Using TARN data for Paediatric Trauma Research Projects

The Trauma Audit and Research Network is the largest trauma registry in Europe, containing information on more than 650,000 major trauma patients, and over 50,000 paediatric patients. 220 hospitals from England, Wales, Ireland, and parts of Europe contribute to TARN, making it a valuable resource for researchers.

There are over 700 data points in our core dataset, with a further 1200 in an optional extended dataset. Most of the fields in the core dataset are mandatory and are routinely analysed in our Clinical Reports. Hospitals record the following observations and interventions Pre-Hospital, in the Emergency Department and in Critical Care:

- **Observations**
  - Respiratory rate
  - Pulse rate
  - Pupil size
  - Oxygen saturation
  - Glasgow Coma Score
  - Airway status
  - Blood pressure
  - Pupil reactivity
  - Breathing status
  - Capillary refill

- **Interventions**
  - Airway support
  - Chest drain
  - Extubation
  - Breathing support
  - Spinal protection
  - Spinal protection removal
  - Blood products
  - Fluids
  - Embolisation
  - Tranexamic Acid
  - Analgesia

The core dataset also collects data on imaging, operations, ward stay, and discharge details.

The extended dataset is used for complex cases and contains many additional data points, such as haematology, blood gases, and anticoagulants.

The database allows us to support a range of research projects, including paediatric projects. TARN has published more than 100 papers since 2005, 10 of which are specifically relating to paediatric trauma.

Some notable papers include:

- Major trauma from suspected child abuse: a profile of the patient pathway
  Ffion Davies et al, 2017
- A profile of suspected child abuse as a subgroup of major trauma patients
  Ffion Davies et al, 2015
- The accuracy of existing pre hospital triage tools for injured children in England - an analysis using Emergency Department data
  Ronny Cheung et al, 2014

TARNlet are also responsible for the publishing of the Severe Injury in Children reports, which are available to read from the [TARN website](http://www.tarn.org.uk).
Published paediatric research papers:

Fractures of the femoral shaft in children
C. Talbot et al, 2018

Major trauma from suspected child abuse: a profile of the patient pathway
F. Davies et al, 2017

A profile of suspected child abuse as a subgroup of major trauma patients
F. Davies et al, 2015

The accuracy of existing pre hospital triage tools for injured children in England - an analysis using Emergency Department data
A Ardolino et al, 2014

The accuracy of existing pre hospital triage tools for injured children in England - an analysis using trauma registry data
R Cheung et al, 2013

The accuracy of existing pre hospital triage tools for injured children in England - an analysis using trauma registry data
R Cheung et al, 2012

Variation in recording of child maltreatment in administrative records of hospital admissions for injury in England, 1997 - 2009
A González-Izquierdo et al, 2010

Comparing the systolic blood pressure (SB) and pulse rate (PR) in injured children with and without traumatic brain injury
E Loizou et al, 2010

Screening injured children for physical abuse or neglect in emergency departments: a systematic review
J Woodman et al, 2009

Paediatric trauma: injury pattern and mortality in the UK
J Bayreuther et al, 2009

The Utilisation of intraosseous infusion in the resuscitation of paediatric major trauma patients
R Smith et al, 2005

Systolic hypertension and the response to blunt trauma in infants and children
P Dark et al, 2002

Reducing Death Rate in children and young adults: the contribution of hospital care
I Roberts et al, 1996

More examples of the research projects we support are available on the TARN website.