -** My Experience with Advocacy

11.10am **Julia Stafford -** Putting Community Health First in Setting Alcohol Policy

11.30am **Fritha Argus/Teresa Williams -** Road Safety and the WA Community

11.50am **Panel Discussion**

PROGRAM

12.00pm - 12.45pm - Lunch

SESSION 3 - CONCURRENT SESSIONS

12.45pm - 2.10pm

Session 3A - **Free Papers**
Chair: Jeff Hamdorf / Josh Salim / Kevin Keane

Session 3B - **Chest Wall Injuries in Geriatric Patients - Pitfalls and Challenges**

Moderator: Sana Nasim

Presenter: Gabriel Plitzko

Panellist: Adam Howard, Steve Howey, Mayura Iddagoda & Claire Mullane

Session 3C - **Trauma Systems**

Moderator: Jeni Thomas

Presenter: Sean Brien

Panellist: Karan Grealish, Cornell Greyling, Ailbhe McAlister, Pradeep Sanjamala

2.10pm - Stop the Bleed

3.00pm - 3.15pm - Afternoon Tea

PROGRAM

CONCURRENT SESSION 3A - FREE PAPERS

Reid	David	Cardiac Arrest on Australian Beaches	12.48pm
Reid	David	Drowning on Australian Beaches	12.57pm
Bonser	Sophie	Epidemiological Trends of Penetrating Trauma in Western Australia	1.06pm
Habibi	Maryam	Risk Factors of Dysphagia in Acute Cervical Spinal Cord Injuries: A Systematic Review and Meta-analysis	1.15pm
Jones	Aimee Lee	Inserting with Care: Analysing Complication Rates in Intercostal Catheter Insertion	1.24pm
Strunk	Andrew	The Future of Rescue - How the Fire and Rescue Service Aims to Improve Patient Outcomes at Motor Vehicle Collisions	1.33pm
Ferede	Zemedu	Models for Predicting Long-Term HRQOL and Mental Health Outcomes Among TBI Patients. Systematic review and meta-analysis	1.42pm
Reid	David	Envenomation on Australian Beaches	1.51pm
Reid	David	Mental Health on Australian Beaches	2.00pm

PROGRAM

SESSION 4 - WELLBEING

Chair: Amy Bosomworth / Janice Wong

3.15pm **Tony Lock -** Level Up: Personal Growth in a High-Stakes Profession

3.30pm **Hugh Le Tessier -** Wellbeing in Law Enforcement

3.45pm **Dennis Taylor -** Beyond the Uniform: Navigating the Impact of Military or First Responder Culture on Wellbeing

4.00pm **Gareth Hodges -** What is Wellbeing

4.20pm **Panel Discussion**

4.30pm **Dieter Weber -** Free Paper Prize Presentation & Closing Remarks

4.45pm - 6.15pm - End of Conference Function

INVITED SPEAKERS

ANDRE CAMPBELL

Trauma Surgeon, San Francisco USA

Dr. Andre Campbell is a renowned surgeon, educator, and leader in trauma and surgical critical care, serving over 30 years at UCSF and San Francisco General Hospital. A Harvard and UCSF graduate, he has trained countless fellows, authored over 100 publications, and held key roles in national surgical organizations. Widely recognized for his contributions to surgical education, he has received numerous accolades, including the establishment of the Dr. Andre Campbell Award for Career Achievement and the 2025 Association of Surgical Education Distinguished Educator Award. His impact on trauma care, medical education, and health equity has been honoured at local, state, and national levels.

ZSOLT BALOGH

Trauma Surgeon, Newcastle NSW

Zsolt J. Balogh is a Trauma Surgeon and Director of Trauma Services at John Hunter Hospital and Professor of Surgery and Traumatology at the University of Newcastle, Australia, where he chairs the Injury and Trauma Research Program at the Hunter Medical Research Institute. He is leading the Australian and New Zealand Trauma Care Verification Program of the Royal Australasian College of Surgeons.

