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1. Information prior to joining

1.1 Resource requirements

1.1.1 Participant Contributions

Are based on the number of new attendances to the Emergency Department each year, the number of children admitted for further care of their injuries and the number of head injured patients admitted to Neurosurgical units. The numbers used are taken from The Directory of Critical Care, which contains information relating to every NHS trust in the UK and Ireland and is updated every year.

1.1.2 Number of submissions (approximate)

- A Hospital receiving 60-70,000 new patients annually, would normally provide data on approximately 120-150 patients each year (plus transfers in); these patients would fulfil the current TARN Inclusion Criteria (amended on 1st August 2007).
- A Hospital receiving 100,000 new patients annually, would normally provide data on approximately 200-220 patients each year (plus transfers in).

Data is entered onto an Electronic Data Collection and Reporting system (EDCR).

1.1.3 Staff Requirements

- Based upon an average sized site (60-70,000 annual attendances per annum) TARN would suggest that approximately 10-14 hours a week is required for a Data Coordinator/s. This should enable the person to gather all data, enter submissions via computer and to organise multi-disciplinary trauma audit meetings (to use the reports provided by TARN).
- An AFC Administrative Band 3/4 is recommended. It is absolutely vital Clinician backup is available.
- Alternatively, your site may prefer to initiate Data collection in the Emergency Department via a dedicated Clinician who (usually a Nurse or middle grade Doctor) could enter all clinical data, then have the submissions completed via an Administrative person.

1.1.4 STARTUP Training

- TARN will ensure that all relevant staff members receive STARTUP Training (including an overview of TARN, EDCR data entry and reporting, injury coding and statistics). There is no limit to the number of staff trained from each site.
- All STARTUP Training (regardless of number of delegates) is FREE OF CHARGE and is one day only.
- Training sessions are usually held in Manchester and run every 1-2 months (dependant on demand). TARN also runs occasional training at external Trust sites; agreement for running any external course depends on certain internet and computation requirements being met and a minimum number of delegates.
1.1.5 Capital Expenditure

Everyone involved in Data Collection or wishing to receive TARN reports will need access to a computer that is connected to the Internet, as all data is now collected and certain reports are produced via an Electronic system.

For further information:

Telephone: 00 44 (0) 161 206 4397
Email: support@tarn.ac.uk
Website: www.tarn.ac.uk
1.2. **Setting up Trauma Audit in your Trust**

1.2.1 Complete and return the following paperwork to TARN

- Membership Authorisation form
- Hospital Contacts sheet
- Training form

1.2.2 Locate the person, place and facilities

Identify the staff member/s that will collect the data and discuss relevant training courses with TARN. The data collector should be organised, proactive, have some anatomical knowledge and be PC literate.

Identify a working area with a computer with Internet connection (vital), desk and a telephone.

1.2.3 Introduce TARN and yourself

The data collector should introduce themselves to all levels of staff with whom they will liaise. Don’t forget the Ambulance service & Coroners office.

The Lead Clinician or data collector should introduce TARN to the rest of the hospital’s Clinicians at a relevant meeting; TARN can assist with a PowerPoint presentation for this.

You should invite staff from clinical audit, intensive care areas, orthopaedics, paediatrics, anaesthetics, surgery and the ambulance services, to highlight the message that this important & useful data is being collected.

1.2.4 Setting up EDCR users

Once the data collector/s have been identified, inform TARN of their names and email addresses so they can be issued with a username and password to access the EDCR system.

Any interested Clinician/s or Manager/s can also be issued with a username and password to access the reporting part of the EDCR system; these users will not have the ability to enter or edit data (unless expressly required).

1.2.5 The reports

Quarterly Reports are produced at regular intervals throughout the year by TARN and uploaded into the EDCR system.

The reports are themed around: Thoracic, Orthopaedic, Abdominal & Spinal and Head injuries.

Case Summary and Demographic and Clinical Frequencies Reports can also be generated at any time by anyone who has a username and password with access to the TARN EDCR system (see 4.9 EDCR reporting for information on how to produce these reports).

Ad-hoc analysis is also available at any time to member sites.
1.3 SYSTEMS OF DATA CAPTURE

1.3.1 Identifying patients using ICD10 codes

Most sites now use their Hospital coding system (ICD10) to identify their TARN patients. An ICD10 code is given to every patient seen at a hospital and there are 2 sections that refer to Trauma: S OR T codes.

Ask the I.T. Department to produce a regular spreadsheet listing all patients with an S or T code that fulfil the following:

- Stayed for >3 days
- Died
- Transferred out
- Transferred in
- Admitted to Critical care

The spreadsheet should include:

- Discharge destination
- ICD10 code/s
- Name
- Age/DOB
- Admission date
- Discharge Date/Date of Death
- LOS

TARN has a list of all included ICD10 Trauma codes on www.tarn.ac.uk/Resources. You can then quickly identify which injuries can be excluded from your spreadsheet (elderly Neck of Femurs, Closed limb fractures, superficial injuries etc). Also exclude any patient admitted to a medical or rehabilitation ward or whose LOS <3 days (unless they died, were transferred out or spent time in Critical care). Patients who die from their injuries in the Emergency Department are included in TARN.

1.3.2 Clarifying inclusion

When you have your remaining list of potential TARN patients, you must request the case notes and firstly check to ensure the injuries fulfil the TARN Injury criteria (see 2.1):

If they do: Complete a submission
If they do not: Do not complete a submission, regardless of LOS or Outcome.

NEVER COMPLETE A SUBMISSION USING THE EMERGENCY DEPARTMENT CARD ONLY.

1.3.3 Emergency department patient identification

Some sites use a manual system to identify their TARN patients, which involves checking the E.D. patient log for any potential Traumas, then checking PAS system to ensure the patients meet the LOS criteria, then pulling the case notes. This system can be more time consuming than using ICD10 codes, but is preferable if a site has employed a system of patient identification being completed by an E.D. staff member (receptionist, nurse, doctor).

However, a system of identifying patients who bypass E.D. must also be found.
2. Standards of practice

2.1 **Inclusion criteria: Revised June 2009**

The decision to include a patient should be based on the following points:

**A. All trauma patients irrespective of age**

**B. Who fulfill the following length of stay criteria**

<table>
<thead>
<tr>
<th><strong>Direct admissions</strong></th>
<th><strong>Patients transferred in</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Trauma admissions whose length of stay is 72 hours or more OR Trauma patients admitted to a High Dependency Area regardless of length of stay OR Deaths of trauma patients occurring in the hospital including the Emergency Department (even if the cause of death is medical) OR Trauma patients transferred to other hospital for specialist care or for an ICU/HDU bed.</td>
<td>Trauma patients transferred into your hospital for specialist care whose combined hospital stay at both sites is 72 hours or more OR Trauma admissions to a ICU/HDU area regardless of length of stay OR Trauma patients who die from their injuries (even if the cause of death is medical) OR Patients transferred in for rehabilitation only do not need to be submitted to TARN.</td>
</tr>
</tbody>
</table>

**C. And whose isolated injuries meet the following criteria**

(June 09 revisions are highlighted in red)

<table>
<thead>
<tr>
<th><strong>Body region or specific injury</strong></th>
<th><strong>Included - in isolation (except where specified)</strong></th>
<th><strong>Excluded - in isolation (except where specified)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Head</strong></td>
<td>All brain or skull injuries</td>
<td>LOC - unless accompanied by brain injury or skull/face fracture</td>
</tr>
<tr>
<td><strong>Thorax</strong></td>
<td>All Patients</td>
<td>None</td>
</tr>
<tr>
<td><strong>Abdomen</strong></td>
<td>All Patients</td>
<td>None</td>
</tr>
<tr>
<td><strong>Spine</strong></td>
<td>Cord injury, fracture, dislocation or nerve root injury.</td>
<td>Spinal strain or sprain.</td>
</tr>
<tr>
<td><strong>Face</strong></td>
<td>Fractures documented as Significant displacement, open, compound or comminuted. All Lefort fractures, All panfacial fractures. All Orbital Blowout fractures</td>
<td>Fractures documented as simple or stable.</td>
</tr>
<tr>
<td><strong>Femoral fracture</strong></td>
<td>All (Open or Closed) up to 64 years old</td>
<td>Neck of femur, Intertrochanteric, Subtrochanteric or Greater trochanteric Femur fractures ≥ 65 years.</td>
</tr>
<tr>
<td><strong>Foot or hand: joint or bone</strong></td>
<td>Crush or amputation only.</td>
<td>Any fractures &amp;/or dislocations, even if Open &amp;/or multiple</td>
</tr>
<tr>
<td>Category</td>
<td>Injuries</td>
<td>Isolation</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>FINGER OR TOE</td>
<td>None</td>
<td>All injuries to digits, even if Open fractures, amputation or crush &amp;/or multiple injuries.</td>
</tr>
<tr>
<td>LIMB - UPPER (EXCEPT HANDS/FINGERS)</td>
<td>Any Open injury. Any 2 limb fractures &amp;/or dislocations.</td>
<td>All Closed unilateral injury (including multiple closed fractures &amp;/or dislocations or the same limb)</td>
</tr>
<tr>
<td>LIMB - BELOW KNEE (EXCEPT FEET/TOES)</td>
<td>Any Open injury. Any 2 limb fractures &amp;/or dislocations.</td>
<td>All Closed unilateral injury (including multiple closed fractures &amp;/or dislocations or the same limb)</td>
</tr>
<tr>
<td>PELVIS</td>
<td>All up to 64 years old</td>
<td>Single pubic rami fracture &gt;65 years old.</td>
</tr>
<tr>
<td>NERVE</td>
<td>Any injury to sciatic, facial, femoral or cranial nerve.</td>
<td>All other nerve injuries, single or multiple.</td>
</tr>
<tr>
<td>VESSEL</td>
<td>All injuries to femoral, neck, facial, cranial, thoracic or abdominal vessels. Transection or major disruption of any other vessel.</td>
<td>Intimal tear or superficial laceration or perforation to any limb vessel.</td>
</tr>
<tr>
<td>SKIN</td>
<td>Laceration or penetrating skin injuries with blood loss &gt;20% (1000mls)</td>
<td>Simple skin lacerations or penetrating injuries with blood loss &lt; 20% (1000mls); single or multiple. Contusions or abrasions: single or multiple. Minor degloving injury.</td>
</tr>
<tr>
<td>BURN</td>
<td>Any full thickness burn or Partial/superficial burn ≥10% body surface area NOT referred to a Burns unit</td>
<td>Partial or superficial burn &lt;10% body surface area. Or any burn referred to a Burns unit.</td>
</tr>
<tr>
<td>INHALATION</td>
<td>All included - if not referred to Burns unit</td>
<td>If referred to Burns unit.</td>
</tr>
<tr>
<td>FROSTBITE</td>
<td>Severe frostbite</td>
<td>Superficial frostbite</td>
</tr>
<tr>
<td>ASPHYXIA</td>
<td>All</td>
<td>None</td>
</tr>
<tr>
<td>DROWNING</td>
<td>All</td>
<td>None</td>
</tr>
<tr>
<td>EXPLOSION</td>
<td>All</td>
<td>None</td>
</tr>
<tr>
<td>HYPOTHERMIA</td>
<td>&lt;31° And accompanied by another (non skin) injury</td>
<td>&gt;31° Or Hypothermia in isolation</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>All</td>
<td>None</td>
</tr>
</tbody>
</table>
2.2 Pre-existing Conditions

Where applicable, all of the following should be recorded in a TARN submission:

### Endocrine Nutritional, Metabolic & GU Diseases

ICD Chapters IV, XI, XIV

- GU Diseases NFS
- Upper GI
- Lower GI
- Ulcer
- Liver disease
- Previous splenectomy
- Renal disease
- Crohn’s disease,
- Colitis
- Diverticular disease
- Other GU Diseases
- Metabolic NFS
- Diabetes mellitus
- Diabetes insipidus
- Adrenal disease
- Thyroid disease
- Pituitary disease
- Other Metabolic Diseases
- Other ENM and GU Diseases

### Mental & Behavioural Disorders

ICD Chapter V

- Psychosis
- Schizophrenia
- Depression
- Deliberate self-harm
- Neurosis
- Personality Disorder
- Alcohol abuse
- Drug addiction
- Anorexia/Bulimia
- Obesity
- Other

### Neoplasms & Blood/Immune Diseases

ICD Chapters II, III

- Cancer of GI Tract
- Cancer of Lung
- Cancer of Breast
- Cancer of Kidney
- Cancer of GU Tract
- Cancer of Bone
- Cancer of Skin
- Cancer of Brain
- Other Neoplasms
- Thrombocytopenia
- Thrombocytosis
- Coagulopathy
- Haemophilia
- Anaemia
- Lymphoma
- Multiple Myeloma
- Leukaemia
- Other Blood/immune Diseases
- Other

### Diseases of the Nervous System

ICD Chapter VI

- Stroke/CVA/TIA
- Subarachnoid bleed
- Vertebrobasilar disease
- Migraine
- Epilepsy
- Cerebral palsy
- Spina Bifida/Previous spinal cord injury
- Mental handicap
- Dementia
- Parkinson’s Disease
- Multiple Sclerosis
- Other
**Musculo-Skeletal & Connective Tissue**

ICD Chapter XIII

- Arthritis
- Osteoarthritis
- Rhumatoid arthritis
- Connective Tissue Disease
- Major joint replacement
- Brittle bone disease
- Generalised osteoporosis
- Paget’s Disease
- Degenerative Spinal disease
- Other

**Circulatory & Respiratory Systems**

ICD Chapters IX and X

- Heart NFS
- IHD
- Myocardial Infarction
- Carditis NFS
- Valvular heart disease
- Cardiomyopathy
- Other Circulatory
- Hypertension
- Peripheral vascular Disease
- DVT
- PE
- Vasculitis
- Asthma
- COPD
- Fibrosis NFS
- Bronchiectasis
- Cystic Fibrosis
- Other Respiratory

**General Infections & Parasitic Diseases**

ICD Chapter I

- HIV/AIDS
- TB
- MRSA
- STD
- Other

**Skin & Subcutaneous Tissue, Diseases of the Eye & Ear and Pregnancy**

ICD Chapters XII, VII, VIII, XV

- Pre-existing skin conditions
- Diseases of the Eye
- Diseases of the Ear
- Pregnancy at time of injury
- Other

**No Pre-existing Disease**

**Missing**

A full list of PED and how to record them in EDCR can be located by clicking on the hyperlinked “Pre-existing medical conditions” field in the OUTCOME section.
2.3 ANATOMICAL INJURY DESCRIPTIONS

2.3.1 Injury detail

Injury detail is of paramount importance to any TARN submission, therefore all injuries sustained by a patient must be recorded on every submission.

Information relating to injuries should be obtained from the following sources: clinician’s notes, nursing notes, radiology reports, operative notes, discharge summaries and post mortem reports.

