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CLINICAL TRIAL PROTOCOL

**ADVANCE TRAUMA**

**Effects of Advanced Trauma Life Support<sup>®</sup>  
Training Compared to Standard Care on  
Adult Trauma Patient Outcomes: A  
Cluster Randomised Trial**

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Version 1.4.0, 2025-04-30

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## 1 Visual abstract

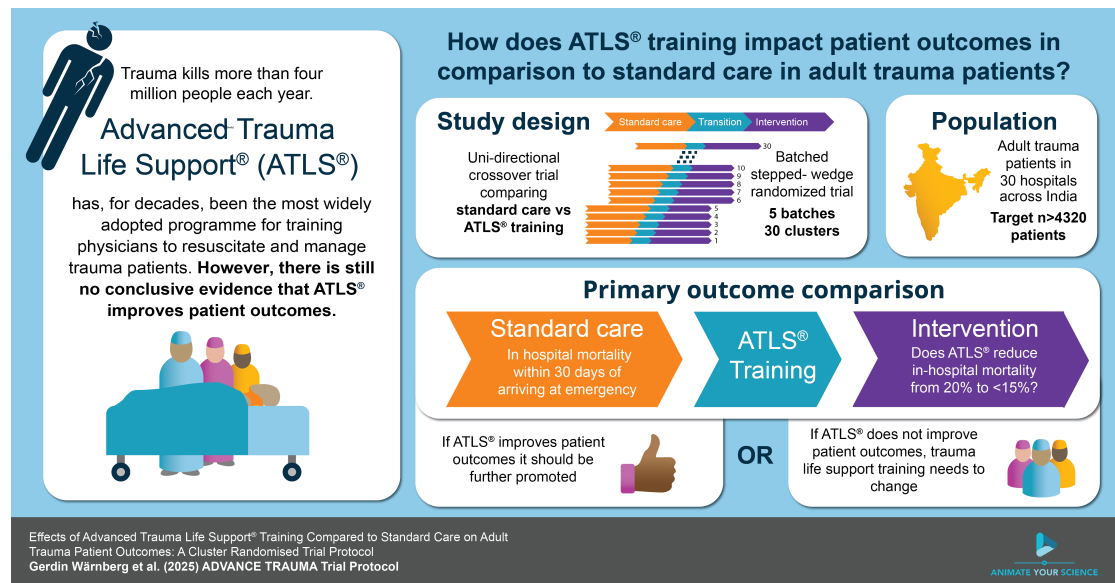


Figure 1: Visual abstract

## 2 Administrative information

### 2.1 Changelog















Version	Date	Details
1.4.0	?	<ul style="list-style-type: none"> <li>Updated systematic review results and references</li> <li>Added visual abstract</li> <li>Added details on the nested staircase design for measuring adherence, quality of life and disability</li> <li>Removed return to work as a secondary outcome to be measured using the nested staircase design, this should be measured using the main stepped-wedge design</li> </ul>
1.3.0	2024-11-15	<ul style="list-style-type: none"> <li>Updated names of events in the table of procedures</li> <li>Added new references</li> <li>Added nested staircase design for measuring adherence, quality of life, disability and return to work</li> <li>Updated small sample correction to be based on best available evidence closer to the time of analysis</li> <li>Added contributors</li> <li>Removed reassessment of the sample size calculation from the interim analysis</li> </ul>
1.2.0	2024-08-26	<ul style="list-style-type: none"> <li>Revised details on measuring ATLS adherence</li> <li>Added details on measuring ATLS adherence</li> <li>Clarified the section describing the consent process</li> <li>Fixed minor issues with how the variables were listed</li> <li>Indicated non-routinely recorded data in the list of variables</li> <li>Added Administrative information section with contributors</li> <li>Added CTRI registration number</li> </ul>
1.1.0	2024-05-09	Updated the primary outcome to in-hospital mortality and spelling corrections. The primary outcome was updated following a voting procedure in the Trial Management Group.

### 2.2 Study identifiers

- ClinicalTrials.gov identifier: [NCT06321419](#)
- Clinical Trials Registry - India identifier: CTRI/2024/07/071336

## 2.3 Contributors

The following have contributed to the design and implementation of the trial:

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Abbreviations: TMG, Trial Management Group; TT, Trial Team.



### 3 Synopsis

**Title** Effects of Advanced Trauma Life Support® Training Compared to Standard Care on Adult Trauma Patient Outcomes: A Cluster Randomised Trial

**Rationale** Trauma is a massive global health issue. Many training programmes have been developed to help physicians in the initial management of trauma patients. Among these programmes, Advanced Trauma Life Support® (ATLS®) is the most popular, having trained over one million physicians worldwide. Despite its widespread use, there are no controlled trials showing that ATLS® improves patient outcomes. Multiple systematic reviews emphasise the need for such trials.

**Aim** To compare the effects of ATLS® training with standard care on outcomes in adult trauma patients.

**Primary Outcome** In-hospital mortality within 30 days of arrival at the emergency department.

**Trial Design** Batched stepped-wedge cluster randomised trial in India.

**Trial Population** Adult trauma patients presenting to the emergency department of a participating hospital.

**Sample Size** 30 clusters and 4320 patients.

#### Eligibility Criteria

*Hospitals* are secondary or tertiary hospitals in India that admit or refer/transfer for admission at least 400 patients with trauma per year.

*Clusters* are one or more units of physicians providing initial trauma care in the emergency department of tertiary hospitals in India.

*Patients participants* are adult trauma patients who presents to the emergency department of participating hospitals and are admitted or transferred for admission.

**Intervention** The intervention will be ATLS® training, a proprietary 2.5 day course teaching a standardised approach to trauma patient care using the concepts of a primary and secondary survey. Physicians will be trained in an accredited ATLS® training facility in India.

**Ethical Considerations** We will use an opt-out consent approach for collection of routinely recorded data. We will obtain informed consent for collection of non-routinely recorded data, such as quality of life and disability outcomes. Patients who are unconscious or lack a legally authorized representative will be included under a waiver of informed consent. Note that consent here refers to consent to data collection.

**Trial Period** February 2025, to October 2029

## 4 Background and rationale

Each year, 4.3 million people die from trauma<sup>1</sup>. Among people aged 10-24 and 25-49 years trauma is the largest cause of disability adjusted life years<sup>2</sup>. Most deaths from trauma occur within the first 24-48 hours<sup>3</sup>. Traumatic brain injury and exsanguination are the most common causes of trauma deaths<sup>4,5</sup>. Most preventable trauma deaths are caused by clinical judgement errors during initial resuscitation or early care including airway management and haemorrhage control, even though the deaths occur later during the hospital stay<sup>4,6</sup>.

Several trauma life support training programmes have been developed to improve the early management of patients in the hospital by providing a structured framework for assessment and treatment<sup>7-11</sup>. The proprietary Advanced Trauma Life Support® (ATLS®) is the most established trauma life support training programme and more than one million physicians in over 80 countries have been trained in the programme since the first course in 1978<sup>12</sup>. In the US and many other countries training in ATLS® is virtually mandatory for trauma care physicians<sup>13</sup>. Uptake in low- and middle income countries (LMIC) has been slow, potentially due to high costs<sup>9</sup>.

There are three randomised studies showing that ATLS® improves knowledge and clinical skills<sup>14-16</sup>, but there are no randomised controlled trials or high-quality quasi-experimental trials indicating that ATLS® improves patient outcomes<sup>7,8,10,11,17</sup>. We conducted an updated systematic review (unpublished), and estimated a pooled risk ratio of 0.76 (95% CI 0.57; 1.01) from 12 heterogeneous ( $I^2$  0.9) observational studies on the effect of ATLS on mortality (see Figure 2)<sup>18-29</sup>.

We conducted a pilot cluster randomised controlled trial (ClinicalTrials.gov NCT05417243) between April 2022 and February 2023 as part of our network grant to assess the feasibility of a full scale trial. We published the protocol for this pilot study<sup>30</sup>. Our pilot study enrolled 376 patients from seven hospitals across India (unpublished data) and shows that it is feasible to conduct the proposed trial with a high percentage of patients consenting to out of hospital follow up (78%), low loss to follow-up rate (1%), and low missingness in key variables (mean 0.8%).

To involve patients and the public in the planning of this trial we conducted 19 semi-structured interviews with trauma patients, caregivers, and community representatives (unpublished data). The aim of these interviews was to understand their views on the trial and important outcomes and the interviews showed high acceptability of our research and emphasised the importance of better recovery before discharge and functional outcomes at and after discharge, including pain, mobility and self-care activities. The interviews also highlighted return to work as an important outcome.

## 4.1 Updated systematic review

We perform systematic literature searches in collaboration with the Karolinska Institutet University Library, using Medline, Embase, Cochrane, Web of Science, Global Health, CINAHL and Google Scholar databases (PROSPERO ID CRD42022373977). The last search was conducted on January 22, 2025. We developed the search strategy in Medline (Ovid), limited the search to English language articles, searched all databases from inception, and screened a total of 10,429 records. We used a random effects model to pool estimates across studies.

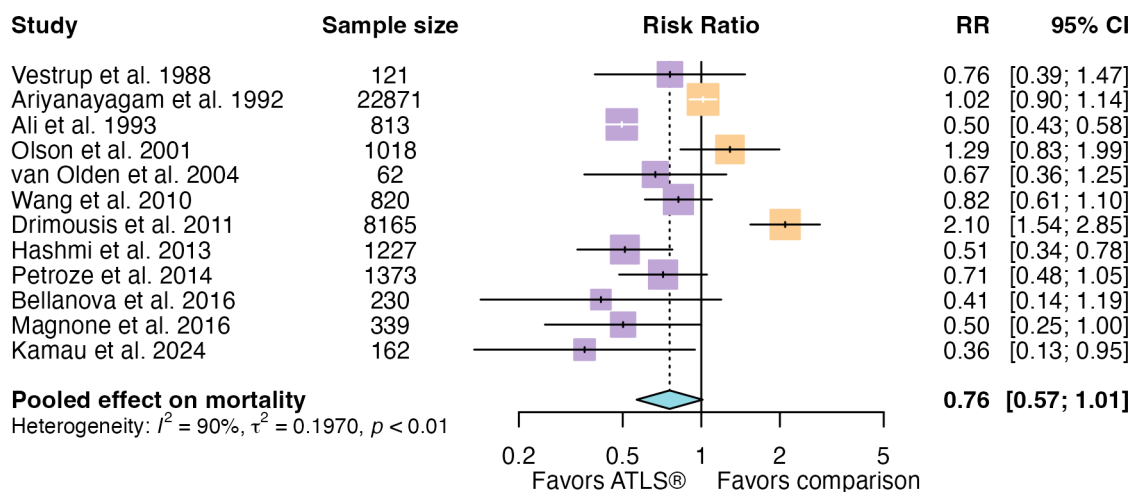


Figure 2: Summary of the updated system review. The forest plot shows the effect of ATLS on mortality. Abbreviations: RR, risk ratio; CI, confidence interval; ATLS, Advanced Trauma Life Support;  $I^2$ , heterogeneity.

## 5 Benefit-risk evaluation

The direct risks includes integrity violations and data leakage. We will mitigate these risks by employing rigorous data collection and storage mechanisms. The procedures that we will use to collect data will be direct observation of care, routine physical examinations, questionnaires, and extraction of already collected data from patient records, which are often seen as involving only minimal risk.

The long-term risks of the research and the risk that the research will be used in detrimental ways are minimal. Our trial will assess the effect of Advanced Trauma Life Support® (ATLS®) on patient outcomes. Training in ATLS® is standard in many health care systems and it is unlikely that training physicians in this programme induces any harm to participants.

We consider these risks weighed up by the potential direct benefit for the participants in the intervention phase, if ATLS® is found to improve patient outcomes, and by the potential for improved care for the trauma patient population.

## 6 Trial aim

To compare the effects of ATLS® training with standard care on outcomes in adult trauma patients.

## 7 Regulatory approvals and trial registration

We will submit this trial to the Health Ministry Screening Committee at the Indian Council for Medical Research for their approval. We will apply for ethical approvals from each participating hospital, The George Institute for Global Health in India and the Swedish Ethical Review Authority. We will register this trial with Clinical Trials Registry-India and ClinicalTrials.gov.

## 8 Trial design and procedures

### 8.1 Overall trial design

We will conduct a batched stepped-wedge cluster randomised controlled trial (see Figure 3). The stepped-wedge trial is a uni-directional cross-over trial but the time point when clusters cross-over from standard care to the intervention is randomised<sup>31</sup>. Each cluster will be at least one unit of physicians performing initial resuscitation of trauma patients in the emergency department of tertiary hospitals in India. The number of units that we will train in each hospital will depend on the sizes of these units and the volumes of patients that they see. If more than one unit is trained in the same hospital these units will be considered one unit for the purpose of randomisation. We choose this approach for two reasons: 1) it will not be logistically or financially feasible to train all physician in a given hospital; and 2) we need to balance cluster size with the number of clusters. We will conduct this trial in India because physicians providing initial trauma care in India are so far not routinely trained in ATLS® or similar programmes.

We will roll out the interventions to 30 clusters over six batches, so there will be five clusters in each batch. The clusters in each batch will be randomised to one of five implementation sequences, with one hospital randomised to each implementation sequence. All clusters will transition through three phases, first a standard care phase, then a one month transition phase during which the training is delivered, and finally an intervention phase, for a total of 13 months. The implementation sequence determines how long

the phases of standard care and intervention are. Patient participants will be followed up for a total of three months.

Within the main stepped-wedge design, we will nest a staircase design to measure a range of secondary outcomes (see Figure 4). The staircase design will include a random subset of patients presenting during the three months preceding the transition phase, and the three months following the transition phase.

## 8.2 Design justification

We use the cluster randomised design because the intervention cannot be randomised at the individual patient level. We use the stepped-wedge design for two reasons. First, this design is statistically more efficient than the parallel cluster design when the number of clusters is limited<sup>32</sup>. In this trial, the number of clusters is limited because of the costs associated with ATLS® training and the available slots for ATLS® training in India. Second, the stepped-wedge design is likely to enhance participation and engagement because all clusters receive the intervention. The batched stepped-wedge design further improves feasibility as it does not require all clusters to start at the same time, and it is robust to potential delays in cluster recruitment<sup>33</sup>. We nest a staircase design within the main design because some of the secondary outcomes will be considerably more labour intensive to collect than the primary outcome, and collecting these for all patient participants would be unfeasible.

## 8.3 Eligibility criteria

Our trial include eligibility criteria on three levels: hospitals, clusters and patient participants. We include eligibility on both the hospital and cluster level to facilitate the screening process.

## 8.4 Hospital selection

Hospitals will be secondary or tertiary hospitals providing trauma care in India. Hospital will be the unit of randomisation.

### 8.4.1 Inclusions criteria

**Hospitals** must meet the following criteria:

- admit or refer/transfer for admission at least 400 patients with trauma per year or 35 patients with trauma per month for at least the last six months;
- provide surgical and orthopaedic emergency services around the clock; and

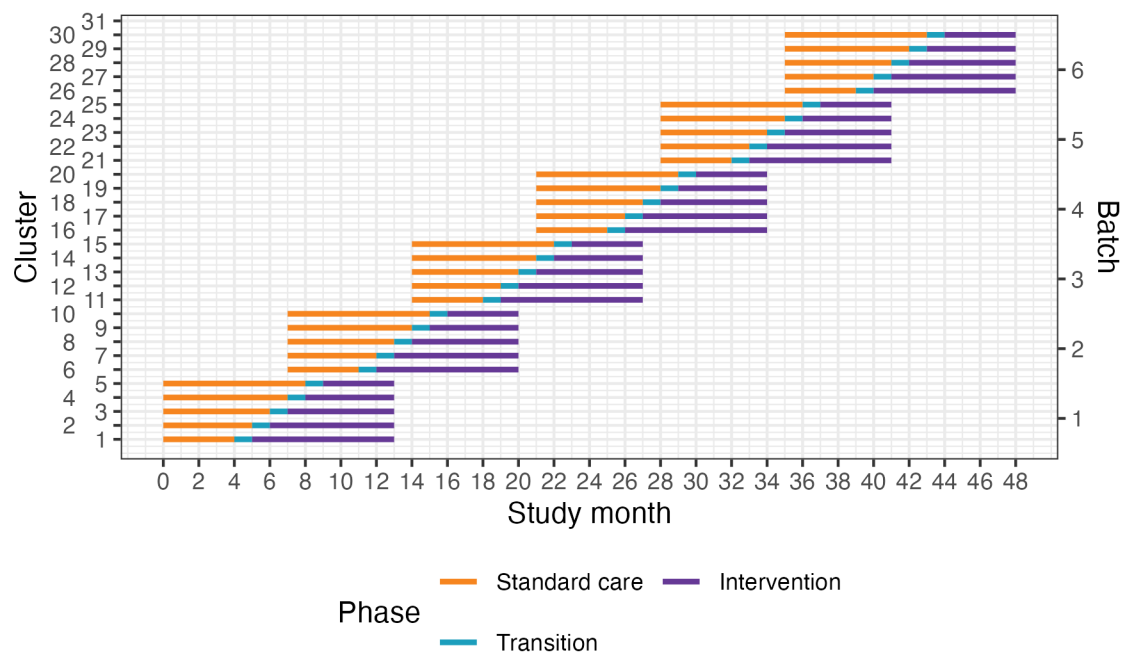


Figure 3: Trial design. Lines represent the duration of patient enrolment across clusters and phases. Clusters will be sequentially allocated to a batch based on when they enter the study. Within each batch clusters will then be randomised to an intervention implementation sequence.

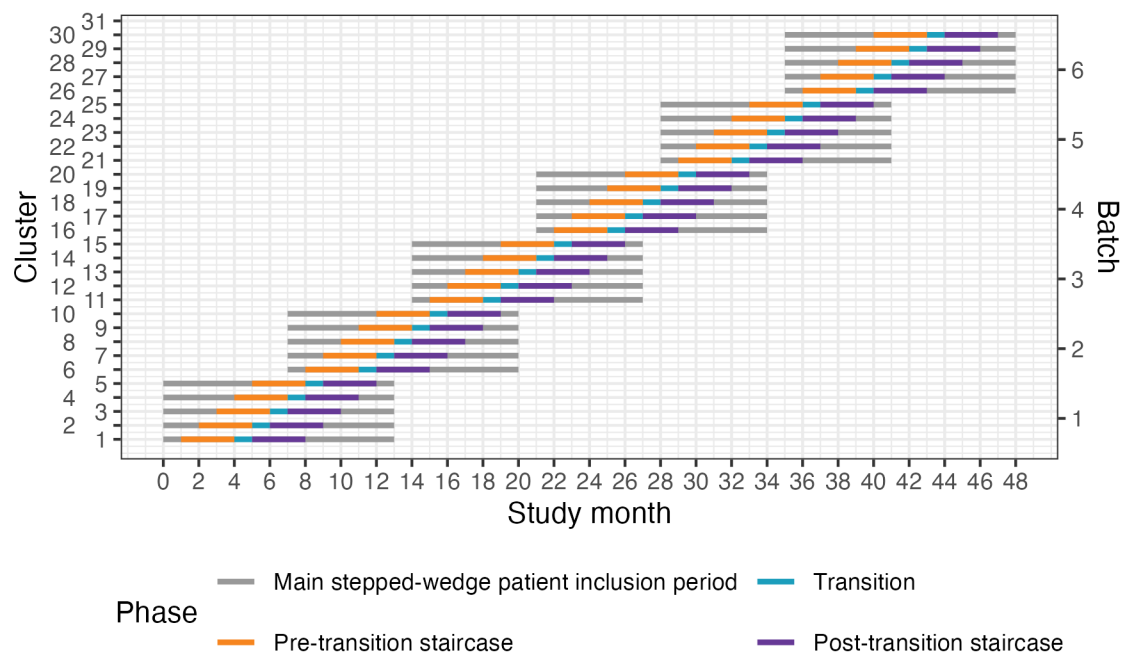


Figure 4: Nested staircase design. The design includes a random subset of patients presenting during the three months preceding the transition phase, and the three months following the transition phase.

- have at most 25% of physicians providing initial trauma care trained in a formalised trauma life support training programme, like ATLS® or Primary Trauma Care (PTC).

#### 8.4.2 Exclusion criteria

**Hospitals** are excluded if they meet any of the following criteria:

- the hospital of the cluster implements a formalised trauma life support training programme <sup>1</sup> during the trial period; or
- the hospital of the cluster plan to implement or implements other major interventions<sup>2</sup> that affects trauma care during the trial period.

#### 8.4.3 Screening

The trial management group will compile a list of hospitals with potentially eligible clusters and reach out to them to assess their interest in participating in the trial. We will then screen hospitals for eligibility based on the criteria above, using a two-step procedure. First, we will approach hospitals to complete an initial hospital screening instrument (see Appendix Section 20.1). We will then discuss each eligible hospital individually in the Trial Management Group before deciding whether to include it in the trial. We have this discussion because we strive to include hospitals that to a large extent conducts primary resuscitation of trauma patients, rather than hospitals that primarily receives transferred patients from other hospitals, but this is difficult to formalise in the eligibility criteria. We will then perform a more in-depth interview with selected hospitals (See Appendix Section 20.2). To avoid excluding centres we will also discuss plans to implement other potentially competing interventions during the trial period, and take these plans into account when assigning clusters to batches. For example, we are aware of the ongoing implementation of the National Emergency Life Support (NELS) programme in India, and will therefore not include hospitals that plan to implement this programme during the trial period. All screening steps and decisions will be logged using REDCap<sup>34,35</sup>.

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<sup>1</sup>These include but are not limited to the National Emergency Life Support (NELS) programme, the Basic Trauma Life Support (BTLS) programme, the Pre-Hospital Trauma Life Support (PHTLS) programme, the Trauma Nursing Core Course (TNCC) and the Advanced Trauma Care for Nurses (ATCN) programme.

<sup>2</sup>These include but are not limited to implementing of a trauma team approach, opening a trauma centre and implementing a trauma quality improvement programme.



## 8.5 Cluster selection

Clusters are one or more units of physicians providing initial trauma care in the emergency department of secondary or tertiary hospitals in India. These units already exist in the hospitals and rotate through the emergency department on specific days of the week.

### 8.5.1 Inclusion criteria

**Clusters** must meet the following criteria:

- admits or refers/transfers for admission at least 12 patients with trauma per month for at least the last six months; and
- no more than 25% of physicians providing initial trauma care trained in a formalised trauma life support training programme.

### 8.5.2 Screening

The screening of clusters is part of the hospital screening process.

## 8.6 Patient participants selection

Patient participants are adult trauma patients who presents to the emergency department of participating hospitals and are admitted or transferred for admission.

### 8.6.1 Inclusion criteria

**Patients participants** must meet the following criteria:

- age of at least 15 years;
- trauma occurred less than 48 hours before arrival at the hospital;
- present to the emergency department of participating hospitals, with a history of trauma defined as having any of the reasons listed in the International Classification of Diseases chapter XX as the reason for presenting;
- admitted, or died between arrival at the hospital and admission, or referred/transferred from the emergency department of a participating hospital to another hospital for admission; and
- managed by a participating cluster in the emergency department.

### 8.6.2 Exclusion criteria

**Patients participants** are excluded if they meet the following criteria:

- present with isolated limb injuries; or
- are directly admitted to a ward without being seen by a physician in the emergency department.

### 8.6.3 Screening

Clinical research coordinators will screen patient participants either as they arrive to the emergency department or using emergency department registers. The patients or their representatives will receive written information about the study before they are discharged, including about their right to opt out at any time before final analysis. Phone numbers for out of hospital follow up will be extracted from the emergency department registers, and will be securely held only by the clinical research coordinators at each sites.

### 8.6.4 Withdrawal criteria

Patient participants can choose to withdraw their consent for collection of non-routinely recorded data at any time before the final analysis. If they withdraw their consent for this data collection the clinical research coordinator will not collect any more of this data, which also means that no further follow-ups will be conducted. They can also choose to have the data already collected about them removed from the trial at any time before final analysis of the data. Withdrawal of consent or removal of data from the trial will not affect their care in any way. If the patient participant withdraws consent, follow-up of this participant will be performed according to the participating hospitals routine.

## 8.7 Procedures

Table 3 shows an overview of trial procedures before and during patient admission, and Table 4 shows an overview of trial follow-up procedures. Clinical research coordinators will follow up patients daily until discharge to capture injury information. They will also follow up patients at 24 hours, 30 days and 90 days after arrival to the emergency department to capture mortality outcomes, and at 30 days and 90 days after arrival to the emergency department to capture functional outcomes and return to work. If patient participants are discharged before any of these follow-up time points, clinical research coordinators will follow up patients by phone.

Table 3: Overview of trial procedures before and during patient admission

Procedure	Screening	Consenting	Initial assessment	In-hospital care
Eligibility criteria	√			
Study information <sup>1</sup>		√		
Informed consent <sup>1</sup>		√		
Baseline data collection			√	
Prehospital data collection			√	
ATLS adherence <sup>2</sup>			√	
ED data collection <sup>3</sup>			√	
Hospital data collection				√
Surgery data collection				√
Imaging data collection				√
Transfusion data collection				√
Injury data collection				√
Mortality data collection				√
Assessment of safety events				√

<sup>1</sup>Clinical research coordinators will inform patient participants about the study, including that they are free to withdraw their data from the study at any time, and approach them for informed consent for collection of non-routinely recorded data in person or telephonically.

<sup>2</sup>ATLS adherence will be assessed by observing the care provided to a random sample of patient participants.

<sup>3</sup>Emergency Department

Table 4: Overview of trial follow-up procedures

Procedure	Within 7 days of discharge	30 days	90 days
Mortality data collection <sup>1</sup>	√	√	√
EQ-5D/WHODAS	√	√	√
Return to work		√	√
End of study			√

<sup>1</sup>Will be ascertained daily from when the patient participant arrive to hospital until they leave the hospital, are discharged or die.

## 8.8 Biological sampling procedures

This trial does not include biological sampling.

## 8.9 End of trial

The trial ends when the last patient participant has completed the last follow-up. The trial may be prematurely terminated if it is necessary for safety reasons affecting the risk-benefit balance or if the recruitment of subjects cannot be met within reasonable time limits. If the trial is prematurely terminated or suspended, the investigator should immediately inform the subjects about this and ensure appropriate treatment and follow-up. Decisions on premature termination are taken by the joint Trial Steering and Data Monitoring Committee and Trial Management Group.

## 8.10 Intervention and control treatment

The intervention will be ATLS® training. The control will be standard care, meaning no formal trauma life support training. We will train the physicians that initially resuscitate and provide trauma care during the first hour after patient arrival at the emergency department. These physicians can be casualty medical officers, surgical residents, or emergency medicine residents, depending on the setup at each participating centre. The training will occur during the transition phase in each cluster. Our experience from our pilot study is that study sites adhere to the training slot allotted to them through the trial, so we judge the risk of clusters implementing ATLS® before their randomised implementation sequence as very low.

We will train the number units of physicians needed to reach the required patient sample size, but estimate that this will require training an average of ten physicians per hospital, which on average should be mean that we can train one to two units per hospital. This is possible because many hospitals in India organise physicians staffing their emergency departments in units, and the physicians in the same unit work together in the emergency department on the same days of the week. We will therefore collect data only on the days when these units work. The units selected to constitute a cluster from each hospital will be a convenience sample out of all eligible units in those hospitals.

**Advanced Trauma Life Support® (ATLS®)**<sup>12</sup> is a proprietary 2.5 day course teaching a standardised approach to trauma patient care using the concepts of a primary and secondary survey. The programme was developed by the Committee of Trauma of the American College of Surgeons. The course includes initial treatment and resuscitation, triage and interfacility transfers. Learning is based on practical scenario-driven skill stations, lectures and includes a final performance proficiency evaluation. Physicians will be trained in an accredited ATLS® training facility in India. We will assess adherence to ATLS principles before and after implementing ATLS training.

**Standard care** varies across hospitals in India, but trauma patients are initially managed by casualty medical officers, surgical residents, or emergency medicine residents. They are mainly first- or second-year residents who resuscitate patients, perform interventions and refer patients for imaging or other investigations. Compared with other

settings where a trauma team approach is adopted, nurses and other healthcare professionals are only involved to a limited extent during the initial management.

#### **8.10.1 Description of investigational medicinal products**

This trial does not include any investigational medicinal products.

#### **8.10.2 Auxiliary medicinal products**

This trial does not include any auxiliary medicinal products.

#### **8.10.3 Concomitant use of other medications or treatments**

Other than implementing another formalised trauma life support training programme or other major interventions to change the care of trauma patients as specified in the exclusion criteria, concomitant use of other medications and treatments may be provided at the discretion of the investigators and will not be considered an exclusion criterion.

### **8.11 Randomisation**

We will assign clusters to batches as they are found to be eligible and receive ethical approval. Batches will include clusters from hospitals in different regions to optimize trial logistics. We will randomise the clusters allotted to each batch to the different intervention implementation sequences within that batch<sup>3</sup>. We will balance the randomisation within each batch on cluster size, defined as monthly volume of eligible patient participants, using covariate constrained randomisation. The cluster sizes are expected to vary between 12 and 20 patients per month, based on our previous experiences. We will conceal the randomisation order for as long as it is logistically possible, considering that arrangements for sending physicians to ATLS® training need to be made in advance.

### **8.12 Blinding**

It is not possible to blind a stepped-wedge trial, because all clusters receive the intervention.

### **8.13 Treatment after trial end**

When the trial ends, the intervention will have been implemented in all clusters.

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<sup>3</sup>Randomisation will be done using bespoke code from previous trials.

## 8.14 Outcomes

### 8.14.1 Primary outcome

The primary outcome will be in-hospital mortality within 30 days of arrival at the emergency department. Clinical research coordinators will extract information on death from patient hospital records. If the patient has been transferred to another hospital, the clinical research coordinators will collect data on this outcome by calling the patient or a patient representative, or by contacting the hospital to which the patient was transferred. Data on this outcome will be collected continuously during the trial.