ANDY BELL

Deputy Director of Paramedicine, Perth WA

Andy Bell is a registered Paramedic with nearly two decades of experience across a wide range of clinical, educational and leadership roles within Paramedicine. He continues to work as an on-road Paramedic, has been a Clinical Educator, Senior University Lecturer, Published Researcher and has held positions as National Team Lead for TacMed Australia, Paramedic Team Lead for RFDSWA, and his current role is as Deputy Director of Paramedicine for St John WA. He is an Editor on the Journal of High Threat and Austere Medicine, A Fellow of the Australasian College of Paramedicine, An Adjunct Research Fellow for Curtin University and a Training Consultant for Blacksmiths Medical Risk Consultancy.

MATT PEPPER

Paramedicine Lead RFDS, Perth WA

Matt Pepper is a Paramedic with over 18 years on road, predominantly as a Special Operations/Intensive Care responder. He is a passionate clinical trainer, with previous roles including as National Training Manager for TacMed Australia, Clinical Training Officer for NSW Ambulance Tactical Medicine and Paramedic Educator for Royal Flying Doctors Service - Western Operations. Matt was the founding President of the Australian Tactical Medical Association, and is a Churchill Fellow, Fellow of ATMA and Fellow of the Academy of Extreme Environment Medicine.

BEN GARDINER

Manager Queensland Trauma Data Collection, Gold Cpast QLD

Ben is the Manager of the Queensland Trauma Data Collection (QTDC), based at Gold Coast Hospital and Health Service. With over 20 years of clinical experience and a strong background in trauma data systems leadership, Ben has led data-driven innovations across multiple healthcare improvement initiatives in Queensland. His work focuses on leveraging health informatics and statewide collaboration to enhance trauma care delivery, benchmarking, and research. Ben plays a key role in shaping trauma governance and is a recognised advocate for the use of real-time data to improve outcomes for severely injured patients. He also works closely with Clinical Excellence Queensland, hospital executives, and academic partners to promote sustainable, digital-first trauma reporting infrastructure across Queensland Health.

DANIEL FATOVICH

Professor of Emergency Medicine, Perth WA

Prof Fatovich is a senior emergency physician and clinical researcher at Royal Perth Hospital Emergency Department, with over 30 years' experience in the conduct of research in Emergency Medicine. He is Head of the Centre for Clinical Research in Emergency Medicine, Harry Perkins Institute of Medical Research; Director of Research for East Metropolitan Health Service; and Professor of Emergency Medicine, University of Western Australia.

JULIA STAFFORD

Program Manager Cancer Council of WA

Julia's career to date has combined academic research and policy advocacy in the public health field, with a focus on alcohol harm prevention. She is the Alcohol Program Manager at Cancer Council WA, leading a team that combines policy, research and public education roles. Julia is a national spokesperson for the Cancer Council federation on alcohol policy and represents Cancer Council on Alcohol Change Australia, an alliance of health and community organisations working together to prevent and reduce harm caused by alcohol. Julia is also a PhD Candidate enrolled with the National Drug Research Institute at Curtin University and her research investigates the roles of vested interests in alcohol policy development processes.

FRITHA ARGUS

Australasian College of Road Safety, WA

Fritha Argus is a seasoned road safety professional with over a decade of experience in data analysis, program evaluation, and strategic planning. She has been actively involved in the Australasian College of Road Safety (ACRS) since 2019 and has been the Chair of the WA Chapter of the ACRS since May 2024. With a PhD in Human Behaviour and Cancer Research, Fritha has contributed to several published papers and combines academic expertise with practical leadership to drive data-informed road safety outcomes.

ANTHONY LOCK

Human Factors & Leadership Development

After retiring from the Air Force, Anthony Lock flew commercially with Virgin Australia before transitioning to the healthcare sector in 2017. He has since held executive roles in a tertiary hospital and with St John Ambulance WA. He also pioneered NEXUS, Australia's first hospital-wide, industry-based Human Factors training program.
Anthony is deeply passionate about leadership, team development, and fostering organisational excellence. He now applies his entrepreneurial expertise to support technology and healthcare ventures, advancing patient care and safety while enabling sustainable business growth. Among all his achievements, he considers being a father his greatest reward.