Guidelines to help with injury documentation:
- Record the length of all lacerations/penetrating injuries, whether external or internal.
- Record the depth if laceration to vessels.
- Record the size and site of all cerebral contusions.
- Locate all entrance and exit wounds on penetrating injuries.
- Record the amount of blood loss from internal organs.
- Record the part of the bone that is fractured and the extent of that fracture.
- All fractures should be further defined as open or closed.
- Record all injuries (no matter how insignificant they may appear).

2.3.2 Unconfirmed injuries

Injuries should only be recorded when the diagnosis is confirmed.

Never record possible, probable or suspected injuries.

2.3.3 Radiology reports and post mortems

Photocopies of all radiology reports or post mortem reports can be posted or faxed to TARN with the corresponding 12-digit submission number clearly visible; users must however ensure all patient identifiers have been removed.

The user must always note “CT scan faxed to TARN” or similar in the Diary section of the EDCR submission, so the TARN coder is aware of the presence of additional information before assigning AIS codes.

Alternatively, the user can simply copy and paste a radiology report into the relevant CT/X-Ray/Ultrasound section of any EDCR submission.

When a Report is pasted into an EDCR submission, it will automatically appear on the AIS coding section, thus ensuring that the TARN coder has all the information in front of them before assigning AIS codes.

Post mortem results should be used whenever available even if this results in a delay in dispatching your submission.

All injury coding using AIS is done centrally at TARN, but users can see every AIS code issued by TARN by clicking into the AIS coding section once a submission has been Approved.

Accurate and detailed injury descriptions will enable a more precise Injury Severity Score (see 3.1) and therefore a more accurate Probability of Survival calculation (see 3.2).
2.4 Abbreviated Injury Scale (AIS)

2.4.1 Background information

A.I.S. was first published in 1969 by the Association for the Advancement of Automotive Medicine (A.A.A.M.). The latest edition (AIS2005) is now available from the AAAM website: www.Carcrash.org a cost of $250 per dictionary.

2.4.2 Structure

- Based on anatomical injury.
- A single AIS score for each injury.
- More than 1500 injuries listed.
- Scores range from 1 to 6, the higher the score the more severe the injury.
- The intervals between the scores are not always consistent e.g. the difference between AIS3 and AIS4 is not necessarily the same as the difference between AIS1 and AIS2.

2.4.3 Example AIS codes

<table>
<thead>
<tr>
<th>INJURY</th>
<th>NUMERICAL IDENTIFIER</th>
<th>AIS</th>
<th>SEVERITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fracture 1 rib</td>
<td>450201</td>
<td>1</td>
<td>Minor</td>
</tr>
<tr>
<td>Fractured 2 ribs</td>
<td>450202</td>
<td>2</td>
<td>Moderate</td>
</tr>
<tr>
<td>Haemopneumothorax</td>
<td>442205</td>
<td>3</td>
<td>Serious</td>
</tr>
<tr>
<td>Bilateral lung lacerations</td>
<td>441450</td>
<td>4</td>
<td>Severe</td>
</tr>
<tr>
<td>Bilateral flail chest</td>
<td>450214</td>
<td>5</td>
<td>Critical</td>
</tr>
<tr>
<td>Massive chest crush</td>
<td>413000</td>
<td>6</td>
<td>Maximum</td>
</tr>
</tbody>
</table>

2.4.4 Coding structure explained

<table>
<thead>
<tr>
<th>Body Region</th>
<th>Type of Anatomical Structure</th>
<th>Specific Anatomical Structure</th>
<th>Specific Anatomical Structure</th>
<th>Level</th>
<th>Level</th>
<th>AIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

From 1st June 2009 onwards, Tarn will begin using AIS2005 for all Injury coding.

All existing codes on the TARN database that were coded with AIS98 (previous version of dictionary) have been successfully mapped to corresponding AIS2005 codes, so continuing comparisons can be made.
# 2.5 The Path of a TARN Submission

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential</td>
<td>I.T. system report produced or ICD 10 codes are used to highlight potential TARN patients.</td>
</tr>
<tr>
<td>Confirm</td>
<td>Data Collector/EDCR user checks if TARN Inclusion Criteria is fulfilled - if <strong>YES</strong></td>
</tr>
<tr>
<td>Create</td>
<td>Using the EDCR system a user then creates a submission for each TARN patient and enters data gathered from ambulance sheets, radiology reports, post mortems, hospital notes, trauma sheets, operative notes and discharge summaries, a unique submission number will appear at the top of each submission screen. Further detail can be added at any time and in any order whilst a submission remains in the created status. These submissions can be accessed again using the EDCR submission summary screen, which lists their <strong>STATUS as CREATED</strong>.</td>
</tr>
<tr>
<td>Diary</td>
<td>Any additional information the user wishes TARN to have (e.g. radiology reports) can be added to the <strong>DIARY SECTION</strong> prior to dispatch. Diary section is also used by TARN post dispatch to inform user of any rejection or return of a submission.</td>
</tr>
<tr>
<td>Validate</td>
<td>Once all available patient data is entered, the user electronically <strong>VALIDATES</strong> the submission. The validation procedure checks to ensure no mandatory fields have been missed and if so, will not allow dispatch until all are completed.</td>
</tr>
<tr>
<td>Dispatch</td>
<td>The user then <strong>DISPATCHES</strong> all validated submissions to TARN. All dispatched submissions are then assigned to an individual TARN coder. No further detail can then be added by user, however further detail can be added by TARN post dispatch. These submissions can be viewed using the EDCR submission summary screen, which lists their <strong>STATUS as DISPATCHED</strong>.</td>
</tr>
<tr>
<td>Approve</td>
<td>Within one week all standard submissions (excluding transfers out-see below) are coded, assigned an ISS and <strong>APPROVED</strong> by TARN. These submissions can be viewed using the EDCR submission summary screen, which lists their <strong>STATUS as APPROVED</strong>.</td>
</tr>
<tr>
<td>Reject</td>
<td>If the submission does not meet TARN inclusion criteria, the TARN coder will electronically <strong>REJECT</strong> it, informing the user of the reason in the <strong>DIARY section</strong>. These submissions can be viewed using the EDCR submission summary screen, which lists their <strong>STATUS as REJECTED</strong>.</td>
</tr>
<tr>
<td>Return</td>
<td>If the submission requires additional information prior to approval, the TARN coder will electronically <strong>RETURN</strong> it informing the user of the reason in the <strong>DIARY section</strong>. These submissions can be viewed using the EDCR submission summary screen, which lists their <strong>STATUS as RETURNED</strong>.</td>
</tr>
<tr>
<td>Redispatch</td>
<td>When user has the additional detail required, they must <strong>RE-DISPATCH</strong> the submission. These submissions can be viewed using the EDCR submission summary screen, which lists their <strong>STATUS as REDISPATCHED</strong> and then when coded and approved by TARN as <strong>APPROVED</strong>.</td>
</tr>
<tr>
<td>Transfer</td>
<td>Transfers out for further care to another TARN site are coded and <strong>FLAGGED</strong> whilst awaiting the second site’s submission. These submissions can be viewed using the EDCR submission summary screen, which lists their <strong>STATUS as DISPATCHED</strong> with a <strong>FLAG</strong> attached. Once the second site’s submission is received, TARN matches and approves both submissions.</td>
</tr>
<tr>
<td>Case</td>
<td>A case is a complete picture of patient care and final outcome. A case can involve one or multiple sites. When a submission is approved or a transfer out is matched and approved, a case number will appear at the top of the submission screen.</td>
</tr>
<tr>
<td>Report</td>
<td><strong>ONLY APPROVED SUBMISSIONS ARE USED IN TARN REPORTS AND ANALYSES.</strong></td>
</tr>
</tbody>
</table>
3. Statistics, information and reporting

3.1 The Injury Severity Score (ISS)

3.1.1 Background

- ISS is based on the AIS and is calculated at discharge or death.
- Increased injury severity scores are associated with increased rates of mortality.
- Only 10% of patients with an ISS of <8 die compared with 95% of patients with an ISS of >50.

3.1.2 Calculating the ISS

a) Code all injuries using the AIS dictionary
b) Assign to one of the following body regions:
   - Head, neck, or cervical spine
   - Face
   - Chest or thoracic spine
   - Abdomen, pelvic contents or lumbar spine
   - Extremities or bony pelvis
   - External injuries or burns
c) Square the highest score in each body region
d) Add the sum of the squares of the highest AIS scores in each of the three most severely injured body regions.

Example

<table>
<thead>
<tr>
<th>Body region</th>
<th>Injury</th>
<th>Code</th>
<th>AIS</th>
<th>AIS²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
<td>Temporal fracture</td>
<td>150400</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Head</td>
<td>Small Subdural haematoma</td>
<td>140652</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Chest</td>
<td>3 rib fractures</td>
<td>450220</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Abdomen</td>
<td>Liver laceration (major)</td>
<td>541826</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Extremities</td>
<td>Tibia fracture(displaced)</td>
<td>853405</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>External</td>
<td>Abrasions</td>
<td>910200</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

ISS = 16 +16 + 9 = 41

ISS scores range from 1 to 75, a score of 75 results in one of two ways:
- Three AIS 5 injuries \((5^2 + 5^2 + 5^2 = 75)\)
- Injuries coded as AIS6 are, by convention, given an ISS of 75

There is variation in the frequency of different scores:
- 9 & 16 are common,
- 14 & 22 are unusual
- 7 & 15 are unobtainable
3.2 Probability of Survival (Ps)

An Improved Approach to Outcome Predictions

3.2.1 TRISS (used by TARN until July 2004)

The Probability of Survival (Ps) of each patient has previously been calculated from the Revised Trauma Score (RTS), Injury Severity Score (ISS), age and method of injury (blunt or penetrating). Additionally, the outcome of the patient (survival or death) has been taken at discharge or 93 days (whichever is sooner).

This model was referred to as TRISS (Trauma and ISS).

There were a few problems with TRISS including: High number of cases with unrecorded data (respiratory rate, systolic blood pressure and Glasgow Coma Scale) and the exclusion of transfers out, intubated patients, burns and penetrating injuries.

3.2.2 Ps04 (used by TARN from August 2004 - November 2007)

In 2004 Probability of Survival (Ps04) was introduced by TARN and the Ps of each injured patient was more accurately calculated using just:

- Age
- Gender
- Glasgow Coma Scale
- Injury Severity Score

The Ps04 model is based on the following components:

- Outcome (survival or death) used is calculated at 30 days.
- The GCS replaces the RTS in the new model.
- The ISS is incorporated using an improved format.
- Patients transferred out for further care are included (where final outcome is known).
- Children have a better weighting for their age.
- Patients with burn or penetrating injuries are included.
- There is now a relationship between gender and age.

3.2.3 Ps07 (used from November 2007 to May 2009)

TARN revised the Ps04 model, to ensure that, for the first time, all eligible cases have a Ps calculated; this is possible by using a combination of:

- Statistical weighting for cases intubated on arrival (where no GCS is available at scene or in ED).
- Imputation for cases with missing GCS on arrival and at scene.

Due to these improvements to the Ps model, 100% of all eligible cases are now included in the Comparative Outcome Analysis (Ws graph).

3.2.4 Ps09 (June 2009 onwards): LATEST MODEL

Ps07 was based on AIS98 injury codes, so TARN has revised the Ps07 model, to incorporate the new Abbreviated Injury Scale (AIS2005) codes.

Further details of the latest outcome predictor model can be found on the TARN website: www.tarn.ac.uk/resources
3.3 GROUP COMPARISONS

The comparative outcome analysis (Ws graph)

3.3.1 Background

- The following statistics are commonly known as DEF statistics & are used internationally.
- These statistics are used to make comparisons of hospital performance; the most recent innovations can be seen on www.tarn.ac.uk/resources.
- Comparison of the Ps07 of all patients (seen at a particular site with observed outcome) can be used as an index of overall performance.
- Probabilities of survival are combined in the `Comparative Outcome Analysis (Ws) to assess a group of patients; in this way a national comparison graph can be compiled containing all sites that submit data to TARN.
- Ws provides a measure of excess survivors or deaths per 100 patients treated at each site.

3.3.2 Interpreting Ws

- A high positive Ws value is desirable this indicates that your hospital has more survivors than expected
- Conversely a negative Ws value indicates that your hospital has fewer survivors than expected.
- The Ws can be shown graphically (with 95% confidence intervals) to illustrate clinical differences between hospitals relative to the UK norm (See Ws graph on page 16)
- The 95% Confidence Interval indicates that we can be 95% certain the true Ws lies somewhere along the line accounting for different injury severity mixes and the `standardised Z statistic' (Zs) provides a measure of its statistical significance.
- A narrow range would show that there is a good deal of confidence in the value of Ws.
- The Zs value is often misquoted when comparisons of trauma care are made between hospitals, the Zs statistic is purely a measure of the statistical significance of Ws statistic; it is often said that:
  - Zs scores >1.96 indicate the hospital is significantly better than the UK average.
  - Zs scores <1.96 indicate that the hospital is significantly worse than the UK average.
- Comparisons have become more relevant to Clinicians after extensive work was undertaken to base the regression analyses on statistics derived from the AIS (98 update) dictionary and data collection in England and Wales.
- As statistical methods become more refined we can be a little more confident that these inter-hospital comparisons really do reflect variations in Clinical practice.
COMPARATIVE OUTCOME ANALYSES

Hospital XXXX is highlighted

Grouped according to the number of patients admitted to each hospital from January 2007 as a percentage of their admissions 2004/07 *

Ws = 2.03 (± 1.12) - Highlighted above

1107 eligible cases were used to calculate Ws.

22% of the cases were admitted in 2007
3.4  TARN REPORTS

3.4.1  Case Summary Reports

Case Summary reports provide a summary of TARN submissions, including ISS and Ps.

Users with relevant rights to the EDCR system can produce these at any time, covering any time period.

See 4.9.1 for full details of content and how to produce a Case Summary report.

3.4.2  Themed Quarterly Reports

Produced by TARN every three months and uploaded into EDCR.

Quarterly reports cover the following themes:
- Thoracic
- Orthopaedic
- Abdominal/Spinal
- Head injuries.

These reports include Process Measures monitoring standards set out in the Royal College of Surgeons and British Orthopaedic Association report of 2000 “Standards of Care for the Severely Injured” (www.rcseng.ac.uk/publications)

3.4.3  Ad hoc analyses

In addition to the Demographic and Clinical Frequencies reports that can be produced by any EDCR user with the relevant rights (see 4.9.2 for further information); ad hoc analyses can be requested by any member site and produced by TARN at any time.
3.5 Using the reports

3.5.1 Local trauma audit

- Identifying and comparing national standards
- Deriving local guidelines
- Discussions at multi-speciality meetings
- Communicating and acting on discussions

These actions are central to change in practice and improvement in trauma care.