### 8.14.2 Secondary outcomes

#### 8.14.2.1 Collected using the main stepped-wedge design

- All cause mortality within 24 hours, 30 days and three months of arrival at the emergency department. Data on this outcome will be collected in the same way as for the primary outcome.
- Length of emergency department stay. Data on this outcome will be collected from patient hospital records.
- Length of hospital stay. Data on this outcome will be collected from patient hospital records.
- Intensive care unit admission. Data on this outcome will be collected from patient hospital records.
- Length of intensive care unit stay. Data on this outcome will be collected from patient hospital records.
- Return to work at 30 days and three months after arrival at the emergency department. Data on this outcome will be collected in person if the patient is still in hospital, or by phone if the patient has been discharged.

#### 8.14.2.2 Collected using the nested staircase design

- Adherence to ATLS<sup>®</sup> principles during initial patient resuscitation, up to one hour after the physician has first seen the patient. This assessment will be done using a 14 item checklist covering the key steps of the ATLS<sup>®</sup> primary survey, which was modelled based on previous work on ATLS<sup>®</sup> adherence<sup>36</sup>. We will consider completion of all 14 steps as 100% adherence. The clinical research coordinators collecting the data will be trained by the trial team to do this, prior to the start of the trial. We will collect this data by observing the care of a random sample of patients. The sampling will be designed as a nested staircase design.

- Quality of life within seven days of discharge, and at 30 days and three months of arrival at the emergency department, measured by the official and validated translations of the EQ5D3L. Data on this outcome will be collected in person if the patient is still in hospital, or by phone if the patient has been discharged. We will collect this data using a nested staircase design.
- Disability within seven days of discharge, and at 30 days and three months of arrival at the emergency department, assessed using the WHO Disability Assessment Schedule 2.0 (WHODAS 2.0). Data on this outcome will be collected in person if the patient is still in hospital, or by phone if the patient has been discharged. This data will also be collected using a nested staircase design.

## **8.15 Handling of adverse and safety events**

### **8.15.1 Definitions**

#### **8.15.1.1 Adverse event**

Any untoward medical occurrence in a clinical trial subject and, which does not necessarily have a causal relationship with the treatment, can be an unfavorable and unintended sign (including an abnormal laboratory discovery), symptom or disease temporally associated with the inclusion in the trial, whether or not related to the trial.

#### **8.15.1.2 Serious adverse event**

Any untoward medical occurrence in a trial participant that:

- leads to death
- is life-threatening
- requires inpatient hospitalization or prolongation of existing hospitalization
- results in persistent or significant disability or incapacity
- results in a congenital anomaly/malformation

#### **8.15.1.3 Safety event**

Any unexpected serious complication that might occur as a consequence of the trial and that are not part of the natural history of trauma.

### 8.15.2 Reporting and assessment of adverse and safety events

In alignment with other current trials including critically ill patients<sup>37</sup>, we will not collect adverse events or serious adverse events, because many of these events are expected in this patient population and we already collect many of these events, for example mortality, as part of our outcomes.

We will only report safety events, if they are life-threatening, prolong hospitalisation or result in meaningful harm to the participant. We cannot pre-define a comprehensive list of events that can be considered safety events, but will actively assess the presence of the following safety events:

- Prolonged mechanical ventilation (> 7 days)
- Initiation of renal replacement therapy
- Prolonged (> 2 days) or renewed (restart after at least 2 days without) use of vasopressors such as norepinephrine or vasopressin

These events are considered safety events because they suggest pulmonary, renal, septic or bleeding complications and an increase in their occurrence following ATLS® training could indicate that the intervention is harmful. These events therefore need to be tracked during the standard care phase as well as the intervention phase, but will only be considered indicative of harm related to the intervention if they occur more often during the intervention phase than during the standard care phase.

We will also report any other safety events that we identify during the trial, and the reporting of such will have to be based on the intuition of the clinical research coordinators and local investigators. Examples of such safety events could include missed injuries or missed investigations, which could be suspected if certain injuries or investigations were identified or conducted more often during the standard care phase than during the intervention phase.

All safety events will be recorded in the Case Record Form (CRF) and reported to the trial management team within 24 hours of its occurrence. The trial management team will then assess if the event can be considered related to the trial or the intervention within 24 hours of it being reported. Events that are considered probably related will be reported immediately to the joint Trial Steering and Data Monitoring Committee.

### 8.15.3 Follow up of safety events

All safety events should be followed up by the local investigator until they are fully evaluated.



## 8.16 Statistics

### 8.16.1 General principles

We will conduct all analysis by modified intention to treat. Clusters and observations within clusters will be considered exposed to the intervention after the date at which the cluster was scheduled to transition. All data will be included with the exception of the transition phases. We will not adjust for multiplicity of analyses because none of the secondary outcomes will be singularly more important. However, all secondary outcomes will be interpreted with due consideration for how all are affected by the intervention without putting any undue emphasis on a single outcome that might be statistically significant but where all others appear to have remained unchanged.

We will use a two-sided significance level of 5% and estimate 95% confidence intervals. The primary subgroup analyses will be based on geographical region because demonstrating the consistency of any effect across multiple regions will enhance the generalisability of the results<sup>4</sup>. Additional subgroup analyses will include age across the groups older adolescents (15-19 years), young adults (20-24 years), adults (25-59 years), and older adults (60 years and older)<sup>38</sup>; sex; and the clinical cohorts blunt multisystem trauma, penetrating trauma, and severe isolated traumatic brain injury.

### 8.16.2 Analysis models

There are a number of requirements for the analysis model. Firstly, all analysis will consider the clustered nature of the design. Secondly, as the trial has only 30 clusters, it will be essential that the model allows for a correction due to the small number of clusters. Thirdly, as the design is a stepped-wedge study, we will adjust for temporal confounding using categorical effects for period of the study (month). Full details on how each of these will be undertaken, with justification is provided below<sup>39</sup>.

For binary outcomes, a mixed effects binomial regression with a logit link will be used to estimate the odds ratio; and a binomial model with identity link used to estimate the risk difference. These models will be fitted using residual pseudo-likelihood estimation based on linearization with subject-specific expansion (RSPL). If the binomial model with the identity link does not converge then only a odds ratio will be reported.

We will include fixed effects for period and a fixed effect for intervention exposure. The primary analysis will allow for clustering by as a random cluster and random cluster by period effect. To correct the potential inflation of the type I error rate due to small number of clusters, a correction for a small number of clusters will be applied, but the correction that will be selected will be based on the best available evidence available closer to the time, and it may differ for the outcomes collected via the complete and

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<sup>4</sup>**Note:** Batches will not be based on regions because it will be logistically more feasible to include clusters from different regions in each batch.

incomplete designs. In a sensitivity analysis we will explore if models with more complicated correlation structures are a better fit to the data. These models are not being used as our primary analysis models as there is limited understanding as to when such models will converge and how to choose between the various different correlation structures which might be plausible.

To this end we will additionally fit generalised linear mixed models (with same link functions and fixed effects as described above) to include a discrete time decay correlation structure including a random cluster effect with auto-regressive structure (AR(1)). To allow for the randomisation by batches, a different secular trend will be included for each batch (interaction between batch and period). For continuous, count and prevalence outcomes similar model-based approaches will be used but with appropriate links and distribution functions, using transformations where appropriate.

### 8.16.3 Additional sensitivity analyses

To additionally explore if the fixed period effect is both parsimonious and adequate to represent the extent of any underlying secular trend, we will model the time effect using a spline function. Models will also be extended to include random cluster by intervention effects (with a non-zero covariance term) to examine if results are sensitive to the assumption of no intervention by cluster interaction. Models will also be extended to include an interaction between treatment and number of periods since first treated, to examine if there is any indication of a relationship between duration of exposure to the intervention and outcomes.

This will allow us to different lag effects (whereby it takes time for the intervention to become embedded within the culture before its impact can properly start to be realised); as well as weaning effects (whereby the effect of the intervention starts to decrease – or fade). This type of analysis attempts to disentangle how some clusters end up having a long exposure to the intervention and others have a much shorter exposure time. A fully adjusted covariate analysis will additionally adjust for a set of pre-specified individual-level covariates of known prognostic importance.

### 8.16.4 Estimation and reporting of within cluster correlations

We will report time adjusted within-cluster correlations for all outcomes with 95% confidence intervals. We will report correlations from the different assumed correlation structures (so we will report intra-cluster correlations (ICC); within and between-period correlations; and within-period correlations and exponential decay). As well as reporting correlations we will additionally report all variance components. For all outcomes we will report correlations on the latent scale (i.e. proportions scale for binary outcomes) as is appropriate to inform future sample size calculations.

## 8.16.5 Sample size calculations

### 8.16.5.1 Main stepped wedge design and primary outcome

With 30 clusters across 6 batches and a total sample size of 4320 our study has ~90% power across different combinations of cluster autocorrelations (CAC) and intra-cluster correlations (ICC) to detect a reduction in the primary outcome of in-hospital mortality within 30 days from 20% under standard care to 15% after ATLS® training (see Figure 5). This effect is a conservative estimate and the reduction equals a risk ratio of 0.75, which would be clinically important while also being consistent with our pilot study and updated systematic review. We allowed for the clustered design and assumed an ICC of 0.02, but considered sensitivity across the range 0.01-0.05<sup>40,41</sup>, and a CAC of 0.9 but considered sensitivity across the range 0.8-1.0, based on our pilot study and current guidance<sup>42-44</sup>. We included the CAC to allow for variation in clustering over time. We assume that each cluster will contribute approximately 12 observations per month to the analysis, based on our previous work.

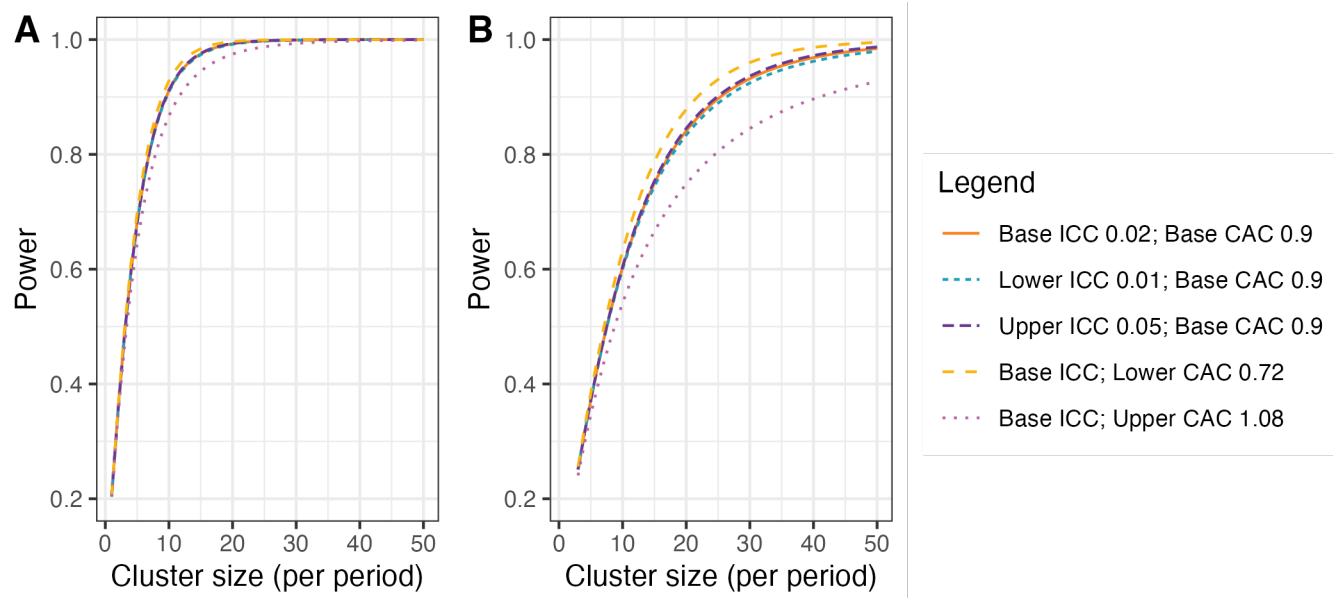


Figure 5: Power curves for different combinations of cluster autocorrelations (CAC) and intra-cluster correlations (ICC). **A)** Shows power curves assuming a reduction in the primary outcome of in-hospital mortality within 30 days from 20% under standard care to 15% after ATLS® training. **B)** Shows power curves assuming a reduction in the primary outcome from 10% under standard care to 7.5% after ATLS® training. Under this scenario, we would need to increase the sample size per month to around 30 observations to achieve 90% power under most combinations of CAC and ICC.

#### 8.16.5.2 Nested staircase design and secondary outcomes

The secondary outcomes that will be measured using the nested staircase design are adherence to ATLS<sup>®</sup> principles during initial patient resuscitation, quality of life, and disability. The expected effect of the intervention on each of these outcomes are an improvement in adherence from 50% during standard care to 70% after training<sup>45</sup>, an increase in EQ5D5L health status from 70 during care to 75 after training<sup>46</sup>, and finally a decrease in disability from a baseline value of 25 during standard care to 22.5 after training<sup>47</sup>. For quality of life and disability, these effects correspond to standardised effect sizes, expressed as Cohen's d, of 0.5. With 30 clusters in total, six per sequence, for a discrete time decay correlation structure, with ICCs of 0.01 to 0.15 and a CAC of 0.8, there is >80% power to detect an these effects by including four patients in each cluster in each period. Accounting for loss to follow-up, we will include at least six patients per cluster per month. These patients will be a random subset of patients included during the staircase months. The random subset will be selected using simple random sampling on the shift level, meaning that the timing of the clinical research coordinator's shift will be randomised to cover approximately eight hours during the morning, afternoon, or night shift. Adherence to ATLS<sup>®</sup> principles, quality of life, and disability will be measured in all patients included during these shifts. In each hospital, the number of shifts that will be randomised will be determined by the volume of patients included during the months preceding the staircase months.

#### 8.16.6 Interim analysis

There will be one interim analyses after half of the batches have completed the trial. The interim analyses will be assessed by the joint Trial Steering and Data Monitoring Committee. The purposes of this interim analysis will be to:

- assess the trial's feasibility and recommend stopping the trial if the trial is not feasible, for example if hospitals fail to adhere to the randomisation schedule or if there are substantial missing data in outcomes;
- compare characteristics across intervention conditions to monitor for differential recruitment/ascertainment between intervention and control.

#### 8.17 Quality control and quality assurance

The George Institute for Global Health - India will ensure proper conduct of the trial through quality control measures including on-site training of personnel, standard operating procedures, ongoing quality metrics assessment, review of missing data and outliers, and round-the-clock availability of coordinating center personnel and Principal Investigators. The trial will strictly follow ICH GCP principles, Indian regulations, and George Institute procedures. The trial operations staff from the George Institute India will train local investigators, and trial site staff, before the trial, with continuous documentation

in the site master file. All documentation will be stored securely and retained according to regulatory requirements.

### **8.18 Quality assurance and oversight**

The Trial Management Group and Trial Team, comprising key project leaders and managers, will play a pivotal role in ensuring the highest standards of quality assurance and effective sponsor oversight throughout the trial. These groups will be responsible for facilitating consistent communication, maintaining fidelity in study implementation, and overseeing the quality of data collection.

To achieve these objectives, the groups will implement a comprehensive communication plan and provide extensive training to site personnel. The training will cover not only the study protocol but also practical aspects of various systems, supplemented by both written and electronic materials designed to educate study and clinical emergency staff.

The trial's quality assurance systems will be meticulously designed based on a thorough risk analysis. A key component of our quality assurance strategy will include the development and implementation of detailed operational manuals and regular meetings. These tools and interactions will ensure that all trial personnel will be used to uphold the trial's quality standards.

Central to our oversight approach will be a comprehensive monitoring and auditing plan. This plan will be tailored based on the identified risks associated with the trial. Through these comprehensive measures, the trial management group, in conjunction with the hospital staff, will ensure that the trial is conducted with the utmost rigor, adhering to the highest standards of quality assurance and effective sponsor oversight.

### **8.19 Monitoring**

We will implement a multi-tiered monitoring strategy, including centralized data consistency checks, statistical monitoring, and selective on-site evaluations. Key integrity measures include source data verification, data entry validation, and regular audits. Any protocol deviations will be thoroughly documented, with serious breaches promptly addressed to ensure data integrity. Monitors from coordinating centres will assist investigators in maintaining high ethical, scientific, technical, and regulatory quality. Monitoring visits will review protocol adherence, participant recruitment, adverse event reporting, compliance with study procedures, and regulatory adherence. Regular remote monitoring of the web-based database will be conducted to ensure data integrity, using validation and consistency rules and regular data cleaning. The Trial Team and Trial Management Group will monitor baseline characteristics, opt-in consent rates and differential opt-in consent rates across trial arms, follow-up rates, CRF return and completeness rates, and safety data.

## **9 Deviations, serious breaches and other reporting obligations**

The responsible investigator shall, without delay, report to the sponsor any serious breaches and deviations from the trial protocol, ICH-GCP and other regulations that significantly and directly affect, or with high likelihood could affect, the subjects' safety and integrity or the reliability and robustness of the data generated in the trial. The sponsor should assess the suspected serious breach and the consequences of deviations that have occurred. Minor deviations that do not affect subjects' integrity or safety, nor significantly affect the trial's scientific value, are documented in the trial documentation of the principal investigator and the sponsor and appropriate measures shall be taken. The deviations must be recorded in the clinical trial report.

## **10 Audits and inspections**

Authorized representatives for the sponsor and Competent Authorities (CA) may carry out audits or inspections at the trial site, including source data verification. The investigator must ensure that all source documents are available for audits and inspections. The purpose of an audit or inspection is to systematically and independently review all trial-related activities and documents, to determine whether these activities were performed, registered, analyzed and reported correctly according to protocol, ICH- GCP and applicable regulations.

## **11 Ethics**

### **11.1 Compliance to the protocol, ICH-GCP and regulations**

The trial will be performed in compliance with this clinical trial protocol, the Declaration of Helsinki, ICH-GCP (Good Clinical Practice), and current national regulations governing this clinical trial. This is to ensure the safety and integrity of the trial subjects as well as the quality of the data collected.

### **11.2 Ethical review of the trial**

The final protocol will be submitted for ethical review at all participating hospitals, where possible, as well as the The George Institute for Global Health in India and Swedish Ethical Review Atuhortiy.

### 11.3 Procedure for obtaining consent

In this trial, consent refers to data collection, as patients cannot opt out of the intervention. This is because the intervention is implemented at the cluster level, involving training physicians in ATLS®. It is unreasonable to expect these physicians to temporarily disregard their training. Patient participants will be included in this trial under the following modes of consent:

- Opt out consent for **routinely recorded data and measurement of adherence to ATLS® principles**. Consent for the collection of routinely recorded data, either through interviews or by extracting information from medical records, as well as for the measurement of adherence to ATLS® principles, will be presumed unless explicitly declined. This approach is justified because the trial is considered to pose minimal risk and because data collection will be non-invasive. Additionally, obtaining consent specifically for the measurement of adherence to ATLS® principles could interfere with the provision of care and cause undue stress for the patient and their representatives. Patients, or their legally authorized representatives, will be provided with written information about the study upon their arrival at the hospital. The variables assumed to be routinely recorded are listed in Section 18.2.
- Opt in consent and assent for **non-routinely recorded data**. Informed consent for non-routinely recorded data will be actively sought from patient participants or their legally authorized representative. For participants who are between 15 and 18 years of age we will obtain both the assent of the participant as well as the consent of their guardian or legally authorized representative. The clinical research coordinators will approach patient participants and their representatives after admission. The consent and assent will be written for patient participants who are admitted to the hospital and verbal for participants who are transferred or discharged before the clinical research coordinators have had an opportunity to approach them. The verbal consent will be audio recorded.
- Waiver of informed consent for patients who are unconscious or otherwise unable to provide consent and do not have a legally authorized representative. This group represents the most severely injured patients and they have to be included to make the trial representative of the entire population of trauma patients. Patients participants who regain consciousness will be informed about the study and asked for consent for collection of non-routinely recorded data.

### 11.4 Data protection

All data will be handled according to the Indian Council of Medical Research's guidelines and standard operating procedures of the George Institute for Global Health India on data security and protection. Trial data will be shared via the trial electronic CRF (eCRF) throughout the trial. The eCRF will be accessible via VPN with a two-factor

authentication and the data will be held on a secure server. All investigators and trial site staff involved in this trial must comply with the requirements of the ICMR Guidelines on data security and protection. The participant information sheet provided to participants, will inform them how:

- the trial data will be collected, used and disclosed;
- how trial data are stored to maintain confidentiality in accordance with national data legislation; and
- for verification of the data, representatives delegated by the sponsor, as well as relevant authorities, may require access to parts of medical records or trial records that are relevant to the trial, including the patient participant's medical history.

## 12 Insurances

The George Institute for Global Health, India is responsible for ensuring that any insurance cover required to cover the set-up, management and conduct of the study in India has been obtained. The George Institute for Global Health, India is also responsible for ensuring that India Sites have been obtained and/or will obtain insurance prior to the opening of the study in India and shall be maintained for the duration of the study and for an appropriate period thereafter. This includes being responsible for ensuring that there is appropriate insurance for the duration of the study to cover against claims for compensation by participants arising out of their participation in the trial in India. Compensation in case of injury or death will be provided by the George Institute for Global Health, India according to the regulations outlined in rules 39, 40 and 42 of the New Drugs and Clinical Rules (2019). x

## 13 Substantial changes to the trial

Substantial changes to the signed clinical trial protocol are only possible through approved protocol amendments and by agreement between the sponsor and the principal investigator.

## 14 Trial organisation

Trial management and oversight is governed by three trial committees and groups: the Trial Team (TT), the Trial Management Group (TMG), the joint Trial Steering and Data Monitoring Committee (SDMC). These groups and their relationships are briefly described in Figure 6. Details about each committee and group are available in their respective charter.



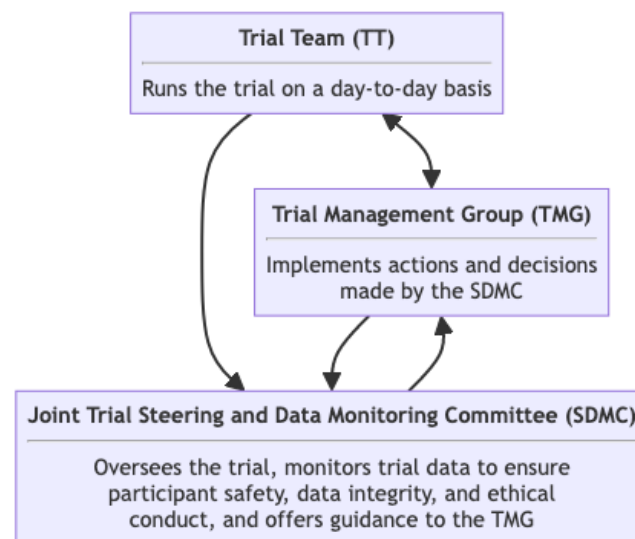


Figure 6: Trial organisation overview.

## 14.1 Trial team

### Responsibility

To run the trial on a day-to-day basis, maintain trial databases, randomise clusters, ensuring complete and correct data, preparing reports for meetings (including those of the TMG and SDMC) and dealing with research governance and, if appropriate, regulatory matters.

### Composition

Includes the project manager, clinical research associates, principal investigator and co-investigators as needed.

### Relationships

Reports to the TMG and SDMC. Operationalises decisions made by the TMG.

### Meeting frequencies

As often as needed, often weekly or bi-weekly.

## 14.2 Trial Management Group (TMG)

### Responsibility

To manage the trial, including its clinical and practical aspects.

**Composition**

Includes members with broad expertise appropriate to the trial. The TMG will be chaired by the Principal Investigator.

**Relationships**

Receives reports from TT. Provides input to the SDMC. Implements decisions made by the SDMC.

**Meeting frequencies**

Monthly to every six months.

**14.3 Joint Trial Steering and Data Monitoring Committee (SDMC)****Responsibility**

The SDMC's responsibility is to oversee the trial, review results of interim analyses and safety events reported by the TMG, and review trial data for each batch, assessing data quality, completeness, cluster performance in recruitment and loss to follow-up rates, and external factors affecting trial validity, safety, or ethics. This committee also offer guidance to the TMG.

**Composition**

A majority of independent members, including a chair and three additional external experts specializing in the clinical area, biostatistics, and a community or patient representative, as well as and a minority of members with a direct interest in the trial, including the principal investigator. The chair should be independent of the trial, and the coordinating institutions Karolinska Institutet and The George Institute for Global Health.

**Relationships**

Receives reports from the trial team and TMG.

**Meeting frequencies**

After the completion of each batch, but may be more frequent if needed.

**15 Funding**

- Swedish Research Council (reg. no. 2023-03128)
- Laerdal Foundation (reg. no. 2023-0297)

## 16 Special considerations

### 16.1 Funding

This trial is not yet fully funded. The Trial Management Group has decided to proceed with the trial with the expectation that additional funding will be secured. The Trial Steering Committee will be informed of the funding status at each meeting. If funding is not secured, the trial will be stopped. This will likely result in an underpowered trial. The justification for this decision is that the intervention is considered standard of care in many countries and the data collection is considered minimal risk. There is therefore a very small risk of harm to patient participants, but a potential direct benefit to those patient participants who receive the intervention. The benefit-risk ratio is therefore considered to be favourable, even in the case of an underpowered trial.

### 16.2 Potential amendments

There are ongoing discussions about re-framing the trial as a hybrid effectiveness-implementation trial and include a cost-effectiveness analysis. This would involve adding additional data collection to assess the implementation and costs of the intervention. This would involve additional funding and amended ethical approvals.

## 17 Notification of trial completion, reporting, and publication

The trial will be reported to the Funders within a year of completion. The results of the trial will also be prepared as manuscripts for publication. Authorship on trial manuscripts will be based on the International Committee of Medical Journal Editors (ICMJE) criteria<sup>48</sup>:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or reviewing it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

In addition to being accountable for the parts of the work done, an author should be able to identify which co-authors are responsible for specific other parts of the work. In addition, authors should have confidence in the integrity of the contributions of their co-authors.

The most recent version of the ICMJE criteria will be adhered to. We will also use the ICMJE criteria for non-author contributorship.

Before work on a trial manuscript is initiated, a writing group will be formed and first and last authors will be designated. This writing group will be formed by discussion in the Trial Management Group.

## 18 Collection, handling, and archiving of data

Clinical research coordinators will collect data using a paper based CRF (see Appendix Section 20.3), which is then transferred to an eCRF. All trial data in the CRF must be extracted from and be consistent with the relevant source documents. The eCRF will be accessible to trial coordinators, data managers, the Investigators, Clinical Trial Monitors, Auditors, and Inspectors as required. All data will be registered, managed, and stored in a manner that enables correct reporting, interpretation, and verification. The complete Trial Master File, as well as source documents, will be archived for at least 10 years after the trial is completed. Source data in the medical records system are stored and archived in accordance with national regulations. Metadata will be publicly accessible via a persistent DOI, and anonymised data will be released upon project completion. A detailed data management plan is available here <https://doi.org/10.5281/zenodo.7748764>.

### 18.1 Source data

The source data for each variable is given in Section 18.2. Whenever medical records are the source data, this includes imaging and lab reports. Whenever an interview is given as the source, the CRF will constitute the source data, as this is where the responses to questions will be recorded. The local investigator must keep source documents for each patient participant in the trial. A document describing what has been classified as source data in the trial (source data reference document) will be included in the Investigator Site File (ISF). The investigator must ensure that all source documents are accessible for monitoring and other quality control activities. Source data is further defined before trial start at each individual site and can, in cases where source data is not registered in another document, consist of the CRF. This should be decided in consultation with the monitor and clearly stated in the source data reference document. Access to trial-related documentation, such as patient participants' medical records, CRFs, other source data and other trial documentation will be provided for monitoring and auditing purposes. Access will also be granted in the context of regulatory inspections.