HUGH LE TESSIER

Det Snr Sgt Major Crash WA Police

Hugh Le Tessier graduated from the Police Academy in March 1983, becoming a Detective in 1988.
He took a career break between 1995 – 2001 and re-joined the WA Police in 2001, going straight back to Detective. He has worked in Northam covering Northam to Southern Cross, north to Lancelin and south to Beverley/Bruce Rock and Narembeen, Internal Affairs Unit, Intelligence Operations solving a number of cold case homicide investigations and major drug seizures, Homicide Squad and now Major Crash Investigation since December 2024.

ABSTRACTS

NJURY PATTERNS, MANAGEMENT AND OUTCOMES OF HAEMODYNAMICALLY UNSTABLE PELVIC FRACTURES AT AN AUSTRALIAN LEVEL 1 TRAUMA CENTRE: A 10-YEAR REGISTRY ANALYSIS

Authors: Dr Luan Louw , Dr Kyle Raubenheimer, Prof. Dieter Weber

Pelvic fractures caused by high-energy trauma are serious injuries associated with considerable morbidity and mortality. This is a retrospective case series conducted over a 10-year period between 01 January 2013 and 31 December 2022 from the single major trauma centre in Western Australia reviewing the number of severe pelvic fractures with haemodynamic instability and their injury profile, management strategies, patient outcomes, and in-hospital mortality. Between 2013 and 2022, 1369 patients presented to Royal Perth Hospital with a pelvic or acetabular fractures. Of these, 152 patients had severe pelvic fractures coupled with haemodynamic instability. The most common mechanism was motor vehicle crashes (27%) followed by motorbike crashes (25%) and falls (17%). On arrival, there was no significant difference between survival and death cohorts for HR, SI, Hb, WCC, neutrophils, INR, fibrinogen, initial pH, or initial lactate. There was a significant difference in platelets, lymphocytes, initial BE, worst pH, worst BE, worst lactate, NLR and PL. Most patients had documented use of a pelvic binder, with no difference between cohorts. Six patients received angioembolisation ,all within the first 24 hours of presentation and over a third (n = 105, 69%) of patients received some form of pelvic operation. Eleven patients (7.2%) of patients succumbed to their injuries. The most common cause of death was head injury followed by haemorrhage. Overall this project is the first to describe the number of patients presenting to WA's only level 1 trauma centre with severe pelvic fractures and haemodynamic instability.

ABSTRACTS

ESTABLISHING A DIGITAL PLATFORM TO MONITOR UPPER LIMB FUNCTION, DYSPNOEA AND QUALITY OF LIFE AFTER CHEST TRAUMA

Authors:

DALE W EDGAR*, CLAIRE MULLANE, LANCE CHEW, CAROL WATSON.
Physiotherapy Department and State Major Trauma Unit, Royal Perth Hospital, East Metropolitan Health Service, Perth, Western Australia.

Background: While good evidence to guide best practice for inpatient interventions after thoracic Guidelines for interventions after discharge are limited, despite increased complication risk and a high incidence of chronic pain. Additionally, reduced hospital length of stays, with the centralised WA State Trauma team providing ongoing outreach services, presents challenges for long term monitoring of recovery and outcomes.

Aim: Establish a digital, standardised, prospective survey data collection method to monitor multidimensional recovery after chest trauma.

Method: A survey battery with low patient burden was developed and deployed via a secure REDCap registry, hosted by WA Health. The data captured includes demographics, linked to: modified Medical Research Council dyspnoea; QuickDASH upper limb disability; and, Euroqol (5D-5L) quality of life scales. To test the REDCap registry functionality, and describe a baseline of 12-month recovery, a snapshot audit of chest trauma patients admitted to Royal Perth Hospital during 2024, was conducted.

Results and Discussion: The response rate for the ‘cold-call’ and email surveys was 37%. The data collection tools were tested and effective, and patients shared qualitative feedback about their recovery. A dashboard depicting the chest trauma recovery journey from 90+ survey battery responses, will be demonstrated, with learnings from tools and methods implemented to monitor and improve identification of those with poorer prognosis. REDCap registry enhancements and prospective patient enrolment is progressing with aim to lift response rates and implement actions to improve care and immediately address consumer feedback.