3.5.2 Closing the loop

“Closing the audit loop” involves re-analysis of performance after appropriate changes have been introduced, this can only occur if all those involved in the management of the major trauma patient are consulted and co-operate.

Central to this Process are multi-speciality audit meetings.

TARN quarterly and Case Summary reports should also be shared with audit departments, purchasers, clinical governance and clinical colleagues.

3.5.3 The multi-speciality audit

The themed quarterly report is an extremely useful tool to inform multi-speciality audit meetings.

To use to your best advantage we recommend that you:

- Schedule a regular audit meeting of representatives from trauma receiving departments.
- Theme the meetings with additional data from TARN e.g. Head Injury
- Always discuss a patient who survived after serious injury and optimum care.
- Present your hospital status in relation to the other TARN sites.
- Invite speakers from TARN or other participating hospitals.

AIM TO IMPROVE YOUR TRAUMA SERVICES AS A RESULT OF THESE MEETINGS.
3.6 IMPROVING TRAUMA CARE

3.6.1 Why?
- 33% of death after injury thought to be preventable.
- The initial management of major trauma was unsatisfactory.
- The treatment and mortality rate of injured patients varied inexplicably between hospitals.
- There were delays in providing experienced staff and timely operations.


3.6.2 When?
- Overall hospital care has made a valuable but variable contribution to reductions in case fatality after injury between 1989 and 1997.
- However there was significant variability in the proportion of survivors between the highest and lowest 10% of hospitals in England and Wales.
- The proportion of severely injured seen first by senior doctors increased.


3.6.3 How?
The reduction in trauma mortality was due to a strategic mixture of change:

Context: Common goals for improving trauma care
- NHS Executive
- Royal College of Surgeons
- Close inter-disciplinary cooperation
- Senior clinical involvement

Content: Targets for treatment times
- Specific protocols
- Trauma team membership
- Continuity of care from the scene to rehabilitation
- Frequent statistical analyses of performance
- Application of protocols
- Multidisciplinary audit

Process: Complex
- No formal model of change management


Trauma audit - closing the loop. Injury 1994;25: 511-514.

TARN provides a nationally driven framework for the collection, submission and scrutiny of trauma survival data by hospitals, and crucially, comparison with other hospitals. The existence of such a framework allows common ground to be established between different centres and lays the foundation for a systematic process for clinical audit.
4. EDCR: User guide

4.1 GETTING STARTED

The system is designed to run from Microsoft’s Windows Internet Explorer.

Open internet explorer on your PC, and select the address: www.tarn.ac.uk

The TARN Home Login page will then be displayed.

To save the address as a favourite, select the favourites option in the browser Toolbar, then select Add to Favourites.

4.1.1 Logging in to TARN

- The Login is shown at the right of the Home page.
- This requires you to enter the username and password supplied by TARN.
- If you wish to change your supplied password, you can do this after log in on the Home page.
- If the system has no activity for a period it will log the user out, a re-login will then be required. (There is a warning given when the session is reaching its timeout, and if timed out then a message is shown at the bottom of this panel)
- NOTE: Any work in progress but not saved may be lost.
- If the user does not have a login or there is a problem with the login then the TARN administration staff should be contacted, selection of “Contact Us” will show the details.
- If the user cannot remember the password, then selection of the “Forgotten password” option will allow the entry of the username, and will send an email of instructions to the registered email address.

4.1.2 Changing password

This allows a logged in user to change their password; it does not allow the old one to be viewed or edited. (The password entered will be shown as ●●●●●● on entry). If the Login fails then, then it should be tried again, in case of a miss-type, the entry is case independent so entry of user name or password “BILL” or “bill” or “Bill” are all treated alike.

If the user still cannot login, then they should contact TARN Administration who has the option of resetting the current password to something else (again they cannot view or edit the old password).

4.1.3 logging off

While the user is logged into the system the top menu bar will have the option to log off the current user at the right end of the bar; selection of this will log the current user out of the system with no further prompt.
4.2 DATA ENTRY SYSTEM AIDS

4.2.1 Field types

When entering submissions there are three types of entry fields these are:

**MANDATORY ENTRIES:** The entry MUST be made in order to dispatch the submission to TARN and are marked with a RED * to the left of the entry field.

![Date of Arrival at the Hospital](image)

**PREFERRED ENTRIES:** These entries should be entered (if data available), but are not enforced and are marked with a GREEN # to the left of the entry fields.

![Date of Departure from Scene](image)

Any entry not marked is optional and entry is not enforced.

4.2.2 Tool tips

Tool tips tell you what information should be recorded in that field e.g. Respiratory Rate Tool tip.

![Respiratory Rate](image)

Simply hover the mouse over the field name to get the Tool tip.

4.2.3 Help prompts

For most fields Help Prompts are available; these can be viewed by holding the mouse over a field name and clicking the left mouse button.

Help prompts give information about what the field name means, how it is recorded in the Notes and which Location it is usually recorded in, see below.

![Unassisted Respiratory Rate](image)

Number of breaths per minute. Ranges from 0 – 70. Normal range 16 – 24.
4.3 STANDARD ENTRY TYPES

These may be in any section, and come in any order.

TEXT (LIMITED ENTRY)
This entry type will accept text and numbers up to a preset length, e.g. Patient Post Code (first part); this example entry takes letters and numbers up to a preset total of five (5) characters.

In this particular field the entry is validated later.

The length of the entry is preset and may be different from one field to another.

FREE TEXT ENTRY
This entry type will accept a limited (but very large) entry, e.g. the entry may be larger than the visible panel (see injury details section on EDCR).

The scroll bar at the right of the panel allows the other text to be read.

DATE
The Date entry type requires entries in each part of the field set. The <TAB> key or completing all the digits required will move to the next part of the field.

The entries must be numbers only.

Date of Incident:  12/10/2005 (DD/MM/YYYY)

Each part is validated and a warning will be displayed at the end of the line if the entry is incorrect.

Invalid Day - If the Day is 0 or more than the number of days in the month
Month - If the Month is 0 or more than 12
Year - If the year is less than 1800
Date in Future - If the entry is for a future date
Invalid Entry - If the entry is invalid in other ways, e.g. “/” is not allowed.

The date is checked for leap years so an entry of 29/02/2005 would be invalid.

Dates are allowed from 1/1/1800 to “NOW”.  The date entered cannot be in the future.

4.3.1 Auto-population

In some fields this button (represented as two pieces of paper one on top of other, see below) this button is shown at the end of the field indicates that the selection can be auto filled.

This happens when the entry may have been entered onto a previous screen or can be inferred from a preceding entry, selection of the button will fill in this entry with that made previously.

If the entry cannot be auto-populated it will be left blank i.e. there has been no other entry made to duplicate.

[Date Input Field]
4.3.2 Time

The time type entry requires an entry in each part of the field set, the <TAB> key or completing all the digits required will move onto the part of the field.

The entries must be numbers only, in the 24 hour clock format.

Time of Arrival at the Hospital: 15:35 (HH:MM)

Each part is validated and a warning will be displayed at the end of the line if the entry is incorrect.

- Time cannot be 00:00 - The entered time is not allowed to be exactly midnight, if the actual time was 00:00 then the entry of 00:01 should be made.
- Invalid Hours - If the hours are more than 23
- Invalid Minutes - If the minutes are more than 59
- Invalid Entry - If the entry is invalid in other ways, e.g. “/” is not allowed

4.3.3 Drop list

This type of entry is the choice of a preset entry from a list.

Usually there is the option at the top of the list for a “nothing” entry to clear the choice made.

Select the down arrow button to “drop” the list then select the choice required.

Once a choice has been made the list is hidden and the choice selected is shown.

The choices available are usually controlled by TARN Admin, if an entry required is not listed then contact your administrator.

4.3.4 Radio buttons

This entry is the choice of a single selection from a multiple choice list.

It is usually used where only one answer can be correct at any one time.
E.g. Sex

The selection of any choice will remove any previously marked choice and make the current selection the choice.

The - button will clear the choices made to this option.

4.3.5 Tick selection boxes

These entries allow the choice of one or more selections from a preset list.
It is used where multiple choices/selections are valid.

E.g. the selection of Vehicle Collision as an Injury Mechanism will open up sub choices of “Position” and “Protection”.
Selection of the box will mark the choice, reselection will unset the choice.
4.3.6 Extra information entry

In places there may be the option of adding additional data to the section; this is shown by the additional of a + symbol next to the entry that can be repeated.

By selecting + an extra drop list is created so another entry can be added. E.g. Pre-existing conditions or complications

4.3.7 Choosing your user interface

If the user has permission to change the interface type then the choice to do so will appear on the submission screen.

The user can select between the following two formats, “Simple” and “Advanced”, with examples showing the changes to the screens.

Select the “Save” option to save the choice.

Once selected the chosen format will be saved as a user preference and used until changed.

**Simple Format:** With this format the user will be offered the entries as a drop list or set of radio buttons. The user makes a selection from the lists and choices available.

**Advanced Format:** With this format the user can directly enter the code number of the required entry; once it has been entered the choice’s description will be shown as a confirmation.

The user also has the choice to view all the available selections if required.

Selection of the ? button will show the user the entry choices available; this will then be presented as a drop list of values.

**NOTE:** The numbers at the left of the names are the internal short code for the entry, which can then be used in future entries.
4.4 Printing

4.4.1 Printer friendly versions of pages

On each page the option for a printer friendly version of the screen is presented at the bottom of the left side bar menu.

This will reshow the current page details, without the top and side menus, so it is ready for printing.

4.4.2 Print blank

This option will generate a printed blank copy of the submission entry form with blank; this allows information to be gathered where there is no immediate access to a PC. The printout is several pages long, and is previewed on screen before being optionally printed.

Note that the optional extra sections (Assessment Anatomical, Attendant, etc) will not be printed. If details are recorded for these they should be attached to the printout later.

4.4.3 Print

This option will generate a printed copy of the submission entry form with details as entered; the printout is several pages long, and is previewed on screen before being optionally printed.

There are printed blank entry lines for questions that may not need to be answered in this case or for options to a question answered that did not need that option (i.e. Grade & Speciality of the Attendant 2, who as an Ambulance Paramedic does not need those entries); these should be ignored.

There will also be blank entry lines for any question left unanswered that should have an entry.

Note that the extra sections (Attendant, etc) are indented and included in the section to which they were added.

In the cases where multiple sections have been added they are numbered.
4.5 **Submission Structure**

- A submission is an entry of a hospital admission trauma event relating to the care and outcome of a patient.

- A submission replaces the completion of the data collection form.

- On selection of the submission section the screen shows a summary of submissions.

- Selection of one of the underlined numbers in the summary categories, or a selection of a status in the drop list will show all submissions in that category.

- The side bar menu shows a set of common operations relating to submissions.

- As the Viewing, Editing and New Submissions all use a common set of screens they are only covered once below.

4.5.1 **Locations**

A location is any place where observations can be taken or procedures can be carried out; there are nine locations in the system:

- AT SCENE
- ENROUTE
- ED (EMERGENCY DEPARTMENT)
- IMAGING
- THEATRE
- CRITICAL CARE
- WARD
- REHABILITATION
- TRANSFER

At the top of each location screen, there is a space to enter the date and time that the patient entered that location.

You only need to enter data for locations particular to your submission.

Data can be entered in any order; you may enter the Ward details prior to the At Scene details and the system will allow it.

4.5.2 **Related sections**

In each of the system Locations, there are options to record procedures carried out and staff in attendance. These are called RELATED SECTIONS and there are five of them:

- OBSERVATIONS
- INVESTIGATIONS
- INTERVENTIONS
- ATTENDANTS
- OPERATIONS

These can be accessed using the buttons at the bottom of each location screen. Clicking a button will bring up another screen where details can be entered.
There is a space at the top of each section to record the date and time, this date and time will be used for all procedures in this section unless you tell the system otherwise.

The pre-populate button can be used to copy the date from the main location screen. Alternatively, you can type in the date.

As details are entered and saved at a location, the side bar menu will change. It will give details of how many procedures have been carried out at each location.

Clicking on a location will bring up more details about the data entered. Clicking on an individual field will bring up details of an observation, procedure or attendant.

**OBSERVATIONS, INVESTIGATIONS AND INTERVENTIONS** are further split into the following subsections:

<table>
<thead>
<tr>
<th>OBSERVATIONS</th>
<th>INVESTIGATIONS</th>
<th>INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiration</td>
<td>Respiration</td>
<td>Imaging</td>
</tr>
<tr>
<td>Circulation</td>
<td>Circulation</td>
<td>Blood sampling</td>
</tr>
<tr>
<td>Nervous system</td>
<td>Nervous system</td>
<td>Urine sampling</td>
</tr>
<tr>
<td>Metabolism</td>
<td>Metabolism</td>
<td>Signal</td>
</tr>
<tr>
<td>Host Defence</td>
<td>Host defence</td>
<td>Other</td>
</tr>
</tbody>
</table>

Clicking on the **ATTENDANTS** button in a location will bring up a screen that will allow you to record attendants at that location, including ambulance staff and nurses.

Information is entered using drop down lists. Use this button to record attendants at all locations except theatre (see below).

Clicking on the **OPERATIONS** button in a location will bring up a screen where surgical and other procedures can be recorded.

Data entry is via drop down boxes and text entry.

The Operations section asks for details of Grade of Surgeon and Anaesthetist performing the operation, therefore there is no need to go into the Attendants subsection at this location.

**4.5.3 Data entry in related sections**

Data is entered using drop down boxes or by keyboard entry according to the field. Some fields only require a “Yes” or “No” response.

All that is needed is to record that the procedure was carried out. To do this, use the radio buttons.

A procedure may be marked as not performed by selection of the “No” option. A selection can be cleared using the “-” option.
4.5.4 Additional recordings in related sections

Extra sections can be added from the same category if required. If, for example the patient had two GCS observations in the Emergency Department, you would enter them as below:

Click E.D, Observations, Circulation and enter date, time and recording of 1st GCS - then Save Changes.

Save Changes will clear the E.D. Observations screen (storing the information in the crumb trail - see below) but keep you on the same screen so you can simply enter another date, time and GCS recording without moving between screens.

You may know that a particular procedure has been carried out a second time, but not have any data to enter, for example, you may know a second blood pressure reading has been taken, but not have the actual reading.

In this case, you would tick the Add New Section box. This would create a section containing the date and time and nothing else.

4.5.5 Crumb trail

Whenever you SAVE information in a Related Section, the screen is cleared and the information is stored under the relevant Location to the left of main screen; this is called a “crumb trail” and you can review or change any information by clicking on the relevant location, then into the data you wish to change.

You will see a number to the right of any Location you have entered Related Section data into, this number represents the number of data fields you have added, e.g. if you add GCS, Bp, Pulse and Attendant to E.D. you will see E.D. (4).

4.5.6 Conditional collection

The system is set up to prompt you for information about particular investigations, observations and interventions according to the category of injury you tick in the Brief Injury Description part of the Opening Section.