## 18.2 Variables

### 18.2.1 Screening

- **Screening ID**
- **1. Date of screening**
- **2. Date of data entry**
- **1. Is the patient at least 15 years old?** Source: Medical record or interview
  - 1. Yes
  - 2. No
- **2. Did the patient present with a history of trauma defined as having any of the reasons listed in the International Classification of Diseases chapter XX as the reason for presenting?** Please see <https://icd.who.int/browse10/2019/en#/XX> for a complete list of ICD-10 codes Source: Medical record or interview
  - 1. Yes
  - 2. No
- **3. Did the trauma occur less than 48 hours before arrival to the hospital?** Source: Medical record or interview
  - 1. Yes
  - 2. No
- **4. Was the patient admitted?** Source: Medical record
  - 1. Yes
  - 2. No
- **5. Did the patient die after arrival but before admission?** Source: Medical record
  - 1. Yes
  - 2. No
- **6. Was the patient transferred to another hospital for admission?** Source: Medical record
  - 1. Yes
  - 2. No

- **1. Did the patient present with isolated limb injury?** Source: Medical record
  - 1. Yes
  - 2. No
- **2. Was the patient directly admitted to a ward without being seen by a physician in the emergency department?** Source: Medical record
  - 1. Yes
  - 2. No
- **Is the patient eligible? (Eligible=1; Not Eligible=0)**
- **Any other comments?**

### 18.2.2 Consent

- **1. Is this patient included under the waiver of informed consent because the patient is unconscious or otherwise unable to provide consent and do not have a legally acceptable representative?**
  - 1. Yes
  - 2. No
- **1. Did the participant/ or legally acceptable representative (LAR) provided consent for collection of non-routinely recorded data**
  - 1. Yes
  - 2. No
- **2. Who gave consent for collection of non-routinely recorded data?**
  - 1. Patient participant
  - 2. Legally acceptable representative
- **3. What is the LAR's relationship with the participant?**
- **4. Why was Legally acceptable representative (LAR) approached for consent for collection of non-routinely recorded data?**
  - 1. The participant is incapacitated because of the trauma
  - 2. The participant is younger than 18 years
- **5. Date when participant or legally acceptable representative (LAR) gave consent for collection of non-routinely recorded data.**

- **6. How did the participant or legally acceptable representative (LAR) consent for collection of non-routinely recorded data?**
  - 1. In writing
  - 2. Verbally
- **7. Reconsenting done?**
  - 1. Yes
  - 2. No
- **7.1 Date when the participant was reconsented?**
- **7.2 Why consenting was not done?**
- **1. Did the minor give assent for collection of non-routinely recorded data?**
  - 1. Yes
  - 2. No
- **2. Date when the minor gave assent for collection of non-routinely recorded data.**
- **3. In case the minor refused to participate, date when minor refused**
- **1. Is the participant or LAR wants to opt out from study?**
  - 1. Yes
  - 2. No
- **2. Who opted-out of the routinely recorded data (in-hospital)?**
  - 1. Patient participant
  - 2. Legally acceptable representative (LAR)
- **3. Date when participant or legally acceptable representative (LAR) opted-out.**
- **4. Did the participant or legally acceptable representative (LAR) suggested to delete all the previously recorded data?**
  - 1. Yes
  - 2. No
- **Any other comments?**

**18.2.3 Consent withdrawn**

- **1. Does the participant or legally acceptable representative (LAR) want to withdraw the consent?**
  1. Yes
  2. No
- **2. Date of consent withdrawal for follow-up data collection.**
- **3. Procedure(s) for which consent has been withdrawn**
  1. Data collection prior to withdrawal
  2. All data collection after withdrawal
  3. Both
- **Any other comments?**

**18.2.4 Baseline**

- **1. Age in years** Source: Medical record of interview
- **2. Sex** Source: Medical record of interview
  1. Female
  2. Male
  3. Other
  4. Not known
- **3. Current marital status** Requires opt-in consent, not routinely recorded. Source: Interview
  1. Never married
  2. Currently married
  3. Separated
  4. Divorced
  5. Widowed
  6. Cohabiting
  7. Not known
- **4. Education level** Requires opt-in consent, not routinely recorded. Source: Interview
  1. Not attended school
  2. Primary school
  3. Secondary school



4. Higher secondary school
  5. Graduate
  6. Post graduate and above
  7. Other
  8. Not known
- **5. If other, please specify** Requires opt-in consent, not routinely recorded. Source: Interview
  - **6. Main work status** Requires opt-in consent, not routinely recorded. Source: Interview
    1. Paid work, such as daily wage earner, teacher, factory worker and government employee
    2. Self-employed, such as own your business or farming
    3. Non-paid work, such as volunteer or charity
    4. Student
    5. Keeping house/homemaker
    6. Retired
    7. Unemployed (health reasons)
    8. Unemployed (other reasons)
    9. Other
    10. No income
    11. Not known
  - **7. If other, please specify** Requires opt-in consent, not routinely recorded. Source: Interview
  - **8. Income level in INR per month** Requires opt-in consent, not routinely recorded. Source: Interview
    1. Below 10,000
    2. 10,001-20,000
    3. 20,001-30,000
    4. 30,001-50,000
    5. 50,001-80,000
    6. 80,001-1,00,000
    7. Above 1,00,000
    8. No income
    9. Not known
  - **9. Mechanism of injury description**
  - **10. Mechanism of injury ICD 10 code** Coded using ICD 10. Please see <https://icd.who.int/browse10/2019/en#/XX> for a complete list of ICD-10 codes. Source: Medical record

- 1110. V01 Pedestrian injured in collision with pedal cycle
- 1111. V01.0 Pedestrian injured in collision with pedal cycle : nontraffic accident
- 1112. V01.1 Pedestrian injured in collision with pedal cycle : traffic accident
- 1113. V01.9 Pedestrian injured in collision with pedal cycle : unspecified whether traffic or nontraffic accident
- 1114. V02 Pedestrian injured in collision with two- or three-wheeled motor vehicle
- 1115. V02.0 Pedestrian injured in collision with two- or three-wheeled motor vehicle : nontraffic accident
- 1116. V02.1 Pedestrian injured in collision with two- or three-wheeled motor vehicle : traffic accident
- 1117. V02.9 Pedestrian injured in collision with two- or three-wheeled motor vehicle : unspecified whether traffic or nontraffic accident
- 1118. V03 Pedestrian injured in collision with car, pick-up truck or van
- 1119. V03.0 Pedestrian injured in collision with car, pick-up truck or van : nontraffic accident
- 1120. V03.1 Pedestrian injured in collision with car, pick-up truck or van : traffic accident
- 1121. V03.9 Pedestrian injured in collision with car, pick-up truck or van : unspecified whether traffic or nontraffic accident
- 1122. V04 Pedestrian injured in collision with heavy transport vehicle or bus
- 1123. V04.0 Pedestrian injured in collision with heavy transport vehicle or bus : nontraffic accident
- 1124. V04.1 Pedestrian injured in collision with heavy transport vehicle or bus : traffic accident
- 1125. V04.9 Pedestrian injured in collision with heavy transport vehicle or bus : unspecified whether traffic or nontraffic accident
- 1126. V05 Pedestrian injured in collision with railway train or railway vehicle
- 1127. V05.0 Pedestrian injured in collision with railway train or railway vehicle : nontraffic accident
- 1128. V05.1 Pedestrian injured in collision with railway train or railway vehicle : traffic accident
- 1129. V05.9 Pedestrian injured in collision with railway train or railway vehicle : unspecified whether traffic or nontraffic accident
- 1130. V06 Pedestrian injured in collision with other nonmotor vehicle
- 1131. V06.0 Pedestrian injured in collision with other nonmotor vehicle : nontraffic accident
- 1132. V06.1 Pedestrian injured in collision with other nonmotor vehicle : traffic accident
- 1133. V06.9 Pedestrian injured in collision with other nonmotor vehicle : unspecified whether traffic or nontraffic accident
- 1134. V09 Pedestrian injured in other and unspecified transport accidents
- 1135. V09.0 Pedestrian injured in nontraffic accident involving other and unspecified motor vehicles

- 1136. V09.1 Pedestrian injured in unspecified nontraffic accident
- 1137. V09.2 Pedestrian injured in traffic accident involving other and unspecified motor vehicles
- 1138. V09.3 Pedestrian injured in unspecified traffic accident
- 1139. V09.9 Pedestrian injured in unspecified transport accident
- 1140. V10 Pedal cyclist injured in collision with pedestrian or animal
- 1141. V10.0 Pedal cyclist injured in collision with pedestrian or animal : driver injured in nontraffic accident
- 1142. V10.1 Pedal cyclist injured in collision with pedestrian or animal : passenger injured in nontraffic accident
- 1143. V10.2 Pedal cyclist injured in collision with pedestrian or animal : unspecified pedal cyclist injured in nontraffic accident
- 1144. V10.3 Pedal cyclist injured in collision with pedestrian or animal : person injured while boarding or alighting
- 1145. V10.4 Pedal cyclist injured in collision with pedestrian or animal : driver injured in traffic accident
- 1146. V10.5 Pedal cyclist injured in collision with pedestrian or animal : passenger injured in traffic accident
- 1147. V10.9 Pedal cyclist injured in collision with pedestrian or animal : unspecified pedal cyclist injured in traffic accident
- 1148. V11 Pedal cyclist injured in collision with other pedal cycle
- 1149. V11.0 Pedal cyclist injured in collision with other pedal cycle : driver injured in nontraffic accident
- 1150. V11.1 Pedal cyclist injured in collision with other pedal cycle : passenger injured in nontraffic accident
- 1151. V11.2 Pedal cyclist injured in collision with other pedal cycle : unspecified pedal cyclist injured in nontraffic accident
- 1152. V11.3 Pedal cyclist injured in collision with other pedal cycle : person injured while boarding or alighting
- 1153. V11.4 Pedal cyclist injured in collision with other pedal cycle : driver injured in traffic accident
- 1154. V11.5 Pedal cyclist injured in collision with other pedal cycle : passenger injured in traffic accident
- 1155. V11.9 Pedal cyclist injured in collision with other pedal cycle : unspecified pedal cyclist injured in traffic accident
- 1156. V12 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle
- 1157. V12.0 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle : driver injured in nontraffic accident
- 1158. V12.1 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle : passenger injured in nontraffic accident
- 1159. V12.2 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle : unspecified pedal cyclist injured in nontraffic accident
- 1160. V12.3 Pedal cyclist injured in collision with two- or three-wheeled motor ve-

- hicle : person injured while boarding or alighting
- 1161. V12.4 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle : driver injured in traffic accident
  - 1162. V12.5 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle : passenger injured in traffic accident
  - 1163. V12.9 Pedal cyclist injured in collision with two- or three-wheeled motor vehicle : unspecified pedal cyclist injured in traffic accident
  - 1164. V13 Pedal cyclist injured in collision with car, pick-up truck or van
  - 1165. V13.0 Pedal cyclist injured in collision with car, pick-up truck or van : driver injured in nontraffic accident
  - 1166. V13.1 Pedal cyclist injured in collision with car, pick-up truck or van : passenger injured in nontraffic accident
  - 1167. V13.2 Pedal cyclist injured in collision with car, pick-up truck or van : unspecified pedal cyclist injured in nontraffic accident
  - 1168. V13.3 Pedal cyclist injured in collision with car, pick-up truck or van : person injured while boarding or alighting
  - 1169. V13.4 Pedal cyclist injured in collision with car, pick-up truck or van : driver injured in traffic accident
  - 1170. V13.5 Pedal cyclist injured in collision with car, pick-up truck or van : passenger injured in traffic accident
  - 1171. V13.9 Pedal cyclist injured in collision with car, pick-up truck or van : unspecified pedal cyclist injured in traffic accident
  - 1172. V14 Pedal cyclist injured in collision with heavy transport vehicle or bus
  - 1173. V14.0 Pedal cyclist injured in collision with heavy transport vehicle or bus : driver injured in nontraffic accident
  - 1174. V14.1 Pedal cyclist injured in collision with heavy transport vehicle or bus : passenger injured in nontraffic accident
  - 1175. V14.2 Pedal cyclist injured in collision with heavy transport vehicle or bus : unspecified pedal cyclist injured in nontraffic accident
  - 1176. V14.3 Pedal cyclist injured in collision with heavy transport vehicle or bus : person injured while boarding or alighting
  - 1177. V14.4 Pedal cyclist injured in collision with heavy transport vehicle or bus : driver injured in traffic accident
  - 1178. V14.5 Pedal cyclist injured in collision with heavy transport vehicle or bus : passenger injured in traffic accident
  - 1179. V14.9 Pedal cyclist injured in collision with heavy transport vehicle or bus : unspecified pedal cyclist injured in traffic accident
  - 1180. V15 Pedal cyclist injured in collision with railway train or railway vehicle
  - 1181. V15.0 Pedal cyclist injured in collision with railway train or railway vehicle : driver injured in nontraffic accident
  - 1182. V15.1 Pedal cyclist injured in collision with railway train or railway vehicle : passenger injured in nontraffic accident
  - 1183. V15.2 Pedal cyclist injured in collision with railway train or railway vehicle :

- unspecified pedal cyclist injured in nontraffic accident
1184. V15.3 Pedal cyclist injured in collision with railway train or railway vehicle : person injured while boarding or alighting
1185. V15.4 Pedal cyclist injured in collision with railway train or railway vehicle : driver injured in traffic accident
1186. V15.5 Pedal cyclist injured in collision with railway train or railway vehicle : passenger injured in traffic accident
1187. V15.9 Pedal cyclist injured in collision with railway train or railway vehicle : unspecified pedal cyclist injured in traffic accident
1188. V16 Pedal cyclist injured in collision with other nonmotor vehicle
1189. V16.0 Pedal cyclist injured in collision with other nonmotor vehicle : driver injured in nontraffic accident
1190. V16.1 Pedal cyclist injured in collision with other nonmotor vehicle : passenger injured in nontraffic accident
1191. V16.2 Pedal cyclist injured in collision with other nonmotor vehicle : unspecified pedal cyclist injured in nontraffic accident
1192. V16.3 Pedal cyclist injured in collision with other nonmotor vehicle : person injured while boarding or alighting
1193. V16.4 Pedal cyclist injured in collision with other nonmotor vehicle : driver injured in traffic accident
1194. V16.5 Pedal cyclist injured in collision with other nonmotor vehicle : passenger injured in traffic accident
1195. V16.9 Pedal cyclist injured in collision with other nonmotor vehicle : unspecified pedal cyclist injured in traffic accident
1196. V17 Pedal cyclist injured in collision with fixed or stationary object
1197. V17.0 Pedal cyclist injured in collision with fixed or stationary object : driver injured in nontraffic accident
1198. V17.1 Pedal cyclist injured in collision with fixed or stationary object : passenger injured in nontraffic accident
1199. V17.2 Pedal cyclist injured in collision with fixed or stationary object : unspecified pedal cyclist injured in nontraffic accident
1200. V17.3 Pedal cyclist injured in collision with fixed or stationary object : person injured while boarding or alighting
1201. V17.4 Pedal cyclist injured in collision with fixed or stationary object : driver injured in traffic accident
1202. V17.5 Pedal cyclist injured in collision with fixed or stationary object : passenger injured in traffic accident
1203. V17.9 Pedal cyclist injured in collision with fixed or stationary object : unspecified pedal cyclist injured in traffic accident
1204. V18 Pedal cyclist injured in noncollision transport accident
1205. V18.0 Pedal cyclist injured in noncollision transport accident : driver injured in nontraffic accident
1206. V18.1 Pedal cyclist injured in noncollision transport accident : passenger

- injured in nontraffic accident
- 1207. V18.2 Pedal cyclist injured in noncollision transport accident : unspecified pedal cyclist injured in nontraffic accident
  - 1208. V18.3 Pedal cyclist injured in noncollision transport accident : person injured while boarding or alighting
  - 1209. V18.4 Pedal cyclist injured in noncollision transport accident : driver injured in traffic accident
  - 1210. V18.5 Pedal cyclist injured in noncollision transport accident : passenger injured in traffic accident
  - 1211. V18.9 Pedal cyclist injured in noncollision transport accident : unspecified pedal cyclist injured in traffic accident
  - 1212. V19 Pedal cyclist injured in other and unspecified transport accidents
  - 1213. V19.0 Driver injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1214. V19.1 Passenger injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1215. V19.2 Unspecified pedal cyclist injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1216. V19.3 Pedal cyclist [any] injured in unspecified nontraffic accident
  - 1217. V19.4 Driver injured in collision with other and unspecified motor vehicles in traffic accident
  - 1218. V19.5 Passenger injured in collision with other and unspecified motor vehicles in traffic accident
  - 1219. V19.6 Unspecified pedal cyclist injured in collision with other and unspecified motor vehicles in traffic accident
  - 1220. V19.8 Pedal cyclist [any] injured in other specified transport accidents
  - 1221. V19.9 Pedal cyclist [any] injured in unspecified traffic accident
  - 1222. V20 Motorcycle rider injured in collision with pedestrian or animal
  - 1223. V20.0 Motorcycle rider injured in collision with pedestrian or animal : driver injured in nontraffic accident
  - 1224. V20.1 Motorcycle rider injured in collision with pedestrian or animal : passenger injured in nontraffic accident
  - 1225. V20.2 Motorcycle rider injured in collision with pedestrian or animal : unspecified motorcycle rider injured in nontraffic accident
  - 1226. V20.3 Motorcycle rider injured in collision with pedestrian or animal : person injured while boarding or alighting
  - 1227. V20.4 Motorcycle rider injured in collision with pedestrian or animal : driver injured in traffic accident
  - 1228. V20.5 Motorcycle rider injured in collision with pedestrian or animal : passenger injured in traffic accident
  - 1229. V20.9 Motorcycle rider injured in collision with pedestrian or animal : unspecified motorcycle rider injured in traffic accident
  - 1230. V21 Motorcycle rider injured in collision with pedal cycle

- 1231. V21.0 Motorcycle rider injured in collision with pedal cycle : driver injured in nontraffic accident
- 1232. V21.1 Motorcycle rider injured in collision with pedal cycle : passenger injured in nontraffic accident
- 1233. V21.2 Motorcycle rider injured in collision with pedal cycle : unspecified motorcycle rider injured in nontraffic accident
- 1234. V21.3 Motorcycle rider injured in collision with pedal cycle : person injured while boarding or alighting
- 1235. V21.4 Motorcycle rider injured in collision with pedal cycle : driver injured in traffic accident
- 1236. V21.5 Motorcycle rider injured in collision with pedal cycle : passenger injured in traffic accident
- 1237. V21.9 Motorcycle rider injured in collision with pedal cycle : unspecified motorcycle rider injured in traffic accident
- 1238. V22 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle
- 1239. V22.0 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle : driver injured in nontraffic accident
- 1240. V22.1 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle : passenger injured in nontraffic accident
- 1241. V22.2 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle : unspecified motorcycle rider injured in nontraffic accident
- 1242. V22.3 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle : person injured while boarding or alighting
- 1243. V22.4 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle : driver injured in traffic accident
- 1244. V22.5 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle : passenger injured in traffic accident
- 1245. V22.9 Motorcycle rider injured in collision with two- or three-wheeled motor vehicle : unspecified motorcycle rider injured in traffic accident
- 1246. V23 Motorcycle rider injured in collision with car, pick-up truck or van
- 1247. V23.0 Motorcycle rider injured in collision with car, pick-up truck or van : driver injured in nontraffic accident
- 1248. V23.1 Motorcycle rider injured in collision with car, pick-up truck or van : passenger injured in nontraffic accident
- 1249. V23.2 Motorcycle rider injured in collision with car, pick-up truck or van : unspecified motorcycle rider injured in nontraffic accident
- 1250. V23.3 Motorcycle rider injured in collision with car, pick-up truck or van : person injured while boarding or alighting
- 1251. V23.4 Motorcycle rider injured in collision with car, pick-up truck or van : driver injured in traffic accident
- 1252. V23.5 Motorcycle rider injured in collision with car, pick-up truck or van : passenger injured in traffic accident



- 1253. V23.9 Motorcycle rider injured in collision with car, pick-up truck or van : unspecified motorcycle rider injured in traffic accident
- 1254. V24 Motorcycle rider injured in collision with heavy transport vehicle or bus
- 1255. V24.0 Motorcycle rider injured in collision with heavy transport vehicle or bus : driver injured in nontraffic accident
- 1256. V24.1 Motorcycle rider injured in collision with heavy transport vehicle or bus : passenger injured in nontraffic accident
- 1257. V24.2 Motorcycle rider injured in collision with heavy transport vehicle or bus : unspecified motorcycle rider injured in nontraffic accident
- 1258. V24.3 Motorcycle rider injured in collision with heavy transport vehicle or bus : person injured while boarding or alighting
- 1259. V24.4 Motorcycle rider injured in collision with heavy transport vehicle or bus : driver injured in traffic accident
- 1260. V24.5 Motorcycle rider injured in collision with heavy transport vehicle or bus : passenger injured in traffic accident
- 1261. V24.9 Motorcycle rider injured in collision with heavy transport vehicle or bus : unspecified motorcycle rider injured in traffic accident
- 1262. V25 Motorcycle rider injured in collision with railway train or railway vehicle
- 1263. V25.0 Motorcycle rider injured in collision with railway train or railway vehicle : driver injured in nontraffic accident
- 1264. V25.1 Motorcycle rider injured in collision with railway train or railway vehicle : passenger injured in nontraffic accident
- 1265. V25.2 Motorcycle rider injured in collision with railway train or railway vehicle : unspecified motorcycle rider injured in nontraffic accident
- 1266. V25.3 Motorcycle rider injured in collision with railway train or railway vehicle : person injured while boarding or alighting
- 1267. V25.4 Motorcycle rider injured in collision with railway train or railway vehicle : driver injured in traffic accident
- 1268. V25.5 Motorcycle rider injured in collision with railway train or railway vehicle : passenger injured in traffic accident
- 1269. V25.9 Motorcycle rider injured in collision with railway train or railway vehicle : unspecified motorcycle rider injured in traffic accident
- 1270. V26 Motorcycle rider injured in collision with other nonmotor vehicle
- 1271. V26.0 Motorcycle rider injured in collision with other nonmotor vehicle : driver injured in nontraffic accident
- 1272. V26.1 Motorcycle rider injured in collision with other nonmotor vehicle : passenger injured in nontraffic accident
- 1273. V26.2 Motorcycle rider injured in collision with other nonmotor vehicle : unspecified motorcycle rider injured in nontraffic accident
- 1274. V26.3 Motorcycle rider injured in collision with other nonmotor vehicle : person injured while boarding or alighting
- 1275. V26.4 Motorcycle rider injured in collision with other nonmotor vehicle : driver injured in traffic accident



- 1276. V26.5 Motorcycle rider injured in collision with other nonmotor vehicle : passenger injured in traffic accident
- 1277. V26.9 Motorcycle rider injured in collision with other nonmotor vehicle : unspecified motorcycle rider injured in traffic accident
- 1278. V27 Motorcycle rider injured in collision with fixed or stationary object
- 1279. V27.0 Motorcycle rider injured in collision with fixed or stationary object : driver injured in nontraffic accident
- 1280. V27.1 Motorcycle rider injured in collision with fixed or stationary object : passenger injured in nontraffic accident
- 1281. V27.2 Motorcycle rider injured in collision with fixed or stationary object : unspecified motorcycle rider injured in nontraffic accident
- 1282. V27.3 Motorcycle rider injured in collision with fixed or stationary object : person injured while boarding or alighting
- 1283. V27.4 Motorcycle rider injured in collision with fixed or stationary object : driver injured in traffic accident
- 1284. V27.5 Motorcycle rider injured in collision with fixed or stationary object : passenger injured in traffic accident
- 1285. V27.9 Motorcycle rider injured in collision with fixed or stationary object : unspecified motorcycle rider injured in traffic accident
- 1286. V28 Motorcycle rider injured in noncollision transport accident
- 1287. V28.0 Motorcycle rider injured in noncollision transport accident : driver injured in nontraffic accident
- 1288. V28.1 Motorcycle rider injured in noncollision transport accident : passenger injured in nontraffic accident
- 1289. V28.2 Motorcycle rider injured in noncollision transport accident : unspecified motorcycle rider injured in nontraffic accident
- 1290. V28.3 Motorcycle rider injured in noncollision transport accident : person injured while boarding or alighting
- 1291. V28.4 Motorcycle rider injured in noncollision transport accident : driver injured in traffic accident
- 1292. V28.5 Motorcycle rider injured in noncollision transport accident : passenger injured in traffic accident
- 1293. V28.9 Motorcycle rider injured in noncollision transport accident : unspecified motorcycle rider injured in traffic accident
- 1294. V29 Motorcycle rider injured in other and unspecified transport accidents
- 1295. V29.0 Driver injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1296. V29.1 Passenger injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1297. V29.2 Unspecified motorcycle rider injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1298. V29.3 Motorcycle rider [any] injured in unspecified nontraffic accident
- 1299. V29.4 Driver injured in collision with other and unspecified motor vehicles in

- traffic accident
- 1300. V29.5 Passenger injured in collision with other and unspecified motor vehicles in traffic accident
  - 1301. V29.6 Unspecified motorcycle rider injured in collision with other and unspecified motor vehicles in traffic accident
  - 1302. V29.8 Motorcycle rider [any] injured in other specified transport accidents
  - 1303. V29.9 Motorcycle rider [any] injured in unspecified traffic accident
  - 1304. V30 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal
  - 1305. V30.0 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : driver injured in nontraffic accident
  - 1306. V30.1 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : passenger injured in nontraffic accident
  - 1307. V30.2 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : person on outside of vehicle injured in nontraffic accident
  - 1308. V30.3 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : unspecified occupant of three-wheeled motor vehicle injured in nontraffic accident
  - 1309. V30.4 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : person injured while boarding or alighting
  - 1310. V30.5 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : driver injured in traffic accident
  - 1311. V30.6 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : passenger injured in traffic accident
  - 1312. V30.7 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : person on outside of vehicle injured in traffic accident
  - 1313. V30.9 Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
  - 1314. V31 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle
  - 1315. V31.0 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : driver injured in nontraffic accident
  - 1316. V31.1 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : passenger injured in nontraffic accident
  - 1317. V31.2 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : person on outside of vehicle injured in nontraffic accident
  - 1318. V31.3 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : unspecified occupant of three-wheeled motor vehicle injured in non-traffic accident
  - 1319. V31.4 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : person injured while boarding or alighting
  - 1320. V31.5 Occupant of three-wheeled motor vehicle injured in collision with pedal

- cycle : driver injured in traffic accident
1321. V31.6 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : passenger injured in traffic accident
1322. V31.7 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : person on outside of vehicle injured in traffic accident
1323. V31.9 Occupant of three-wheeled motor vehicle injured in collision with pedal cycle : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
1324. V32 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle
1325. V32.0 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : driver injured in nontraffic accident
1326. V32.1 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : passenger injured in nontraffic accident
1327. V32.2 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in non-traffic accident
1328. V32.3 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : unspecified occupant of three-wheeled motor vehicle injured in nontraffic accident
1329. V32.4 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : person injured while boarding or alighting
1330. V32.5 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : driver injured in traffic accident
1331. V32.6 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : passenger injured in traffic accident
1332. V32.7 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in traffic accident
1333. V32.9 Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
1334. V33 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van
1335. V33.0 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : driver injured in nontraffic accident
1336. V33.1 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : passenger injured in nontraffic accident
1337. V33.2 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : person on outside of vehicle injured in nontraffic accident
1338. V33.3 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : unspecified occupant of three-wheeled motor vehicle

- injured in nontraffic accident
- 1339. V33.4 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : person injured while boarding or alighting
  - 1340. V33.5 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : driver injured in traffic accident
  - 1341. V33.6 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : passenger injured in traffic accident
  - 1342. V33.7 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : person on outside of vehicle injured in traffic accident
  - 1343. V33.9 Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
  - 1344. V34 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus
  - 1345. V34.0 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : driver injured in nontraffic accident
  - 1346. V34.1 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : passenger injured in nontraffic accident
  - 1347. V34.2 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in nontraffic accident
  - 1348. V34.3 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : unspecified occupant of three-wheeled motor vehicle injured in nontraffic accident
  - 1349. V34.4 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : person injured while boarding or alighting
  - 1350. V34.5 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : driver injured in traffic accident
  - 1351. V34.6 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : passenger injured in traffic accident
  - 1352. V34.7 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in traffic accident
  - 1353. V34.9 Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
  - 1354. V35 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle
  - 1355. V35.0 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : driver injured in nontraffic accident
  - 1356. V35.1 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : passenger injured in nontraffic accident
  - 1357. V35.2 Occupant of three-wheeled motor vehicle injured in collision with rail-

- way train or railway vehicle : person on outside of vehicle injured in nontraffic accident
1358. V35.3 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : unspecified occupant of three-wheeled motor vehicle injured in nontraffic accident
1359. V35.4 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : person injured while boarding or alighting
1360. V35.5 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : driver injured in traffic accident
1361. V35.6 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : passenger injured in traffic accident
1362. V35.7 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : person on outside of vehicle injured in traffic accident
1363. V35.9 Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
1364. V36 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle
1365. V36.0 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : driver injured in nontraffic accident
1366. V36.1 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : passenger injured in nontraffic accident
1367. V36.2 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : person on outside of vehicle injured in nontraffic accident
1368. V36.3 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : unspecified occupant of three-wheeled motor vehicle injured in nontraffic accident
1369. V36.4 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : person injured while boarding or alighting
1370. V36.5 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : driver injured in traffic accident
1371. V36.6 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : passenger injured in traffic accident
1372. V36.7 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : person on outside of vehicle injured in traffic accident
1373. V36.9 Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
1374. V37 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object
1375. V37.0 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : driver injured in nontraffic accident

- 1376. V37.1 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : passenger injured in nontraffic accident
- 1377. V37.2 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : person on outside of vehicle injured in nontraffic accident
- 1378. V37.3 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : unspecified occupant of three-wheeled motor vehicle injured in nontraffic accident
- 1379. V37.4 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : person injured while boarding or alighting
- 1380. V37.5 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : driver injured in traffic accident
- 1381. V37.6 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : passenger injured in traffic accident
- 1382. V37.7 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : person on outside of vehicle injured in traffic accident
- 1383. V37.9 Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
- 1384. V38 Occupant of three-wheeled motor vehicle injured in noncollision transport accident
- 1385. V38.0 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : driver injured in nontraffic accident
- 1386. V38.1 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : passenger injured in nontraffic accident
- 1387. V38.2 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : person on outside of vehicle injured in nontraffic accident
- 1388. V38.3 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : unspecified occupant of three-wheeled motor vehicle injured in nontraffic accident
- 1389. V38.4 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : person injured while boarding or alighting
- 1390. V38.5 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : driver injured in traffic accident
- 1391. V38.6 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : passenger injured in traffic accident
- 1392. V38.7 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : person on outside of vehicle injured in traffic accident
- 1393. V38.9 Occupant of three-wheeled motor vehicle injured in noncollision transport accident : unspecified occupant of three-wheeled motor vehicle injured in traffic accident
- 1394. V39 Occupant of three-wheeled motor vehicle injured in other and unspecified transport accidents