ABSTRACTS

CARDIAC ARREST ON AUSTRALIAN BEACHES

Authors:

*David Reid[1,2,3], Katie M. Dixon[1,4], Leesa Equid[1,2], Chris Jacobson[1] , Jaz Lawes[1] , Ned Douglas[1,2,5]

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3. St John Ambulance (Western Australia)
4. School of Medical Sciences, Faculty of Medicine and Health, The University of Sydney NSW 2006, Australia
5. Department of Critical Care, The University of Melbourne, Victoria, Australia

Surf Lifesavers patrol Australian beaches around the country to prevent and respond to drowning and are the immediate responders to patients in cardiac arrest in those public spaces. The outcomes after CPR in public spaces with public-access defibrillation programs have been excellent where cardiac arrest driven by coronary artery disease was common. We aimed to characterise the outcomes from CPR events on Australian beaches supported by surf lifesavers.

Methods: We conducted a retrospective cohort study of patients who received CPR on Australian beaches between 2000 - 2020 and an incident report was available. We report exposures including age, sex, the cause of cardiac arrest as drowning or non-drowning, oxygen therapy and AED use. We recorded outcomes including achieving ROSC and discharge from hospital.

Results: 159 cases of cardiac arrest were identified. The median age was 48 years (IQR: 32 – 59 yrs), and 82% were male. 120 (75%) cases were rescued from the water after presumed drowning, 21 (13%) received CPR in clubrooms or other sites, 10 (6%) on the beach without immersion, and 3 (2%) on rocks. 25 patients (16%) received oxygen therapy from lifesavers, 42 (27%) had an AED applied, of which 12 (8%) received shocks. ROSC was achieved in 37 (23%) patients, of whom 31 (19%) survived to hospital discharge.

Conclusions: the outcomes from CPR on beaches may be less favourable than in other community settings, most likely due to an overrepresentation of drowning as a cause of cardiac arrest in this setting.

ABSTRACTS

ENVENOMATION ON AUSTRALIAN BEACHES

Authors:

*David Reid [1,2,3], Katie M [1, 4]. Dixon[1,4], Leesa Equid[1,2], Chris Jacobson[1] , Jaz Lawes[1] , Ned Douglas[1,2,5]

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5. Department of Critical Care, The University of Melbourne, Victoria, Australia.

Australian beaches are home to a wide variety of marine life, many of which are poisonous. Treatment recommendations for marine envenomation are based on very limited literature, predominantly featuring species found in overseas waters or on pre-clinical data, giving clinicians and first aiders a very low certainty of evidence to rely upon. We sought to characterise the experience of envenomation and treatments provided by surf lifesavers, as well as the outcomes recorded

Methods: We conducted a retrospective cohort study of patients who were envenomed on Australian beaches between 2000 - 2020 and an incident report was available. We report exposures including age, sex, the cause of cardiac arrest as drowning or non-drowning, oxygen therapy and AED use. We recorded outcomes including achieving transport to hospital and mortality.

Results: We found 4 261 records involving marine envenomation. The median age was 13 years (IQR 9 – 22) and 1888 (44%) were female, 1730 (41%) were male, and 637 (15%) were not recorded. A total of 4 150 involved jellyfish, 41 of which were presumed to be caused by chironex fleckeri, 157 demonstrated Irukandji syndrome and 111 were caused by stingray barbs. Of this cohort, 38 were treated with vinegar, 2247 with ice, 49 with hot water, 391 with oxygen, ten with methoxyflurane, and three patients received CPR. Ambulance transport to hospital was required in 205 cases. There were three deaths.

Conclusion: Marine envenomation is common, and currently available first aid treatments may not substantially change the outcomes from treatment.

ABSTRACTS

EPIDEMIOLOGICAL TRENDS OF PENETRATING TRAUMA IN WESTERN AUSTRALIA

Authors:

Sophie A Bonser M.D. [1]
Kayden Price M.D.[1]
Erasmia Christou M.D, FRACS.[1]
Sana Nasim M.D, FRACS.[1]
[1] Royal Perth Hospital, State Wide Trauma Service, Victoria Square, Perth, WA.