The system will prompt you for details in the relevant locations by putting the field on the screen at the appropriate location, along with all other fields appropriate to the patient’s injuries, e.g. Intracranial Pressure Monitor will be prompted for in Critical Care when you have ticked that your case has an intracranial injury.

Some fields are appropriate to all locations and all injuries e.g. GCS.

You can still enter data for fields that aren’t prompted for; use the “Other” drop down lists to do this.
4.6 CREATING A SUBMISSION

The submission data can be entered from a pre-printed blank form or entered directly from the case notes.

If the option selected was to enter a new submission then all the fields will be empty on entry, if editing an old submission then they will show those details previously entered and saved.

4.6.1 Choosing a hospital

This determines which hospital you are about to view or enter data for, if you only enter data for one hospital, only one option will be available.

Once a hospital site has been chosen and saved, the rest of the submission screens are available.

This will also automatically assign the next 12 digit sequential submission number for the new submission, and give it a TARN case number.

You will see the submission number at the top of the screen, followed by (Created) in brackets; you are now ready to enter data.

4.6.2 Opening section

**MUST BE COMPLETED FOR EVERY SUBMISSION.**

This contains the general submission details, including:

- Age, Gender, Date of Incident, Date & Time of Arrival at Hospital, Transfer to/from, TARN Inclusion and Brief Injury Description (see 4.5.1 Conditional Collection).

As details are entered, extra options may become available, e.g.

- If the option for Full Date of Birth is selected as “Yes” then the screen will offer the following fields: dd/mm/yyyy in which to enter the data.

- If the option “No” is chosen for Full Date of Birth, then the screen will offer Short Date of Birth and if the option “Yes” is chosen, will show the following fields: mm/yyyy in which to enter the data.

- If “No” is chosen for Short Date of Birth, then the screen will offer an Age box in which to enter the data.

If a birth date is entered and an Incident date, the system will automatically calculate the age of the patient at the time of the Incident; this automatic calculation may result in an invalid date depending on the entries made, e.g. If the date of birth is entered as 1/2/2005, but the incident date is entered as 1/1/2005, then the calculated age at the time of the incident would be minus one month and this would fail the save validation.

Selection of a tick box for any Brief Injury category will open up extra options, e.g. on selection of the Facial tick box the options for: Open Skeletal Fracture, Eye and Other Facial Injury appear. You may choose one or more of the injury categories and extra options offered.
4.6.3 Patient details

MUST BE COMPLETED FOR EVERY SUBMISSION.

This contains the general patient details including: Postcode, Nationality, Name, NHS and Hospital numbers.

Some fields here are pre-filled from the previous Opening Section screen (if entered there); any changes made to pre-filled field will be reflected on the previous screen once saved here.

The entry for the patient postcode first numeric is not editable; this entry is calculated from the second part postcode entry when saving the record.

Note, to protect patient confidentiality: Patient’s name, DOB, Full postcode, NHS and Hospital numbers are seen only by the Site user - not by TARN.

4.6.4 Incident

MUST BE COMPLETED FOR EVERY SUBMISSION.

Contains information about incident including: Date & Time of Incident, Incident postcode, Incident Location, Incident Type, Intent and Mechanism, Trapped at Scene and any additional incident detail.

4.6.5 At Scene

Contains details from the Scene of the incident including: Date & Time Ambulance called and dispatched.

This is the first section where the RELATED SECTIONS appear; this section allows the details entered to be expanded by selection of the related section buttons below, selection will then open an extra section of details relevant to the section chosen, multiple extra sections can be chosen if required.

4.6.6 En Route

Contains any en-route details either from scene to hospital, or between transferring hospitals, including:
Type of Transport, Date & Time of Departure, Patient Report Number and Vehicle Call Sign Number.

Also contains RELATED SECTIONS.

4.6.7 Emergency Department (E.D.)

SHOULD BE COMPLETED FOR EVERY ADMISSION VIA E.D.

Contains details of Emergency Department care, including: Date & Time of Arrival (pre-filled from Opening Section), Date & Time of leaving E.D. and presence of Trauma team.

Also contains RELATED SECTIONS.
4.6.8 Imaging suite

Contains: Date & Time of Arrival.

Also contains RELATED SECTIONS.

Multiple visits to the Imaging suite can be entered by selection of the “Add New Section” option.

4.6.9 Operating theatre

SHOULD BE COMPLETED IF YOUR PATIENT SPENT ANY TIME IN AN OPERATING THEATRE.

Contains: Date & Times of Arrival and Departure.

Also contains RELATED SECTIONS.

Multiple visits to the Operating Theatre can be entered by selection of the “Add New Section” option.

4.6.10 Critical care

Contains: Date & Time of Arrival, Type of unit, and Length of stay.

Also contains RELATED SECTIONS.

Multiple visits to Critical Care unit can be entered by selection of the “Add New Section” option.

4.6.11 Ward

Contains: Date & Time of Arrival, Type of ward.

Also contains RELATED SECTIONS.

Multiple visits to a Ward can be entered by selection of the “Add New Section” option.

4.6.12 Rehabilitation

Contains: Date & Time of Arrival, Type of unit.

Also contains RELATED SECTIONS.

Multiple visits to Rehabilitation can be entered by selection of the “Add New Section” option.

4.6.13 Transfer

This section for transfers will request different details depending whether the patient was a, transfer in, transfer out or transferred both ways submission.

One of the key points of the TARN system is the ability to link together submissions from different hospitals, where the patient details relate to the same incident; for this reason the transfers should be carefully entered to allow the system to locate matching submissions.
4.6.14 Outcome
MUST BE COMPLETED FOR EVERY SUBMISSION.

This section records the details of the patient at time of discharge or death, including: Pre-existing conditions, complications of care, Outcome at discharge and 30 days (if known), Date of discharge or death, Time of discharge or death, Dates spent in Critical care (pre-filled) and days spent Intubated, Discharge to, Glasgow Outcome Scale and Readmission details.

If Readmission = Yes a new set of questions will appear about dates and times of readmission and final discharge status and date.

4.6.15 Injuries
MUST BE COMPLETED FOR EVERY SUBMISSION.

This section is for a description of every injury the patient sustained.

Please enter each injury on a new line, by pressing the enter key.

Each entry can be longer than the visible screen if required, in which case the entered text will be automatically word wrapped. The scroll bar at the right of the text allows the extra text to be viewed.

Any additional injury information including X-rays, CTs and PMS can be copied and pasted into the INVESTIGATIONS subsection.

Alternatively they can be emailed, faxed or posted to TARN and this information must be logged in the view diary section so the TARN coder is aware of the presence of additional information when coding.

Where applicable, please do not dispatch a submission to TARN until the Post mortem is available, as we are unable to code it without full injury details.

4.6.16 AIS coding
COMPLETED BY TARN AND VIEWABLE BY USERS.

Once a submission has been Approved by TARN the user can see the individual AIS codes assigned to every injury for each submission, they can also see the calculated ISS.

Each submission is assigned to a TARN coder and the user can see who has coded their submission by looking in VIEW DIARY.

4.6.17 Consultations

The choices available here will depend on previously entered details of injury and attendees, e.g. If a head injury has been marked then details of a Neurosurgical Consultation will be prompted for (if not already documented in submission).
4.6.18 Hospital questions

The entry of answers to hospital questions is optional and dependant on whether specific questions have been set by the hospital.

This section will display any additional questions that the hospital has requested, the questions in this section are not requested by TARN.

These are specific to the hospital selected, and may have a specified format for entry.

For details on where these are created contact TARN.

4.6.19 Tarn questions

This section displays any additional questions that TARN may request from time to time; these are not specific to the hospital selected.

All hospitals will be advised when & if any additional TARN questions are added.
The submission search screen allows the user to find any existing submission (regardless of status) based on numerous fields.

The search options can be entered either singularly or multiply, but the result is restrictive when multiple i.e. where family name and postcode have entries only those that match for both will be shown.

The search options are not case sensitive on entry, i.e. Family Name search for Ford, ford and FORD will all return the same entries.

4.7.1 Standard searches

The simplest field to search on is the submission number, but if this is not known try using the Hospital Arrival Date fields, this will then list all submissions that arrived at your hospital within that time period.

Enter the field/s and select “Find” option.

This will produce a list of all submissions matching your criteria and you can access them simply by clicking the underlined submission number.

4.7.2 Wild card searches

The search can include symbols for wild card searching if unsure of exact spelling or detail, the symbols used are:-

- **%** {percent}: to indicate a wild card where required, this symbol can represent none, one or many characters.
- **_** {underscore}: to indicate any single character. Note that the character must be present.

Examples below:
Fred_ would find Fredi & Freda, but not Fred or Frederick.

If the family name (m) is searched for then nothing may be found, if however the search was for m% then this would find any submissions that start with the letter m.

If the family name %man is searched for, then this will find any name ending in man, i.e. Seaman, Hillman, etc.

If the search is for a segment of the name that could be anywhere in the name then the % should be added to both ends, i.e. %man% this will then return both Seaman and Manfield and also Hunmanton.
In all sections any changes made MUST be explicitly saved by the user.

Moving away from the entry screen will not save the entered/changed details automatically.

A submission can be saved at almost any point, and returned to later for editing, there is a warning given if a save is not possible, usually due to “Live” validation in an entry. The top side bar menu shows all the submission sections, allowing for quick access as required.

If extra details or extra sections have been added to a section, e.g. Attendants then they will also be shown here (as below).

The lower side bar menu shows options available for the submission being edited.

### 4.8.1 Saving

On most screens any changes made to the section will NOT be saved or prompted to be saved when the section is exited or moved away from.

If the screen is timed out, due to inactivity the entries made will not be saved, if you are leaving the screen for a while and want to save your entered work, then save before you leave.

If the changes are to be saved then they should be explicitly saved.

If there are any errors on screen due to checking of the entered data they will have to be corrected before the screen can be saved, e.g. If the entry is out of bounds i.e. an age of 120 (limited to 1 - 110) there will be an on screen message shown, and the error must be corrected or cleared before the page can be saved.

### 4.8.2 Saving options

On screen at both top and bottom of the section is a choice of options for that section.

On entry to a section open for editing the choice may be:-

**SAVE CHANGES:**
This allows the saving of changes made to the section and remains in that section.

**SAVE AND NEXT:**
Allows saving of the changes and moving to the next Location on the list.

**SAVE AND BACK:**
Allows saving of changes and moving back to the main page of that section e.g. If in Attendants in Emergency Department section, you will be taken back to the Emergency Department opening screen.
4.8.3  Edit

When a submission is recalled, it is shown as a read only set, the edit option re-enables the editing of the sheet allowing entries to be made and saved.

You can not edit a submission after it has been dispatched to TARN.

4.8.4  View

If a submission has been made editable, the view option will return it to being read only, preventing any inadvertent changes from being saved.

Anybody with rights to “view data and produce reports”, will only ever see data in the View state.

Any data dispatched or approved will only be viewable not editable.

4.8.5  Add new section

Multiple sections can be recorded by selection of this option; this will repeat the section allowing multiple entries for the patient. E.g. If a patient has multiple visits to Imaging suite on different dates - use this option.

4.8.6  Delete section

Will delete all the data entered for that section.

If a section has been visited and saved with no entries, then any mandatory or preferred entries due for that section will be requested before the submission can be dispatched.

If a section has been saved in error, then the section should be deleted, this will remove it from the validation.

4.8.7  Validate

Selecting this option will validate that the submission selected is ready for dispatch, it does not dispatch it.

The submission is checked for entries in the mandatory and preferred fields, and any incorrect entries that would prevent the submission being dispatched.

If there is no missing data, then the validation warning screen is not shown, and the opening section is displayed.

If there is any missing data, then the screen will show a list of warnings and errors in the submission; each warning is listed with the section, question and warning.

All missing mandatory fields are highlighted in Red.

All missing preferred fields are highlighted in Green.

Selection of the underlined section name will take the user back to that section for editing.

Once all mandatory fields are completed, an option to Dispatch this submission to TARN appears underscored at the top of the page.
4.8.8 Dispatch

The simplest way to dispatch a submission is to validate, then use the dispatch statement (see above).

Alternatively a user can bypass the Validate option and choose the Dispatch button to the bottom left of the screen, this will also check for missing mandatory and preferred fields.

Once a submission has been dispatched the user will see the submission number at the top of the screen with (Dispatched) in brackets.

4.8.9 Approve

This is the Status of a dispatched submission that a TARN qualified coder has checked and coded.

The user can see all approved submissions by looking on the Submission Summary page and choosing the Approved status in the drop down list.

Once a submission has been approved the user can click into it and will see the submission number at the top of the screen with (Approved) in brackets.

Only when a submission has been approved by TARN can it be used in any reports.

4.8.10 Flag

A TARN coder will flag a submission if it is a transfer out to another TARN site and is awaiting the corresponding submission to match and approve.

Flagged submissions will remain in the Dispatched in-tray until un-flagged and approved by TARN.

4.8.11 Reject

This is the Status of a dispatched submission that a TARN coder has checked but it doesn’t fulfil the Inclusion Criteria.

The submission is rejected and a message will be entered in the VIEW DIARY section explaining why it has been rejected.

The user can see all rejected submissions by looking on the Submission Summary page and choosing the Rejected status in the drop down list, or by clicking on the number to the side of the Rejected in-tray (also on the Submission Summary page).

Once a submission has been rejected the user can click into it and will see the submission number at the top of the screen with (Rejected) in brackets.

No further action is necessary unless user disagrees with reject reason or has further information.
4.8.12 Return

This is the Status of a dispatched submission that a TARN coder has checked, but needs further detail from the user before APPROVING.

The submission is returned and a message will be entered in the VIEW DIARY section explaining why it has been returned.

Once the additional data is added, a hospital user should REDISPATCH the submission to TARN.

The user can see all returned submissions by looking on the Submission Summary page and choosing the Returned status in the drop down list, or by clicking on the number to the side of the Returned in-tray (also on the Submission Summary page).

Once a submission has been returned the user can click into it and will see the submission number at the top of the screen with (Returned) in brackets.

4.8.13 View diary

This shows any diary notes associated with this submission and can be added to by TARN and user.

Diary notes are used to communicate with others who are collaborating with the submission.

Diary notes can be added by user (before dispatch) to confirm that a Post mortem or radiology report associated with a submission has been sent to TARN.

Or by TARN (post dispatch) to clarify reasons for returning or rejecting a submission.

Once a diary note has been saved it is not editable

If the submission is only being viewed, then the user cannot add to the diary notes.

4.8.14 Select matching

Used to electronically check for matching transferred submissions and is for TARN use only.

4.8.15 Compare

Used to compare electronically matched transferred submissions and is for TARN use only.
4.9 EDCR REPORTING

In addition to entering data, you can also produce reports to summarise and analyse data for your hospital(s). The reports area of the EDCR system allows you to produce two types of report: Case Summary and Demographic and Clinical Frequencies. Full explanations of these reports and instructions about how to produce them can be found below.

