Figures show that outcomes for trauma patients in the Cheshire and Mersey Major Trauma Network are among the best in the country, having been among the worst before the Network was established. It is calculated that an extra 43 lives have been saved since the Major Trauma Network was set up. This is based on a calculation of ‘unexpected survivors’, which before the Network was established was six per year, and since the Network is now 49. This means that more people are surviving thanks to the region’s new trauma service.

It is now two years since Aintree University Hospital, the Royal Liverpool University Hospital and The Walton Centre formed a joint Major Trauma Centre Collaborative, working closely with the North West Ambulance Service, Liverpool Heart and Chest Hospital and five Major Trauma Units.

A recent peer review identified the Network as the fourth best in the UK on measurements of the quality of services provided. The Peer Review Panel who visited the Major Trauma Centre in February reported that there was ‘good evidence of engagement’ between the different hospitals in the Major Trauma Network. Also commended was the 24/7 consultant-delivered care; and the good follow up for patients, with a regular major trauma clinic and a clinic for head injured patients.

There was praise for the new Cheshire and Merseyside Rehabilitation Network, which co-ordinates specialist rehabilitation treatment at The Walton Centre and at ‘spoke units’ in other hospital and community settings. The rehabilitation service was set up to support trauma patients and others with complex rehabilitation and was acknowledged as the best in the country.

The Trauma Network’s Medical Lead Mr John Matthews said: “We can be proud of the improvements we have made to the services we offer to people in our region who suffer severe traumatic injuries, thanks to the new trauma network and also thanks to the new, co-ordinated rehabilitation service.

“While there is still room for improvement, I am delighted that we are working so well together in different organisations for the benefit of our patients.”

Major Trauma Network is improving outcomes

Grand Round Presentations

Presentations about the past, present and future of the Major Trauma Network are being delivered in Grand Rounds across the region as follows:

- Arrowe Park Hospital 14 October
- Noble’s Hospital on 17 October
- Countess of Chester Hospital 5 December

Cheshire & Mersey Major Trauma Operational Delivery Network

First major trauma conference

A major trauma conference, ‘Trauma – we care’ takes place at Whiston Hospital Medical Education Centre on 18th September.

Keynote speakers include Professor Chris Moran, National Clinical Director for Major Trauma for NHS England; and Professor Sir Keith Porter, the UK’s only professor of clinical traumatology.

The event marks the second anniversary of the formation of the Cheshire & Mersey Major Trauma Network and provides an opportunity to learn about the latest developments and innovations in trauma.

The conference is aimed at all health care professionals working in emergency departments and trauma services and is expected to be repeated annually. Topics for the inaugural event include surgical management of chest injuries; hyper acute rehabilitation; advances in pre-hospital care; damage control surgery; the Manx story, surviving the TT; a burn case presentation; and the North West Children’s Transport Network.

It is supported by sponsors including Stryker UK, Blizzard, Zimmer, Smith & Nephew, DePuy Synthes, Teleflex, Bbraun, Ferno, Laerdal, Lewis’s Medical Supplies.

Keynote speaker: Professor Sir Keith Porter

Keynote speaker: Professor Chris Moran
All Major Trauma Centres and Trauma Units will have in place a massive transfusion protocol, which triggers once a patient arrives in the emergency department who fulfils the activation criteria.

The development of the North West Major Trauma Networks and establishment of Major Trauma Centres (MTCs) and Trauma Units (TUs) across the region have helped North West Ambulance Service to focus attention on these critically injured patients and manage their care over a prolonged period, while they are transferred to an appropriately equipped and skilled facility.

North West Ambulance Service (NWAS) have established a ‘Trauma Cell’, which is resourced 24 hours a day 365 days a year by Advanced Paramedics (APs).

Commencing in September across the Cheshire and Mersey area will be a pilot to enable pre-hospital clinicians to identify patients who present with catastrophic haemorrhage who would benefit from massive transfusion. The Trauma Cell APs are now able to provide a ‘Code Red Massive Haemorrhage’ pre-alert at either a Major Trauma Centre or Trauma Unit, ahead of the patient’s arrival into the department.