In Australia and New Zealand, approximately 6% of trauma is classified as penetrating, yet the mortality associated can be as high as 70%. Furthermore, the long-term morbidity constitutes a significant health burden often surpassing that of blunt trauma, yet there is little comprehensive epidemiological data available regarding penetrating injuries. This single-centre study aims to describe the incidence and demographic features of all penetrating injury presentations to identify any changes in the trends, pattern and severity of such injuries and their associated overall mortality and morbidity over a 20-year period 01/01/2004 – 31/12/2023. The population of Western Australia is 2.6 million and accounts for 10% of Australia's 25 million population at the 2021 census [21]. The Royal Perth Hospital Trauma Service is a level I trauma centre servicing approximately 90% of trauma presentations within the state and is the second largest trauma centre in Australia. Preliminary results analysed a total of 3159 presentations with 106 deaths. 51% of injuries were unintentional, 30% due to stabbing, 37% due to cutting. There is a stable trend in overall total presentations but an increase in domestic violence related injuries averaging 20% of presentations by 2023. The predominate cause of death is haemorrhage at 52% followed by head injury. The most affected areas are the extremities (45%) and external region (25%). A significant increase in referrals to drug and alcohol/mental health services were observed in the final years of the study with up to 30% of presentations receiving a mental health referral. To our knowledge, this review represents the largest and most comprehensive epidemiological study published to date within Australia. With this information we hope to have a better understanding of where to direct staff education; resource allocation; potential preventative health campaigns; and to identify areas of increasing need among the population.

ABSTRACTS

RISK FACTORS OF DYSPHAGIA IN ACUTE CERVICAL SPINAL CORD INJURIES: A SYSTEMATIC REVIEW AND META-ANALYSIS

Authors:

Maryam Habibi* Sana Nasim Dieter Weber Lauren Lefroy

BACKGROUND: Dysphagia is common in patients with acute cervical spinal cord injuries (ACSCI) and often leads to aspiration pneumonia. However, underlying causes remain unclear. This study reviews recent evidence on dysphagia risk factors in ACSCI to guide trauma centre practices.

METHODS: A review of literature from 2014 to 2024, including manual reference searches, was conducted, with meta-analyses performed using Cochrane methodology.

RESULTS: Ten studies of 1,627 ACSCI patients (36.9% of whom developed dysphagia) were included. The average age was 60, with a male-to-female ratio of 2.7:1. Twelve meta-analyses identified seven risk factors: tracheostomy (standardised mean difference [SMD], 0.94; 95% CI, 0.60 to 1.28; P = .003), anterior surgical approach (SMD, 0.85; 95% CI, 0.13 to 1.57; P = .02), peak cough flow (SMD, -0.76; 95% CI, -1.08 to -0.44; P < .001), forced vital capacity (SMD, -0.63; 95% CI, -1.04 to -0.22; P = .003), age (SMD, 0.5; 95% CI, 0.27 to 0.72; P < .001), traumatic brain injury (TBI) (SMD, 0.47; 95% CI, 0.25 to 0.68; P < .001), and prevertebral oedema (SMD, 0.45; 95% CI, 0.05 to 0.84; P = .03). Gender was significant only when TBI was excluded. Cervical collars, spinal surgery, and disability severity were not significant.

CONCLUSION: This study underscores the impact of surgical intervention type, respiratory dysfunction, age, gender, TBI, and prevertebral oedema on dysphagia, highlighting the need for proactive multidisciplinary screening to reduce aspiration pneumonia. Further research is required to validate these associations.

ABSTRACTS

INSERTING WITH CARE: ANALYSING COMPLICATION RATES IN INTERCOSTAL CATHETER INSERTION

Authors:

A. JONES*, A. GRANT, W. KHOO, K. CHAH, J. AVRAMOVIC, M. BEN DAVID

Intercostal catheters (ICC) are the standard management for moderate to large volume traumatic haemothorax and/or pneumothorax. Insertion steps are well described and are considered a mandatory skill, particularly among general surgeons and critical care doctors. Standard and safe approach is well described, through the triangle of safety using sterile technique. Despite it being a common and well described procedure, ICC insertion has a complication rate as high as 30%1-3 . In the current literature, complications are commonly categorised as insertion-related injuries (such as to viscera or neurovascular bundle), mal-positioning and infective. A recent retrospective review in New South Wales (NSW), demonstrated a 25% complication rate from intercostal catheter insertions, with the thought being that more pneumothoracies and haemothoracies are increasingly being conservatively managed and, additionally, there are multiple trauma centres within NSW, distributing the patient load and reducing individuals' exposure to the procedure4 . Queensland is similar in that there are several designated trauma centres. This project surveyed practitioners' current exposure to ICC insertion and retrospectively analysed the complication rate of ICC insertion at Townsville University Hospital (TUH). This project may support the introduction of a standardised ICC insertion checklist at TUH.