The reports section can also be used by TARN staff to upload any ad hoc analysis that is beyond the scope of what you can produce using the Case Summary and Demographic and Clinical Frequencies reports. This facility allows you to download files quickly and easily with no need for e mail attachments. Further details can be found below.

4.9.1 Case Summary

Case Summary reports provide a patient by patient summary of coded and approved cases for your hospital for a specified time period. The following fields are displayed for each case included in a Case Summary report:

- **SUBMISSION/CASE NUMBER**
- **MECHANISM OF INJURY**
- **LEVEL OF INTENT**
- **DATE OF INCIDENT**
- **TIME OF INCIDENT**
- **ADMISSION DATE**
- **ADMISSION TIME**
- **TRAUMA TEAM (YES/NO)**
- **LENGTH OF STAY**
- **OPERATION/PROCEDURE**
- **STATUS (ALIVE/DEAD)**
- **TRANSFER DETAILS**
- **EARLIEST GCS**
- **INJURY SEVERITY SCORE**
- **AGE**
- **SEX**
- **PROBABILITY OF SURVIVAL**
- **INJURY DESCRIPTION**

**Suggested cases for review are also highlighted.**

To create a Case Summary report, follow these steps:

1) Click on **REPORTS** on the menu bar at the top of the screen.
2) Click the **CREATE REPORT** link on the left hand side of the screen.
3) Choose **CASE SUMMARY** from the REPORT drop list.
4) If you only have rights for one hospital, it should appear in the **HOSPITAL SITE** box automatically. If you have rights for more than hospital, choose the site you want from the drop down.
5) Enter your **START DATE** and **END DATE**. Remember to enter them in **dd/mm/yyyy** format; the dates are inclusive. If you wanted to report on data for 2009, your start date would be **01/01/2009** and your end date would be **31/12/2009**.
6) Choose the type of **DATE TO USE FOR RANGE** you want. You have the following choices:
   - Approval date: when the submission was coded and approved by TARN.
   - Admission date: when the patient arrived at hospital.
7) You can order the cases in your Case Summary report in two ways: by trauma number of by date of arrival. Choose the option you want from the **Order by** drop down.
8) When you have finished setting up your report, click **GENERATE REPORT** at the bottom of the screen. You will receive a message saying that your report is being generated.

9) Click on **OK** and then choose **PREVIEW REPORTS** from the reports menu on the left of the screen.

10) Choose **CASE SUMMARY** from the **REPORTING SECTIONS** menu.

11) This will bring up a list of the Case Summary reports you have created. Click on one of them to bring up your report in Adobe Acrobat, you may get a message saying that your report is still being generated. If this happens, refresh your browser by pressing F5 on your keyboard.

### 4.9.2 Performance Review Indicators - NEW REPORT
(AVAILABLE ON LIVE SITE FROM NOV 2010 ONWARDS)

This new report will be a similar format to the Case Summary report and shows approved cases for your hospital for a specified time period. This report highlights the fields that underpin the analysis used to monitor Standards of Care in both the Performance Comparison section of the TARN website and in the Quarterly reports. It includes:

- Date and Time of first operation
- All Attendants in ED
- Time to first Operation
- Patients meeting NICE Head Injury Guidelines Criteria.
- Date and Time of First CT scan
- Shocked patients (SBP<90) Yes/No
- Time to CT scan
- All Attendants in ED

To create a Performance Review Indicators report, follow these steps:

1. Click on **REPORTS** on the menu bar at the top of the screen.
2. Click the **CREATE REPORT** link on the left hand side of the screen.
3. Choose **PERFORMANCE REVIEW INDICATORS** from the REPORT drop list.
4. If you only have rights for one hospital, it should appear in the **HOSPITAL SITE** box automatically. If you have rights for more than hospital, choose the site you want from the drop down.
5. Enter your **START DATE** and **END DATE**. Remember to enter them in **dd/mm/yyyy** format; the dates are inclusive. If you wanted to report on data for 2009, your start date would be **01/01/2009** and your end date would be **31/12/2009**.
6. Choose the type of **DATE TO USE FOR RANGE** you want. You have the following choices:
   - Approval date: when the submission was coded and approved by TARN.
   - Admission date: when the patient arrived at hospital.
7. You can order the cases in your Performance Review Indicators report in two ways: by trauma number of by date of arrival. Choose the option you want from the **Order by** drop down.
8. When you have finished setting up your report, click **GENERATE REPORT** at the bottom of the screen. You will receive a message saying that your report is being generated.
9. Click on **OK** and then choose **PREVIEW REPORTS** from the reports menu on the left of the screen.
10. Choose **PERFORMANCE REVIEW INDICATORS** from the **REPORTING SECTIONS** menu.
11. This will bring up a list of the Performance Review Indicators reports you have created. Click on one of them to bring up your report in Adobe Acrobat, you may get a message saying that your report is still being generated. If this happens, refresh your browser by pressing F5 on your keyboard.

### 4.9.3 Demographic and Clinical Frequencies

The Demographic and Clinical Frequencies report allow you to analyse the data for your hospital(s). They are much more powerful than Case Summary reports, which simply supply a general summary of your data for a particular time period. Demographic and Clinical Frequencies allow you to focus on particular aspects of your data. They show how two or more questions interrelate and the patterns of interaction between them. If, for example, you wanted to know how many people had been admitted to your hospital as the result of a vehicle collision and look at the pattern of age or gender, you could use the Demographic and Clinical Frequencies report. To create a Demographic and Clinical Frequencies report, follow these steps.

1) Click on REPORTS on the menu bar at the top of the screen
2) Click the CREATE REPORT link on the left hand side of the screen.
3) Choose DEMOGRAPHIC AND CLINICAL FREQUENCIES from the REPORT drop list. This should bring up the main Demographic and Clinical Frequencies screen.
4) If you only have rights for one hospital, it should appear in the HOSPITAL SITE box automatically. If you have rights for more than hospital, choose the site you want from the drop down.
5) Enter your START DATE and END DATE. Remember to enter them in dd/mm/yyyy format. The dates are inclusive.

**EXAMPLE:**
If you wanted to report on first 6 months of 2010, your start date would be 01/01/2010 and your end date would be 30/06/2010.

6) Choose the type of DATE FOR SELECTION you want. You have a choice of incident date or admission date. Admission date is the date that the patient arrived at hospital.

7) If you wish, you can, produce a report for a particular body region using the BODY REGION drop down if your want to produce a report on a particular type of injury. The body regions are:
   - THORAX
   - ABDOMEN
   - HEAD
   - UPPER LIMB
   - LOWER LIMB
   - SPINE

If you want all injury types in your report, leave this option blank.

8) You can also use the ISOLATED INJURIES option to say whether you want to produce a report on just one particular body region, or injuries in that body region with injuries to other body regions.

9) **SELECTION CRITERIA:** You can further filter your report by Age, Gender, Outcome, Injury Type or Injury Mechanism. If you leave these fields blank, all patients within the date range selected will be included.

10) **CHOOSE YOUR ROW AND COLUMN** (see next page for examples of how to do this); there are a range of criteria available for use in your report. You must choose one row and one column.
Observations are available under the Row and column options, but if chosen one of these you must then choose whether you want HIGHEST OR LOWEST (use the Process Measure Options buttons for this).

11) When you have finished setting up your report, click GENERATE REPORT at the bottom of the screen. This will bring up a message saying that your report is being generated.

12) Click on OK and then choose PREVIEW REPORTS from the reports menu on the left of the screen.

13) Choose DEMOGRAPHIC AND CLINICAL FREQUENCIES from the REPORTING SECTIONS menu.

14) This will bring up a list of the Demographic and Clinical Frequencies reports you have created. Click on one of them to bring up your report in Adobe Acrobat.

EXAMPLE I: ISOLATED THORACIC PATIENTS ONLY
To produce this report, you would choose Thoracic from the Injury Type drop down and choose Isolated from the Isolated Injuries drop down.

EXAMPLE II: THORACIC PATIENTS WITH OTHER INJURIES
To produce this report, you would choose With Other Injuries from the Isolated Injuries drop down.

EXAMPLE III: LOWEST GCS FOR ALL PATIENTS WHO WERE GIVEN MANNITOL
To produce this report, you would choose Mannitol as Process Measure 1 and GCS as Process Measure 2, choosing lowest as the Process Measure 2 option. All of the other criteria work in the same way. You can either choose from a particular category on a drop list or choose All to display all categories on the list in your report.

EXAMPLE IV: VEHICLE COLLISION BY AGE
After entering your hospital and date information at the top of the report, you would select Age (all) and Mechanism of injury (vehicle collision) as your variables. This would create a report breaking down submissions relating to vehicle collisions by age.

EXAMPLE V: AGE (16 - 25) BY INJURY MECHANISM
Using the same variables in another way would produce a different report. To produce this report, you would select Age (16-25) and Injury Mechanism (all) as your variables. This would produce a report breaking down submissions relating to 16 - 25 year olds by mechanism of injury.

4.9.4 Uploaded reports

TARN uses this option to upload the Quarterly reports and Coordinator contacts lists and Core data collection forms. Any files that are uploaded in this way can be accessed by clicking REPORTS and choosing PUBLISHED REPORTS from the reports menu.
METHODOLOGY
The Submission Summary report has a new format and will now enable TARN data coordinators to summarise submissions over a specified time period. The report now includes the following fields (new fields are highlighted in blue):

- Submission number
- Patient’s first name
- Patient’s surname
- Date of Birth
- Gender
- Age
- ED number
- Hospital Number
- Gender
- NHS Number
- Patient Postcode
- Date of Arrival
- Discharge Date
- Date of Death (if applicable)
- Discharge status
- ISS

As the reports contain sensitive patient data, they can only be produced by a hospital user with rights to a specific hospital. For this reason staff at TARN will not be able to produce these reports. To create a Submission Summary Report on the eDCR system, follow the steps below:

1. Log into www.tarn.ac.uk using your secure username and password.
2. Click on SUBMISSION, then SEARCH and select your hospital.
3. Choose the DATE PERIOD - the options are:
   - Incident date
   - Admission date
   - Discharge date
   - Submission Creation date
   - Submission Approval date
   - Submission Return date
   - Re-submission date

   The most useful dates will be Admission date, Discharge date and Submission Approval date.

4. Choose the date range using the FROM and TO date cells.
5. Chose the Submission Status:
   - CREATED: The report will contain submission you are currently working on.
   - APPROVED: The report will contain submissions sent to TARN that have been coded and approved.
   - If you leave the Submission Status blank, the report will contain every submission (Created, Dispatched, Approved etc) entered during the time period selected.

6. Click FIND - the results will appear at the bottom of the screen.
7. Click on REPORT (top left) - the list will be converted into an excel spreadsheet.
Excel represents any number containing >10 digits as decimal places, therefore to show the Submission ID number in a logical format, simply:

1. Highlight Column A
2. Right click and choose Format Cells
3. Choose Number
4. Decimal places = 0
5. Okay

HELP: SUBMISSION SUMMARY REPORT EXAMPLES
1. This will generate a report showing all cases Approved by TARN during June 2010.

2. This will generate a report showing all cases Approved by TARN that were Discharged during May 2010.

3. This will generate a report showing all cases Created during July 2010.
This is the starter page for the TARN system, the screen has links to various public details of the TARN project, with the option to login to the members only.

From the top menu the following options can be accessed:

**INTRODUCTION**
This section contains basic information about Trauma.
- How TARN evolved.
- Implementation of the EDCR system

**HOW TO JOIN**
This section details the joining process.
- Participant Contribution fees
- Membership Authorisation Form

**FEEDBACK**
Information about Process measure contained in each Quarterly report:
- Quality Indicators booklet

**RESOURCES**
This section lists some of the resources available.
- PS calculator
- TARN Overview booklet
- NEW INCLUSION CRITERIA: FAQ’s
- NEW INCLUSION CRITERIA: Fracture definition list
- Anatomy guide
- Tarn newsletters by month since 2000
- How to produce the Case Summary reports
- Procedures book
- Minimum data requirements document
- List of ICD10 Trauma codes and inclusion rules for TARN.

Where the Adobe icon appears this indicates a PDF document, the other options will open further pages.

**TRAINING**
This section contains information about TARN training courses.
- Sample STARTUP programme
- Information about the ISC
- Dates of future courses

**TARNLET**
Is the paediatric TARN group, and this screen provides access to the news from it, together with lists of research and publications and the committee members.
REGIONAL TARN
Contains information about regional groups and links to their websites, including Greater Manchester TARN group.

EUROTARN
This section contains information about the 14 countries collecting trauma data across Europe, trying to develop an effective system to review the standards of trauma care across Europe.
- List of countries involved
- Progress of Eurotarn so far
- Minutes from Manchester, Hanover, Leeds and Stavanger meetings.

RESEARCH
A collated list of applicable research papers for reference.
- Past publications
- List of current research
- Collaborative projects

CONTACT US
- Directions to TARN offices
- Map of TARN offices
- Address of TARN
- Job title and Email address for all TARN staff
- Executive Board members listed

LOGIN
Used to Login to the secure areas of TARN, see “Logging in to TARN” section 4.1.1.

Please contact TARN if you represent a TARN member site and would like a username and password setting up.

STANDARDS OF CARE
This part of the website provides, for the first time, important information about the rates of survival for patients who have been injured and treated at different hospitals across England and Wales. It also provides information about the benefits of certain kinds of treatment.

As of the 20th August 2007 this information is freely available without a username and password.

This section contains data relating to every region of the England and Wales, including:
- Which sites submit data to TARN and their data completeness rates
- Data accreditation percentages
- Survival rates
- Process measures relating to: Brain, Spinal, Chest and Limb injuries,

Detailed information on how each of these is calculated is also included.

This part of the TARN website was designed with the help of The Healthcare Commission and modelled on the Heart Surgery Website.
There have been a few problems with Internet Explorer crashing on some PCs in the Transfers and Outcomes sections. This is a problem with the individual PCs and not the TARN site.

To put this right, you need to change the settings on your PC. If you have not already done so, we recommend that you work through the following steps as soon as possible:

Start up Internet Explorer.

Click Tools and select Internet Options from the menu.

Select the General tab, if this is not already selected.

Under Temporary Internet Files, click the Settings button.

Change the setting for Check for newer versions of stored page to every visit to the page rather than the default setting of automatically.

Click OK, then OK again.

Re-start Internet Explorer.