The Trauma Cell AP is tasked with communicating with the receiving Major Trauma Centre (MTC) or Major Trauma Unit (MTU) to pass an accurate clinical picture via a pre-alert message. On receiving the pre-alert message, the trauma team leader will be informed and then make a decision on the clinical information and the advice they have been issued as to whether it is appropriate to activate the MHP prior to the patient’s arrival. Dr Mark Forrest, Consultant Intensivist and Clinical Lead for Major Trauma at Warrington hospital stated “blood is now the primary resuscitation fluid in major trauma. As such, with early notification from scene with a “code red” call, blood and blood products will be available more quickly, avoiding the need for crystalloid administration and associated complications”.

Moving forward, the improved links between NWAS and the MTCs and TUs can only enhance the care delivered to major trauma patients once they arrive at the respective specialist centres, by allowing NWAS clinicians to identify patients for whom specialist procedures may apply.

The Isle of Man Health Service is completely distinct from the UK NHS although the principles of care are virtually identical. The island has one hospital called Noble’s after its original benefactor, with 314 beds and all the services you would expect to find in a typical DGH such as General Surgery, Paediatrics and Obstetrics. There is a small specialist hospital in the north of the island which is run by GPs and the island’s GPs provide a very similar service to their UK counterparts.

The ED is staffed by one consultant, two associate specialists, nine specialty doctors and four FY2, in addition to the usual complement of nursing staff and other allied healthcare professionals.

Trauma patients are a fact of life at Noble’s, in part due to the fact that there is no national speed limit and also due to the popularity of motorsport, the pinnacle of which is the world-famous TT races which take place in a two week period in summer.

In the past, trauma patients would generally be flown out by air ambulance to a tertiary centre after a period of stabilisation in Noble’s but typically, this would be several days later and only subject to a suitable bed being found.

In 2013, after several major incidents and after discussion with various members of the Cheshire & Mersey Adult Critical Care and Major Trauma Networks, we approached the C&M MTN and asked if we could become a part of those Networks, and so the journey began.

The first major change was that we could finally make direct ED to ED referrals for our major trauma patients and getting those patients who required the care and support of a Major Trauma Centre to definitive care by a clearly defined pathway.

The main obstacle was the obvious geographical disadvantage of the Irish Sea preventing land transfers. However, help was forthcoming and an arrangement was made with the NW Air Ambulance to utilise their helicopter in certain situations.

Discussions are still ongoing into the future of such a provision and we still need to use our own fixed wing air ambulance, depending on the situation.

The IOM was accepted into the Network in December 2013. There are too many people to thank for their assistance but Rob Griffiths deserves special mention as his support has been invaluable. After following that advice and making many changes, the most notable of which have been the establishment of a Major Trauma Committee and the introduction of Trauma Teams in 2014, the hospital underwent a Peer Review in May 2014, and was accredited as a Major Trauma Unit.

There is still a long way to go for the Isle of Man in trauma care but we are all extremely optimistic and confident that we will continue to strive towards our end goal of improving the care and quality of life of our trauma patients for as long as we have the support and assistance of the C&M MTN.
Modern major trauma chest injury management

By Sharon Scott, Consultant Orthopaedic Surgeon and Clinical Lead for Major Trauma and Alexandra Spearritt, Major Trauma Therapy Lead at Aintree University Hospital

Chest injuries are commonly found in our major trauma patients and the multi-disciplinary team on the Major Trauma Ward at Aintree has embraced new and unique methods of management to improve patient experience and outcome.

A chest injuries multidisciplinary team (MDT) has been in place since the formation of the Major Trauma Centre (MTC) and has concentrated on improving all aspects of care including pain management, therapy, ventilation techniques and surgical intervention.

Surgical fixation of rib fractures

There is strong evidence and NICE guidance supporting surgical fixation of rib fractures. The Cheshire and Mersey Major Trauma Centre is one of the few major trauma centres nationally to routinely offer rib plating. A guideline has been developed at the MTC and surgical management of rib fractures will be considered for patients with multiple displaced fractures or a flail segment. Surgery will ideally be performed within five days of injury by an orthopaedic surgeon +/- a thoracic surgeon. Peri-operative management is supported by the chest injuries MDT.