1. Alrahbi R, Easton R, Bendinelli C, et al. Intercostal catheter insertion: are we really doing well? ANZ J Surg 2012; 82: 392–394.
2. Sethuraman KN, Duong D, Mehta S, et al. Complications of tube thoracostomy placement in the emergency department. J Emerg Med 2011; 40: 14–20.
3. Bailey RC. Complications of tube thoracostomy in trauma. J Accid Emerg Med 2000; 17: 111–114.
4. Peacock, T. et al. (2023) 'Introduction of a formal credentialing process for intercostal chest drain insertion: improved outcomes for patients', SWAN Trauma Conference, Sydney.

ABSTRACTS

THE FUTURE OF RESCUE - HOW THE FIRE AND RESCUE SERVICE AIMS TO IMPROVE PATIENT OUTCOMES AT MOTOR VEHICLE COLLISIONS

Authors:

Andrew Strunk* Rescue Branch - Dept of Fire and Emergency Services

Road trauma is a leading cause of death and disability globally. In Western Australia, five people are killed or seriously injured in car accidents daily, and in the United Kingdom, it accounts for one-third of all major trauma. Since the 1960s, the fire service has been responsible for extricating patients from motor vehicle collisions using tools like the "jaws of life." Historically, there was a strong focus on minimizing spinal cord injuries, leading rescuers to prioritize limiting patient movement over the speed of extrication.

In 2022, a shift in practice occurred after Dr. Tim Nutbeam, a HEMS physician in the UK, observed poorer outcomes for patients with similar injuries when caused by motor vehicle collisions. A review of the literature and several studies revealed higher morbidity and mortality rates in road trauma cases, which led to the development of the Extrication in Trauma (EXiT) Project. The goal was to improve outcomes by reassessing extrication procedures.

The EXiT Project debunked many established rescue practices based on expert opinion rather than evidence. In response, the Rescue Branch of the Department of Fire and Emergency Services, in collaboration with St John Ambulance and the Major Trauma Unit at RPH, led a review to rethink these practices. The result was a revised approach, focusing on improving patient outcomes by optimizing the speed and efficiency of extrication, rather than solely prioritizing spinal protection. Our job is to ensure that trapped patients are released from vehicles and reach the Major Trauma Unit as quickly as possible.

ABSTRACTS

MODELS FOR PREDICTING LONG-TERM HRQOL AND MENTAL HEALTH OUTCOMES AMONG TBI PATIENTS. SYSTEMATIC REVIEW AND META-ANALYSIS

Authors:
Zemedu Ferede[1] , Sue Patterson[2] , John Periera[3] , Natalie Barker[2] , Susanna Cramb[1] , Dylan Flaws[1,4]
1. Queensland University of Technology, Brisbane, Australia. **2.** University of Queensland, Brisbane, Australia **3.** Queensland Health, Brisbane, Australia **4.** Metro North Health, Brisbane, Australia

Introduction: In addition to their immediate fatal consequences, traumatic brain injuries (TBI) lead to long-lasting physical, psychological, and social impairments. However, the provision of routine follow-up care remains inadequate. This systematic review and meta-analysis aim to identify predictors of long-term outcomes following TBI.

Methods: This systematic review, registered with PROSPERO (CRD42024576912) and adhering to PRISMA guidelines, encompassed studies focusing on adults with TBI and their mental health or health-related quality of life (HRQoL) outcomes post-discharge. The risk of bias was evaluated utilizing the Quality in Prognostic Studies (QUIPS) tool using Covidence. Predictors were summarized narratively, with further validation achieved through meta□analysis if they met the inclusion criteria using R program (version 4.3.1).