- 1395. V39.0 Driver injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1396. V39.1 Passenger injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1397. V39.2 Unspecified occupant of three-wheeled motor vehicle injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1398. V39.3 Occupant [any] of three-wheeled motor vehicle injured in unspecified nontraffic accident
- 1399. V39.4 Driver injured in collision with other and unspecified motor vehicles in traffic accident
- 1400. V39.5 Passenger injured in collision with other and unspecified motor vehicles in traffic accident
- 1401. V39.6 Unspecified occupant of three-wheeled motor vehicle injured in collision with other and unspecified motor vehicles in traffic accident
- 1402. V39.8 Occupant [any] of three-wheeled motor vehicle injured in other specified transport accidents
- 1403. V39.9 Occupant [any] of three-wheeled motor vehicle injured in unspecified traffic accident
- 1404. V40 Car occupant injured in collision with pedestrian or animal
- 1405. V40.0 Car occupant injured in collision with pedestrian or animal : driver injured in nontraffic accident
- 1406. V40.1 Car occupant injured in collision with pedestrian or animal : passenger injured in nontraffic accident
- 1407. V40.2 Car occupant injured in collision with pedestrian or animal : person on outside of vehicle injured in nontraffic accident
- 1408. V40.3 Car occupant injured in collision with pedestrian or animal : unspecified car occupant injured in nontraffic accident
- 1409. V40.4 Car occupant injured in collision with pedestrian or animal : person injured while boarding or alighting
- 1410. V40.5 Car occupant injured in collision with pedestrian or animal : driver injured in traffic accident
- 1411. V40.6 Car occupant injured in collision with pedestrian or animal : passenger injured in traffic accident
- 1412. V40.7 Car occupant injured in collision with pedestrian or animal : person on outside of vehicle injured in traffic accident
- 1413. V40.9 Car occupant injured in collision with pedestrian or animal : unspecified car occupant injured in traffic accident
- 1414. V41 Car occupant injured in collision with pedal cycle
- 1415. V41.0 Car occupant injured in collision with pedal cycle : driver injured in nontraffic accident
- 1416. V41.1 Car occupant injured in collision with pedal cycle : passenger injured in nontraffic accident
- 1417. V41.2 Car occupant injured in collision with pedal cycle : person on outside



- of vehicle injured in nontraffic accident
- 1418. V41.3 Car occupant injured in collision with pedal cycle : unspecified car occupant injured in nontraffic accident
  - 1419. V41.4 Car occupant injured in collision with pedal cycle : person injured while boarding or alighting
  - 1420. V41.5 Car occupant injured in collision with pedal cycle : driver injured in traffic accident
  - 1421. V41.6 Car occupant injured in collision with pedal cycle : passenger injured in traffic accident
  - 1422. V41.7 Car occupant injured in collision with pedal cycle : person on outside of vehicle injured in traffic accident
  - 1423. V41.9 Car occupant injured in collision with pedal cycle : unspecified car occupant injured in traffic accident
  - 1424. V42 Car occupant injured in collision with two- or three-wheeled motor vehicle
  - 1425. V42.0 Car occupant injured in collision with two- or three-wheeled motor vehicle : driver injured in nontraffic accident
  - 1426. V42.1 Car occupant injured in collision with two- or three-wheeled motor vehicle : passenger injured in nontraffic accident
  - 1427. V42.2 Car occupant injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in nontraffic accident
  - 1428. V42.3 Car occupant injured in collision with two- or three-wheeled motor vehicle : unspecified car occupant injured in nontraffic accident
  - 1429. V42.4 Car occupant injured in collision with two- or three-wheeled motor vehicle : person injured while boarding or alighting
  - 1430. V42.5 Car occupant injured in collision with two- or three-wheeled motor vehicle : driver injured in traffic accident
  - 1431. V42.6 Car occupant injured in collision with two- or three-wheeled motor vehicle : passenger injured in traffic accident
  - 1432. V42.7 Car occupant injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in traffic accident
  - 1433. V42.9 Car occupant injured in collision with two- or three-wheeled motor vehicle : unspecified car occupant injured in traffic accident
  - 1434. V43 Car occupant injured in collision with car, pick-up truck or van
  - 1435. V43.0 Car occupant injured in collision with car, pick-up truck or van : driver injured in nontraffic accident
  - 1436. V43.1 Car occupant injured in collision with car, pick-up truck or van : passenger injured in nontraffic accident
  - 1437. V43.2 Car occupant injured in collision with car, pick-up truck or van : person on outside of vehicle injured in nontraffic accident
  - 1438. V43.3 Car occupant injured in collision with car, pick-up truck or van : unspecified car occupant injured in nontraffic accident
  - 1439. V43.4 Car occupant injured in collision with car, pick-up truck or van : person injured while boarding or alighting



- 1440. V43.5 Car occupant injured in collision with car, pick-up truck or van : driver injured in traffic accident
- 1441. V43.6 Car occupant injured in collision with car, pick-up truck or van : passenger injured in traffic accident
- 1442. V43.7 Car occupant injured in collision with car, pick-up truck or van : person on outside of vehicle injured in traffic accident
- 1443. V43.9 Car occupant injured in collision with car, pick-up truck or van : unspecified car occupant injured in traffic accident
- 1444. V44 Car occupant injured in collision with heavy transport vehicle or bus
- 1445. V44.0 Car occupant injured in collision with heavy transport vehicle or bus : driver injured in nontraffic accident
- 1446. V44.1 Car occupant injured in collision with heavy transport vehicle or bus : passenger injured in nontraffic accident
- 1447. V44.2 Car occupant injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in nontraffic accident
- 1448. V44.3 Car occupant injured in collision with heavy transport vehicle or bus : unspecified car occupant injured in nontraffic accident
- 1449. V44.4 Car occupant injured in collision with heavy transport vehicle or bus : person injured while boarding or alighting
- 1450. V44.5 Car occupant injured in collision with heavy transport vehicle or bus : driver injured in traffic accident
- 1451. V44.6 Car occupant injured in collision with heavy transport vehicle or bus : passenger injured in traffic accident
- 1452. V44.7 Car occupant injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in traffic accident
- 1453. V44.9 Car occupant injured in collision with heavy transport vehicle or bus : unspecified car occupant injured in traffic accident
- 1454. V45 Car occupant injured in collision with railway train or railway vehicle
- 1455. V45.0 Car occupant injured in collision with railway train or railway vehicle : driver injured in nontraffic accident
- 1456. V45.1 Car occupant injured in collision with railway train or railway vehicle : passenger injured in nontraffic accident
- 1457. V45.2 Car occupant injured in collision with railway train or railway vehicle : person on outside of vehicle injured in nontraffic accident
- 1458. V45.3 Car occupant injured in collision with railway train or railway vehicle : unspecified car occupant injured in nontraffic accident
- 1459. V45.4 Car occupant injured in collision with railway train or railway vehicle : person injured while boarding or alighting
- 1460. V45.5 Car occupant injured in collision with railway train or railway vehicle : driver injured in traffic accident
- 1461. V45.6 Car occupant injured in collision with railway train or railway vehicle : passenger injured in traffic accident
- 1462. V45.7 Car occupant injured in collision with railway train or railway vehicle

- : person on outside of vehicle injured in traffic accident
- 1463. V45.9 Car occupant injured in collision with railway train or railway vehicle  
: unspecified car occupant injured in traffic accident
- 1464. V46 Car occupant injured in collision with other nonmotor vehicle
- 1465. V46.0 Car occupant injured in collision with other nonmotor vehicle : driver  
injured in nontraffic accident
- 1466. V46.1 Car occupant injured in collision with other nonmotor vehicle : passen-  
ger injured in nontraffic accident
- 1467. V46.2 Car occupant injured in collision with other nonmotor vehicle : person  
on outside of vehicle injured in nontraffic accident
- 1468. V46.3 Car occupant injured in collision with other nonmotor vehicle : unspec-  
ified car occupant injured in nontraffic accident
- 1469. V46.4 Car occupant injured in collision with other nonmotor vehicle : person  
injured while boarding or alighting
- 1470. V46.5 Car occupant injured in collision with other nonmotor vehicle : driver  
injured in traffic accident
- 1471. V46.6 Car occupant injured in collision with other nonmotor vehicle : passen-  
ger injured in traffic accident
- 1472. V46.7 Car occupant injured in collision with other nonmotor vehicle : person  
on outside of vehicle injured in traffic accident
- 1473. V46.9 Car occupant injured in collision with other nonmotor vehicle : unspec-  
ified car occupant injured in traffic accident
- 1474. V47 Car occupant injured in collision with fixed or stationary object
- 1475. V47.0 Car occupant injured in collision with fixed or stationary object : driver  
injured in nontraffic accident
- 1476. V47.1 Car occupant injured in collision with fixed or stationary object : pas-  
senger injured in nontraffic accident
- 1477. V47.2 Car occupant injured in collision with fixed or stationary object : person  
on outside of vehicle injured in nontraffic accident
- 1478. V47.3 Car occupant injured in collision with fixed or stationary object : un-  
specified car occupant injured in nontraffic accident
- 1479. V47.4 Car occupant injured in collision with fixed or stationary object : person  
injured while boarding or alighting
- 1480. V47.5 Car occupant injured in collision with fixed or stationary object : driver  
injured in traffic accident
- 1481. V47.6 Car occupant injured in collision with fixed or stationary object : pas-  
senger injured in traffic accident
- 1482. V47.7 Car occupant injured in collision with fixed or stationary object : person  
on outside of vehicle injured in traffic accident
- 1483. V47.9 Car occupant injured in collision with fixed or stationary object : un-  
specified car occupant injured in traffic accident
- 1484. V48 Car occupant injured in noncollision transport accident
- 1485. V48.0 Car occupant injured in noncollision transport accident : driver injured

- in nontraffic accident
- 1486. V48.1 Car occupant injured in noncollision transport accident : passenger injured in nontraffic accident
  - 1487. V48.2 Car occupant injured in noncollision transport accident : person on outside of vehicle injured in nontraffic accident
  - 1488. V48.3 Car occupant injured in noncollision transport accident : unspecified car occupant injured in nontraffic accident
  - 1489. V48.4 Car occupant injured in noncollision transport accident : person injured while boarding or alighting
  - 1490. V48.5 Car occupant injured in noncollision transport accident : driver injured in traffic accident
  - 1491. V48.6 Car occupant injured in noncollision transport accident : passenger injured in traffic accident
  - 1492. V48.7 Car occupant injured in noncollision transport accident : person on outside of vehicle injured in traffic accident
  - 1493. V48.9 Car occupant injured in noncollision transport accident : unspecified car occupant injured in traffic accident
  - 1494. V49 Car occupant injured in other and unspecified transport accidents
  - 1495. V49.0 Driver injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1496. V49.1 Passenger injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1497. V49.2 Unspecified car occupant injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1498. V49.3 Car occupant [any] injured in unspecified nontraffic accident
  - 1499. V49.4 Driver injured in collision with other and unspecified motor vehicles in traffic accident
  - 1500. V49.5 Passenger injured in collision with other and unspecified motor vehicles in traffic accident
  - 1501. V49.6 Unspecified car occupant injured in collision with other and unspecified motor vehicles in traffic accident
  - 1502. V49.8 Car occupant [any] injured in other specified transport accidents
  - 1503. V49.9 Car occupant [any] injured in unspecified traffic accident
  - 1504. V50 Occupant of pick-up truck or van injured in collision with pedestrian or animal
  - 1505. V50.0 Occupant of pick-up truck or van injured in collision with pedestrian or animal : driver injured in nontraffic accident
  - 1506. V50.1 Occupant of pick-up truck or van injured in collision with pedestrian or animal : passenger injured in nontraffic accident
  - 1507. V50.2 Occupant of pick-up truck or van injured in collision with pedestrian or animal : person on outside of vehicle injured in nontraffic accident
  - 1508. V50.3 Occupant of pick-up truck or van injured in collision with pedestrian or animal : unspecified occupant of pick-up truck or van injured in nontraffic

- accident
- 1509. V50.4 Occupant of pick-up truck or van injured in collision with pedestrian or animal : person injured while boarding or alighting
  - 1510. V50.5 Occupant of pick-up truck or van injured in collision with pedestrian or animal : driver injured in traffic accident
  - 1511. V50.6 Occupant of pick-up truck or van injured in collision with pedestrian or animal : passenger injured in traffic accident
  - 1512. V50.7 Occupant of pick-up truck or van injured in collision with pedestrian or animal : person on outside of vehicle injured in traffic accident
  - 1513. V50.9 Occupant of pick-up truck or van injured in collision with pedestrian or animal : unspecified occupant of pick-up truck or van injured in traffic accident
  - 1514. V51 Occupant of pick-up truck or van injured in collision with pedal cycle
  - 1515. V51.0 Occupant of pick-up truck or van injured in collision with pedal cycle : driver injured in nontraffic accident
  - 1516. V51.1 Occupant of pick-up truck or van injured in collision with pedal cycle : passenger injured in nontraffic accident
  - 1517. V51.2 Occupant of pick-up truck or van injured in collision with pedal cycle : person on outside of vehicle injured in nontraffic accident
  - 1518. V51.3 Occupant of pick-up truck or van injured in collision with pedal cycle : unspecified occupant of pick-up truck or van injured in nontraffic accident
  - 1519. V51.4 Occupant of pick-up truck or van injured in collision with pedal cycle : person injured while boarding or alighting
  - 1520. V51.5 Occupant of pick-up truck or van injured in collision with pedal cycle : driver injured in traffic accident
  - 1521. V51.6 Occupant of pick-up truck or van injured in collision with pedal cycle : passenger injured in traffic accident
  - 1522. V51.7 Occupant of pick-up truck or van injured in collision with pedal cycle : person on outside of vehicle injured in traffic accident
  - 1523. V51.9 Occupant of pick-up truck or van injured in collision with pedal cycle : unspecified occupant of pick-up truck or van injured in traffic accident
  - 1524. V52 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle
  - 1525. V52.0 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : driver injured in nontraffic accident
  - 1526. V52.1 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : passenger injured in nontraffic accident
  - 1527. V52.2 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in nontraffic accident
  - 1528. V52.3 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : unspecified occupant of pick-up truck or van injured in nontraffic accident

- 1529. V52.4 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : person injured while boarding or alighting
- 1530. V52.5 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : driver injured in traffic accident
- 1531. V52.6 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : passenger injured in traffic accident
- 1532. V52.7 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in traffic accident
- 1533. V52.9 Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle : unspecified occupant of pick-up truck or van injured in traffic accident
- 1534. V53 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van
- 1535. V53.0 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : driver injured in nontraffic accident
- 1536. V53.1 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : passenger injured in nontraffic accident
- 1537. V53.2 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : person on outside of vehicle injured in nontraffic accident
- 1538. V53.3 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : unspecified occupant of pick-up truck or van injured in nontraffic accident
- 1539. V53.4 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : person injured while boarding or alighting
- 1540. V53.5 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : driver injured in traffic accident
- 1541. V53.6 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : passenger injured in traffic accident
- 1542. V53.7 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : person on outside of vehicle injured in traffic accident
- 1543. V53.9 Occupant of pick-up truck or van injured in collision with car, pick-up truck or van : unspecified occupant of pick-up truck or van injured in traffic accident
- 1544. V54 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus
- 1545. V54.0 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : driver injured in nontraffic accident
- 1546. V54.1 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : passenger injured in nontraffic accident
- 1547. V54.2 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in nontraffic accident
- 1548. V54.3 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : unspecified occupant of pick-up truck or van injured in

- nontraffic accident
- 1549. V54.4 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : person injured while boarding or alighting
  - 1550. V54.5 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : driver injured in traffic accident
  - 1551. V54.6 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : passenger injured in traffic accident
  - 1552. V54.7 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in traffic accident
  - 1553. V54.9 Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus : unspecified occupant of pick-up truck or van injured in traffic accident
  - 1554. V55 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle
  - 1555. V55.0 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : driver injured in nontraffic accident
  - 1556. V55.1 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : passenger injured in nontraffic accident
  - 1557. V55.2 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : person on outside of vehicle injured in nontraffic accident
  - 1558. V55.3 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : unspecified occupant of pick-up truck or van injured in nontraffic accident
  - 1559. V55.4 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : person injured while boarding or alighting
  - 1560. V55.5 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : driver injured in traffic accident
  - 1561. V55.6 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : passenger injured in traffic accident
  - 1562. V55.7 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : person on outside of vehicle injured in traffic accident
  - 1563. V55.9 Occupant of pick-up truck or van injured in collision with railway train or railway vehicle : unspecified occupant of pick-up truck or van injured in traffic accident
  - 1564. V56 Occupant of pick-up truck or van injured in collision with other nonmotor vehicle
  - 1565. V56.0 Occupant of pick-up truck or van injured in collision with other nonmotor vehicle : driver injured in nontraffic accident
  - 1566. V56.1 Occupant of pick-up truck or van injured in collision with other nonmotor vehicle : passenger injured in nontraffic accident
  - 1567. V56.2 Occupant of pick-up truck or van injured in collision with other nonmotor vehicle : person on outside of vehicle injured in nontraffic accident
  - 1568. V56.3 Occupant of pick-up truck or van injured in collision with other nonmo-

- tor vehicle : unspecified occupant of pick-up truck or van injured in nontraffic accident
1569. V56.4 Occupant of pick-up truck or van injured in collision with other non-motor vehicle : person injured while boarding or alighting
1570. V56.5 Occupant of pick-up truck or van injured in collision with other non-motor vehicle : driver injured in traffic accident
1571. V56.6 Occupant of pick-up truck or van injured in collision with other non-motor vehicle : passenger injured in traffic accident
1572. V56.7 Occupant of pick-up truck or van injured in collision with other non-motor vehicle : person on outside of vehicle injured in traffic accident
1573. V56.9 Occupant of pick-up truck or van injured in collision with other non-motor vehicle : unspecified occupant of pick-up truck or van injured in traffic accident
1574. V57 Occupant of pick-up truck or van injured in collision with fixed or stationary object
1575. V57.0 Occupant of pick-up truck or van injured in collision with fixed or stationary object : driver injured in nontraffic accident
1576. V57.1 Occupant of pick-up truck or van injured in collision with fixed or stationary object : passenger injured in nontraffic accident
1577. V57.2 Occupant of pick-up truck or van injured in collision with fixed or stationary object : person on outside of vehicle injured in nontraffic accident
1578. V57.3 Occupant of pick-up truck or van injured in collision with fixed or stationary object : unspecified occupant of pick-up truck or van injured in nontraffic accident
1579. V57.4 Occupant of pick-up truck or van injured in collision with fixed or stationary object : person injured while boarding or alighting
1580. V57.5 Occupant of pick-up truck or van injured in collision with fixed or stationary object : driver injured in traffic accident
1581. V57.6 Occupant of pick-up truck or van injured in collision with fixed or stationary object : passenger injured in traffic accident
1582. V57.7 Occupant of pick-up truck or van injured in collision with fixed or stationary object : person on outside of vehicle injured in traffic accident
1583. V57.9 Occupant of pick-up truck or van injured in collision with fixed or stationary object : unspecified occupant of pick-up truck or van injured in traffic accident
1584. V58 Occupant of pick-up truck or van injured in noncollision transport accident
1585. V58.0 Occupant of pick-up truck or van injured in noncollision transport accident : driver injured in nontraffic accident
1586. V58.1 Occupant of pick-up truck or van injured in noncollision transport accident : passenger injured in nontraffic accident
1587. V58.2 Occupant of pick-up truck or van injured in noncollision transport accident : person on outside of vehicle injured in nontraffic accident



- 1588. V58.3 Occupant of pick-up truck or van injured in noncollision transport accident : unspecified occupant of pick-up truck or van injured in nontraffic accident
- 1589. V58.4 Occupant of pick-up truck or van injured in noncollision transport accident : person injured while boarding or alighting
- 1590. V58.5 Occupant of pick-up truck or van injured in noncollision transport accident : driver injured in traffic accident
- 1591. V58.6 Occupant of pick-up truck or van injured in noncollision transport accident : passenger injured in traffic accident
- 1592. V58.7 Occupant of pick-up truck or van injured in noncollision transport accident : person on outside of vehicle injured in traffic accident
- 1593. V58.9 Occupant of pick-up truck or van injured in noncollision transport accident : unspecified occupant of pick-up truck or van injured in traffic accident
- 1594. V59 Occupant of pick-up truck or van injured in other and unspecified transport accidents
- 1595. V59.0 Driver injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1596. V59.1 Passenger injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1597. V59.2 Unspecified occupant of pick-up truck or van injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1598. V59.3 Occupant [any] of pick-up truck or van injured in unspecified nontraffic accident
- 1599. V59.4 Driver injured in collision with other and unspecified motor vehicles in traffic accident
- 1600. V59.5 Passenger injured in collision with other and unspecified motor vehicles in traffic accident
- 1601. V59.6 Unspecified occupant of pick-up truck or van injured in collision with other and unspecified motor vehicles in traffic accident
- 1602. V59.8 Occupant [any] of pick-up truck or van injured in other specified transport accidents
- 1603. V59.9 Occupant [any] of pick-up truck or van injured in unspecified traffic accident
- 1604. V60 Occupant of heavy transport vehicle injured in collision with pedestrian or animal
- 1605. V60.0 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : driver injured in nontraffic accident
- 1606. V60.1 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : passenger injured in nontraffic accident
- 1607. V60.2 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : person on outside of vehicle injured in nontraffic accident
- 1608. V60.3 Occupant of heavy transport vehicle injured in collision with pedes-



- trian or animal : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1609. V60.4 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : person injured while boarding or alighting
1610. V60.5 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : driver injured in traffic accident
1611. V60.6 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : passenger injured in traffic accident
1612. V60.7 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : person on outside of vehicle injured in traffic accident
1613. V60.9 Occupant of heavy transport vehicle injured in collision with pedestrian or animal : unspecified occupant of heavy transport vehicle injured in traffic accident
1614. V61 Occupant of heavy transport vehicle injured in collision with pedal cycle
1615. V61.0 Occupant of heavy transport vehicle injured in collision with pedal cycle : driver injured in nontraffic accident
1616. V61.1 Occupant of heavy transport vehicle injured in collision with pedal cycle : passenger injured in nontraffic accident
1617. V61.2 Occupant of heavy transport vehicle injured in collision with pedal cycle : person on outside of vehicle injured in nontraffic accident
1618. V61.3 Occupant of heavy transport vehicle injured in collision with pedal cycle : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1619. V61.4 Occupant of heavy transport vehicle injured in collision with pedal cycle : person injured while boarding or alighting
1620. V61.5 Occupant of heavy transport vehicle injured in collision with pedal cycle : driver injured in traffic accident
1621. V61.6 Occupant of heavy transport vehicle injured in collision with pedal cycle : passenger injured in traffic accident
1622. V61.7 Occupant of heavy transport vehicle injured in collision with pedal cycle : person on outside of vehicle injured in traffic accident
1623. V61.9 Occupant of heavy transport vehicle injured in collision with pedal cycle : unspecified occupant of heavy transport vehicle injured in traffic accident
1624. V62 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle
1625. V62.0 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : driver injured in nontraffic accident
1626. V62.1 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : passenger injured in nontraffic accident
1627. V62.2 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in nontraffic accident
1628. V62.3 Occupant of heavy transport vehicle injured in collision with two- or

- three-wheeled motor vehicle : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1629. V62.4 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : person injured while boarding or alighting
1630. V62.5 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : driver injured in traffic accident
1631. V62.6 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : passenger injured in traffic accident
1632. V62.7 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in traffic accident
1633. V62.9 Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle : unspecified occupant of heavy transport vehicle injured in traffic accident
1634. V63 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van
1635. V63.0 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : driver injured in nontraffic accident
1636. V63.1 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : passenger injured in nontraffic accident
1637. V63.2 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : person on outside of vehicle injured in nontraffic accident
1638. V63.3 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1639. V63.4 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : person injured while boarding or alighting
1640. V63.5 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : driver injured in traffic accident
1641. V63.6 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : passenger injured in traffic accident
1642. V63.7 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : person on outside of vehicle injured in traffic accident
1643. V63.9 Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van : unspecified occupant of heavy transport vehicle injured in traffic accident
1644. V64 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus
1645. V64.0 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : driver injured in nontraffic accident
1646. V64.1 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : passenger injured in nontraffic accident
1647. V64.2 Occupant of heavy transport vehicle injured in collision with heavy

- transport vehicle or bus : person on outside of vehicle injured in nontraffic accident
1648. V64.3 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1649. V64.4 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : person injured while boarding or alighting
1650. V64.5 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : driver injured in traffic accident
1651. V64.6 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : passenger injured in traffic accident
1652. V64.7 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in traffic accident
1653. V64.9 Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus : unspecified occupant of heavy transport vehicle injured in traffic accident
1654. V65 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle
1655. V65.0 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : driver injured in nontraffic accident
1656. V65.1 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : passenger injured in nontraffic accident
1657. V65.2 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : person on outside of vehicle injured in nontraffic accident
1658. V65.3 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1659. V65.4 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : person injured while boarding or alighting
1660. V65.5 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : driver injured in traffic accident
1661. V65.6 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : passenger injured in traffic accident
1662. V65.7 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : person on outside of vehicle injured in traffic accident
1663. V65.9 Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle : unspecified occupant of heavy transport vehicle injured in traffic accident
1664. V66 Occupant of heavy transport vehicle injured in collision with other non-motor vehicle
1665. V66.0 Occupant of heavy transport vehicle injured in collision with other

- nonmotor vehicle : driver injured in nontraffic accident
1666. V66.1 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : passenger injured in nontraffic accident
1667. V66.2 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : person on outside of vehicle injured in nontraffic accident
1668. V66.3 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1669. V66.4 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : person injured while boarding or alighting
1670. V66.5 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : driver injured in traffic accident
1671. V66.6 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : passenger injured in traffic accident
1672. V66.7 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : person on outside of vehicle injured in traffic accident
1673. V66.9 Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle : unspecified occupant of heavy transport vehicle injured in traffic accident
1674. V67 Occupant of heavy transport vehicle injured in collision with fixed or stationary object
1675. V67.0 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : driver injured in nontraffic accident
1676. V67.1 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : passenger injured in nontraffic accident
1677. V67.2 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : person on outside of vehicle injured in nontraffic accident
1678. V67.3 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : unspecified occupant of heavy transport vehicle injured in nontraffic accident
1679. V67.4 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : person injured while boarding or alighting
1680. V67.5 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : driver injured in traffic accident
1681. V67.6 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : passenger injured in traffic accident
1682. V67.7 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : person on outside of vehicle injured in traffic accident
1683. V67.9 Occupant of heavy transport vehicle injured in collision with fixed or stationary object : unspecified occupant of heavy transport vehicle injured in traffic accident
1684. V68 Occupant of heavy transport vehicle injured in noncollision transport accident

- 1685. V68.0 Occupant of heavy transport vehicle injured in noncollision transport accident : driver injured in nontraffic accident
- 1686. V68.1 Occupant of heavy transport vehicle injured in noncollision transport accident : passenger injured in nontraffic accident
- 1687. V68.2 Occupant of heavy transport vehicle injured in noncollision transport accident : person on outside of vehicle injured in nontraffic accident
- 1688. V68.3 Occupant of heavy transport vehicle injured in noncollision transport accident : unspecified occupant of heavy transport vehicle injured in nontraffic accident
- 1689. V68.4 Occupant of heavy transport vehicle injured in noncollision transport accident : person injured while boarding or alighting
- 1690. V68.5 Occupant of heavy transport vehicle injured in noncollision transport accident : driver injured in traffic accident
- 1691. V68.6 Occupant of heavy transport vehicle injured in noncollision transport accident : passenger injured in traffic accident
- 1692. V68.7 Occupant of heavy transport vehicle injured in noncollision transport accident : person on outside of vehicle injured in traffic accident
- 1693. V68.9 Occupant of heavy transport vehicle injured in noncollision transport accident : unspecified occupant of heavy transport vehicle injured in traffic accident
- 1694. V69 Occupant of heavy transport vehicle injured in other and unspecified transport accidents
- 1695. V69.0 Driver injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1696. V69.1 Passenger injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1697. V69.2 Unspecified occupant of heavy transport vehicle injured in collision with other and unspecified motor vehicles in nontraffic accident
- 1698. V69.3 Occupant [any] of heavy transport vehicle injured in unspecified non-traffic accident
- 1699. V69.4 Driver injured in collision with other and unspecified motor vehicles in traffic accident
- 1700. V69.5 Passenger injured in collision with other and unspecified motor vehicles in traffic accident
- 1701. V69.6 Unspecified occupant of heavy transport vehicle injured in collision with other and unspecified motor vehicles in traffic accident
- 1702. V69.8 Occupant [any] of heavy transport vehicle injured in other specified transport accidents
- 1703. V69.9 Occupant [any] of heavy transport vehicle injured in unspecified traffic accident
- 1704. V70 Bus occupant injured in collision with pedestrian or animal
- 1705. V70.0 Bus occupant injured in collision with pedestrian or animal : driver injured in nontraffic accident

- 1706. V70.1 Bus occupant injured in collision with pedestrian or animal : passenger injured in nontraffic accident
- 1707. V70.2 Bus occupant injured in collision with pedestrian or animal : person on outside of vehicle injured in nontraffic accident
- 1708. V70.3 Bus occupant injured in collision with pedestrian or animal : unspecified bus occupant injured in nontraffic accident
- 1709. V70.4 Bus occupant injured in collision with pedestrian or animal : person injured while boarding or alighting
- 1710. V70.5 Bus occupant injured in collision with pedestrian or animal : driver injured in traffic accident
- 1711. V70.6 Bus occupant injured in collision with pedestrian or animal : passenger injured in traffic accident
- 1712. V70.7 Bus occupant injured in collision with pedestrian or animal : person on outside of vehicle injured in traffic accident
- 1713. V70.9 Bus occupant injured in collision with pedestrian or animal : unspecified bus occupant injured in traffic accident
- 1714. V71 Bus occupant injured in collision with pedal cycle
- 1715. V71.0 Bus occupant injured in collision with pedal cycle : driver injured in nontraffic accident
- 1716. V71.1 Bus occupant injured in collision with pedal cycle : passenger injured in nontraffic accident
- 1717. V71.2 Bus occupant injured in collision with pedal cycle : person on outside of vehicle injured in nontraffic accident
- 1718. V71.3 Bus occupant injured in collision with pedal cycle : unspecified bus occupant injured in nontraffic accident
- 1719. V71.4 Bus occupant injured in collision with pedal cycle : person injured while boarding or alighting
- 1720. V71.5 Bus occupant injured in collision with pedal cycle : driver injured in traffic accident
- 1721. V71.6 Bus occupant injured in collision with pedal cycle : passenger injured in traffic accident
- 1722. V71.7 Bus occupant injured in collision with pedal cycle : person on outside of vehicle injured in traffic accident
- 1723. V71.9 Bus occupant injured in collision with pedal cycle : unspecified bus occupant injured in traffic accident
- 1724. V72 Bus occupant injured in collision with two- or three-wheeled motor vehicle
- 1725. V72.0 Bus occupant injured in collision with two- or three-wheeled motor vehicle : driver injured in nontraffic accident
- 1726. V72.1 Bus occupant injured in collision with two- or three-wheeled motor vehicle : passenger injured in nontraffic accident
- 1727. V72.2 Bus occupant injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in nontraffic accident
- 1728. V72.3 Bus occupant injured in collision with two- or three-wheeled motor