Physiotherapy for major trauma patients with chest injuries

Because of the complex injuries often sustained by patients on the Major Trauma Ward, our existing chest physiotherapy pathway has been revised to account for the injuries which can negatively affect the effectiveness of chest physiotherapy, such as rib, clavicle, scapular, sternal or spinal fractures.

We now have an excellent initial management and standardised pathway in place which comprises immediate assessment, high flow O2 delivery via Arvo 2 systems and hourly incentive spirometer exercises for every chest injury patient. Work is ongoing to develop an advanced management plan which will help patients who have issues, such as prolonged high O2 requirements and decreased lung volumes, and admission to ITU which delay recovery and the transfer to rehabilitation settings.

We are auditing the management of all our chest injury patients and see this as an opportunity to lead the way with this group of patients, not only in the surgical management of rib fractures but also in the proposed implementation of CPAP via face mask IPPB (Bird) for selected chest trauma patients on our Major Trauma Ward.

We expect to see a reduction in the average length of stay, incidents of pneumonia, ITU admissions (and associated length of stay) and the number of patients requiring mechanical ventilation.

For more information, email sharon.scott@aintree.nhs.uk or alexandra.spearritt@aintree.nhs.uk.

New Medical Lead

The new Medical Lead of the Major Trauma Network is emergency consultant Dr John Matthews, of St Helens and Knowsley Teaching Hospitals.

John has taken over the reins from Mr Peter Burdett-Smith, who was Medical Director from the inception of the Network and has now left the region for a new challenge.

An emergency consultant since 2008, John gained experience in many of the local hospitals while training in emergency medicine in Liverpool. He played a central role in establishing the Major Trauma Network and has been trauma lead in Whiston Hospital for four years, setting up the trust’s trauma team and trauma governance programme.

John said: “We are now performing well as a region and are in the top four Networks in the country. This is down to the hard work and commitment of the clinicians delivering trauma care across region. There is still room for improvement and by maintaining the focus and engagement of all the organisations in the Network, I believe we can continue to improve outcomes for trauma patients in Cheshire and Mersey.”

One of his priorities is to ensure the major trauma pathway delivers patients to the facility that best suits their needs and gives them the best chance of a good outcome.

“We are still finding that a high proportion of patients with major trauma are being received in the Major Trauma Units and we need to work together to ensure that the pathway directs these patients into the Major Trauma Centre when appropriate.”

“The Network has also observed a decline in trauma team activations within the trauma units which is something we need to work on collectively. There is good evidence that using the trauma team improves time to CT scan, ensures early senior clinical input and overall improves outcomes for patients.

“The change in the trauma pathway in recent years has created challenges in terms of both the nature of trauma cases entering the trauma units and the pre-alert of trauma cases into the trauma units and this is a challenge we must overcome.”

IN BRIEF

MTCC hot line

The MTCC hot line is a call and send service, not a referral line. If either MTCC receiving site is experiencing severe pressures then patients will be directed to the other receiving site. This is one of the advantages of having a collaborative set up.

Hotline numbers

Aintree 0151 529 2325
Alder Hey 0151 228 1235
Royal Liverpool 0151 706 4444.

Pelvic and acetabula fractures

The North West pelvic and acetabula service was set up to provide clear governance and patient pathways across the region. All pelvic and acetabula fractures identified in the ED department should be discussed with the MTCC via the hotline. Secondary referrals can be made by contacting the on call pelvic consultant via switchboard at Royal Liverpool.

Chest Injuries in the elderly

A number of elderly patients with relatively minor falls / mechanisms who have been admitted into the medical directorate have later been found to have significant chest injuries. Please bear this in mind when assessing elderly patients who have fallen and if rib fractures are present, please send them for a CT scan.

Emergency amputations

Emergency amputations are a rare and challenging situation. To support clinicians in this process dual consultant decision making and consent is recommended in all cases.

COMING UP

Current network projects include:

• Management of chest injuries guideline
• The introduction of an Enhanced Pre-Hospital Care Team
• Management of traumatic cardiac arrest guideline
• Standardisation of major trauma booklet / documentation

More information in the next issue of Trauma Matters.
Emily Brownless, 17, was crossing the road near her home in Childwall when she was in a collision with a car. She suffered broken bones in her legs and pelvis, two fractured vertebras in her back and bruising to her brain and her lung.