Result: This review analysed 58 studies from 14 countries, with sample sizes ranging from 40 to 207,354 participants. It identified 226 predictors, focusing on mental health and HRQOL. Female sex increased the risk of Post Traumatic Stress Disorder (PTSD) by 38% (OR 1.59, 95% CI: 1.46–1.73) and depression (OR 1.59). Each additional year of age reduced PTSD prevalence by 1%. A history of psychiatric disorders was associated with a higher risk of PTSD (OR 2.77, 95% CI: 2.24–3.42). Other predictors of poor HRQOL included living alone, lower education, and psychiatric history. Black race, middle age, low education, and psychiatric history predicted anxiety, while female sex, living alone, substance use, and psychiatric history predicted depression.

Conclusion: Identifying high-risk groups, such as females, psychiatric histories, living alone, lower levels of education, and those with assaultive injury intents, demonstrates that long-term outcomes of traumatic brain injury (TBI) are influenced by individual, injury-related, and social factors. Long-term follow-up should be prioritized for patients exhibiting poor recovery.

ABSTRACTS

MENTAL HEALTH RESPONSE ON AUSTRALIAN BEACHES

Authors:

*David Reid[1,2,3], Katie M. Dixon[1,4], Leesa Equid[1,2], Chris Jacobson[1] , Jaz Lawes[1] , Ned Douglas[1,2,5]

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3. St John Ambulance (Western Australia)
4. School of Medical Sciences, Faculty of Medicine and Health, The University of Sydney NSW 2006, Australia
5. Department of Critical Care, The University of Melbourne, Victoria, Australia

Surf Life Savers patrol Australian beaches and provide the initial emergency and first aid response to incidents. Historically little training has been provided to first aiders regarding the management of mental health presentations. The frequency and outcomes from mental health presentations to first aid providers have not been reported. We aimed to characterise the experience of Australian Surf Life Savers in providing care for patients with mental health complaints.

Methods: We conducted a retrospective cohort study of patients who presented to Surf Life Savers between 2000 - 2020 where an incident report was available. We report exposures including age, sex, alcohol and drug use, and the involvement of ambulance and police services. We recorded outcomes including transport to hospital and mortality.

Results: We found 341 cases involving psychiatric, drug or alcohol related presentations. The median age was 29 years (IQR 20 – 44) and 49 (14%) were female, 88 (26%) were male, and 205 (60%) were not recorded. Of these cases, 121 (35%) involved a response to a suicide attempt, 57 (17%) involved alcohol intoxication and 122 (36%) involved the use of non-prescription drugs. Ambulance transport to hospital was required in 249 (73%) cases, and police attended 159 (47%) incidents. CPR was performed in 13 (4%) cases and mortality occurred in 34 (10%) cases.

ABSTRACTS

BEYOND THE UNIFORM: NAVIGATING THE IMPACT OF MILITARY OR FIRST RESPONDER CULTURE ON WELLBEING

Authors:

DR KAREN MAY * DENNIS TAYLOR * DR HENRY BOWEN

NB: Research and programs originate from Military and Emergency Services Health Australia (MESHA)

Military and first responder culture shapes members' behaviour and identity through values, norms, rituals and language, embedded in intensive training. Embracing these norms provides social support, status, and well-being, fostering purpose and belonging. These environments create strong bonds and pseudo-familial relationships, leading to identity fusion where group welfare is prioritized. This culture forms a core service identity, which can have positive and negative impacts on mental health, relationships, and future careers. Understanding this identity's influence is crucial for service personnel's well-being, with or without diagnosable mental health issues. Cultural competency in working with these populations improves care engagement and health outcomes, potentially reducing future care needs. There is a recognized lack of cultural competency among civilian providers, employers, and government staff in addressing military and first responder needs. Culturally informed services, designed and delivered with lived experience peers, can address this need for awareness not only within civilian populations, but also for the service personnel themselves. Military and Emergency Services Health Australia, part of the Hospital Research Foundation Group, offers programs that increase awareness of how service culture and identity impact the lives of service personnel and their families.

Key Learnings:

1. Recognise the impact of military and first responder culture on identity and wellbeing.
2. Understand the need for service cultural awareness in addressing military and first responder needs.
3. Highlight the role of culturally informed services facilitated by lived experience peers in enhancing engagement and support for service personnel.