To avoid this problem, we recommend that this should be done on every PC that is used to enter TARN data.
<table>
<thead>
<tr>
<th>FIELD</th>
<th>LOCATION</th>
<th>HELP TEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airway status</td>
<td>Observations/Respiration</td>
<td>The patient’s airway status ON ARRIVAL in a location. Choose from: patent (normal breathing), obstructed (airway blocked), supported (breathing with mask), intubated (breathing through tube inserted into airway) or annulated (breathing through thin tube inserted through cricothyroid membrane). Use ‘missing’ option if status not known.</td>
</tr>
<tr>
<td>Airway support</td>
<td>Interventions/Respiration</td>
<td>Procedures carried out to support or maintain the airway in this location. Choose from Airway positioning, Pharyngeal tube, Intubation, Cricothyroidotomy, Tracheostomy Or Extubation</td>
</tr>
<tr>
<td>Analgesia</td>
<td>Interventions/Nervous System</td>
<td>Drugs administered to relieve pain. Details usually found in drugs section of notes.</td>
</tr>
<tr>
<td>Angiography</td>
<td>Investigations/Other Imaging</td>
<td>An x-ray procedure where dye is injected into arteries so that blood circulation can be studied.</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>Interventions/Host Defence</td>
<td>Anti-infection drugs. Details usually found in drugs section of notes.</td>
</tr>
<tr>
<td>Anticonvulsant</td>
<td>Interventions/Nervous System</td>
<td>Drugs administered to prevent muscle convulsions. Details usually found in drugs section of notes.</td>
</tr>
<tr>
<td>AP and Judet oblique radiograph</td>
<td>Investigations/Other Imaging</td>
<td>Takes oblique views of injury site to give 3 dimensional images. Primarily for pelvic injuries.</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>Investigations/Blood Sampling</td>
<td>Tests on the chemical composition of blood, such as levels of sodium, potassium or glucose.</td>
</tr>
<tr>
<td>Bladder catheter</td>
<td>Interventions/Metabolism</td>
<td>A tube that is placed in the bladder to help with urination.</td>
</tr>
<tr>
<td>Blood gases</td>
<td>Investigations/Blood Sampling</td>
<td>Range of tests (pH, pCO2, Bicarb, BXS) used when patient has symptoms of an oxygen/carbon dioxide imbalance.</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Observations/Circulation</td>
<td>Enter systolic and diastolic values if known.</td>
</tr>
<tr>
<td>Blood products</td>
<td>Interventions/Circulation</td>
<td>Blood and related products. Choose from blood, FPP or platelets and give quantity in units</td>
</tr>
<tr>
<td>Bp mean</td>
<td>Observations/Circulation</td>
<td>Mean arterial blood pressure read directly from machine.</td>
</tr>
<tr>
<td>Bp mean (calculated)</td>
<td>Observations/Circulation</td>
<td>Mean arterial blood pressure calculated using systolic and diastolic values.</td>
</tr>
<tr>
<td>Term</td>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Breathing status</td>
<td>Observations/Respiration</td>
<td>The patient’s breathing status ON ARRIVAL in a location. Choose from: air (breathing room air), added oxygen (oxygen administered via nasal tubes), compromised (breathing impaired by injury), manual ventilation (breathing supported by ‘bag’ operated by hand), non-invasive ventilation (mechanical ventilation via mask) or invasive ventilation (mechanical ventilation via tube inserted into airway. Use ‘missing’ option if status not known.</td>
</tr>
<tr>
<td>Breathing support</td>
<td>Interventions/Respiration</td>
<td>Interventions to assist breathing. Choose from: oxygen, manual ventilation (breathing supported by ‘bag’ operated by hand), mechanical ventilation (via tube), CPAP (Continuous Positive Airway Pressure) or BiPAP (Bi-level Positive Airway Pressure). Choose ‘missing’ if not known.</td>
</tr>
<tr>
<td>Cannulation</td>
<td>Interventions/Circulation</td>
<td>The insertion of a tube for drainage. Can be written as cannule, IV or peripheral line.</td>
</tr>
<tr>
<td>Capillary refill</td>
<td>Observations/Circulation</td>
<td>Measured in seconds. Reading is normal if less than 2 seconds.</td>
</tr>
<tr>
<td>Cardiac enzymes</td>
<td>Observations/Circulation</td>
<td>Tests to check for enzymes released into blood when heart is damaged. Record presence of troponin, troponin T or creatinine using selection buttons.</td>
</tr>
<tr>
<td>Cardio respiratory resuscitation</td>
<td>Interventions/Circulation</td>
<td>May also be noted as Cardio Pulmonary Resuscitation (CPR).</td>
</tr>
<tr>
<td>Chest drain</td>
<td>Interventions/Respiration</td>
<td>Drainage of fluid, air or pus from the inthoracic space.</td>
</tr>
<tr>
<td>Circulatory status</td>
<td>Observations/Circulation</td>
<td>The patient’s circulatory status ON ARRIVAL in location. Choose from: unsupported (normal circulation), inotrope/vasopressor dependent (assisted by drugs), balloon pump (mechanical device attached to catheter to assist circulation), on-going CPR (cardio pulmonary resuscitation continued after arrival at hospital. Use ‘missing’ option if status not known.</td>
</tr>
<tr>
<td>Cooling</td>
<td>Interventions/Host Defence</td>
<td>Reducing temperature of body area in cases of burns/scalds.</td>
</tr>
<tr>
<td>Creatinine (urine)</td>
<td>Investigations/Urine Sampling</td>
<td>Measured in millilitres per minute (ml/min). For a 24-hour urine collection, normal results are 90-139 ml/min for adult males less than 40 years old, and 80-125 ml/min for adult females less than 40 years old. For people over 40, values decrease by 6.5 ml/min for each decade of life.</td>
</tr>
<tr>
<td>Cricothyroidotomy</td>
<td>Interventions/Respiration</td>
<td>Creation of temporary hole in cricothyroid membrane to assist breathing in case of severe facial injury.</td>
</tr>
<tr>
<td>CT scan</td>
<td>Investigations/CT</td>
<td>Computed Tomography scan. Shows the internal structure of organs.</td>
</tr>
<tr>
<td>CT with contrast</td>
<td>Investigations/Other Imaging</td>
<td>A Computed Tomography scan using dye to show vascular structures.</td>
</tr>
<tr>
<td>Cystogram</td>
<td>Investigations/Other Imaging</td>
<td>An x-ray of the bladder using dye.</td>
</tr>
<tr>
<td><strong>Defibrillation</strong></td>
<td><strong>Interventions/Circulation</strong></td>
<td>An electrical device used to restore normal heartbeat by applying a brief electric shock.</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Diagnostic peritoneal lavage</strong></td>
<td><strong>Investigations/Diagnostic peritoneal lavage</strong></td>
<td>Procedure to check for bleeding in cases of abdominal injury. Now little used.</td>
</tr>
<tr>
<td><strong>Diastolic blood pressure</strong></td>
<td><strong>Observations/Circulation</strong></td>
<td>Blood pressure in arteries when heart is at rest. Measured in millimetres of mercury (mmHg).</td>
</tr>
<tr>
<td><strong>Direct compression of external haemorrhage</strong></td>
<td><strong>Interventions/Circulation</strong></td>
<td>Stopping bleeding using a pressure bandage or stitches, or a tourniquet in the case of vascular injury.</td>
</tr>
<tr>
<td><strong>Doppler probe</strong></td>
<td><strong>Observations/Circulation</strong></td>
<td>A portable ultrasound device used to measure blood pressure in suspected cases of vascular injury.</td>
</tr>
<tr>
<td><strong>ECG</strong></td>
<td><strong>Investigations/Cardiography/Neurophysiology</strong></td>
<td>Standard ECG used for routine heartbeat monitoring.</td>
</tr>
<tr>
<td><strong>ECG (12 lead)</strong></td>
<td><strong>Investigations/Cardiography/Neurophysiology</strong></td>
<td>Electrocardiogram using different permutations of twelve leads to measure electrical activity of heart. 6 leads on chest (VI - 6) and 1 on each limb (I - IV).</td>
</tr>
<tr>
<td><strong>Echocardiogram</strong></td>
<td><strong>Investigations/Cardiography/Neurophysiology</strong></td>
<td>Checks for damage to heart and checks functionality of chambers. Written in radiology report, often shown as LVF + RVF.</td>
</tr>
<tr>
<td><strong>EEG</strong></td>
<td><strong>Investigations/Cardiography/Neurophysiology</strong></td>
<td>Electroencephalogram. A brain scan.</td>
</tr>
<tr>
<td><strong>End tidal co₂</strong></td>
<td><strong>Observations/Respiration</strong></td>
<td>A dynamic reading of how much carbon dioxide a patient is breathing out. Usually found in anaesthetist’s notes.</td>
</tr>
<tr>
<td><strong>Escarotomy</strong></td>
<td><strong>Interventions/Respiration</strong></td>
<td>Burns procedure. Cutting through burnt tissue to assist breathing/circulation.</td>
</tr>
<tr>
<td><strong>Fluid</strong></td>
<td><strong>Interventions/Circulation</strong></td>
<td>Fluids administered to regulate sugar levels in blood. Choose from dextrose, colloidal crystalloid, polygelatine, starch or hypertonic saline/hyperOsmolar fluid and record units administered.</td>
</tr>
<tr>
<td><strong>Gastric tube</strong></td>
<td><strong>Interventions/Metabolism</strong></td>
<td>A tube inserted into the stomach for drainage or feeding.</td>
</tr>
<tr>
<td><strong>GCS</strong></td>
<td><strong>Observations/Nervous System</strong></td>
<td>Assesses eye, verbal and motor response. A number is recorded for each, giving the patient a total score from 15. 3 - 5 = serious brain impairment. 15 =normal functioning. Total will be automatically calculated on saving or can be input using drop down list if scores are missing.</td>
</tr>
<tr>
<td><strong>Glucose administration (hypo)</strong></td>
<td><strong>Interventions/Metabolism</strong></td>
<td>The administration of glucose to prevent diabetic coma.</td>
</tr>
<tr>
<td><strong>Gut status</strong></td>
<td><strong>Observations/ Metabolism</strong></td>
<td>Gut (digestive) status of patient ON ARRIVAL in location. Choose from: nil by mouth (receiving no food either normally or with assistance), eating (eating normally), naso/oro gastric tube (feeding via tube in nose/mouth), percutaneous enteric feed (feeding via tube inserted into intestine through skin), parental feed (fed via large bag). Choose ‘missing’ option if status not known.</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td>---</td>
</tr>
<tr>
<td><strong>Haematology</strong></td>
<td><strong>Investigations/ Blood Sampling</strong></td>
<td>Tests to determine levels of haemoglobin in blood and/or number of white blood cells.</td>
</tr>
<tr>
<td><strong>Inotropes/ vasopressors</strong></td>
<td><strong>Interventions/ Circulation</strong></td>
<td>Drugs to assist circulation.</td>
</tr>
<tr>
<td><strong>Intra cranial pressure monitoring (ICP)</strong></td>
<td><strong>Observations/ Nervous System</strong></td>
<td>Intra cranial pressure. Arterial blood pressure inside the skull in millimetres of mercury (mmHg). Sometimes referred to as ICP bolt.</td>
</tr>
<tr>
<td><strong>Limb splint</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>Restraint fitted to injured limb</td>
</tr>
<tr>
<td><strong>Lung function tests</strong></td>
<td><strong>Observations/ Respiration</strong></td>
<td>Tests used to measure lung capacity in cases of spinal injury (cervical or thoracic cord). Can record whether spirometry and/or peak flow tests carried out.</td>
</tr>
<tr>
<td><strong>Mannitol</strong></td>
<td><strong>Interventions/ Nervous System</strong></td>
<td>Osmotic diuretic used to reduce pressure in cranium by reducing brain swelling. Details usually in drug chart.</td>
</tr>
<tr>
<td><strong>MRI scan</strong></td>
<td><strong>Investigations/ Other Imaging</strong></td>
<td>Magneto Resonance Imaging scan. A computerised scan producing detailed images of the internal organs of the body. More detailed than CT scan and used mostly for spine, brain and limb injuries.</td>
</tr>
<tr>
<td><strong>Muscle chart recording</strong></td>
<td><strong>Observations/ Nervous System</strong></td>
<td>An assessment of muscle response. More detailed than limb muscle power assessment.</td>
</tr>
<tr>
<td><strong>Near patient blood test (glucose)</strong></td>
<td><strong>Observations/ Metabolism</strong></td>
<td>Level of glucose in blood.</td>
</tr>
<tr>
<td><strong>Needle thoracocentesis</strong></td>
<td><strong>Interventions/ Respiration</strong></td>
<td>Used to determine the cause of abnormal accumulation of fluid in the pleural space, usually in cases of tension pneumothorax.</td>
</tr>
<tr>
<td><strong>Neurophysiology</strong></td>
<td><strong>Observations/ Nervous System</strong></td>
<td>Tests to check the functioning of the nervous system.</td>
</tr>
<tr>
<td><strong>Oxygen</strong></td>
<td><strong>Interventions/ Respiration</strong></td>
<td>Administered to assist breathing.</td>
</tr>
<tr>
<td><strong>Oxygen saturation</strong></td>
<td><strong>Observations/ Respiration</strong></td>
<td>Oxygen saturation of arterial blood as %.</td>
</tr>
<tr>
<td><strong>Paralysis</strong></td>
<td><strong>Interventions/ Nervous System</strong></td>
<td>Drugs administered to reduce or suppress muscle response. Details usually found in drugs section of notes.</td>
</tr>
<tr>
<td><strong>Pelvic sling</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>Also referred to as pelvic sheet. Used to keep pelvis stable after injury.</td>
</tr>
<tr>
<td><strong>Pericardiocentesis</strong></td>
<td><strong>Interventions/ Circulation</strong></td>
<td>Procedure to relieve pressure in heart area.</td>
</tr>
<tr>
<td><strong>X ray</strong></td>
<td><strong>Investigations/ Plain X-Ray</strong></td>
<td>Standard X-ray.</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Power status</strong></td>
<td><strong>Observations/ Nervous System</strong></td>
<td>The patient’s muscle power status ON ARRIVAL in a location. Choose from: normal, lateralised weakness (weakness on one side of body), segmental weakness (weakness in defined area of body, e.g. Upper arm, forearm, thigh), other focal weakness (weakness in single muscle or muscle group), general weakness or paralysis. Use ‘missing’ option if status not known.</td>
</tr>
<tr>
<td><strong>Pulse rate</strong></td>
<td><strong>Observations/ Circulation</strong></td>
<td>Number of heartbeats per minute. Details usually written in notes.</td>
</tr>
<tr>
<td><strong>Renal status</strong></td>
<td><strong>Observations/ Metabolism</strong></td>
<td>Renal (kidney function) status of patient ON ARRIVAL in a location. Choose from: normal, catheterised (catheter fitted to bladder to assist urine extraction) or dialysis/filtration dependent (assisted by machine).</td>
</tr>
<tr>
<td><strong>Respiratory rate</strong></td>
<td><strong>Observations/ Respiration</strong></td>
<td>Number of breaths per minute. Ranges from 0 – 70. Normal range 16 – 24.</td>
</tr>
<tr>
<td><strong>Sedation status</strong></td>
<td><strong>Observations/ Nervous System</strong></td>
<td>The patient’s sedation status ON ARRIVAL in a location. Choose from: anaesthetised/sedated or not sedated. Use ‘missing’ option if status not known.</td>
</tr>
<tr>
<td><strong>Sedation/ anaesthesia</strong></td>
<td><strong>Interventions/ Nervous System</strong></td>
<td>Drugs administered to render patient unconscious or reduce consciousness. Details usually found in drugs section of notes.</td>
</tr>
<tr>
<td><strong>Sensation deficit recording</strong></td>
<td><strong>Observations/ Nervous System</strong></td>
<td>Tests patient’s response to stimuli. Four possible states: normal, abnormal, reduced or absent.</td>
</tr>
<tr>
<td><strong>Septic status</strong></td>
<td><strong>Observations/ Host Defence</strong></td>
<td>Septic (blood poisoning) status of patient ON ARRIVAL in location. Choose from: not septic, suspected infection, proven infection or inflammatory response (redness or swelling). Choose ‘missing’ if status not known.</td>
</tr>
<tr>
<td><strong>Simple airway manoeuvre</strong></td>
<td><strong>Interventions/ Respiration</strong></td>
<td>Procedure to remove obstructions from airway.</td>
</tr>
<tr>
<td><strong>Simple reduction of fracture/dislocation</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>Re-aligning bones/joints after dislocation or fracture. Usually performed as operative procedure.</td>
</tr>
<tr>
<td><strong>Simple suture/glue</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>A skin suture. Details usually written in notes.</td>
</tr>
<tr>
<td><strong>Simple wound dressing</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>Bandages and other dressings.</td>
</tr>
<tr>
<td><strong>Simple wound irrigation/debridement</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>Cleaning a wound.</td>
</tr>
<tr>
<td><strong>Spinal Protection</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>Used to keep spine stable after injury. Usually referred to as spinal board, collar, blocks or full spinal protection.</td>
</tr>
<tr>
<td><strong>Steroids</strong></td>
<td><strong>Interventions/ Host Defence</strong></td>
<td>Drugs to improve muscle strength. Details usually found in drugs section of notes.</td>
</tr>
<tr>
<td>Procedure</td>
<td>Domain</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Synacthen tests</td>
<td>Observations/ Metabolism</td>
<td>Measures levels of cortisone in blood.</td>
</tr>
<tr>
<td>Systolic blood pressure</td>
<td>Observations/ Circulation</td>
<td>Blood pressure in arteries when heart contracts. Measured in millimetres of mercury (mm/Hg). Normal readings vary according to age and general health, but are generally considered high if above 140 in an adult.</td>
</tr>
<tr>
<td>Temperature</td>
<td>Observations/ Host Defence</td>
<td>7 possible reading points: ear/tympanic, oral, nasopharyngeal, rectal, intravascular, oesophageal or rectal.</td>
</tr>
<tr>
<td>Tetanus prophylaxis</td>
<td>Interventions/ Host Defence</td>
<td>Injection given to immunise patient against tetanus when a wound has occurred.</td>
</tr>
<tr>
<td>Toxicology screen</td>
<td>Observations/ Host Defence</td>
<td>Checks blood and/or urine for presence of drugs, particularly paracetamol and salicylate levels.</td>
</tr>
<tr>
<td>Tracheostomy</td>
<td>Interventions/ Respiration</td>
<td>Surgical construction of an opening in the trachea for the insertion of a catheter or tube to facilitate breathing. Usually found in notes.</td>
</tr>
<tr>
<td>Ultrasound</td>
<td>Investigations/ Ultrasound</td>
<td>Imaging test that uses high-frequency sound waves.</td>
</tr>
<tr>
<td>Urea (urine)</td>
<td>Investigations/ Urine Sampling</td>
<td>Urea clearance time. Measured in millilitres per minute (ml/min). Normal range 64 - 99 ml/min.</td>
</tr>
<tr>
<td>Urethography</td>
<td>Investigations/ Other Imaging</td>
<td>A scan of the urethra.</td>
</tr>
<tr>
<td>Urine output</td>
<td>Investigations/ Urine Sampling</td>
<td>Millilitres (mls) of urine per hour. For catheterised patients.</td>
</tr>
<tr>
<td>Urogram</td>
<td>Investigations/ Other Imaging</td>
<td>A scan of the urinary system involving dye in the veins and kidneys.</td>
</tr>
<tr>
<td>Warming</td>
<td>Interventions/ Host Defence</td>
<td>Increasing body temperature, e.g. in cases of hypothermia.</td>
</tr>
<tr>
<td>Waterlow score</td>
<td>Observations/ Host Defence</td>
<td>Numerical assessment of risk of developing a pressure sore. 0 - 9 is low risk. 20 - is very high risk.</td>
</tr>
</tbody>
</table>
**EXERCISE 1: THE CORE DATASET**