- vehicle : unspecified bus occupant injured in nontraffic accident
1729. V72.4 Bus occupant injured in collision with two- or three-wheeled motor vehicle : person injured while boarding or alighting
1730. V72.5 Bus occupant injured in collision with two- or three-wheeled motor vehicle : driver injured in traffic accident
1731. V72.6 Bus occupant injured in collision with two- or three-wheeled motor vehicle : passenger injured in traffic accident
1732. V72.7 Bus occupant injured in collision with two- or three-wheeled motor vehicle : person on outside of vehicle injured in traffic accident
1733. V72.9 Bus occupant injured in collision with two- or three-wheeled motor vehicle : unspecified bus occupant injured in traffic accident
1734. V73 Bus occupant injured in collision with car, pick-up truck or van
1735. V73.0 Bus occupant injured in collision with car, pick-up truck or van : driver injured in nontraffic accident
1736. V73.1 Bus occupant injured in collision with car, pick-up truck or van : passenger injured in nontraffic accident
1737. V73.2 Bus occupant injured in collision with car, pick-up truck or van : person on outside of vehicle injured in nontraffic accident
1738. V73.3 Bus occupant injured in collision with car, pick-up truck or van : unspecified bus occupant injured in nontraffic accident
1739. V73.4 Bus occupant injured in collision with car, pick-up truck or van : person injured while boarding or alighting
1740. V73.5 Bus occupant injured in collision with car, pick-up truck or van : driver injured in traffic accident
1741. V73.6 Bus occupant injured in collision with car, pick-up truck or van : passenger injured in traffic accident
1742. V73.7 Bus occupant injured in collision with car, pick-up truck or van : person on outside of vehicle injured in traffic accident
1743. V73.9 Bus occupant injured in collision with car, pick-up truck or van : unspecified bus occupant injured in traffic accident
1744. V74 Bus occupant injured in collision with heavy transport vehicle or bus
1745. V74.0 Bus occupant injured in collision with heavy transport vehicle or bus : driver injured in nontraffic accident
1746. V74.1 Bus occupant injured in collision with heavy transport vehicle or bus : passenger injured in nontraffic accident
1747. V74.2 Bus occupant injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in nontraffic accident
1748. V74.3 Bus occupant injured in collision with heavy transport vehicle or bus : unspecified bus occupant injured in nontraffic accident
1749. V74.4 Bus occupant injured in collision with heavy transport vehicle or bus : person injured while boarding or alighting
1750. V74.5 Bus occupant injured in collision with heavy transport vehicle or bus : driver injured in traffic accident



- 1751. V74.6 Bus occupant injured in collision with heavy transport vehicle or bus : passenger injured in traffic accident
- 1752. V74.7 Bus occupant injured in collision with heavy transport vehicle or bus : person on outside of vehicle injured in traffic accident
- 1753. V74.9 Bus occupant injured in collision with heavy transport vehicle or bus : unspecified bus occupant injured in traffic accident
- 1754. V75 Bus occupant injured in collision with railway train or railway vehicle
- 1755. V75.0 Bus occupant injured in collision with railway train or railway vehicle : driver injured in nontraffic accident
- 1756. V75.1 Bus occupant injured in collision with railway train or railway vehicle : passenger injured in nontraffic accident
- 1757. V75.2 Bus occupant injured in collision with railway train or railway vehicle : person on outside of vehicle injured in nontraffic accident
- 1758. V75.3 Bus occupant injured in collision with railway train or railway vehicle : unspecified bus occupant injured in nontraffic accident
- 1759. V75.4 Bus occupant injured in collision with railway train or railway vehicle : person injured while boarding or alighting
- 1760. V75.5 Bus occupant injured in collision with railway train or railway vehicle : driver injured in traffic accident
- 1761. V75.6 Bus occupant injured in collision with railway train or railway vehicle : passenger injured in traffic accident
- 1762. V75.7 Bus occupant injured in collision with railway train or railway vehicle : person on outside of vehicle injured in traffic accident
- 1763. V75.9 Bus occupant injured in collision with railway train or railway vehicle : unspecified bus occupant injured in traffic accident
- 1764. V76 Bus occupant injured in collision with other nonmotor vehicle
- 1765. V76.0 Bus occupant injured in collision with other nonmotor vehicle : driver injured in nontraffic accident
- 1766. V76.1 Bus occupant injured in collision with other nonmotor vehicle : passenger injured in nontraffic accident
- 1767. V76.2 Bus occupant injured in collision with other nonmotor vehicle : person on outside of vehicle injured in nontraffic accident
- 1768. V76.3 Bus occupant injured in collision with other nonmotor vehicle : unspecified bus occupant injured in nontraffic accident
- 1769. V76.4 Bus occupant injured in collision with other nonmotor vehicle : person injured while boarding or alighting
- 1770. V76.5 Bus occupant injured in collision with other nonmotor vehicle : driver injured in traffic accident
- 1771. V76.6 Bus occupant injured in collision with other nonmotor vehicle : passenger injured in traffic accident
- 1772. V76.7 Bus occupant injured in collision with other nonmotor vehicle : person on outside of vehicle injured in traffic accident
- 1773. V76.9 Bus occupant injured in collision with other nonmotor vehicle : unspec-



- ified bus occupant injured in traffic accident
- 1774. V77 Bus occupant injured in collision with fixed or stationary object
  - 1775. V77.0 Bus occupant injured in collision with fixed or stationary object : driver injured in nontraffic accident
  - 1776. V77.1 Bus occupant injured in collision with fixed or stationary object : passenger injured in nontraffic accident
  - 1777. V77.2 Bus occupant injured in collision with fixed or stationary object : person on outside of vehicle injured in nontraffic accident
  - 1778. V77.3 Bus occupant injured in collision with fixed or stationary object : unspecified bus occupant injured in nontraffic accident
  - 1779. V77.4 Bus occupant injured in collision with fixed or stationary object : person injured while boarding or alighting
  - 1780. V77.5 Bus occupant injured in collision with fixed or stationary object : driver injured in traffic accident
  - 1781. V77.6 Bus occupant injured in collision with fixed or stationary object : passenger injured in traffic accident
  - 1782. V77.7 Bus occupant injured in collision with fixed or stationary object : person on outside of vehicle injured in traffic accident
  - 1783. V77.9 Bus occupant injured in collision with fixed or stationary object : unspecified bus occupant injured in traffic accident
  - 1784. V78 Bus occupant injured in noncollision transport accident
  - 1785. V78.0 Bus occupant injured in noncollision transport accident : driver injured in nontraffic accident
  - 1786. V78.1 Bus occupant injured in noncollision transport accident : passenger injured in nontraffic accident
  - 1787. V78.2 Bus occupant injured in noncollision transport accident : person on outside of vehicle injured in nontraffic accident
  - 1788. V78.3 Bus occupant injured in noncollision transport accident : unspecified bus occupant injured in nontraffic accident
  - 1789. V78.4 Bus occupant injured in noncollision transport accident : person injured while boarding or alighting
  - 1790. V78.5 Bus occupant injured in noncollision transport accident : driver injured in traffic accident
  - 1791. V78.6 Bus occupant injured in noncollision transport accident : passenger injured in traffic accident
  - 1792. V78.7 Bus occupant injured in noncollision transport accident : person on outside of vehicle injured in traffic accident
  - 1793. V78.9 Bus occupant injured in noncollision transport accident : unspecified bus occupant injured in traffic accident
  - 1794. V79 Bus occupant injured in other and unspecified transport accidents
  - 1795. V79.0 Driver injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1796. V79.1 Passenger injured in collision with other and unspecified motor vehicles

- in nontraffic accident
- 1797. V79.2 Unspecified bus occupant injured in collision with other and unspecified motor vehicles in nontraffic accident
  - 1798. V79.3 Bus occupant [any] injured in unspecified nontraffic accident
  - 1799. V79.4 Driver injured in collision with other and unspecified motor vehicles in traffic accident
  - 1800. V79.5 Passenger injured in collision with other and unspecified motor vehicles in traffic accident
  - 1801. V79.6 Unspecified bus occupant injured in collision with other and unspecified motor vehicles in traffic accident
  - 1802. V79.8 Bus occupant [any] injured in other specified transport accidents
  - 1803. V79.9 Bus occupant [any] injured in unspecified traffic accident
  - 1804. V80 Animal-rider or occupant of animal-drawn vehicle injured in transport accident
  - 1805. V80.0 Rider or occupant injured by fall from or being thrown from animal or animal-drawn vehicle in noncollision accident
  - 1806. V80.1 Rider or occupant injured in collision with pedestrian or animal
  - 1807. V80.2 Rider or occupant injured in collision with pedal cycle
  - 1808. V80.3 Rider or occupant injured in collision with two- or three-wheeled motor vehicle
  - 1809. V80.4 Rider or occupant injured in collision with car, pick-up truck, van, heavy transport vehicle or bus
  - 1810. V80.5 Rider or occupant injured in collision with other specified motor vehicle
  - 1811. V80.6 Rider or occupant injured in collision with railway train or railway vehicle
  - 1812. V80.7 Rider or occupant injured in collision with other nonmotor vehicle
  - 1813. V80.8 Rider or occupant injured in collision with fixed or stationary object
  - 1814. V80.9 Rider or occupant injured in other and unspecified transport accidents
  - 1815. V81 Occupant of railway train or railway vehicle injured in transport accident
  - 1816. V81.0 Occupant of railway train or railway vehicle injured in collision with motor vehicle in nontraffic accident
  - 1817. V81.1 Occupant of railway train or railway vehicle injured in collision with motor vehicle in traffic accident
  - 1818. V81.2 Occupant of railway train or railway vehicle injured in collision with or hit by rolling stock
  - 1819. V81.3 Occupant of railway train or railway vehicle injured in collision with other object
  - 1820. V81.4 Person injured while boarding or alighting from railway train or railway vehicle
  - 1821. V81.5 Occupant of railway train or railway vehicle injured by fall in railway train or railway vehicle
  - 1822. V81.6 Occupant of railway train or railway vehicle injured by fall from railway train or railway vehicle

- 1823. V81.7 Occupant of railway train or railway vehicle injured in derailment without antecedent collision
- 1824. V81.8 Occupant of railway train or railway vehicle injured in other specified railway accidents
- 1825. V81.9 Occupant of railway train or railway vehicle injured in unspecified railway accident
- 1826. V82 Occupant of streetcar injured in transport accident
- 1827. V82.0 Occupant of streetcar injured in collision with motor vehicle in nontraffic accident
- 1828. V82.1 Occupant of streetcar injured in collision with motor vehicle in traffic accident
- 1829. V82.2 Occupant of streetcar injured in collision with or hit by rolling stock
- 1830. V82.3 Occupant of streetcar injured in collision with other object
- 1831. V82.4 Person injured while boarding or alighting from streetcar
- 1832. V82.5 Occupant of streetcar injured by fall in streetcar
- 1833. V82.6 Occupant of streetcar injured by fall from streetcar
- 1834. V82.7 Occupant of streetcar injured in derailment without antecedent collision
- 1835. V82.8 Occupant of streetcar injured in other specified transport accidents
- 1836. V82.9 Occupant of streetcar injured in unspecified traffic accident
- 1837. V83 Occupant of special vehicle mainly used on industrial premises injured in transport accident
- 1838. V83.0 Driver of special industrial vehicle injured in traffic accident
- 1839. V83.1 Passenger of special industrial vehicle injured in traffic accident
- 1840. V83.2 Person on outside of special industrial vehicle injured in traffic accident
- 1841. V83.3 Unspecified occupant of special industrial vehicle injured in traffic accident
- 1842. V83.4 Person injured while boarding or alighting from special industrial vehicle
- 1843. V83.5 Driver of special industrial vehicle injured in nontraffic accident
- 1844. V83.6 Passenger of special industrial vehicle injured in nontraffic accident
- 1845. V83.7 Person on outside of special industrial vehicle injured in nontraffic accident
- 1846. V83.9 Unspecified occupant of special industrial vehicle injured in nontraffic accident
- 1847. V84 Occupant of special vehicle mainly used in agriculture injured in transport accident
- 1848. V84.0 Driver of special agricultural vehicle injured in traffic accident
- 1849. V84.1 Passenger of special agricultural vehicle injured in traffic accident
- 1850. V84.2 Person on outside of special agricultural vehicle injured in traffic accident
- 1851. V84.3 Unspecified occupant of special agricultural vehicle injured in traffic accident
- 1852. V84.4 Person injured while boarding or alighting from special agricultural

- vehicle
- 1853. V84.5 Driver of special agricultural vehicle injured in nontraffic accident
  - 1854. V84.6 Passenger of special agricultural vehicle injured in nontraffic accident
  - 1855. V84.7 Person on outside of special agricultural vehicle injured in nontraffic accident
  - 1856. V84.9 Unspecified occupant of special agricultural vehicle injured in nontraffic accident
  - 1857. V85 Occupant of special construction vehicle injured in transport accident
  - 1858. V85.0 Driver of special construction vehicle injured in traffic accident
  - 1859. V85.1 Passenger of special construction vehicle injured in traffic accident
  - 1860. V85.2 Person on outside of special construction vehicle injured in traffic accident
  - 1861. V85.3 Unspecified occupant of special construction vehicle injured in traffic accident
  - 1862. V85.4 Person injured while boarding or alighting from special construction vehicle
  - 1863. V85.5 Driver of special construction vehicle injured in nontraffic accident
  - 1864. V85.6 Passenger of special construction vehicle injured in nontraffic accident
  - 1865. V85.7 Person on outside of special construction vehicle injured in nontraffic accident
  - 1866. V85.9 Unspecified occupant of special construction vehicle injured in nontraffic accident
  - 1867. V86 Occupant of special all-terrain or other motor vehicle designed primarily for off-road use, injured in transport accident
  - 1868. V86.0 Driver of all-terrain or other off-road motor vehicle injured in traffic accident
  - 1869. V86.1 Passenger of all-terrain or other off-road motor vehicle injured in traffic accident
  - 1870. V86.2 Person on outside of all-terrain or other off-road motor vehicle injured in traffic accident
  - 1871. V86.3 Unspecified occupant of all-terrain or other off-road motor vehicle injured in traffic accident
  - 1872. V86.4 Person injured while boarding or alighting from all-terrain or other off-road motor vehicle
  - 1873. V86.5 Driver of all-terrain or other off-road motor vehicle injured in nontraffic accident
  - 1874. V86.6 Passenger of all-terrain or other off-road motor vehicle injured in nontraffic accident
  - 1875. V86.7 Person on outside of all-terrain or other off-road motor vehicle injured in nontraffic accident
  - 1876. V86.9 Unspecified occupant of all-terrain or other off-road motor vehicle injured in nontraffic accident
  - 1877. V87 Traffic accident of specified type but victim's mode of transport unknown

- 1878. V87.0 Person injured in collision between car and two- or three-wheeled motor vehicle (traffic)
- 1879. V87.1 Person injured in collision between other motor vehicle and two- or three-wheeled motor vehicle (traffic)
- 1880. V87.2 Person injured in collision between car and pick-up truck or van (traffic)
- 1881. V87.3 Person injured in collision between car and bus (traffic)
- 1882. V87.4 Person injured in collision between car and heavy transport vehicle (traffic)
- 1883. V87.5 Person injured in collision between heavy transport vehicle and bus (traffic)
- 1884. V87.6 Person injured in collision between railway train or railway vehicle and car (traffic)
- 1885. V87.7 Person injured in collision between other specified motor vehicles (traffic)
- 1886. V87.8 Person injured in other specified noncollision transport accidents involving motor vehicle (traffic)
- 1887. V87.9 Person injured in other specified (collision)(noncollision) transport accidents involving nonmotor vehicle (traffic)
- 1888. V88 Nontraffic accident of specified type but victim's mode of transport unknown
- 1889. V88.0 Person injured in collision between car and two- or three-wheeled motor vehicle, nontraffic
- 1890. V88.1 Person injured in collision between other motor vehicle and two- or three-wheeled motor vehicle, nontraffic
- 1891. V88.2 Person injured in collision between car and pick-up truck or van, nontraffic
- 1892. V88.3 Person injured in collision between car and bus, nontraffic
- 1893. V88.4 Person injured in collision between car and heavy transport vehicle, nontraffic
- 1894. V88.5 Person injured in collision between heavy transport vehicle and bus, nontraffic
- 1895. V88.6 Person injured in collision between railway train or railway vehicle and car, nontraffic
- 1896. V88.7 Person injured in collision between other specified motor vehicles, nontraffic
- 1897. V88.8 Person injured in other specified noncollision transport accidents involving motor vehicle, nontraffic
- 1898. V88.9 Person injured in other specified (collision)(noncollision) transport accidents involving nonmotor vehicle, nontraffic
- 1899. V89 Motor- or nonmotor-vehicle accident, type of vehicle unspecified
- 1900. V89.0 Person injured in unspecified motor-vehicle accident, nontraffic
- 1901. V89.1 Person injured in unspecified nonmotor-vehicle accident, nontraffic
- 1902. V89.2 Person injured in unspecified motor-vehicle accident, traffic

- 1903. V89.3 Person injured in unspecified nonmotor-vehicle accident, traffic
- 1904. V89.9 Person injured in unspecified vehicle accident
- 1905. V90 Accident to watercraft causing drowning and submersion
- 1906. V90.0 Accident to watercraft causing drowning and submersion : merchant ship
- 1907. V90.1 Accident to watercraft causing drowning and submersion : passenger ship
- 1908. V90.2 Accident to watercraft causing drowning and submersion : fishing boat
- 1909. V90.3 Accident to watercraft causing drowning and submersion : other powered watercraft
- 1910. V90.4 Accident to watercraft causing drowning and submersion : sailboat
- 1911. V90.5 Accident to watercraft causing drowning and submersion : canoe or kayak
- 1912. V90.6 Accident to watercraft causing drowning and submersion : inflatable craft (nonpowered)
- 1913. V90.7 Accident to watercraft causing drowning and submersion : water-skis
- 1914. V90.8 Accident to watercraft causing drowning and submersion : other unpowered watercraft
- 1915. V90.9 Accident to watercraft causing drowning and submersion : unspecified watercraft
- 1916. V91 Accident to watercraft causing other injury
- 1917. V91.0 Accident to watercraft causing other injury : merchant ship
- 1918. V91.1 Accident to watercraft causing other injury : passenger ship
- 1919. V91.2 Accident to watercraft causing other injury : fishing boat
- 1920. V91.3 Accident to watercraft causing other injury : other powered watercraft
- 1921. V91.4 Accident to watercraft causing other injury : sailboat
- 1922. V91.5 Accident to watercraft causing other injury : canoe or kayak
- 1923. V91.6 Accident to watercraft causing other injury : inflatable craft (nonpowered)
- 1924. V91.7 Accident to watercraft causing other injury : water-skis
- 1925. V91.8 Accident to watercraft causing other injury : other unpowered watercraft
- 1926. V91.9 Accident to watercraft causing other injury : unspecified watercraft
- 1927. V92 Water-transport-related drowning and submersion without accident to watercraft
- 1928. V92.0 Water-transport-related drowning and submersion without accident to watercraft : merchant ship
- 1929. V92.1 Water-transport-related drowning and submersion without accident to watercraft : passenger ship
- 1930. V92.2 Water-transport-related drowning and submersion without accident to watercraft : fishing boat
- 1931. V92.3 Water-transport-related drowning and submersion without accident to watercraft : other powered watercraft

- 1932. V92.4 Water-transport-related drowning and submersion without accident to watercraft : sailboat
- 1933. V92.5 Water-transport-related drowning and submersion without accident to watercraft : canoe or kayak
- 1934. V92.6 Water-transport-related drowning and submersion without accident to watercraft : inflatable craft (nonpowered)
- 1935. V92.7 Water-transport-related drowning and submersion without accident to watercraft : water-skis
- 1936. V92.8 Water-transport-related drowning and submersion without accident to watercraft : other unpowered watercraft
- 1937. V92.9 Water-transport-related drowning and submersion without accident to watercraft : unspecified watercraft
- 1938. V93 Accident on board watercraft without accident to watercraft, not causing drowning and submersion
- 1939. V93.0 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : merchant ship
- 1940. V93.1 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : passenger ship
- 1941. V93.2 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : fishing boat
- 1942. V93.3 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : other powered watercraft
- 1943. V93.4 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : sailboat
- 1944. V93.5 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : canoe or kayak
- 1945. V93.6 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : inflatable craft (nonpowered)
- 1946. V93.7 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : water-skis
- 1947. V93.8 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : other unpowered watercraft
- 1948. V93.9 Accident on board watercraft without accident to watercraft, not causing drowning and submersion : unspecified watercraft
- 1949. V94 Other and unspecified water transport accidents
- 1950. V94.0 Other and unspecified water transport accidents : merchant ship
- 1951. V94.1 Other and unspecified water transport accidents : passenger ship
- 1952. V94.2 Other and unspecified water transport accidents : fishing boat
- 1953. V94.3 Other and unspecified water transport accidents : other powered watercraft
- 1954. V94.4 Other and unspecified water transport accidents : sailboat
- 1955. V94.5 Other and unspecified water transport accidents : canoe or kayak
- 1956. V94.6 Other and unspecified water transport accidents : inflatable craft (non-



- powered)
- 1957. V94.7 Other and unspecified water transport accidents : water-skis
  - 1958. V94.8 Other and unspecified water transport accidents : other unpowered watercraft
  - 1959. V94.9 Other and unspecified water transport accidents : unspecified watercraft
  - 1960. V95 Accident to powered aircraft causing injury to occupant
  - 1961. V95.0 Helicopter accident injuring occupant
  - 1962. V95.1 Ultralight, microlight or powered-glider accident injuring occupant
  - 1963. V95.2 Accident to other private fixed-wing aircraft, injuring occupant
  - 1964. V95.3 Accident to commercial fixed-wing aircraft, injuring occupant
  - 1965. V95.4 Spacecraft accident injuring occupant
  - 1966. V95.8 Other aircraft accidents injuring occupant
  - 1967. V95.9 Unspecified aircraft accident injuring occupant
  - 1968. V96 Accident to nonpowered aircraft causing injury to occupant
  - 1969. V96.0 Balloon accident injuring occupant
  - 1970. V96.1 Hang-glider accident injuring occupant
  - 1971. V96.2 Glider (nonpowered) accident injuring occupant
  - 1972. V96.8 Other nonpowered-aircraft accidents injuring occupant
  - 1973. V96.9 Unspecified nonpowered-aircraft accident injuring occupant
  - 1974. V97 Other specified air transport accidents
  - 1975. V97.0 Occupant of aircraft injured in other specified air transport accidents
  - 1976. V97.1 Person injured while boarding or alighting from aircraft
  - 1977. V97.2 Parachutist injured in air transport accident
  - 1978. V97.3 Person on ground injured in air transport accident
  - 1979. V97.8 Other air transport accidents, not elsewhere classified
  - 1980. V98 Other specified transport accidents
  - 1981. V99 Unspecified transport accident
  - 1982. W00 Fall on same level involving ice and snow
  - 1983. W01 Fall on same level from slipping, tripping and stumbling
  - 1984. W02 Fall involving ice-skates, skis, roller-skates or skateboards
  - 1985. W03 Other fall on same level due to collision with, or pushing by, another person
  - 1986. W04 Fall while being carried or supported by other persons
  - 1987. W05 Fall involving wheelchair
  - 1988. W06 Fall involving bed
  - 1989. W07 Fall involving chair
  - 1990. W08 Fall involving other furniture
  - 1991. W09 Fall involving playground equipment
  - 1992. W10 Fall on and from stairs and steps
  - 1993. W11 Fall on and from ladder
  - 1994. W12 Fall on and from scaffolding
  - 1995. W13 Fall from, out of or through building or structure



- 1996. W14 Fall from tree
- 1997. W15 Fall from cliff
- 1998. W16 Diving or jumping into water causing injury other than drowning or submersion
- 1999. W17 Other fall from one level to another
- 2000. W18 Other fall on same level
- 2001. W19 Unspecified fall
- 2002. W20 Struck by thrown, projected or falling object(s)
- 2003. W21 Striking against or struck by sports equipment
- 2004. W22 Striking against or struck by other object(s)
- 2005. W23 Caught, crushed, jammed or pinched in or between objects
- 2006. W24 Contact with lifting and transmission device(s), not elsewhere classified
- 2007. W25 Contact with sharp glass
- 2008. W26 Contact with other sharp object(s)
- 2009. W27 Contact with nonpowered hand tool
- 2010. W28 Contact with powered lawnmower
- 2011. W29 Contact with other powered hand tools and household machinery
- 2012. W30 Contact with agricultural machinery
- 2013. W31 Contact with other and unspecified machinery
- 2014. W32 Handgun discharge
- 2015. W33 Rifle, shotgun and larger firearm discharge
- 2016. W34 Discharge from other and unspecified firearms
- 2017. W35 Explosion and rupture of boiler
- 2018. W36 Explosion and rupture of gas cylinder
- 2019. W37 Explosion and rupture of pressurized tyre, pipe or hose
- 2020. W38 Explosion and rupture of other specified pressurized devices
- 2021. W39 Discharge of firework
- 2022. W40 Explosion of other materials
- 2023. W41 Exposure to high-pressure jet
- 2024. W42 Exposure to noise
- 2025. W43 Exposure to vibration
- 2026. W44 Foreign body entering into or through eye or natural orifice
- 2027. W45 Foreign body or object entering through skin
- 2028. W46 Contact with hypodermic needle
- 2029. W49 Exposure to other and unspecified inanimate mechanical forces
- 2030. W50 Hit, struck, kicked, twisted, bitten or scratched by another person
- 2031. W51 Striking against or bumped into by another person
- 2032. W52 Crushed, pushed or stepped on by crowd or human stampede
- 2033. W53 Bitten by rat
- 2034. W54 Bitten or struck by dog
- 2035. W55 Bitten or struck by other mammals
- 2036. W56 Contact with marine animal
- 2037. W57 Bitten or stung by nonvenomous insect and other nonvenomous arthro-

Pods

- 2038. W58 Bitten or struck by crocodile or alligator
- 2039. W59 Bitten or crushed by other reptiles
- 2040. W60 Contact with plant thorns and spines and sharp leaves
- 2041. W64 Exposure to other and unspecified animate mechanical forces
- 2042. W65 Drowning and submersion while in bath-tub
- 2043. W66 Drowning and submersion following fall into bath-tub
- 2044. W67 Drowning and submersion while in swimming-pool
- 2045. W68 Drowning and submersion following fall into swimming-pool
- 2046. W69 Drowning and submersion while in natural water
- 2047. W70 Drowning and submersion following fall into natural water
- 2048. W73 Other specified drowning and submersion
- 2049. W74 Unspecified drowning and submersion
- 2050. W75 Accidental suffocation and strangulation in bed
- 2051. W76 Other accidental hanging and strangulation
- 2052. W77 Threat to breathing due to cave-in, falling earth and other substances
- 2053. W78 Inhalation of gastric contents
- 2054. W79 Inhalation and ingestion of food causing obstruction of respiratory tract
- 2055. W80 Inhalation and ingestion of other objects causing obstruction of respiratory tract
- 2056. W81 Confined to or trapped in a low-oxygen environment
- 2057. W83 Other specified threats to breathing
- 2058. W84 Unspecified threat to breathing
- 2059. W85 Exposure to electric transmission lines
- 2060. W86 Exposure to other specified electric current
- 2061. W87 Exposure to unspecified electric current
- 2062. W88 Exposure to ionizing radiation
- 2063. W89 Exposure to man-made visible and ultraviolet light
- 2064. W90 Exposure to other nonionizing radiation
- 2065. W91 Exposure to unspecified type of radiation
- 2066. W92 Exposure to excessive heat of man-made origin
- 2067. W93 Exposure to excessive cold of man-made origin
- 2068. W94 Exposure to high and low air pressure and changes in air pressure
- 2069. W99 Exposure to other and unspecified man-made environmental factors
- 2070. X00 Exposure to uncontrolled fire in building or structure
- 2071. X01 Exposure to uncontrolled fire, not in building or structure
- 2072. X02 Exposure to controlled fire in building or structure
- 2073. X03 Exposure to controlled fire, not in building or structure
- 2074. X04 Exposure to ignition of highly flammable material
- 2075. X05 Exposure to ignition or melting of nightwear
- 2076. X06 Exposure to ignition or melting of other clothing and apparel
- 2077. X08 Exposure to other specified smoke, fire and flames
- 2078. X09 Exposure to unspecified smoke, fire and flames