In total, Emily spent over three weeks in critical care units at Aintree University Hospital and The Walton Centre and was in coma for 11 days.

“Several times we thought we were going to lose her; she is a little miracle,” said Emily’s mum, Nicky Brownless.

“We were struck by the teams and by how well staff collaborated with each other across both hospitals. The teamwork displayed was very impressive,” said dad Gary Brownless.

Emily was taken by ambulance to Aintree University Hospital where she was treated by the specialist trauma team, undergoing scans and X-rays followed by surgery to insert metal rods in her right leg.

The following day, she was transferred to The Walton Centre’s Intensive Care Unit for an operation to insert an intracranial pressure monitor into Emily’s skull to measure the pressure on her brain caused by severe bruising.

When she developed pneumonia she was moved back to Aintree’s Critical Care Unit for specialist chest treatment.

“We lived in the two hospitals for 18 days and had a 48 hour stretch when we had no sleep because Emily was so dangerously ill,” said Gary.

“All the time, the staff were amazing, from the cleaners, ward clerks and porters through to the nurses, doctors and therapists, ward managers and volunteers. They always provided us with update with all the information we needed. They also gave us reassurance and advice about when we needed to go and rest. Their advice even extended to our own care requirements.

“Before Emily moved from Critical Care, the major trauma team visited her on a regular basis to get to know Emily and plan her transfer. Once Emily had recovered sufficiently and had had her tracheostomy valve removed she was transferred to the major trauma ward, where she was treated by nurses and therapists.

Emily was then treated in Broadgreen’s specialist sub-acute rehabilitation Phoenix Unit, undergoing physiotherapy, hydrotherapy, occupational therapy, dietician support and psychology. Her family also received group psychology to help them deal with the trauma.

Her mum added: “So many times we thought we were going to lose her; the staff kept trying to wake her up and then she caught pneumonia; it has been worse than hell. Then there came a day when she was awake and I felt I had given birth again; I just thought, thank God.”

Emily was then treated in Broadgreen’s specialist sub-acute rehabilitation Phoenix Unit, undergoing physiotherapy, hydrotherapy, occupational therapy, dietician support and psychology. Her family also received group psychology to help

Injured cyclist pays tribute to team work

Cyclist Richard Avery was left with a potentially fatal brain injury after being hit by a car near his home in Greasby, in July 2013.

The collision sent Richard flying 30 metres through the air, and he suffered a bleed on the brain along with a fractured skull, facial fractures, some broken ribs, a broken collarbone and a collapsed lung.

Richard was taken by ambulance straight to the Royal Liverpool University Hospital. Dr Ray Raj, Consultant in Emergency Medicine, said: “We had been alerted by the paramedics that Richard had been knocked off his bike and was found face down beside the road. We were told that he was conscious but agitated and vomiting – which are signs of a potential brain injury.”

Shortly after arrival, Richard was intubated and put on a ventilator. He was given an ultrasound scan and a whole body CT scan in the emergency department which revealed an injury on Richard’s brain, but no other serious injuries that required immediate intervention.

The team at the Royal contacted the neurosurgeons at The Walton Centre who were able to view the scans electronically via a shared IT system. The two teams agreed that Richard should be transferred to The Walton Centre immediately, where he then underwent emergency brain surgery.

“We work extremely well with our colleagues within the Major Trauma Centre to provide seamless, high quality care and minimise any delays in transferring patients,” said Dr Raj.

Trauma neurosurgeon Catherine Harris said: “When Richard arrived at The Walton Centre he was taken rapidly to theatre for emergency neurosurgery to remove a blood clot on the brain, before being admitted to our neurosurgical intensive care unit where he received intensive monitoring.

“He was then referred for neuro-rehabilitation where he received specialist rehabilitation care to support his recovery. I am delighted that he has made such an excellent recovery.”

Richard said: “I am deeply grateful to everyone who played a part in keeping me alive and getting me back on my feet again. From the lady who found me at the roadside, to the paramedics, the staff at the Royal and at The Walton Centre and the therapists who have supported my rehabilitation.

“It feels like I have survived against the odds, but what I have learnt from the teams who have cared for me, is that all parts of the major trauma care system worked as planned. Everything happened in the right place at the right time and I feel hugely privileged to be alive and able to get back on my bike.”