<table>
<thead>
<tr>
<th>Opening Section</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ED Patient Number</td>
<td>2064842</td>
</tr>
<tr>
<td>Hospital Patient Number</td>
<td>2964397</td>
</tr>
<tr>
<td>NHS Patient Number</td>
<td></td>
</tr>
<tr>
<td><em>Gender</em></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Male</td>
</tr>
<tr>
<td><em>Full date of birth?</em></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#Date of birth</td>
<td>13/01/1969 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>#Date of incident</td>
<td>25/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td><em>Date of arrival at the hospital</em></td>
<td>25/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>#Time of arrival at the hospital</td>
<td>19:40 (HH:MM)</td>
</tr>
<tr>
<td><em>Was the patient transferred?</em></td>
<td>No (Transfer)</td>
</tr>
<tr>
<td><em>TARN</em></td>
<td>Yes</td>
</tr>
</tbody>
</table>

Age will be automatically calculated when screen is saved.
Patient Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Dept Patient No</td>
<td>2064342</td>
</tr>
<tr>
<td>Hospital Patient Number</td>
<td>2964397</td>
</tr>
<tr>
<td>NHS Patient Number</td>
<td></td>
</tr>
<tr>
<td>Patient Surname/Family Name</td>
<td>Ruddock</td>
</tr>
<tr>
<td>Patient first name</td>
<td>Osbourne</td>
</tr>
<tr>
<td>Patient Post Code (first part)</td>
<td>M6</td>
</tr>
<tr>
<td>Patient Post Code (second part)</td>
<td>8HS</td>
</tr>
<tr>
<td>Patient Post Code (1st numeric of second part)</td>
<td>8</td>
</tr>
<tr>
<td>Full date of birth?</td>
<td>Yes</td>
</tr>
<tr>
<td>Date of birth</td>
<td>18/01/1969</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td>Age</td>
<td>39.4</td>
</tr>
<tr>
<td>Nationality</td>
<td>European</td>
</tr>
</tbody>
</table>

Incident

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of incident (free text)</td>
<td>Fall down flight of stairs at home.</td>
</tr>
<tr>
<td>Date of incident</td>
<td>25/06/2008</td>
</tr>
<tr>
<td>Time of incident</td>
<td>18:59</td>
</tr>
<tr>
<td>Incident Post Code (first part)</td>
<td>M6</td>
</tr>
<tr>
<td>Incident Post Code (second part)</td>
<td>8</td>
</tr>
<tr>
<td>Incident location (free text)</td>
<td>Home</td>
</tr>
<tr>
<td>Type of injury</td>
<td>Blunt</td>
</tr>
<tr>
<td>Mechanism of injury</td>
<td>Fall less than 2m</td>
</tr>
<tr>
<td>Injury Intent</td>
<td>Non intentional</td>
</tr>
<tr>
<td>Additional incident information</td>
<td>Evidence of alcohol</td>
</tr>
<tr>
<td>Trapped at scene</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## At Scene

<table>
<thead>
<tr>
<th>Date of Incident</th>
<th>26/06/2008 (DD/MM/YYYY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Incident</td>
<td>18:59 (HH:MM)</td>
</tr>
</tbody>
</table>

### Ambulance Details

<table>
<thead>
<tr>
<th>Date called</th>
<th>26/06/2008 (DD/MM/YYYY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time called</td>
<td>19:20 (HH:MM)</td>
</tr>
<tr>
<td>Date of dispatch</td>
<td>26/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of dispatch</td>
<td>19:23 (HH:MM)</td>
</tr>
</tbody>
</table>

## Related Sections (Click to add new section)

- Observations
- Investigations
- Interventions
- Operations
- Attendants
### Respiration
- Oxygen Saturation: 99
- Respiratory Rate: 20

### Circulation
- Systolic BP: 150
- Diastolic BP: 90
- Pulse Rate: 108

### Nervous system
- GCS Eye: 2
- GCS Verbal: 3
- GCS Motor: 3
- L. Pupil size: 2
- R. Pupil size: 2
- L. Pupil reactivity: Sluggish
- R. Pupil reactivity: Sluggish

**Pre-populate date and time:**
- Date: [Blank]
- Time: 19:30
## AT SCENE INTERVENTIONS

<table>
<thead>
<tr>
<th>Spinal Protection</th>
<th>Date</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26/06/2008</td>
<td>Collar Board</td>
</tr>
<tr>
<td><strong>Enroute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Type of transport</strong></td>
<td>Ambulance</td>
<td></td>
</tr>
<tr>
<td><strong>Date of departure from scene</strong></td>
<td>26 / 06 / 2008 (DD/MM/YYYY)</td>
<td></td>
</tr>
<tr>
<td><strong>Time of departure from scene</strong></td>
<td>19 : 35 (HH:MM)</td>
<td></td>
</tr>
<tr>
<td><strong>Date of arrival at the hospital</strong></td>
<td>26 / 06 / 2008 (DD/MM/YYYY)</td>
<td></td>
</tr>
<tr>
<td><strong>Time of arrival at the hospital</strong></td>
<td>19 : 40 (HH:MM)</td>
<td></td>
</tr>
</tbody>
</table>
# Date of arrival | 26/06/2008 (DD/MM/YYYY)
## Time of arrival | 19:40 (HH:MM)
# Date of leaving | 26/06/2008 (DD/MM/YYYY)
## Time of leaving | 21:53 (HH:MM)
Trauma Team | Yes

### ED - Attendants - Attendant

| Date Contacted |  | (DD/MM/YYYY) |
| Time Contacted |  | (HH:MM) |
| Date patient seen | 26/06/2008 (DD/MM/YYYY) |
| Time patient seen | 19:40 (HH:MM) |
| Type of Attendant | Doctor (inc. Adv. Nurse Practitioner) |
| Grade | SHO |
| Speciality | General surgery |
| Training |  |

| Date Contacted |  | (DD/MM/YYYY) |
| Time Contacted |  | (HH:MM) |
| Date patient seen | 26/06/2008 (DD/MM/YYYY) |
| Time patient seen | 19:40 (HH:MM) |
| Type of Attendant | Doctor (inc. Adv. Nurse Practitioner) |
| Grade | Consultant |
| Speciality | Emergency Medicine |
| Training |  |
ED OBSERVATIONS (NERVOUS SYSTEM)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GCS Eye</td>
<td>2</td>
</tr>
<tr>
<td>GCS Verbal</td>
<td>1</td>
</tr>
<tr>
<td>GCS Motor</td>
<td>2</td>
</tr>
<tr>
<td>Left Pupil Size</td>
<td>2</td>
</tr>
<tr>
<td>Right Pupil Size</td>
<td>2</td>
</tr>
<tr>
<td>Left Eye Pupil Reactivity</td>
<td>Sluggish</td>
</tr>
<tr>
<td>Right Eye Pupil Reactivity</td>
<td>Sluggish</td>
</tr>
</tbody>
</table>

PRE-POPULATE DATE: [Image]  TIME = 19:40
ED OBSERVATIONS (RESPIRATION & CIRCULATION)

PRE-POPULATE DATE  TIME = 19:40

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen Saturation</td>
<td>98</td>
</tr>
<tr>
<td>Respiratory Rate</td>
<td>18</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>142</td>
</tr>
<tr>
<td>Diastolic BP</td>
<td>88</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>108</td>
</tr>
</tbody>
</table>
ED OBSERVATIONS (2\textsuperscript{nd} RECORDINGS)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GCS Eye</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>GCS Verbal</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>GCS Motor</strong></td>
<td>1</td>
</tr>
</tbody>
</table>

**PRE-POPULATE DATE**

**TIME = 19:48**

**Pulse Rate**

**132**

**PRE-POPULATE DATE**

**TIME = 19:51**

THERE HAS BEEN A

**SERIOUS DETERIORATION**
ED INVESTIGATIONS

**ED - Investigations - CT**

<table>
<thead>
<tr>
<th>Details</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>#Body region</strong></td>
<td>Head</td>
</tr>
<tr>
<td></td>
<td>Spine</td>
</tr>
<tr>
<td><strong>#Date of CT Scan</strong></td>
<td>26/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td><strong>#Time of CT Scan</strong></td>
<td>20:10 (HH:MM)</td>
</tr>
<tr>
<td><strong>Report</strong></td>
<td></td>
</tr>
</tbody>
</table>

**ED - Investigations - Ultrasound**

<table>
<thead>
<tr>
<th>Details</th>
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</tr>
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<tbody>
<tr>
<td><strong>#Body region</strong></td>
<td>Abdomen</td>
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<tr>
<td><strong>Date of ultrasound</strong></td>
<td>26/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td><strong>Time of ultrasound</strong></td>
<td>20:30 (HH:MM)</td>
</tr>
<tr>
<td>Breathing Support</td>
<td>Mechanical Ventilation</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Airway Support</td>
<td>Intubation</td>
</tr>
<tr>
<td>Chest Drain</td>
<td>Yes</td>
</tr>
</tbody>
</table>

26/06/2008
### Theatre Session 1

#### Theatre

<table>
<thead>
<tr>
<th>Details</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of arrival</td>
<td>26/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of arrival</td>
<td>22:01 (HH:MM)</td>
</tr>
<tr>
<td>Date of leaving</td>
<td>27/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of leaving</td>
<td>01:33 (HH:MM)</td>
</tr>
</tbody>
</table>

#### Theatre - Operations - Operative Procedure

<table>
<thead>
<tr>
<th>Details</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of operation or procedure</td>
<td>26/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of operation or procedure</td>
<td>22:10 (HH:MM)</td>
</tr>
<tr>
<td>Procedure</td>
<td>Craniotomy</td>
</tr>
<tr>
<td></td>
<td>Evacuation Of Edh/Sch</td>
</tr>
<tr>
<td>Grade of Surgeon</td>
<td>Consultant</td>
</tr>
<tr>
<td>Speciality of Surgeon</td>
<td>Neurosurgery</td>
</tr>
<tr>
<td>Grade of Anaesthetist</td>
<td>Consultant</td>
</tr>
</tbody>
</table>
### Critical Care Observations