- 2079. X10 Contact with hot drinks, food, fats and cooking oils
- 2080. X11 Contact with hot tap-water
- 2081. X12 Contact with other hot fluids
- 2082. X13 Contact with steam and hot vapours
- 2083. X14 Contact with hot air and gases
- 2084. X15 Contact with hot household appliances
- 2085. X16 Contact with hot heating appliances, radiators and pipes
- 2086. X17 Contact with hot engines, machinery and tools
- 2087. X18 Contact with other hot metals
- 2088. X19 Contact with other and unspecified heat and hot substances
- 2089. X20 Contact with venomous snakes and lizards
- 2090. X21 Contact with venomous spiders
- 2091. X22 Contact with scorpions
- 2092. X23 Contact with hornets, wasps and bees
- 2093. X24 Contact with centipedes and venomous millipedes (tropical)
- 2094. X25 Contact with other venomous arthropods
- 2095. X26 Contact with venomous marine animals and plants
- 2096. X27 Contact with other specified venomous animals
- 2097. X28 Contact with other specified venomous plants
- 2098. X29 Contact with unspecified venomous animal or plant
- 2099. X30 Exposure to excessive natural heat
- 2100. X31 Exposure to excessive natural cold
- 2101. X32 Exposure to sunlight
- 2102. X33 Victim of lightning
- 2103. X34 Victim of earthquake
- 2104. X35 Victim of volcanic eruption
- 2105. X36 Victim of avalanche, landslide and other earth movements
- 2106. X37 Victim of cataclysmic storm
- 2107. X38 Victim of flood
- 2108. X39 Exposure to other and unspecified forces of nature
- 2109. X60 Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics
- 2110. X61 Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
- 2111. X62 Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified
- 2112. X63 Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system
- 2113. X64 Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances
- 2114. X65 Intentional self-poisoning by and exposure to alcohol
- 2115. X66 Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours

- 2116. X67 Intentional self-poisoning by and exposure to carbon monoxide and other gases and vapours
- 2117. X67.0 Intentional self-poisoning by and exposure to carbon monoxide from combustion engine exhaust
- 2118. X67.1 Intentional self-poisoning by and exposure to carbon monoxide from utility gas
- 2119. X67.2 Intentional self-poisoning by and exposure to carbon monoxide from other domestic fuels
- 2120. X67.3 Intentional self-poisoning by and exposure to carbon monoxide from other sources
- 2121. X67.4 Intentional self-poisoning by and exposure to carbon monoxide from unspecified sources
- 2122. X67.8 Intentional self-poisoning by and exposure to other specified gases and vapours
- 2123. X67.9 Intentional self-poisoning by and exposure to unspecified gases and vapours
- 2124. X68 Intentional self-poisoning by and exposure to pesticides
- 2125. X69 Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances
- 2126. X70 Intentional self-harm by hanging, strangulation and suffocation
- 2127. X71 Intentional self-harm by drowning and submersion
- 2128. X72 Intentional self-harm by handgun discharge
- 2129. X73 Intentional self-harm by rifle, shotgun and larger firearm discharge
- 2130. X74 Intentional self-harm by other and unspecified firearm discharge
- 2131. X75 Intentional self-harm by explosive material
- 2132. X76 Intentional self-harm by smoke, fire and flames
- 2133. X77 Intentional self-harm by steam, hot vapours and hot objects
- 2134. X78 Intentional self-harm by sharp object
- 2135. X79 Intentional self-harm by blunt object
- 2136. X80 Intentional self-harm by jumping from a high place
- 2137. X81 Intentional self-harm by jumping or lying before moving object
- 2138. X82 Intentional self-harm by crashing of motor vehicle
- 2139. X83 Intentional self-harm by other specified means
- 2140. X84 Intentional self-harm by unspecified means
- 2141. X85 Assault by drugs, medicaments and biological substances
- 2142. X86 Assault by corrosive substance
- 2143. X87 Assault by pesticides
- 2144. X88 Assault by gases and vapours
- 2145. X88.0 Assault by carbon monoxide from combustion engine exhaust
- 2146. X88.1 Assault by carbon monoxide from utility gas
- 2147. X88.2 Assault by carbon monoxide from other domestic fuels
- 2148. X88.3 Assault by carbon monoxide from other sources
- 2149. X88.4 Assault by carbon monoxide from unspecified sources

- 2150. X88.8 Assault by other specified gases and vapours
- 2151. X88.9 Assault by unspecified gases and vapours
- 2152. X89 Assault by other specified chemicals and noxious substances
- 2153. X90 Assault by unspecified chemical or noxious substance
- 2154. X91 Assault by hanging, strangulation and suffocation
- 2155. X92 Assault by drowning and submersion
- 2156. X93 Assault by handgun discharge
- 2157. X94 Assault by rifle, shotgun and larger firearm discharge
- 2158. X95 Assault by other and unspecified firearm discharge
- 2159. X96 Assault by explosive material
- 2160. X97 Assault by smoke, fire and flames
- 2161. X98 Assault by steam, hot vapours and hot objects
- 2162. X99 Assault by sharp object
- 2163. Y00 Assault by blunt object
- 2164. Y01 Assault by pushing from high place
- 2165. Y02 Assault by pushing or placing victim before moving object
- 2166. Y03 Assault by crashing of motor vehicle
- 2167. Y04 Assault by bodily force
- 2168. Y05 Sexual assault by bodily force
- 2169. Y06 Neglect and abandonment
- 2170. Y06.0 By spouse or partner
- 2171. Y06.1 By parent
- 2172. Y06.2 By acquaintance or friend
- 2173. Y06.8 By other specified persons
- 2174. Y06.9 By unspecified person
- 2175. Y07 Other maltreatment
- 2176. Y07.0 By spouse or partner
- 2177. Y07.1 By parent
- 2178. Y07.2 By acquaintance or friend
- 2179. Y07.3 By official authorities
- 2180. Y07.8 By other specified persons
- 2181. Y07.9 By unspecified person
- 2182. Y08 Assault by other specified means
- 2183. Y09 Assault by unspecified means
- 2184. Y20 Hanging, strangulation and suffocation, undetermined intent
- 2185. Y21 Drowning and submersion, undetermined intent
- 2186. Y22 Handgun discharge, undetermined intent
- 2187. Y23 Rifle, shotgun and larger firearm discharge, undetermined intent
- 2188. Y24 Other and unspecified firearm discharge, undetermined intent
- 2189. Y25 Contact with explosive material, undetermined intent
- 2190. Y26 Exposure to smoke, fire and flames, undetermined intent
- 2191. Y27 Contact with steam, hot vapours and hot objects, undetermined intent
- 2192. Y28 Contact with sharp object, undetermined intent

- 2193. Y29 Contact with blunt object, undetermined intent
- 2194. Y30 Falling, jumping or pushed from a high place, undetermined intent
- 2195. Y31 Falling, lying or running before or into moving object, undetermined intent
- 2196. Y32 Crashing of motor vehicle, undetermined intent
- 2197. Y33 Other specified events, undetermined intent
- 2198. Y34 Unspecified event, undetermined intent
- 2199. Y35 Legal intervention
- 2200. Y35.0 Legal intervention involving firearm discharge
- 2201. Y35.1 Legal intervention involving explosives
- 2202. Y35.2 Legal intervention involving gas
- 2203. Y35.3 Legal intervention involving blunt objects
- 2204. Y35.4 Legal intervention involving sharp objects
- 2205. Y35.5 Legal execution
- 2206. Y35.6 Legal intervention involving other specified means
- 2207. Y35.7 Legal intervention, means unspecified
- 2208. Y36 Operations of war
- 2209. Y36.0 War operations involving explosion of marine weapons
- 2210. Y36.1 War operations involving destruction of aircraft
- 2211. Y36.2 War operations involving other explosions and fragments
- 2212. Y36.3 War operations involving fires, conflagrations and hot substances
- 2213. Y36.4 War operations involving firearm discharge and other forms of conventional warfare
- 2214. Y36.5 War operations involving nuclear weapons
- 2215. Y36.6 War operations involving biological weapons
- 2216. Y36.7 War operations involving chemical weapons and other forms of unconventional warfare
- 2217. Y36.8 War operations occurring after cessation of hostilities
- 2218. Y36.9 War operations, unspecified

- **11. Clinical Frailty Scale Very Fit - People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age. Fit - People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally. Managing well - People whose medical problems are well controlled, but are not regularly active beyond routine walking. Living with very mild frailty - While not dependent on others for daily help, often symptoms limit activities. A common complaint is being “slowed up”, and/or being tired during the day. Living with mild frailty - These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework. Living with moderate frailty - People need help**

with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing. Living with severe frailty - Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months). Living with very severe frailty - Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness. Terminally ill - Approaching the end of life. This category applies to people with a life expectancy Source: Medical record or treating physician

1. 1. Very Fit
  2. 2. Fit
  3. 3. Managing well
  4. 4. Living with very mild frailty
  5. 5. Living with mild frailty
  6. 6. Living with moderate frailty
  7. 7. Living with severe frailty
  8. 8. Living with very severe frailty
  9. 9. Terminally ill
  10. Not known
- **12. Comorbidities (Charlson Comorbidity Index)** Myocardial infarction - History of definite or probable MI (EKG changes and/or enzyme changes) Congestive heart failure - Exertional or paroxysmal nocturnal dyspnea and has responded to digitalis, diuretics, or afterload reducing agents Peripheral vascular disease - Intermittent claudication or past bypass for chronic arterial insufficiency, history of gangrene or acute arterial insufficiency, or untreated thoracic or abdominal aneurysm ( 6 cm) Cerebrovascular disease - History of a cerebrovascular accident with minor or no residua and transient ischemic attacks Dementia - Chronic cognitive deficit Chronic pulmonary disease - Asthma, chronic bronchitis, emphysema, and other lung disease who have ongoing symptoms such as dyspnea or cough, with mild or moderate activity. Peptic ulcer disease - Any history of treatment for ulcer disease or history of ulcer bleeding Liver disease - Severe = cirrhosis and portal hypertension with variceal bleeding history, moderate = cirrhosis and portal hypertension but no variceal bleeding history, mild = chronic hepatitis (or cirrhosis



**without portal hypertension) Renal disease - Severe = on dialysis, status post kidney transplant, uremia, moderate = creatinine >3 mg/dL (0.27 mmol/L)** Source: Medical record, treating physician or interview

1. Myocardial infarction
2. Congestive heart failure
3. Peripheral vascular disease
4. Cerebrovascular disease
5. Dementia
6. Chronic pulmonary disease
7. Rheumatologic disease
8. Peptic ulcer disease
9. Liver disease
10. Diabetes
11. Hemiplegia or paraplegia
12. Renal disease
13. Malignancy
14. Leukemia
15. Lymphoma
16. AIDS
17. Not known
18. None

- **13. Severity of liver disease** Source: Medical record, treating physician or interview

1. Mild
2. Moderate or severe
3. Not known

- **14. Severity of diabetes** Source: Medical record, treating physician or interview

1. Controlled
2. Uncontrolled
3. Not known

- **15. Severity of malignancy** Source: Medical record, treating physician or interview

1. Localized
2. Metastatic tumor
3. Not known

- **Any other comments?**



**18.2.5 Prehospital**

- **1. Date of injury** Source: Medical record of interview
- **1.1 Time of injury**
- **2. Mode of transport to the participating hospital** Source: Medical record of interview
  - 1. Ambulance
  - 2. Police
  - 3. Private vehicle
  - 4. Walking
  - 5. Others
  - 6. Not known
- **2.1 If other, please specify** Source: Medical record of interview
- **3. Referred or transferred to the participating hospital from another hospital** Source: Medical record of interview
  - 1. Yes
  - 2. No
  - 3. Not known
- **4. Date of referring or transferring**
- **5. Time of referring or transferring**
- **Any other comments?**

**18.2.6 ATLS adherence**

- **1. Airway patency checked** Source: Observation
  - 1. Yes
  - 2. No
- **1. Chest wall palpated** Source: Observation
  - 1. Yes
  - 2. No
- **2. Breath sounds checked** Source: Observation
  - 1. Yes
  - 2. No

- **3. Respiratory rate measured** Source: Observation
  - 1. Yes
  - 2. No
- **4. Saturation (SpO2) measured** Source: Observation
  - 1. Yes
  - 2. No
- **1. Heart rate measured** Source: Observation
  - 1. Yes
  - 2. No
- **2. Blood pressure measured** Source: Observation
  - 1. Yes
  - 2. No
- **3. Abdomen palpated** Source: Observation
  - 1. Yes
  - 2. No
- **4. Thighs palpated** Source: Observation
  - 1. Yes
  - 2. No
- **5. IV access obtained** Source: Observation
  - 1. Yes
  - 2. No
- **1. GCS checked** Source: Observation
  - 1. Yes
  - 2. No
- **2. Pupils checked** Source: Observation
  - 1. Yes
  - 2. No
- **1. Patients exposed for assessment**
  - 1. Yes
  - 2. No

- **2. Temperature measured** Source: Observation
  1. Yes
  2. No
- **1. Which airway interventions were performed?** Source: Observation
  1. None
  2. Manual airway procedure such as chin lift or jaw thrust
  3. Nasopharyngeal or Oropharyngeal airway inserted
  4. Supraglottic airway device
  5. Tracheal intubation
  6. Surgical airway
  7. Other
  8. Not known
- **2. If other airway interventions given, specify**
- **3. Were airway interventions performed while minimising c-spine movement?** Source: Observation
  1. Yes
  2. No
  3. Not known
- **1. Which breathing interventions were performed?** Source: Observation
  1. None
  2. Oxygen applied
  3. Intracostal drain placement
  4. Other
  5. Not known
- **2. If other breathing Interventions done, specify**
- **1. Which circulation interventions and adjuncts were performed?** Source: Observation
  1. None
  2. Control of external bleeding
  3. Fluid bolus
  4. Blood transfusion
  5. eFast
  6. Pelvic binder applied
  7. Reduction of highly displaced fracture
  8. Other
  9. Not known

- **2. If other circulation Interventions done, specify**
- **1. Which disability intervention was performed?** Source: Observation
  1. None
  2. Placement of definitive airway if the patient had a GCS of 8 or less
  3. Log Rolling
  4. Spine board during transportation
  5. Other
  6. Not known
- **2. If other disability interventions done, specify**
- **1. Which exposure intervention was performed?** Source: Observation
  1. None
  2. Covered with warmer or blanket
  3. Warm fluids administered
  4. Other
  5. Not known
- **2. If other exposure interventions done, specify**
- **Any other comments?**

#### **18.2.7 Emergency department**

- **1. Date of arrival to the emergency department at the participating hospital.** Source: Medical record of interview
- **2 Time of arrival to the emergency department at the participating hospital**
- **3. First recorded systolic blood pressure (mmHg)** Source: Medical record
- **4. First recorded diastolic blood pressure (mmHg)** Source: Medical record
- **5. First recorded heart rate (beats per minute)** Source: Medical record
- **6. First recorded respiratory rate (breaths per minute)** Source: Medical record
- **7. First recorded Glasgow Coma Scale** Source: Medical record
- **8. First recorded body temperature (°F)** Source: Medical record
- **9. First recorded oxygen saturation (%)** Source: Medical record
- **10. Emergency department disposition** Source: Medical record

1. Admitted
2. Referred or transferred for admission
3. Dead
4. Others
5. Not known

- **10.1 Date of death**
- **10.2 Time of death**
- **11. If other, please specify** Source: Medical record
- **12. Date and time of referral or transfer for admission** Source: Medical record
- **Any other comments?**

#### **18.2.8 Hospital**

- **1. Date of admission to the participating hospital** Source: Medical record
- **2 Time of admission to the participating hospital** Source: Medical record
- **3. Type of admitting ward** Source: Medical record
  1. General surgery
  2. Orthopaedics
  3. Neurosurgery
  4. Intensive care unit
  5. High dependency unit
  6. Medicine
  7. Trauma ward
  8. Not known
- **4. Ward name or number** Source: Medical record
- **5. Admitted to intensive care unit during admission** Source: Medical record
  1. Yes
  2. No
  3. Not known
- **6. Date of first intensive care unit admission** Source: Medical record
- **7. Time of first intensive care unit admission** Source: Medical record
- **8. Was the participant discharged from intensive care unit?**
  1. Yes

2. No

- **9. Date of first intensive care unit discharge** Source: Medical record
- **10. Time of first intensive care unit discharge** Source: Medical record
- **11. Hospital disposition** Source: Medical record
  - 1. Alive
  - 2. Dead
  - 3. Transferred for admission
  - 4. Not known
- **12. Was the patient transferred to another hospital for admission?**  
Source: Medical record
  - 1. Yes
  - 2. No
  - 3. Not known
- **13. Date of discharge or transfer from participating hospital** Source: Medical record
- **14. Time of discharge or transfer from participating hospital** Source: Medical record
- **Any other comments?**

#### 18.2.9 Surgery

- **1. Surgery done?**
  - 1. Yes
  - 2. No
- **2. Date of surgical procedure** A surgical procedure is defined as any procedure performed in the operating room, interventional dropdownlogy suite, or at the bedside, requiring general or regional anesthesia. Source: Medical record
- **3. Time of surgical procedure** A surgical procedure is defined as any procedure performed in the operating room, interventional dropdownlogy suite, or at the bedside, requiring general or regional anesthesia. Source: Medical record
- **4. Preoperative ASA score** Source: Medical record or treating physician
  - 1. 1. A normal healthy patient
  - 2. 2. A patient with mild systemic disease

3. 3. A patient with severe systemic disease
4. 4. A patient with severe systemic disease that is a constant threat to life
5. 5. A moribund patient who is not expected to survive without the operation
6. 6. A declared brain-dead patient whose organs are being removed for donor purposes
- 7.999. Not known

- **5. Description of procedure** Source: Medical record
- **6. Procedure coded according to SNOMED CT** Source: Medical record
- **Any other comments?**

#### 18.2.10 Imaging

- **1. Date and time of imaging** Source: Medical record
- **2 Time of imaging** Source: Medical record
- **3. Type of imaging** Source: Medical record
  1. Ultrasound
  2. X-ray
  3. Computed Tomography (CT)
  4. Magnetic Resonance Imaging (MRI)
- **Any other comments?**

#### 18.2.11 Transfusion

- **1. Transfusion done?**
  1. Yes
  2. No
- **2. Date of transfusion** Source: Medical record
- **3. Time of transfusion** Source: Medical record
- **4. Type of blood product** Source: Medical record
  1. Packed red blood cells
  2. Platelets
  3. Fresh frozen plasma
  4. Whole blood

5. Other

- **5 Other specify**
- **6. Number of units transfused** Source: Medical record
- **Any other comments?**

#### 18.2.12 Injury

- **1. Injury description** Source: Medical record
- **2. Injury ICD 10 code** Coded using ICD 10. Source: Medical record
  - 1. S00 Superficial injury of head
  - 2. S00.0 Superficial injury of scalp
  - 3. S00.1 Contusion of eyelid and periocular area
  - 4. S00.2 Other superficial injuries of eyelid and periocular area
  - 5. S00.3 Superficial injury of nose
  - 6. S00.4 Superficial injury of ear
  - 7. S00.5 Superficial injury of lip and oral cavity
  - 8. S00.7 Multiple superficial injuries of head
  - 9. S00.8 Superficial injury of other parts of head
  - 10. S00.9 Superficial injury of head, part unspecified
  - 11. S01 Open wound of head
  - 12. S01.0 Open wound of scalp
  - 13. S01.1 Open wound of eyelid and periocular area
  - 14. S01.2 Open wound of nose
  - 15. S01.3 Open wound of ear
  - 16. S01.4 Open wound of cheek and temporomandibular area
  - 17. S01.5 Open wound of lip and oral cavity
  - 18. S01.7 Multiple open wounds of head
  - 19. S01.8 Open wound of other parts of head
  - 20. S01.9 Open wound of head, part unspecified
  - 21. S02 Fracture of skull and facial bones
  - 22. S02.0 Fracture of vault of skull
  - 23. S02.1 Fracture of base of skull
  - 24. S02.2 Fracture of nasal bones
  - 25. S02.3 Fracture of orbital floor
  - 26. S02.4 Fracture of malar and maxillary bones
  - 27. S02.5 Fracture of tooth
  - 28. S02.6 Fracture of mandible
  - 29. S02.7 Multiple fractures involving skull and facial bones
  - 30. S02.8 Fractures of other skull and facial bones
  - 31. S02.9 Fracture of skull and facial bones, part unspecified



32. S03 Dislocation, sprain and strain of joints and ligaments of head
33. S03.0 Dislocation of jaw
34. S03.1 Dislocation of septal cartilage of nose
35. S03.2 Dislocation of tooth
36. S03.3 Dislocation of other and unspecified parts of head
37. S03.4 Sprain and strain of jaw
38. S03.5 Sprain and strain of joints and ligaments of other and unspecified parts of head
39. S04 Injury of cranial nerves
40. S04.0 Injury of optic nerve and pathways
41. S04.1 Injury of oculomotor nerve
42. S04.2 Injury of trochlear nerve
43. S04.3 Injury of trigeminal nerve
44. S04.4 Injury of abducent nerve
45. S04.5 Injury of facial nerve
46. S04.6 Injury of acoustic nerve
47. S04.7 Injury of accessory nerve
48. S04.8 Injury of other cranial nerves
49. S04.9 Injury of unspecified cranial nerve
50. S05 Injury of eye and orbit
51. S05.0 Injury of conjunctiva and corneal abrasion without mention of foreign body
52. S05.1 Contusion of eyeball and orbital tissues
53. S05.2 Ocular laceration and rupture with prolapse or loss of intraocular tissue
54. S05.3 Ocular laceration without prolapse or loss of intraocular tissue
55. S05.4 Penetrating wound of orbit with or without foreign body
56. S05.5 Penetrating wound of eyeball with foreign body
57. S05.6 Penetrating wound of eyeball without foreign body
58. S05.7 Avulsion of eye
59. S05.8 Other injuries of eye and orbit
60. S05.9 Injury of eye and orbit, unspecified
61. S06 Intracranial injury
62. S06.0 Concussion
63. S06.1 Traumatic cerebral oedema
64. S06.2 Diffuse brain injury
65. S06.3 Focal brain injury
66. S06.4 Epidural haemorrhage
67. S06.5 Traumatic subdural haemorrhage
68. S06.6 Traumatic subarachnoid haemorrhage
69. S06.7 Intracranial injury with prolonged coma
70. S06.8 Other intracranial injuries
71. S06.9 Intracranial injury, unspecified
72. S07 Crushing injury of head

- 73. S07.0 Crushing injury of face
- 74. S07.1 Crushing injury of skull
- 75. S07.8 Crushing injury of other parts of head
- 76. S07.9 Crushing injury of head, part unspecified
- 77. S08 Traumatic amputation of part of head
- 78. S08.0 Avulsion of scalp
- 79. S08.1 Traumatic amputation of ear
- 80. S08.8 Traumatic amputation of other parts of head
- 81. S08.9 Traumatic amputation of unspecified part of head
- 82. S09 Other and unspecified injuries of head
- 83. S09.0 Injury of blood vessels of head, not elsewhere classified
- 84. S09.1 Injury of muscle and tendon of head
- 85. S09.2 Traumatic rupture of ear drum
- 86. S09.7 Multiple injuries of head
- 87. S09.8 Other specified injuries of head
- 88. S09.9 Unspecified injury of head
- 89. S10 Superficial injury of neck
- 90. S10.0 Contusion of throat
- 91. S10.1 Other and unspecified superficial injuries of throat
- 92. S10.7 Multiple superficial injuries of neck
- 93. S10.8 Superficial injury of other parts of neck
- 94. S10.9 Superficial injury of neck, part unspecified
- 95. S11 Open wound of neck
- 96. S11.0 Open wound involving larynx and trachea
- 97. S11.1 Open wound involving thyroid gland
- 98. S11.2 Open wound involving pharynx and cervical oesophagus
- 99. S11.7 Multiple open wounds of neck
- 100. S11.8 Open wound of other parts of neck
- 101. S11.9 Open wound of neck, part unspecified
- 102. S12 Fracture of neck
- 103. S12.0 Fracture of first cervical vertebra
- 104. S12.1 Fracture of second cervical vertebra
- 105. S12.2 Fracture of other specified cervical vertebra
- 106. S12.7 Multiple fractures of cervical spine
- 107. S12.8 Fracture of other parts of neck
- 108. S12.9 Fracture of neck, part unspecified
- 109. S13 Dislocation, sprain and strain of joints and ligaments at neck level
- 110. S13.0 Traumatic rupture of cervical intervertebral disc
- 111. S13.1 Dislocation of cervical vertebra
- 112. S13.2 Dislocation of other and unspecified parts of neck
- 113. S13.3 Multiple dislocations of neck
- 114. S13.4 Sprain and strain of cervical spine
- 115. S13.5 Sprain and strain of thyroid region

- 116. S13.6 Sprain and strain of joints and ligaments of other and unspecified parts of neck
- 117. S14 Injury of nerves and spinal cord at neck level
- 118. S14.0 Concussion and oedema of cervical spinal cord
- 119. S14.1 Other and unspecified injuries of cervical spinal cord
- 120. S14.2 Injury of nerve root of cervical spine
- 121. S14.3 Injury of brachial plexus
- 122. S14.4 Injury of peripheral nerves of neck
- 123. S14.5 Injury of cervical sympathetic nerves
- 124. S14.6 Injury of other and unspecified nerves of neck
- 125. S15 Injury of blood vessels at neck level
- 126. S15.0 Injury of carotid artery
- 127. S15.1 Injury of vertebral artery
- 128. S15.2 Injury of external jugular vein
- 129. S15.3 Injury of internal jugular vein
- 130. S15.7 Injury of multiple blood vessels at neck level
- 131. S15.8 Injury of other blood vessels at neck level
- 132. S15.9 Injury of unspecified blood vessel at neck level
- 133. S16 Injury of muscle and tendon at neck level
- 134. S17 Crushing injury of neck
- 135. S17.0 Crushing injury of larynx and trachea
- 136. S17.8 Crushing injury of other parts of neck
- 137. S17.9 Crushing injury of neck, part unspecified
- 138. S18 Traumatic amputation at neck level
- 139. S19 Other and unspecified injuries of neck
- 140. S19.7 Multiple injuries of neck
- 141. S19.8 Other specified injuries of neck
- 142. S19.9 Unspecified injury of neck
- 143. S20 Superficial injury of thorax
- 144. S20.0 Contusion of breast
- 145. S20.1 Other and unspecified superficial injuries of breast
- 146. S20.2 Contusion of thorax
- 147. S20.3 Other superficial injuries of front wall of thorax
- 148. S20.4 Other superficial injuries of back wall of thorax
- 149. S20.7 Multiple superficial injuries of thorax
- 150. S20.8 Superficial injury of other and unspecified parts of thorax
- 151. S21 Open wound of thorax
- 152. S21.0 Open wound of breast
- 153. S21.1 Open wound of front wall of thorax
- 154. S21.2 Open wound of back wall of thorax
- 155. S21.7 Multiple open wounds of thoracic wall
- 156. S21.8 Open wound of other parts of thorax
- 157. S21.9 Open wound of thorax, part unspecified

- 158. S22 Fracture of rib(s), sternum and thoracic spine
- 159. S22.0 Fracture of thoracic vertebra
- 160. S22.1 Multiple fractures of thoracic spine
- 161. S22.2 Fracture of sternum
- 162. S22.3 Fracture of rib
- 163. S22.4 Multiple fractures of ribs
- 164. S22.5 Flail chest
- 165. S22.8 Fracture of other parts of bony thorax
- 166. S22.9 Fracture of bony thorax, part unspecified
- 167. S23 Dislocation, sprain and strain of joints and ligaments of thorax
- 168. S23.0 Traumatic rupture of thoracic intervertebral disc
- 169. S23.1 Dislocation of thoracic vertebra
- 170. S23.2 Dislocation of other and unspecified parts of thorax
- 171. S23.3 Sprain and strain of thoracic spine
- 172. S23.4 Sprain and strain of ribs and sternum
- 173. S23.5 Sprain and strain of other and unspecified parts of thorax
- 174. S24 Injury of nerves and spinal cord at thorax level
- 175. S24.0 Concussion and oedema of thoracic spinal cord
- 176. S24.1 Other and unspecified injuries of thoracic spinal cord
- 177. S24.2 Injury of nerve root of thoracic spine
- 178. S24.3 Injury of peripheral nerves of thorax
- 179. S24.4 Injury of thoracic sympathetic nerves
- 180. S24.5 Injury of other nerves of thorax
- 181. S24.6 Injury of unspecified nerve of thorax
- 182. S25 Injury of blood vessels of thorax
- 183. S25.0 Injury of thoracic aorta
- 184. S25.1 Injury of innominate or subclavian artery
- 185. S25.2 Injury of superior vena cava
- 186. S25.3 Injury of innominate or subclavian vein
- 187. S25.4 Injury of pulmonary blood vessels
- 188. S25.5 Injury of intercostal blood vessels
- 189. S25.7 Injury of multiple blood vessels of thorax
- 190. S25.8 Injury of other blood vessels of thorax
- 191. S25.9 Injury of unspecified blood vessel of thorax
- 192. S26 Injury of heart
- 193. S26.0 Injury of heart with haemopericardium
- 194. S26.8 Other injuries of heart
- 195. S26.9 Injury of heart, unspecified
- 196. S27 Injury of other and unspecified intrathoracic organs
- 197. S27.0 Traumatic pneumothorax
- 198. S27.1 Traumatic haemothorax
- 199. S27.2 Traumatic haemopneumothorax
- 200. S27.3 Other injuries of lung