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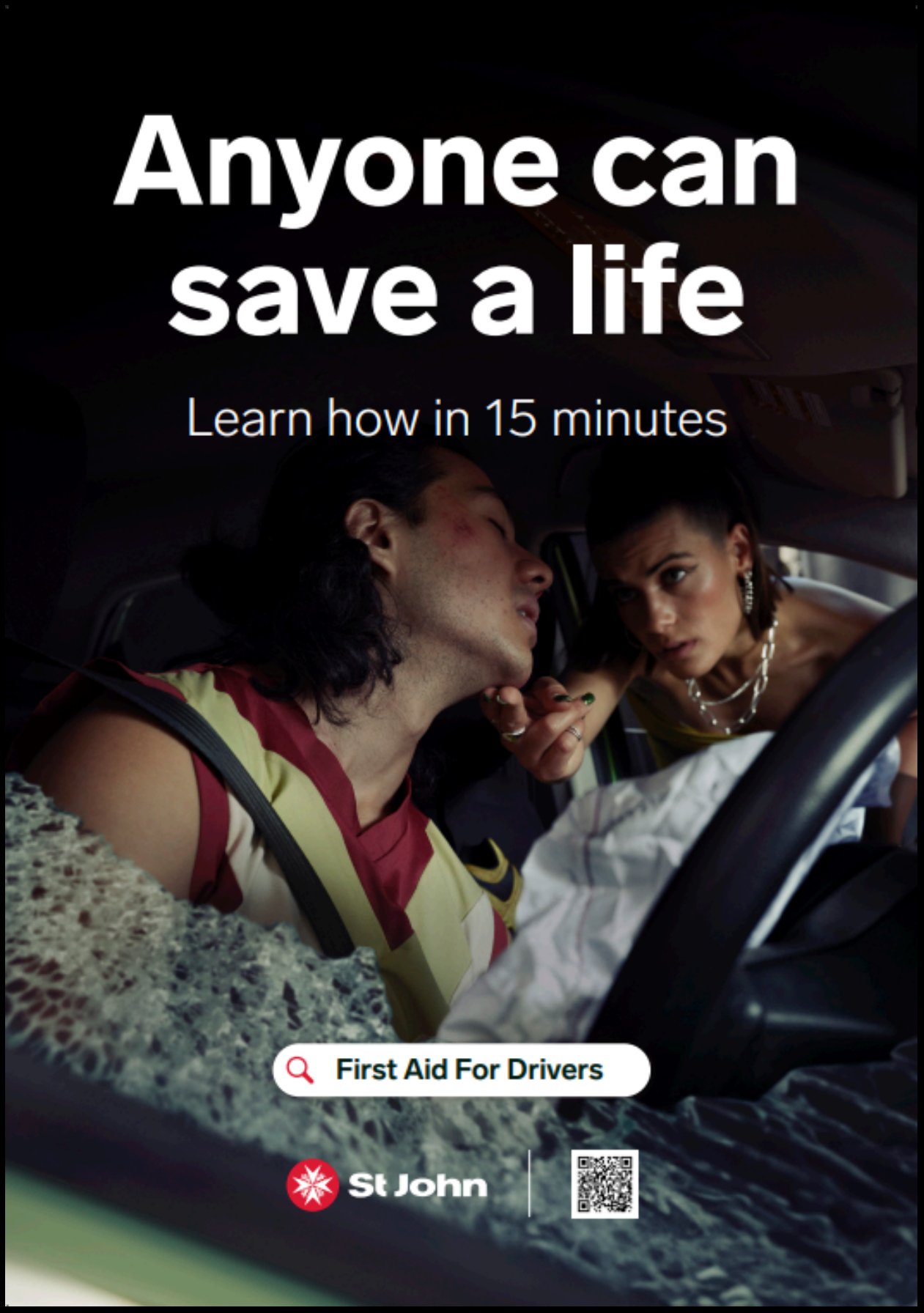
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First Aid For Drivers
St John

WA State Trauma Conference

Thursday 30th April

2026

The Ritz Carlton

Royal Perth Hospital

State Trauma Office

St John Ambulance

Get in Touch

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