**Date of arrival:** 27/06/2008 (DD/MM/YYYY)

**Time of arrival:** 01:37 (HH:MM)

**Type of unit:** General Intensive/Critical Care Unit

**Length of stay in Critical Care:** 5 days

#### Respiration
- **Oxygen Saturation:** 100
- **Respiratory Rate:** 18
- **Airway Status:** Intubated
- **Breathing Status:** Mechanically ventilated

#### Circulation
- **Systolic BP:** 130
- **Diastolic BP:** 75
- **Pulse Rate:** 92

#### Nervous System
- **GCS Eye:** N/A - as pt intubated
- **GCS Verbal:** N/A - as pt intubated
- **GCS Motor:** N/A - as pt intubated
- **L. Pupil size:** 3
- **R. Pupil size:** 3
- **L. Pupil reactivity:** Sluggish
- **R. Pupil reactivity:** Sluggish

**Time = 02:00**
## Ward

**Date of arrival**: 02/07/2008 (DD/MM/YYYY)

**Time of arrival**: 10:00 (HH:MM)

**Type of ward**: General acute (inc. paediatric)

---

## Injuries

**Detailed injury descriptions**

- Extensive (large) intra-cerebral haematoma
- Large Subdural haematoma in cerebrum
- Mild Brain swelling
- Base of skull fracture, open with loss of brain tissue
- Fracture to Medial wall of Left Orbit
- Fracture to Ribs 4-7 on the right side
- Splenic Rupture
### Outcome

<table>
<thead>
<tr>
<th>Pre-existing medical condition(s)</th>
<th>Drug addiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complication(s)</td>
<td>Clostridium Difficile</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome at 30 days</th>
<th>Alive</th>
<th>Dead</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Outcome at Discharge</td>
<td>Alive</td>
<td>Dead</td>
</tr>
<tr>
<td>*Date of death</td>
<td>04/07/2008</td>
<td></td>
</tr>
<tr>
<td>Time of death</td>
<td>19:00</td>
<td></td>
</tr>
<tr>
<td>*Length of stay</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Length of stay in Critical Care</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Days intubated</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>#Cause of death 1</td>
<td>Injury/injuries</td>
<td></td>
</tr>
<tr>
<td>Cause of death 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cause of death 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Post Mortem</td>
<td>Post Mortem done, NOT sent to TARN</td>
<td></td>
</tr>
<tr>
<td>#Mode of death</td>
<td>Brain stem death</td>
<td></td>
</tr>
<tr>
<td>Organ donation</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>#Discharged to</td>
<td>Mortuary</td>
<td></td>
</tr>
<tr>
<td>Glasgow Outcome Scale</td>
<td>Death</td>
<td></td>
</tr>
<tr>
<td>When GOS recorded</td>
<td>At Discharge</td>
<td></td>
</tr>
</tbody>
</table>
EXERCISE 2: EXTENDED DATASET

Age will be automatically calculated when screen is saved.
**Incident**

<table>
<thead>
<tr>
<th>Description of Incident (free text)</th>
<th>RTC, motorcyclist vs car @ speed head on.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Incident</td>
<td>08/06/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of Incident</td>
<td>11:00 (HH:MM)</td>
</tr>
<tr>
<td>Incident Post Code (first part)</td>
<td></td>
</tr>
<tr>
<td>Incident Post Code (second part)</td>
<td></td>
</tr>
<tr>
<td>Incident location (free text)</td>
<td></td>
</tr>
<tr>
<td>Incident location</td>
<td>Road</td>
</tr>
<tr>
<td>Type of injury</td>
<td>Blunt</td>
</tr>
<tr>
<td>Mechanism of injury</td>
<td>Vehicle incident/collision</td>
</tr>
<tr>
<td>Injury intent</td>
<td>Non intentional</td>
</tr>
<tr>
<td>Additional incident Information</td>
<td>Evidence of alcohol</td>
</tr>
<tr>
<td>Position in VI</td>
<td>Motorcyclist</td>
</tr>
<tr>
<td>Protection in VI</td>
<td>Helmet</td>
</tr>
<tr>
<td>Trapped at scene</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### AT SCENE OBSERVATIONS

**PRE-POPULATE DATE**  
**TIME = 11:15**

<table>
<thead>
<tr>
<th>Respiration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen Saturation</td>
<td>97</td>
</tr>
<tr>
<td>Respiratory Rate</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Circulation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic BP</td>
<td>100</td>
</tr>
<tr>
<td>Diastolic BP</td>
<td>79</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nervous system</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GCS Eye</td>
<td>4</td>
</tr>
<tr>
<td>GCS Verbal</td>
<td>4</td>
</tr>
<tr>
<td>GCS Motor</td>
<td>5</td>
</tr>
<tr>
<td>L. Pupil size</td>
<td>4</td>
</tr>
<tr>
<td>R. Pupil size</td>
<td>4</td>
</tr>
<tr>
<td>L. Pupil reactivity</td>
<td>PEARL: Brisk</td>
</tr>
<tr>
<td>R. Pupil reactivity</td>
<td>PEARL: Brisk</td>
</tr>
</tbody>
</table>

**At Scene**

- **Date of incident**: 08/06/2008
- **Time of incident**: (HH:MM)

**Ambulance Details**

- **Date called**: 08/06/2008
- **Time called**: 11:05
- **Date of dispatch**: 08/06/2008
- **Time of dispatch**: 11:05

**AT SCENE OBSERVATIONS**

- **Respiration**
  - Oxygen Saturation: 97
  - Respiratory Rate: 16

- **Circulation**
  - Systolic BP: 100
  - Diastolic BP: 79
  - Pulse Rate: 75

- **Nervous system**
  - GCS Eye: 4
  - GCS Verbal: 4
  - GCS Motor: 5
  - L. Pupil size: 4
  - R. Pupil size: 4
  - L. Pupil reactivity: PEARL: Brisk
  - R. Pupil reactivity: PEARL: Brisk
### AT SCENE INTERVENTIONS

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal Protection</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Date:</strong> 08/06/2008, <strong>Type:</strong> Board</td>
<td></td>
</tr>
<tr>
<td>Peripheral Cannulation (IV access)</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Date:</strong> 08/06/2008</td>
<td></td>
</tr>
<tr>
<td>Fluid</td>
<td>Date: 08/06/2008</td>
</tr>
<tr>
<td><strong>Start:</strong> 11.10, <strong>1000mls Hartman’s</strong></td>
<td></td>
</tr>
<tr>
<td>Analgesia</td>
<td>Entonox</td>
</tr>
<tr>
<td><strong>Date:</strong> 08/06/2008</td>
<td></td>
</tr>
</tbody>
</table>
## ED Observations

**Pre-Populate Date**  
**Time = 11.35**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Oxygen Saturation</td>
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<tr>
<td>Respiratory Rate</td>
<td>22</td>
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<table>
<thead>
<tr>
<th>Circulation</th>
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</thead>
<tbody>
<tr>
<td>Systolic BP</td>
<td>100</td>
</tr>
<tr>
<td>Diastolic BP</td>
<td>75</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nervous System</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GCS Eye</td>
<td>4</td>
</tr>
<tr>
<td>GCS Verbal</td>
<td>5</td>
</tr>
<tr>
<td>GCS Motor</td>
<td>6</td>
</tr>
<tr>
<td>L. Pupil size</td>
<td>4</td>
</tr>
<tr>
<td>R. Pupil size</td>
<td>4</td>
</tr>
<tr>
<td>L. Pupil reactivity</td>
<td>Brisk</td>
</tr>
<tr>
<td>R. Pupil reactivity</td>
<td>Brisk</td>
</tr>
</tbody>
</table>
# ED INTERVENTIONS

## PRE-POPULATE DATE

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest Drain</td>
<td>08/06/2008</td>
</tr>
<tr>
<td>Blood Products</td>
<td>08/06/2008</td>
</tr>
<tr>
<td></td>
<td>Start: 12.15</td>
</tr>
<tr>
<td></td>
<td>Finish: 13.00</td>
</tr>
<tr>
<td></td>
<td>Type: Blood</td>
</tr>
<tr>
<td></td>
<td>Unit: 2</td>
</tr>
<tr>
<td>Bladder Catheter</td>
<td>08/06/2008</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>08/06/2008</td>
</tr>
<tr>
<td>Limb Splint</td>
<td>08/06/2008</td>
</tr>
</tbody>
</table>
### ED Investigations - Plain X-ray

<table>
<thead>
<tr>
<th>Details</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date of X-ray</strong></td>
<td>30/05/2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td><strong>Time of X-ray</strong></td>
<td>11:50 (H:H:MM)</td>
</tr>
<tr>
<td><strong>Body region</strong></td>
<td>Lower Limb</td>
</tr>
<tr>
<td></td>
<td>T-Spine</td>
</tr>
</tbody>
</table>

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**ED INVESTIGATIONS**
<table>
<thead>
<tr>
<th>Date Contacted</th>
<th>08 / 06 / 2008 (DD/MM/YYYY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Contacted</td>
<td></td>
</tr>
<tr>
<td>Date patient seen</td>
<td>08 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time patient seen</td>
<td>11 : 35 (HH:MM)</td>
</tr>
<tr>
<td>Type of Attendant</td>
<td>Doctor (inc. Adv. Nurse Practitioner)</td>
</tr>
<tr>
<td>Grade</td>
<td>Specialist Registrar (year unknown)</td>
</tr>
<tr>
<td>Speciality</td>
<td>Emergency Medicine</td>
</tr>
<tr>
<td>Training</td>
<td>ATLS and APLS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Contacted</th>
<th>08 / 06 / 2008 (DD/MM/YYYY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Contacted</td>
<td></td>
</tr>
<tr>
<td>Date patient seen</td>
<td>08 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time patient seen</td>
<td>11 : 45 (HH:MM)</td>
</tr>
<tr>
<td>Type of Attendant</td>
<td>Doctor (inc. Adv. Nurse Practitioner)</td>
</tr>
<tr>
<td>Grade</td>
<td>Consultant</td>
</tr>
<tr>
<td>Speciality</td>
<td>Orthopaedics</td>
</tr>
<tr>
<td>Training</td>
<td>ATLS</td>
</tr>
</tbody>
</table>
### Hospital Transfer

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Transfer</em></td>
<td>Transfer Out</td>
</tr>
<tr>
<td><strong>Transfer To Another Hospital</strong></td>
<td></td>
</tr>
<tr>
<td>#request date of Transfer Out</td>
<td>08 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>request time of Transfer Out</td>
<td>13 : 00 (HH:MM)</td>
</tr>
<tr>
<td>#Next hospital</td>
<td>Avalon Infirmary</td>
</tr>
<tr>
<td>Reason</td>
<td>Further Specialist Care</td>
</tr>
<tr>
<td>#Date of departure</td>
<td>08 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of departure</td>
<td>13 : 30 (HH:MM)</td>
</tr>
<tr>
<td>#Transport</td>
<td>Ambulance</td>
</tr>
<tr>
<td>*Date Of arrival</td>
<td>08 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of arrival</td>
<td>14 : 00 (HH:MM)</td>
</tr>
</tbody>
</table>

### Outcome

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-existing medical condition(s)</td>
<td>Alcohol abuse</td>
</tr>
<tr>
<td></td>
<td>Arthritis</td>
</tr>
<tr>
<td>Complication(s)</td>
<td>NONE</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Outcome at 30 days</td>
<td></td>
</tr>
<tr>
<td><em>Outcome at Discharge</em></td>
<td></td>
</tr>
<tr>
<td>Date of discharge</td>
<td>08 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td>Time of discharge</td>
<td>13 : 30 (HH:MM)</td>
</tr>
<tr>
<td>Length of stay</td>
<td></td>
</tr>
<tr>
<td>Length of stay in Critical Care</td>
<td></td>
</tr>
<tr>
<td>Days Intubated</td>
<td></td>
</tr>
<tr>
<td>Discharged to</td>
<td>Other Acute hospital</td>
</tr>
<tr>
<td>Glasgow Outcome Scale</td>
<td>Moderate Disability</td>
</tr>
<tr>
<td>When GOS recorded</td>
<td>At Discharge</td>
</tr>
</tbody>
</table>
### Re-Admission

<table>
<thead>
<tr>
<th><strong>#Re-admission</strong></th>
<th>Yes □ No □</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>#Re-admission route</strong></td>
<td>From other acute hospital</td>
</tr>
<tr>
<td><strong>#Date</strong></td>
<td>12 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td><strong>#Time</strong></td>
<td>10 : 00 (HH:MM)</td>
</tr>
<tr>
<td>*<strong>Discharge status</strong></td>
<td>Alive</td>
</tr>
<tr>
<td><strong>#Date of discharge</strong></td>
<td>25 / 06 / 2008 (DD/MM/YYYY)</td>
</tr>
<tr>
<td><strong>#Time of discharge</strong></td>
<td>12 : 30 (HH:MM)</td>
</tr>
<tr>
<td><strong>#Discharged to</strong></td>
<td>Home (own)</td>
</tr>
</tbody>
</table>

### Injuries

#### *Detailed injury descriptions*
- Closed fracture to Shaft of right Femur
- Lacerated Femoral nerve
- Open Extra-articular fracture to Proximal tibia
- Talus neck Fracture
- Comminuted shaft of radius fracture
- Fracture to lamina of T5 (Thoracic spine)
Pre Hospital

First Observations taken, including:
Respiratory Rate, Blood Pressure, Pulse Rate, O2 Saturation Rate,
Glasgow Coma Score, Pupil size and reactivity.

Interventions:
Any Spinal Protection, Chest Drain, Intubation, Ventilation at Scene.

ED

First Observations taken, including:
Respiratory Rate, Blood Pressure, Pulse Rate, O2 Saturation Rate,
Glasgow Coma Score, Pupil size and reactivity.
If a patient arrives already Intubated and Ventilated record this as an Observation.

You need only record a second set of Observations if there has been a serious deterioration (defined below).

Interventions:
Any Spinal Protection, Chest Drain, Intubation, Ventilation in ED.

Attendants: First and Most Senior for each Speciality.

Investigations: Any X-rays, CT, Fast Scan or Ultrasound performed in first 24 hours.
Theatre (if applicable)

All relevant Operations:
Date, Time, Grade and Speciality of Surgeon, Grade of Anaesthetist and Operation/s performed.

Critical Care (if applicable)

First Observations taken, including:
Respiratory Rate, Blood Pressure, Pulse Rate, O2 Saturation Rate, Glasgow Coma Score, Pupil size and reactivity.

If a patient arrives already Intubated and Ventilated record this as an Observation.

Ward (if applicable)

Date and Time of Arrival.
Ward Type and Number of days on Ward.

**Serious deterioration is defined as:**

- **Systolic BP** drops below < 90 mmHg
- **GCS** Reduces by 2 points
- **Respiratory Rate** < 8 or > 30 breaths per minute
- **Pulse Rate** < 40 or > 120 beats per minute
- **Intracranial Pressure (ICP)** > 20 mmHg
- **Oxygen Saturation** < 90% (SaO2)