- 201. S27.4 Injury of bronchus
- 202. S27.5 Injury of thoracic trachea
- 203. S27.6 Injury of pleura
- 204. S27.7 Multiple injuries of intrathoracic organs
- 205. S27.8 Injury of other specified intrathoracic organs
- 206. S27.9 Injury of unspecified intrathoracic organ
- 207. S28 Crushing injury of thorax and traumatic amputation of part of thorax
- 208. S28.0 Crushed chest
- 209. S28.1 Traumatic amputation of part of thorax
- 210. S29 Other and unspecified injuries of thorax
- 211. S29.0 Injury of muscle and tendon at thorax level
- 212. S29.7 Multiple injuries of thorax
- 213. S29.8 Other specified injuries of thorax
- 214. S29.9 Unspecified injury of thorax
- 215. S30 Superficial injury of abdomen, lower back and pelvis
- 216. S30.0 Contusion of lower back and pelvis
- 217. S30.1 Contusion of abdominal wall
- 218. S30.2 Contusion of external genital organs
- 219. S30.7 Multiple superficial injuries of abdomen, lower back and pelvis
- 220. S30.8 Other superficial injuries of abdomen, lower back and pelvis
- 221. S30.9 Superficial injury of abdomen, lower back and pelvis, part unspecified
- 222. S31 Open wound of abdomen, lower back and pelvis
- 223. S31.0 Open wound of lower back and pelvis
- 224. S31.1 Open wound of abdominal wall
- 225. S31.2 Open wound of penis
- 226. S31.3 Open wound of scrotum and testes
- 227. S31.4 Open wound of vagina and vulva
- 228. S31.5 Open wound of other and unspecified external genital organs
- 229. S31.7 Multiple open wounds of abdomen, lower back and pelvis
- 230. S31.8 Open wound of other and unspecified parts of abdomen
- 231. S32 Fracture of lumbar spine and pelvis
- 232. S32.0 Fracture of lumbar vertebra
- 233. S32.1 Fracture of sacrum
- 234. S32.2 Fracture of coccyx
- 235. S32.3 Fracture of ilium
- 236. S32.4 Fracture of acetabulum
- 237. S32.5 Fracture of pubis
- 238. S32.7 Multiple fractures of lumbar spine and pelvis
- 239. S32.8 Fracture of other and unspecified parts of lumbar spine and pelvis
- 240. S33 Dislocation, sprain and strain of joints and ligaments of lumbar spine and pelvis
- 241. S33.0 Traumatic rupture of lumbar intervertebral disc
- 242. S33.1 Dislocation of lumbar vertebra

- 243. S33.2 Dislocation of sacroiliac and sacrococcygeal joint
- 244. S33.3 Dislocation of other and unspecified parts of lumbar spine and pelvis
- 245. S33.4 Traumatic rupture of symphysis pubis
- 246. S33.5 Sprain and strain of lumbar spine
- 247. S33.6 Sprain and strain of sacroiliac joint
- 248. S33.7 Sprain and strain of other and unspecified parts of lumbar spine and pelvis
- 249. S34 Injury of nerves and lumbar spinal cord at abdomen, lower back and pelvis level
- 250. S34.0 Concussion and oedema of lumbar spinal cord
- 251. S34.1 Other injury of lumbar spinal cord
- 252. S34.2 Injury of nerve root of lumbar and sacral spine
- 253. S34.3 Injury of cauda equina
- 254. S34.4 Injury of lumbosacral plexus
- 255. S34.5 Injury of lumbar, sacral and pelvic sympathetic nerves
- 256. S34.6 Injury of peripheral nerve(s) of abdomen, lower back and pelvis
- 257. S34.8 Injury of other and unspecified nerves at abdomen, lower back and pelvis level
- 258. S35 Injury of blood vessels at abdomen, lower back and pelvis level
- 259. S35.0 Injury of abdominal aorta
- 260. S35.1 Injury of inferior vena cava
- 261. S35.2 Injury of coeliac or mesenteric artery
- 262. S35.3 Injury of portal or splenic vein
- 263. S35.4 Injury of renal blood vessels
- 264. S35.5 Injury of iliac blood vessels
- 265. S35.7 Injury of multiple blood vessels at abdomen, lower back and pelvis level
- 266. S35.8 Injury of other blood vessels at abdomen, lower back and pelvis level
- 267. S35.9 Injury of unspecified blood vessel at abdomen, lower back and pelvis level
- 268. S36 Injury of intra-abdominal organs
- 269. S36.0 Injury of spleen
- 270. S36.1 Injury of liver or gallbladder
- 271. S36.2 Injury of pancreas
- 272. S36.3 Injury of stomach
- 273. S36.4 Injury of small intestine
- 274. S36.5 Injury of colon
- 275. S36.6 Injury of rectum
- 276. S36.7 Injury of multiple intra-abdominal organs
- 277. S36.8 Injury of other intra-abdominal organs
- 278. S36.9 Injury of unspecified intra-abdominal organ
- 279. S37 Injury of urinary and pelvic organs
- 280. S37.0 Injury of kidney
- 281. S37.1 Injury of ureter

- 282. S37.2 Injury of bladder
- 283. S37.3 Injury of urethra
- 284. S37.4 Injury of ovary
- 285. S37.5 Injury of fallopian tube
- 286. S37.6 Injury of uterus
- 287. S37.7 Injury of multiple pelvic organs
- 288. S37.8 Injury of other pelvic organs
- 289. S37.9 Injury of unspecified pelvic organ
- 290. S38 Crushing injury and traumatic amputation of part of abdomen, lower back and pelvis
- 291. S38.0 Crushing injury of external genital organs
- 292. S38.1 Crushing injury of other and unspecified parts of abdomen, lower back and pelvis
- 293. S38.2 Traumatic amputation of external genital organs
- 294. S38.3 Traumatic amputation of other and unspecified parts of abdomen, lower back and pelvis
- 295. S39 Other and unspecified injuries of abdomen, lower back and pelvis
- 296. S39.0 Injury of muscle and tendon of abdomen, lower back and pelvis
- 297. S39.6 Injury of intra-abdominal organ(s) with pelvic organ(s)
- 298. S39.7 Other multiple injuries of abdomen, lower back and pelvis
- 299. S39.8 Other specified injuries of abdomen, lower back and pelvis
- 300. S39.9 Unspecified injury of abdomen, lower back and pelvis
- 301. S40 Superficial injury of shoulder and upper arm
- 302. S40.0 Contusion of shoulder and upper arm
- 303. S40.7 Multiple superficial injuries of shoulder and upper arm
- 304. S40.8 Other superficial injuries of shoulder and upper arm
- 305. S40.9 Superficial injury of shoulder and upper arm, unspecified
- 306. S41 Open wound of shoulder and upper arm
- 307. S41.0 Open wound of shoulder
- 308. S41.1 Open wound of upper arm
- 309. S41.7 Multiple open wounds of shoulder and upper arm
- 310. S41.8 Open wound of other and unspecified parts of shoulder girdle
- 311. S42 Fracture of shoulder and upper arm
- 312. S42.0 Fracture of clavicle
- 313. S42.1 Fracture of scapula
- 314. S42.2 Fracture of upper end of humerus
- 315. S42.3 Fracture of shaft of humerus
- 316. S42.4 Fracture of lower end of humerus
- 317. S42.7 Multiple fractures of clavicle, scapula and humerus
- 318. S42.8 Fracture of other parts of shoulder and upper arm
- 319. S42.9 Fracture of shoulder girdle, part unspecified
- 320. S43 Dislocation, sprain and strain of joints and ligaments of shoulder girdle
- 321. S43.0 Dislocation of shoulder joint



- 322. S43.1 Dislocation of acromioclavicular joint
- 323. S43.2 Dislocation of sternoclavicular joint
- 324. S43.3 Dislocation of other and unspecified parts of shoulder girdle
- 325. S43.4 Sprain and strain of shoulder joint
- 326. S43.5 Sprain and strain of acromioclavicular joint
- 327. S43.6 Sprain and strain of sternoclavicular joint
- 328. S43.7 Sprain and strain of other and unspecified parts of shoulder girdle
- 329. S44 Injury of nerves at shoulder and upper arm level
- 330. S44.0 Injury of ulnar nerve at upper arm level
- 331. S44.1 Injury of median nerve at upper arm level
- 332. S44.2 Injury of radial nerve at upper arm level
- 333. S44.3 Injury of axillary nerve
- 334. S44.4 Injury of musculocutaneous nerve
- 335. S44.5 Injury of cutaneous sensory nerve at shoulder and upper arm level
- 336. S44.7 Injury of multiple nerves at shoulder and upper arm level
- 337. S44.8 Injury of other nerves at shoulder and upper arm level
- 338. S44.9 Injury of unspecified nerve at shoulder and upper arm level
- 339. S45 Injury of blood vessels at shoulder and upper arm level
- 340. S45.0 Injury of axillary artery
- 341. S45.1 Injury of brachial artery
- 342. S45.2 Injury of axillary or brachial vein
- 343. S45.3 Injury of superficial vein at shoulder and upper arm level
- 344. S45.7 Injury of multiple blood vessels at shoulder and upper arm level
- 345. S45.8 Injury of other blood vessels at shoulder and upper arm level
- 346. S45.9 Injury of unspecified blood vessel at shoulder and upper arm level
- 347. S46 Injury of muscle and tendon at shoulder and upper arm level
- 348. S46.0 Injury of muscle(s) and tendon(s) of the rotator cuff of shoulder
- 349. S46.1 Injury of muscle and tendon of long head of biceps
- 350. S46.2 Injury of muscle and tendon of other parts of biceps
- 351. S46.3 Injury of muscle and tendon of triceps
- 352. S46.7 Injury of multiple muscles and tendons at shoulder and upper arm level
- 353. S46.8 Injury of other muscles and tendons at shoulder and upper arm level
- 354. S46.9 Injury of unspecified muscle and tendon at shoulder and upper arm level
- 355. S47 Crushing injury of shoulder and upper arm
- 356. S48 Traumatic amputation of shoulder and upper arm
- 357. S48.0 Traumatic amputation at shoulder joint
- 358. S48.1 Traumatic amputation at level between shoulder and elbow
- 359. S48.9 Traumatic amputation of shoulder and upper arm, level unspecified
- 360. S49 Other and unspecified injuries of shoulder and upper arm
- 361. S49.7 Multiple injuries of shoulder and upper arm
- 362. S49.8 Other specified injuries of shoulder and upper arm
- 363. S49.9 Unspecified injury of shoulder and upper arm



- 364. S50 Superficial injury of forearm
- 365. S50.0 Contusion of elbow
- 366. S50.1 Contusion of other and unspecified parts of forearm
- 367. S50.7 Multiple superficial injuries of forearm
- 368. S50.8 Other superficial injuries of forearm
- 369. S50.9 Superficial injury of forearm, unspecified
- 370. S51 Open wound of forearm
- 371. S51.0 Open wound of elbow
- 372. S51.7 Multiple open wounds of forearm
- 373. S51.8 Open wound of other parts of forearm
- 374. S51.9 Open wound of forearm, part unspecified
- 375. S52 Fracture of forearm
- 376. S52.0 Fracture of upper end of ulna
- 377. S52.1 Fracture of upper end of radius
- 378. S52.2 Fracture of shaft of ulna
- 379. S52.3 Fracture of shaft of radius
- 380. S52.4 Fracture of shafts of both ulna and radius
- 381. S52.5 Fracture of lower end of radius
- 382. S52.6 Fracture of lower end of both ulna and radius
- 383. S52.7 Multiple fractures of forearm
- 384. S52.8 Fracture of other parts of forearm
- 385. S52.9 Fracture of forearm, part unspecified
- 386. S53 Dislocation, sprain and strain of joints and ligaments of elbow
- 387. S53.0 Dislocation of radial head
- 388. S53.1 Dislocation of elbow, unspecified
- 389. S53.2 Traumatic rupture of radial collateral ligament
- 390. S53.3 Traumatic rupture of ulnar collateral ligament
- 391. S53.4 Sprain and strain of elbow
- 392. S54 Injury of nerves at forearm level
- 393. S54.0 Injury of ulnar nerve at forearm level
- 394. S54.1 Injury of median nerve at forearm level
- 395. S54.2 Injury of radial nerve at forearm level
- 396. S54.3 Injury of cutaneous sensory nerve at forearm level
- 397. S54.7 Injury of multiple nerves at forearm level
- 398. S54.8 Injury of other nerves at forearm level
- 399. S54.9 Injury of unspecified nerve at forearm level
- 400. S55 Injury of blood vessels at forearm level
- 401. S55.0 Injury of ulnar artery at forearm level
- 402. S55.1 Injury of radial artery at forearm level
- 403. S55.2 Injury of vein at forearm level
- 404. S55.7 Injury of multiple blood vessels at forearm level
- 405. S55.8 Injury of other blood vessels at forearm level
- 406. S55.9 Injury of unspecified blood vessel at forearm level

- 407. S56 Injury of muscle and tendon at forearm level
- 408. S56.0 Injury of flexor muscle and tendon of thumb at forearm level
- 409. S56.1 Injury of long flexor muscle and tendon of other finger(s) at forearm level
- 410. S56.2 Injury of other flexor muscle and tendon at forearm level
- 411. S56.3 Injury of extensor or abductor muscles and tendons of thumb at forearm level
- 412. S56.4 Injury of extensor muscle and tendon of other finger(s) at forearm level
- 413. S56.5 Injury of other extensor muscle and tendon at forearm level
- 414. S56.7 Injury of multiple muscles and tendons at forearm level
- 415. S56.8 Injury of other and unspecified muscles and tendons at forearm level
- 416. S57 Crushing injury of forearm
- 417. S57.0 Crushing injury of elbow
- 418. S57.8 Crushing injury of other parts of forearm
- 419. S57.9 Crushing injury of forearm, part unspecified
- 420. S58 Traumatic amputation of forearm
- 421. S58.0 Traumatic amputation at elbow level
- 422. S58.1 Traumatic amputation at level between elbow and wrist
- 423. S58.9 Traumatic amputation of forearm, level unspecified
- 424. S59 Other and unspecified injuries of forearm
- 425. S59.7 Multiple injuries of forearm
- 426. S59.8 Other specified injuries of forearm
- 427. S59.9 Unspecified injury of forearm
- 428. S60 Superficial injury of wrist and hand
- 429. S60.0 Contusion of finger(s) without damage to nail
- 430. S60.1 Contusion of finger(s) with damage to nail
- 431. S60.2 Contusion of other parts of wrist and hand
- 432. S60.7 Multiple superficial injuries of wrist and hand
- 433. S60.8 Other superficial injuries of wrist and hand
- 434. S60.9 Superficial injury of wrist and hand, unspecified
- 435. S61 Open wound of wrist and hand
- 436. S61.0 Open wound of finger(s) without damage to nail
- 437. S61.1 Open wound of finger(s) with damage to nail
- 438. S61.7 Multiple open wounds of wrist and hand
- 439. S61.8 Open wound of other parts of wrist and hand
- 440. S61.9 Open wound of wrist and hand, part unspecified
- 441. S62 Fracture at wrist and hand level
- 442. S62.0 Fracture of navicular [scaphoid] bone of hand
- 443. S62.1 Fracture of other carpal bone(s)
- 444. S62.2 Fracture of first metacarpal bone
- 445. S62.3 Fracture of other metacarpal bone
- 446. S62.4 Multiple fractures of metacarpal bones
- 447. S62.5 Fracture of thumb

- 448. S62.6 Fracture of other finger
- 449. S62.7 Multiple fractures of fingers
- 450. S62.8 Fracture of other and unspecified parts of wrist and hand
- 451. S63 Dislocation, sprain and strain of joints and ligaments at wrist and hand level
- 452. S63.0 Dislocation of wrist
- 453. S63.1 Dislocation of finger
- 454. S63.2 Multiple dislocations of fingers
- 455. S63.3 Traumatic rupture of ligament of wrist and carpus
- 456. S63.4 Traumatic rupture of ligament of finger at metacarpophalangeal and interphalangeal joint(s)
- 457. S63.5 Sprain and strain of wrist
- 458. S63.6 Sprain and strain of finger(s)
- 459. S63.7 Sprain and strain of other and unspecified parts of hand
- 460. S64 Injury of nerves at wrist and hand level
- 461. S64.0 Injury of ulnar nerve at wrist and hand level
- 462. S64.1 Injury of median nerve at wrist and hand level
- 463. S64.2 Injury of radial nerve at wrist and hand level
- 464. S64.3 Injury of digital nerve of thumb
- 465. S64.4 Injury of digital nerve of other finger
- 466. S64.7 Injury of multiple nerves at wrist and hand level
- 467. S64.8 Injury of other nerves at wrist and hand level
- 468. S64.9 Injury of unspecified nerve at wrist and hand level
- 469. S65 Injury of blood vessels at wrist and hand level
- 470. S65.0 Injury of ulnar artery at wrist and hand level
- 471. S65.1 Injury of radial artery at wrist and hand level
- 472. S65.2 Injury of superficial palmar arch
- 473. S65.3 Injury of deep palmar arch
- 474. S65.4 Injury of blood vessel(s) of thumb
- 475. S65.5 Injury of blood vessel(s) of other finger
- 476. S65.7 Injury of multiple blood vessels at wrist and hand level
- 477. S65.8 Injury of other blood vessels at wrist and hand level
- 478. S65.9 Injury of unspecified blood vessel at wrist and hand level
- 479. S66 Injury of muscle and tendon at wrist and hand level
- 480. S66.0 Injury of long flexor muscle and tendon of thumb at wrist and hand level
- 481. S66.1 Injury of flexor muscle and tendon of other finger at wrist and hand level
- 482. S66.2 Injury of extensor muscle and tendon of thumb at wrist and hand level
- 483. S66.3 Injury of extensor muscle and tendon of other finger at wrist and hand level
- 484. S66.4 Injury of intrinsic muscle and tendon of thumb at wrist and hand level
- 485. S66.5 Injury of intrinsic muscle and tendon of other finger at wrist and hand

- level
- 486. S66.6 Injury of multiple flexor muscles and tendons at wrist and hand level
  - 487. S66.7 Injury of multiple extensor muscles and tendons at wrist and hand level
  - 488. S66.8 Injury of other muscles and tendons at wrist and hand level
  - 489. S66.9 Injury of unspecified muscle and tendon at wrist and hand level
  - 490. S67 Crushing injury of wrist and hand
  - 491. S67.0 Crushing injury of thumb and other finger(s)
  - 492. S67.8 Crushing injury of other and unspecified parts of wrist and hand
  - 493. S68 Traumatic amputation of wrist and hand
  - 494. S68.0 Traumatic amputation of thumb (complete)(partial)
  - 495. S68.1 Traumatic amputation of other single finger (complete)(partial)
  - 496. S68.2 Traumatic amputation of two or more fingers alone (complete)(partial)
  - 497. S68.3 Combined traumatic amputation of (part of) finger(s) with other parts of wrist and hand
  - 498. S68.4 Traumatic amputation of hand at wrist level
  - 499. S68.8 Traumatic amputation of other parts of wrist and hand
  - 500. S68.9 Traumatic amputation of wrist and hand, level unspecified
  - 501. S69 Other and unspecified injuries of wrist and hand
  - 502. S69.7 Multiple injuries of wrist and hand
  - 503. S69.8 Other specified injuries of wrist and hand
  - 504. S69.9 Unspecified injury of wrist and hand
  - 505. S70 Superficial injury of hip and thigh
  - 506. S70.0 Contusion of hip
  - 507. S70.1 Contusion of thigh
  - 508. S70.7 Multiple superficial injuries of hip and thigh
  - 509. S70.8 Other superficial injuries of hip and thigh
  - 510. S70.9 Superficial injury of hip and thigh, unspecified
  - 511. S71 Open wound of hip and thigh
  - 512. S71.0 Open wound of hip
  - 513. S71.1 Open wound of thigh
  - 514. S71.7 Multiple open wounds of hip and thigh
  - 515. S71.8 Open wound of other and unspecified parts of pelvic girdle
  - 516. S72 Fracture of femur
  - 517. S72.0 Fracture of neck of femur
  - 518. S72.1 Pertrochanteric fracture
  - 519. S72.2 Subtrochanteric fracture
  - 520. S72.3 Fracture of shaft of femur
  - 521. S72.4 Fracture of lower end of femur
  - 522. S72.7 Multiple fractures of femur
  - 523. S72.8 Fractures of other parts of femur
  - 524. S72.9 Fracture of femur, part unspecified
  - 525. S73 Dislocation, sprain and strain of joint and ligaments of hip
  - 526. S73.0 Dislocation of hip

- 527. S73.1 Sprain and strain of hip
- 528. S74 Injury of nerves at hip and thigh level
- 529. S74.0 Injury of sciatic nerve at hip and thigh level
- 530. S74.1 Injury of femoral nerve at hip and thigh level
- 531. S74.2 Injury of cutaneous sensory nerve at hip and thigh level
- 532. S74.7 Injury of multiple nerves at hip and thigh level
- 533. S74.8 Injury of other nerves at hip and thigh level
- 534. S74.9 Injury of unspecified nerve at hip and thigh level
- 535. S75 Injury of blood vessels at hip and thigh level
- 536. S75.0 Injury of femoral artery
- 537. S75.1 Injury of femoral vein at hip and thigh level
- 538. S75.2 Injury of greater saphenous vein at hip and thigh level
- 539. S75.7 Injury of multiple blood vessels at hip and thigh level
- 540. S75.8 Injury of other blood vessels at hip and thigh level
- 541. S75.9 Injury of unspecified blood vessel at hip and thigh level
- 542. S76 Injury of muscle and tendon at hip and thigh level
- 543. S76.0 Injury of muscle and tendon of hip
- 544. S76.1 Injury of quadriceps muscle and tendon
- 545. S76.2 Injury of adductor muscle and tendon of thigh
- 546. S76.3 Injury of muscle and tendon of the posterior muscle group at thigh level
- 547. S76.4 Injury of other and unspecified muscles and tendons at thigh level
- 548. S76.7 Injury of multiple muscles and tendons at hip and thigh level
- 549. S77 Crushing injury of hip and thigh
- 550. S77.0 Crushing injury of hip
- 551. S77.1 Crushing injury of thigh
- 552. S77.2 Crushing injury of hip with thigh
- 553. S78 Traumatic amputation of hip and thigh
- 554. S78.0 Traumatic amputation at hip joint
- 555. S78.1 Traumatic amputation at level between hip and knee
- 556. S78.9 Traumatic amputation of hip and thigh, level unspecified
- 557. S79 Other and unspecified injuries of hip and thigh
- 558. S79.7 Multiple injuries of hip and thigh
- 559. S79.8 Other specified injuries of hip and thigh
- 560. S79.9 Unspecified injury of hip and thigh
- 561. S80 Superficial injury of lower leg
- 562. S80.0 Contusion of knee
- 563. S80.1 Contusion of other and unspecified parts of lower leg
- 564. S80.7 Multiple superficial injuries of lower leg
- 565. S80.8 Other superficial injuries of lower leg
- 566. S80.9 Superficial injury of lower leg, unspecified
- 567. S81 Open wound of lower leg
- 568. S81.0 Open wound of knee
- 569. S81.7 Multiple open wounds of lower leg

- 570. S81.8 Open wound of other parts of lower leg
- 571. S81.9 Open wound of lower leg, part unspecified
- 572. S82 Fracture of lower leg, including ankle
- 573. S82.0 Fracture of patella
- 574. S82.1 Fracture of upper end of tibia
- 575. S82.2 Fracture of shaft of tibia
- 576. S82.3 Fracture of lower end of tibia
- 577. S82.4 Fracture of fibula alone
- 578. S82.5 Fracture of medial malleolus
- 579. S82.6 Fracture of lateral malleolus
- 580. S82.7 Multiple fractures of lower leg
- 581. S82.8 Fractures of other parts of lower leg
- 582. S82.9 Fracture of lower leg, part unspecified
- 583. S83 Dislocation, sprain and strain of joints and ligaments of knee
- 584. S83.0 Dislocation of patella
- 585. S83.1 Dislocation of knee
- 586. S83.2 Tear of meniscus, current
- 587. S83.3 Tear of articular cartilage of knee, current
- 588. S83.4 Sprain and strain involving (fibular)(tibial) collateral ligament of knee
- 589. S83.5 Sprain and strain involving (anterior)(posterior) cruciate ligament of knee
- 590. S83.6 Sprain and strain of other and unspecified parts of knee
- 591. S83.7 Injury to multiple structures of knee
- 592. S84 Injury of nerves at lower leg level
- 593. S84.0 Injury of tibial nerve at lower leg level
- 594. S84.1 Injury of peroneal nerve at lower leg level
- 595. S84.2 Injury of cutaneous sensory nerve at lower leg level
- 596. S84.7 Injury of multiple nerves at lower leg level
- 597. S84.8 Injury of other nerves at lower leg level
- 598. S84.9 Injury of unspecified nerve at lower leg level
- 599. S85 Injury of blood vessels at lower leg level
- 600. S85.0 Injury of popliteal artery
- 601. S85.1 Injury of (anterior)(posterior) tibial artery
- 602. S85.2 Injury of peroneal artery
- 603. S85.3 Injury of greater saphenous vein at lower leg level
- 604. S85.4 Injury of lesser saphenous vein at lower leg level
- 605. S85.5 Injury of popliteal vein
- 606. S85.7 Injury of multiple blood vessels at lower leg level
- 607. S85.8 Injury of other blood vessels at lower leg level
- 608. S85.9 Injury of unspecified blood vessel at lower leg level
- 609. S86 Injury of muscle and tendon at lower leg level
- 610. S86.0 Injury of Achilles tendon
- 611. S86.1 Injury of other muscle(s) and tendon(s) of posterior muscle group at

- lower leg level
- 612. S86.2 Injury of muscle(s) and tendon(s) of anterior muscle group at lower leg level
  - 613. S86.3 Injury of muscle(s) and tendon(s) of peroneal muscle group at lower leg level
  - 614. S86.7 Injury of multiple muscles and tendons at lower leg level
  - 615. S86.8 Injury of other muscles and tendons at lower leg level
  - 616. S86.9 Injury of unspecified muscle and tendon at lower leg level
  - 617. S87 Crushing injury of lower leg
  - 618. S87.0 Crushing injury of knee
  - 619. S87.8 Crushing injury of other and unspecified parts of lower leg
  - 620. S88 Traumatic amputation of lower leg
  - 621. S88.0 Traumatic amputation at knee level
  - 622. S88.1 Traumatic amputation at level between knee and ankle
  - 623. S88.9 Traumatic amputation of lower leg, level unspecified
  - 624. S89 Other and unspecified injuries of lower leg
  - 625. S89.7 Multiple injuries of lower leg
  - 626. S89.8 Other specified injuries of lower leg
  - 627. S89.9 Unspecified injury of lower leg
  - 628. S90 Superficial injury of ankle and foot
  - 629. S90.0 Contusion of ankle
  - 630. S90.1 Contusion of toe(s) without damage to nail
  - 631. S90.2 Contusion of toe(s) with damage to nail
  - 632. S90.3 Contusion of other and unspecified parts of foot
  - 633. S90.7 Multiple superficial injuries of ankle and foot
  - 634. S90.8 Other superficial injuries of ankle and foot
  - 635. S90.9 Superficial injury of ankle and foot, unspecified
  - 636. S91 Open wound of ankle and foot
  - 637. S91.0 Open wound of ankle
  - 638. S91.1 Open wound of toe(s) without damage to nail
  - 639. S91.2 Open wound of toe(s) with damage to nail
  - 640. S91.3 Open wound of other parts of foot
  - 641. S91.7 Multiple open wounds of ankle and foot
  - 642. S92 Fracture of foot, except ankle
  - 643. S92.0 Fracture of calcaneus
  - 644. S92.1 Fracture of talus
  - 645. S92.2 Fracture of other tarsal bone(s)
  - 646. S92.3 Fracture of metatarsal bone
  - 647. S92.4 Fracture of great toe
  - 648. S92.5 Fracture of other toe
  - 649. S92.7 Multiple fractures of foot
  - 650. S92.9 Fracture of foot, unspecified
  - 651. S93 Dislocation, sprain and strain of joints and ligaments at ankle and foot



- level
- 652. S93.0 Dislocation of ankle joint
  - 653. S93.1 Dislocation of toe(s)
  - 654. S93.2 Rupture of ligaments at ankle and foot level
  - 655. S93.3 Dislocation of other and unspecified parts of foot
  - 656. S93.4 Sprain and strain of ankle
  - 657. S93.5 Sprain and strain of toe(s)
  - 658. S93.6 Sprain and strain of other and unspecified parts of foot
  - 659. S94 Injury of nerves at ankle and foot level
  - 660. S94.0 Injury of lateral plantar nerve
  - 661. S94.1 Injury of medial plantar nerve
  - 662. S94.2 Injury of deep peroneal nerve at ankle and foot level
  - 663. S94.3 Injury of cutaneous sensory nerve at ankle and foot level
  - 664. S94.7 Injury of multiple nerves at ankle and foot level
  - 665. S94.8 Injury of other nerves at ankle and foot level
  - 666. S94.9 Injury of unspecified nerve at ankle and foot level
  - 667. S95 Injury of blood vessels at ankle and foot level
  - 668. S95.0 Injury of dorsal artery of foot
  - 669. S95.1 Injury of plantar artery of foot
  - 670. S95.2 Injury of dorsal vein of foot
  - 671. S95.7 Injury of multiple blood vessels at ankle and foot level
  - 672. S95.8 Injury of other blood vessels at ankle and foot level
  - 673. S95.9 Injury of unspecified blood vessel at ankle and foot level
  - 674. S96 Injury of muscle and tendon at ankle and foot level
  - 675. S96.0 Injury of muscle and tendon of long flexor muscle of toe at ankle and foot level
  - 676. S96.1 Injury of muscle and tendon of long extensor muscle of toe at ankle and foot level
  - 677. S96.2 Injury of intrinsic muscle and tendon at ankle and foot level
  - 678. S96.7 Injury of multiple muscles and tendons at ankle and foot level
  - 679. S96.8 Injury of other muscles and tendons at ankle and foot level
  - 680. S96.9 Injury of unspecified muscle and tendon at ankle and foot level
  - 681. S97 Crushing injury of ankle and foot
  - 682. S97.0 Crushing injury of ankle
  - 683. S97.1 Crushing injury of toe(s)
  - 684. S97.8 Crushing injury of other parts of ankle and foot
  - 685. S98 Traumatic amputation of ankle and foot
  - 686. S98.0 Traumatic amputation of foot at ankle level
  - 687. S98.1 Traumatic amputation of one toe
  - 688. S98.2 Traumatic amputation of two or more toes
  - 689. S98.3 Traumatic amputation of other parts of foot
  - 690. S98.4 Traumatic amputation of foot, level unspecified
  - 691. S99 Other and unspecified injuries of ankle and foot



- 692. S99.7 Multiple injuries of ankle and foot
- 693. S99.8 Other specified injuries of ankle and foot
- 694. S99.9 Unspecified injury of ankle and foot
- 695. T00 Superficial injuries involving multiple body regions
- 696. T00.0 Superficial injuries involving head with neck
- 697. T00.1 Superficial injuries involving thorax with abdomen, lower back and pelvis
- 698. T00.2 Superficial injuries involving multiple regions of upper limb(s)
- 699. T00.3 Superficial injuries involving multiple regions of lower limb(s)
- 700. T00.6 Superficial injuries involving multiple regions of upper limb(s) with lower limb(s)
- 701. T00.8 Superficial injuries involving other combinations of body regions
- 702. T00.9 Multiple superficial injuries, unspecified
- 703. T01 Open wounds involving multiple body regions
- 704. T01.0 Open wounds involving head with neck
- 705. T01.1 Open wounds involving thorax with abdomen, lower back and pelvis
- 706. T01.2 Open wounds involving multiple regions of upper limb(s)
- 707. T01.3 Open wounds involving multiple regions of lower limb(s)
- 708. T01.6 Open wounds involving multiple regions of upper limb(s) with lower limb(s)
- 709. T01.8 Open wounds involving other combinations of body regions
- 710. T01.9 Multiple open wounds, unspecified
- 711. T02 Fractures involving multiple body regions
- 712. T02.0 Fractures involving head with neck
- 713. T02.1 Fractures involving thorax with lower back and pelvis
- 714. T02.2 Fractures involving multiple regions of one upper limb
- 715. T02.3 Fractures involving multiple regions of one lower limb
- 716. T02.4 Fractures involving multiple regions of both upper limbs
- 717. T02.5 Fractures involving multiple regions of both lower limbs
- 718. T02.6 Fractures involving multiple regions of upper limb(s) with lower limb(s)
- 719. T02.7 Fractures involving thorax with lower back and pelvis with limb(s)
- 720. T02.8 Fractures involving other combinations of body regions
- 721. T02.9 Multiple fractures, unspecified
- 722. T03 Dislocations, sprains and strains involving multiple body regions
- 723. T03.0 Dislocations, sprains and strains involving head with neck
- 724. T03.1 Dislocations, sprains and strains involving thorax with lower back and pelvis
- 725. T03.2 Dislocations, sprains and strains involving multiple regions of upper limb(s)
- 726. T03.3 Dislocations, sprains and strains involving multiple regions of lower limb(s)
- 727. T03.4 Dislocations, sprains and strains involving multiple regions of upper limb(s) with lower limb(s)

- 728. T03.8 Dislocations, sprains and strains involving other combinations of body regions
- 729. T03.9 Multiple dislocations, sprains and strains, unspecified
- 730. T04 Crushing injuries involving multiple body regions
- 731. T04.0 Crushing injuries involving head with neck
- 732. T04.1 Crushing injuries involving thorax with abdomen, lower back and pelvis
- 733. T04.2 Crushing injuries involving multiple regions of upper limb(s)
- 734. T04.3 Crushing injuries involving multiple regions of lower limb(s)
- 735. T04.4 Crushing injuries involving multiple regions of upper limb(s) with lower limb(s)
- 736. T04.7 Crushing injuries of thorax with abdomen, lower back and pelvis with limb(s)
- 737. T04.8 Crushing injuries involving other combinations of body regions
- 738. T04.9 Multiple crushing injuries, unspecified
- 739. T05 Traumatic amputations involving multiple body regions
- 740. T05.0 Traumatic amputation of both hands
- 741. T05.1 Traumatic amputation of one hand and other arm [any level, except hand]
- 742. T05.2 Traumatic amputation of both arms [any level]
- 743. T05.3 Traumatic amputation of both feet
- 744. T05.4 Traumatic amputation of one foot and other leg [any level, except foot]
- 745. T05.5 Traumatic amputation of both legs [any level]
- 746. T05.6 Traumatic amputation of upper and lower limbs, any combination [any level]
- 747. T05.8 Traumatic amputations involving other combinations of body regions
- 748. T05.9 Multiple traumatic amputations, unspecified
- 749. T06 Other injuries involving multiple body regions, not elsewhere classified
- 750. T06.0 Injuries of brain and cranial nerves with injuries of nerves and spinal cord at neck level
- 751. T06.1 Injuries of nerves and spinal cord involving other multiple body regions
- 752. T06.2 Injuries of nerves involving multiple body regions
- 753. T06.3 Injuries of blood vessels involving multiple body regions
- 754. T06.4 Injuries of muscles and tendons involving multiple body regions
- 755. T06.5 Injuries of intrathoracic organs with intra-abdominal and pelvic organs
- 756. T06.8 Other specified injuries involving multiple body regions
- 757. T07 Unspecified multiple injuries
- 758. T08 Fracture of spine, level unspecified
- 759. T09 Other injuries of spine and trunk, level unspecified
- 760. T09.0 Superficial injury of trunk, level unspecified
- 761. T09.1 Open wound of trunk, level unspecified
- 762. T09.2 Dislocation, sprain and strain of unspecified joint and ligament of trunk
- 763. T09.3 Injury of spinal cord, level unspecified
- 764. T09.4 Injury of unspecified nerve, spinal nerve root and plexus of trunk

- 765. T09.5 Injury of unspecified muscle and tendon of trunk
- 766. T09.6 Traumatic amputation of trunk, level unspecified
- 767. T09.8 Other specified injuries of trunk, level unspecified
- 768. T09.9 Unspecified injury of trunk, level unspecified
- 769. T10 Fracture of upper limb, level unspecified
- 770. T11 Other injuries of upper limb, level unspecified
- 771. T11.0 Superficial injury of upper limb, level unspecified
- 772. T11.1 Open wound of upper limb, level unspecified
- 773. T11.2 Dislocation, sprain and strain of unspecified joint and ligament of upper limb, level unspecified
- 774. T11.3 Injury of unspecified nerve of upper limb, level unspecified
- 775. T11.4 Injury of unspecified blood vessel of upper limb, level unspecified
- 776. T11.5 Injury of unspecified muscle and tendon of upper limb, level unspecified
- 777. T11.6 Traumatic amputation of upper limb, level unspecified
- 778. T11.8 Other specified injuries of upper limb, level unspecified
- 779. T11.9 Unspecified injury of upper limb, level unspecified
- 780. T12 Fracture of lower limb, level unspecified
- 781. T13 Other injuries of lower limb, level unspecified
- 782. T13.0 Superficial injury of lower limb, level unspecified
- 783. T13.1 Open wound of lower limb, level unspecified
- 784. T13.2 Dislocation, sprain and strain of unspecified joint and ligament of lower limb, level unspecified
- 785. T13.3 Injury of unspecified nerve of lower limb, level unspecified
- 786. T13.4 Injury of unspecified blood vessel of lower limb, level unspecified
- 787. T13.5 Injury of unspecified muscle and tendon of lower limb, level unspecified
- 788. T13.6 Traumatic amputation of lower limb, level unspecified
- 789. T13.8 Other specified injuries of lower limb, level unspecified
- 790. T13.9 Unspecified injury of lower limb, level unspecified
- 791. T14 Injury of unspecified body region
- 792. T14.0 Superficial injury of unspecified body region
- 793. T14.1 Open wound of unspecified body region
- 794. T14.2 Fracture of unspecified body region
- 795. T14.3 Dislocation, sprain and strain of unspecified body region
- 796. T14.4 Injury of nerve(s) of unspecified body region
- 797. T14.5 Injury of blood vessel(s) of unspecified body region
- 798. T14.6 Injury of muscles and tendons of unspecified body region
- 799. T14.7 Crushing injury and traumatic amputation of unspecified body region
- 800. T14.8 Other injuries of unspecified body region
- 801. T14.9 Injury, unspecified
- 802. T15 Foreign body on external eye
- 803. T15.0 Foreign body in cornea
- 804. T15.1 Foreign body in conjunctival sac
- 805. T15.8 Foreign body in other and multiple parts of external eye

- 806. T15.9 Foreign body on external eye, part unspecified
- 807. T16 Foreign body in ear
- 808. T17 Foreign body in respiratory tract
- 809. T17.0 Foreign body in nasal sinus
- 810. T17.1 Foreign body in nostril
- 811. T17.2 Foreign body in pharynx
- 812. T17.3 Foreign body in larynx
- 813. T17.4 Foreign body in trachea
- 814. T17.5 Foreign body in bronchus
- 815. T17.8 Foreign body in other and multiple parts of respiratory tract
- 816. T17.9 Foreign body in respiratory tract, part unspecified
- 817. T18 Foreign body in alimentary tract
- 818. T18.0 Foreign body in mouth
- 819. T18.1 Foreign body in oesophagus
- 820. T18.2 Foreign body in stomach
- 821. T18.3 Foreign body in small intestine
- 822. T18.4 Foreign body in colon
- 823. T18.5 Foreign body in anus and rectum
- 824. T18.8 Foreign body in other and multiple parts of alimentary tract
- 825. T18.9 Foreign body in alimentary tract, part unspecified
- 826. T19 Foreign body in genitourinary tract
- 827. T19.0 Foreign body in urethra
- 828. T19.1 Foreign body in bladder
- 829. T19.2 Foreign body in vulva and vagina
- 830. T19.3 Foreign body in uterus [any part]
- 831. T19.8 Foreign body in other and multiple parts of genitourinary tract
- 832. T19.9 Foreign body in genitourinary tract, part unspecified
- 833. T20 Burn and corrosion of head and neck
- 834. T20.0 Burn of unspecified degree of head and neck
- 835. T20.1 Burn of first degree of head and neck
- 836. T20.2 Burn of second degree of head and neck
- 837. T20.3 Burn of third degree of head and neck
- 838. T20.4 Corrosion of unspecified degree of head and neck
- 839. T20.5 Corrosion of first degree of head and neck
- 840. T20.6 Corrosion of second degree of head and neck
- 841. T20.7 Corrosion of third degree of head and neck
- 842. T21 Burn and corrosion of trunk
- 843. T21.0 Burn of unspecified degree of trunk
- 844. T21.1 Burn of first degree of trunk
- 845. T21.2 Burn of second degree of trunk
- 846. T21.3 Burn of third degree of trunk
- 847. T21.4 Corrosion of unspecified degree of trunk
- 848. T21.5 Corrosion of first degree of trunk

- 849. T21.6 Corrosion of second degree of trunk
- 850. T21.7 Corrosion of third degree of trunk
- 851. T22 Burn and corrosion of shoulder and upper limb, except wrist and hand
- 852. T22.0 Burn of unspecified degree of shoulder and upper limb, except wrist and hand
- 853. T22.1 Burn of first degree of shoulder and upper limb, except wrist and hand
- 854. T22.2 Burn of second degree of shoulder and upper limb, except wrist and hand
- 855. T22.3 Burn of third degree of shoulder and upper limb, except wrist and hand
- 856. T22.4 Corrosion of unspecified degree of shoulder and upper limb, except wrist and hand
- 857. T22.5 Corrosion of first degree of shoulder and upper limb, except wrist and hand
- 858. T22.6 Corrosion of second degree of shoulder and upper limb, except wrist and hand
- 859. T22.7 Corrosion of third degree of shoulder and upper limb, except wrist and hand
- 860. T23 Burn and corrosion of wrist and hand
- 861. T23.0 Burn of unspecified degree of wrist and hand
- 862. T23.1 Burn of first degree of wrist and hand
- 863. T23.2 Burn of second degree of wrist and hand
- 864. T23.3 Burn of third degree of wrist and hand
- 865. T23.4 Corrosion of unspecified degree of wrist and hand
- 866. T23.5 Corrosion of first degree of wrist and hand
- 867. T23.6 Corrosion of second degree of wrist and hand
- 868. T23.7 Corrosion of third degree of wrist and hand
- 869. T24 Burn and corrosion of hip and lower limb, except ankle and foot
- 870. T24.0 Burn of unspecified degree of hip and lower limb, except ankle and foot
- 871. T24.1 Burn of first degree of hip and lower limb, except ankle and foot
- 872. T24.2 Burn of second degree of hip and lower limb, except ankle and foot
- 873. T24.3 Burn of third degree of hip and lower limb, except ankle and foot
- 874. T24.4 Corrosion of unspecified degree of hip and lower limb, except ankle and foot
- 875. T24.5 Corrosion of first degree of hip and lower limb, except ankle and foot
- 876. T24.6 Corrosion of second degree of hip and lower limb, except ankle and foot
- 877. T24.7 Corrosion of third degree of hip and lower limb, except ankle and foot
- 878. T25 Burn and corrosion of ankle and foot
- 879. T25.0 Burn of unspecified degree of ankle and foot
- 880. T25.1 Burn of first degree of ankle and foot
- 881. T25.2 Burn of second degree of ankle and foot
- 882. T25.3 Burn of third degree of ankle and foot
- 883. T25.4 Corrosion of unspecified degree of ankle and foot
- 884. T25.5 Corrosion of first degree of ankle and foot

- 885. T25.6 Corrosion of second degree of ankle and foot
- 886. T25.7 Corrosion of third degree of ankle and foot
- 887. T26 Burn and corrosion confined to eye and adnexa
- 888. T26.0 Burn of eyelid and periocular area
- 889. T26.1 Burn of cornea and conjunctival sac
- 890. T26.2 Burn with resulting rupture and destruction of eyeball
- 891. T26.3 Burn of other parts of eye and adnexa
- 892. T26.4 Burn of eye and adnexa, part unspecified
- 893. T26.5 Corrosion of eyelid and periocular area
- 894. T26.6 Corrosion of cornea and conjunctival sac
- 895. T26.7 Corrosion with resulting rupture and destruction of eyeball
- 896. T26.8 Corrosion of other parts of eye and adnexa
- 897. T26.9 Corrosion of eye and adnexa, part unspecified
- 898. T27 Burn and corrosion of respiratory tract
- 899. T27.0 Burn of larynx and trachea
- 900. T27.1 Burn involving larynx and trachea with lung
- 901. T27.2 Burn of other parts of respiratory tract
- 902. T27.3 Burn of respiratory tract, part unspecified
- 903. T27.4 Corrosion of larynx and trachea
- 904. T27.5 Corrosion involving larynx and trachea with lung
- 905. T27.6 Corrosion of other parts of respiratory tract
- 906. T27.7 Corrosion of respiratory tract, part unspecified
- 907. T28 Burn and corrosion of other internal organs
- 908. T28.0 Burn of mouth and pharynx
- 909. T28.1 Burn of oesophagus
- 910. T28.2 Burn of other parts of alimentary tract
- 911. T28.3 Burn of internal genitourinary organs
- 912. T28.4 Burn of other and unspecified internal organs
- 913. T28.5 Corrosion of mouth and pharynx
- 914. T28.6 Corrosion of oesophagus
- 915. T28.7 Corrosion of other parts of alimentary tract
- 916. T28.8 Corrosion of internal genitourinary organs
- 917. T28.9 Corrosion of other and unspecified internal organs
- 918. T29 Burns and corrosions of multiple body regions
- 919. T29.0 Burns of multiple regions, unspecified degree
- 920. T29.1 Burns of multiple regions, no more than first-degree burns mentioned
- 921. T29.2 Burns of multiple regions, no more than second-degree burns mentioned
- 922. T29.3 Burns of multiple regions, at least one burn of third degree mentioned
- 923. T29.4 Corrosions of multiple regions, unspecified degree
- 924. T29.5 Corrosions of multiple regions, no more than first-degree corrosions mentioned
- 925. T29.6 Corrosions of multiple regions, no more than second-degree corrosions mentioned

- 926. T29.7 Corrosions of multiple regions, at least one corrosion of third degree mentioned
- 927. T30 Burn and corrosion, body region unspecified
- 928. T30.0 Burn of unspecified body region, unspecified degree
- 929. T30.1 Burn of first degree, body region unspecified
- 930. T30.2 Burn of second degree, body region unspecified
- 931. T30.3 Burn of third degree, body region unspecified
- 932. T30.4 Corrosion of unspecified body region, unspecified degree
- 933. T30.5 Corrosion of first degree, body region unspecified
- 934. T30.6 Corrosion of second degree, body region unspecified
- 935. T30.7 Corrosion of third degree, body region unspecified
- 936. T31 Burns classified according to extent of body surface involved
- 937. T31.0 Burns involving less than 10% of body surface
- 938. T31.1 Burns involving 10-19% of body surface
- 939. T31.2 Burns involving 20-29% of body surface
- 940. T31.3 Burns involving 30-39% of body surface
- 941. T31.4 Burns involving 40-49% of body surface
- 942. T31.5 Burns involving 50-59% of body surface
- 943. T31.6 Burns involving 60-69% of body surface
- 944. T31.7 Burns involving 70-79% of body surface
- 945. T31.8 Burns involving 80-89% of body surface
- 946. T31.9 Burns involving 90% or more of body surface
- 947. T32 Corrosions classified according to extent of body surface involved
- 948. T32.0 Corrosions involving less than 10% of body surface
- 949. T32.1 Corrosions involving 10-19% of body surface
- 950. T32.2 Corrosions involving 20-29% of body surface
- 951. T32.3 Corrosions involving 30-39% of body surface
- 952. T32.4 Corrosions involving 40-49% of body surface
- 953. T32.5 Corrosions involving 50-59% of body surface
- 954. T32.6 Corrosions involving 60-69% of body surface
- 955. T32.7 Corrosions involving 70-79% of body surface
- 956. T32.8 Corrosions involving 80-89% of body surface
- 957. T32.9 Corrosions involving 90% or more of body surface
- 958. T33 Superficial frostbite
- 959. T33.0 Superficial frostbite of head
- 960. T33.1 Superficial frostbite of neck
- 961. T33.2 Superficial frostbite of thorax
- 962. T33.3 Superficial frostbite of abdominal wall, lower back and pelvis
- 963. T33.4 Superficial frostbite of arm
- 964. T33.5 Superficial frostbite of wrist and hand
- 965. T33.6 Superficial frostbite of hip and thigh
- 966. T33.7 Superficial frostbite of knee and lower leg
- 967. T33.8 Superficial frostbite of ankle and foot



- 968. T33.9 Superficial frostbite of other and unspecified sites
- 969. T34 Frostbite with tissue necrosis
- 970. T34.0 Frostbite with tissue necrosis of head
- 971. T34.1 Frostbite with tissue necrosis of neck
- 972. T34.2 Frostbite with tissue necrosis of thorax
- 973. T34.3 Frostbite with tissue necrosis of abdominal wall, lower back and pelvis
- 974. T34.4 Frostbite with tissue necrosis of arm
- 975. T34.5 Frostbite with tissue necrosis of wrist and hand
- 976. T34.6 Frostbite with tissue necrosis of hip and thigh
- 977. T34.7 Frostbite with tissue necrosis of knee and lower leg
- 978. T34.8 Frostbite with tissue necrosis of ankle and foot
- 979. T34.9 Frostbite with tissue necrosis of other and unspecified sites
- 980. T35 Frostbite involving multiple body regions and unspecified frostbite
- 981. T35.0 Superficial frostbite involving multiple body regions
- 982. T35.1 Frostbite with tissue necrosis involving multiple body regions
- 983. T35.2 Unspecified frostbite of head and neck
- 984. T35.3 Unspecified frostbite of thorax, abdomen, lower back and pelvis
- 985. T35.4 Unspecified frostbite of upper limb
- 986. T35.5 Unspecified frostbite of lower limb
- 987. T35.6 Unspecified frostbite involving multiple body regions
- 988. T35.7 Unspecified frostbite of unspecified site
- 989. T74 Maltreatment syndromes
- 990. T74.0 Neglect or abandonment
- 991. T74.1 Physical abuse
- 992. T74.2 Sexual abuse
- 993. T74.3 Psychological abuse
- 994. T74.8 Other maltreatment syndromes
- 995. T74.9 Maltreatment syndrome, unspecified

- **3. Injury source data** Source: Medical record

- 1. Medical record
  - 2. X-ray report
  - 3. CT-report
  - 4. Surgical notes

- **Any other comments?**

### **18.2.13 Individual mortality status**

- **1. Is the patient dead?** Source: Medical record or interview

- 1. Yes
  - 2. No



- **2. Date of death** Source: Medical record or interview
- **3. Time of death**
- **Any other comments?**

#### 18.2.14 Quality of life (EQ5D5L)

- **1. Date of filling this form**
- **2. First, I would like to ask you about MOBILITY. Would you say that:**  
Requires opt-in consent, not routinely recorded. Source: Interview
  1. You have no problems in walking about?
  2. You have slight problems in walking about?
  3. You have moderate problems in walking about?
  4. You have severe problems in walking about?
  5. You are unable to walk about?
- **3. Next, I would like to ask you about SELF-CARE. Would you say that:** Requires opt-in consent, not routinely recorded. Source: Interview
  1. You have no problems washing or dressing yourself?
  2. You have slight problems washing or dressing yourself?
  3. You have moderate problems washing or dressing yourself?
  4. You have severe problems washing or dressing yourself?
  5. You are unable to wash or dress yourself?
- **4. Next, I would like to ask you about USUAL ACTIVITIES, for example, work, study, housework, family or leisure activities. Would you say that:** Requires opt-in consent, not routinely recorded. Source: Interview
  1. You have no problems doing your usual activities?
  2. You have slight problems doing your usual activities?
  3. You have moderate problems doing your usual activities?
  4. You have severe problems doing your usual activities?
  5. You are unable to do your usual activities?
- **5. Next, I would like to ask you about PAIN OR DISCOMFORT. Would you say that:** Requires opt-in consent, not routinely recorded. Source: Interview
  1. You have no pain or discomfort?
  2. You have slight pain or discomfort?
  3. You have moderate pain or discomfort?
  4. You have severe pain or discomfort?
  5. You have extreme pain or discomfort?

- **6. Finally, I would like to ask you about ANXIETY OR DEPRESSION. Would you say that:** Requires opt-in consent, not routinely recorded. Source: Interview
  1. You are not anxious or depressed?
  2. You are slightly anxious or depressed?
  3. You are moderately anxious or depressed?
  4. You are severely anxious or depressed?
  5. You are extremely anxious or depressed?
- **I would now like you to tell me the point on this line where you would put your health TODAY.(Note to interviewer: mark the line at the point indicating the respondent's health today.)** Requires opt-in consent, not routinely recorded. Source: Interview
- **Any other comments?**

#### 18.2.15 Disability (WHODAS 2.0)

- **Date of form filling**
- **1. Who are you interviewing?** Requires opt-in consent, not routinely recorded. Source: Interview
  1. Patient participant
  2. Patient representative
- **2. What is the relationship between the representative and the participant?** Requires opt-in consent, not routinely recorded. Source: Interview
  1. Husband or wife
  2. Parent
  3. Son or daughter
  4. Brother or sister
  5. Other relative
  6. Friend
  7. Professional carer
  8. Other (specify)
- **3. If other, please specify**
- **1. Standing for long periods such as 30 minutes?** Requires opt-in consent, not routinely recorded. Source: Interview
  1. None
  2. Mild

3. Moderate
4. Severe
5. Extreme or cannot do
6. None
7. Mild
8. Moderate
9. Severe
10. Extreme or cannot do

- **2. Taking care of your household responsibilities?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **3. Learning a new task, for example, learning how to get to a new place?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do
6. None
7. Mild
8. Moderate
9. Severe
10. Extreme or cannot do

- **4. How much of a problem did you have joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **5. How much have you been emotionally affected by your health problems?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **1. Concentrating on doing something for ten minutes?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do
6. None
7. Mild
8. Moderate
9. Severe
10. Extreme or cannot do

- **2. Walking a long distance such as a kilometre [or equivalent]?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do
6. None
7. Mild
8. Moderate
9. Severe
10. Extreme or cannot do

- **3. Washing your whole body?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **4. Getting dressed?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do
6. None
7. Mild
8. Moderate
9. Severe
10. Extreme or cannot do

- **5. Dealing with people you do not know?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **6. Maintaining a friendship?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do
6. None
7. Mild
8. Moderate
9. Severe
10. Extreme or cannot do

- **7. Your day-to-day work/school?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **2. Taking care of his or her household responsibilities?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **4. How much of a problem did he or she have joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **5. How much has your relative been emotionally affected by his or her health condition?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **3. Washing his or her whole body?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **5. Dealing with people he or she does not know?** Requires opt-in consent, not routinely recorded. Source: Interview

1. None
2. Mild
3. Moderate
4. Severe
5. Extreme or cannot do

- **7. His or her day-to-day work/school?** Requires opt-in consent, not routinely recorded. Source: Interview
  1. None
  2. Mild
  3. Moderate
  4. Severe
  5. Extreme or cannot do
- **1. Overall, in the past 30 days, how many days were these difficulties present?** Requires opt-in consent, not routinely recorded. Source: Interview
- **2. In the past 30 days, for how many days were you totally unable to carry out your usual activities or work because of any health condition?** Requires opt-in consent, not routinely recorded. Source: Interview
- **3. In the past 30 days, not counting the days that you were totally unable, for how many days did you cut back or reduce your usual activities or work because of any health condition?** Requires opt-in consent, not routinely recorded. Source: Interview
- **Any other comments?**

#### 18.2.16 Return to work

- **1. Date of form filling**
- **2. Did the participant return to work?**
  1. Yes
  2. No
- **3. Date and time of return to work** Requires opt-in consent, not routinely recorded. Source: Interview
- **4. Work status** Requires opt-in consent, not routinely recorded. Source: Interview
  1. Paid work
  2. Self-employed, such as own your business or farming
  3. Non-paid work, such as volunteer or charity
  4. Student
  5. Keeping house/homemaker
  6. Not known
- **Any other comments?**

**18.2.17 Safety events**

- **1. Is any safety event reported?**
  1. Yes
  2. No
- **2. Date reported to trial management team of safety event**
- **3. Type of safety event** Source: Medical record or treating physician
  1. Prolonged mechanical ventilation (> 7 days)
  2. Initiation of renal replacement therapy
  3. Prolonged (> 2 days) use of vasopressors such as norepinephrine or vasopressin
  4. Renewed (restart after at least 2 days without) use of vasopressors such as norepinephrine or vasopressin
  5. Other
- **4. Elaborate on other safety event** Source: Medical record or treating physician
- **5. Investigator assessment of safety event** Source: Investigator
- **Any other comments?**

**18.2.18 End of study**

- **1. What is the reason for the end of study?**
  1. Completed follow up
  2. Lost to follow up
  3. Death
  4. Discharge and no consent for follow up
  5. Opt-out from routinely recorded (in-hospital) data collection and no consent for follow-up
  6. Opt-out from routinely recorded (in-hospital) data collection and withdrawn consent for follow-up
- **2. Date of end of study**
- **Any other comments?**



### 18.2.19 Scheduling

- Day 7
- Day 30
- Day 90

## 19 References

1. GBD 2019 Diseases and Injuries Collaborators. Injuries—level 1 cause. *The Lancet* **396**, (2020).
2. GBD 2019 Diseases and Injuries Collaborators. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: A systematic analysis for the global burden of disease study 2019. *The Lancet* **396**, 1204–1222 (2020).
3. Rauf, R. *et al.* Changes in the temporal distribution of in-hospital mortality in severely injured patients—an analysis of the TraumaRegister DGU. *PLOS ONE* **14**, e0212095 (2019).
4. Roy, N. *et al.* Learning from 2523 trauma deaths in india- opportunities to prevent in-hospital deaths. *BMC Health Serv Res* **17**, (2017).
5. Callcut, R. A. *et al.* The why and how our trauma patients die: A prospective multicenter western trauma association study. *J Trauma*. **86**, 864–870 (2019).
6. Ghorbani, P. *et al.* Analysis of preventable deaths and errors in trauma care in a scandinavian trauma level-i centre. *Acta Anaesthesiol Scand* **62**, 1146–1153 (2018).
7. Mohammad, A. *et al.* Educational and clinical impact of advanced trauma life support (ATLS) courses: A systematic review. *World J. Surg.* **38**, 322–329 (2013).
8. Jayaraman, S. *et al.* Advanced trauma life support training for hospital staff. *Cochrane Database Syst Rev* (2014).
9. Kadhum, M. *et al.* Are primary trauma care (PTC) courses beneficial in low- and middle-income countries - a systematic review. *Injury* **51**, 136–141 (2020).
10. Jin, J. *et al.* Effectiveness of quality improvement processes, interventions, and structure in trauma systems in low- and middle-income countries: A systematic review and meta-analysis. *World J. Surg.* **45**, 1982–1998 (2021).
11. McIver, R. *et al.* Effect of trauma quality improvement initiatives on outcomes and costs at community hospitals: A scoping review. *Injury* **55**, 111492 (2024).
12. Committee on Trauma. *Advanced trauma life support® student course manual*. (American College of Surgeons, 2018).

13. American College of Surgeons. *Resources for optimal care of the injured patient*. (American College of Surgeons, 2022).
14. Ali, J. *et al.* Demonstration of acquisition of trauma management skills by senior medical students completing the ATLS program. *J Trauma*. **38**, 687–691 (1995).
15. Ali, J. *et al.* Teaching effectiveness of the advanced trauma life support program as demonstrated by an objective structured clinical examination for practicing physicians. *World J. Surg.* **20**, 1121–1126 (1996).
16. Ali, J. *et al.* Comparison of performance of interns completing the old (1993) and new interactive (1997) advanced trauma life support courses. *J Trauma*. **46**, 80–86 (1999).
17. Putra, A. B. *et al.* Impact of Advanced Trauma Life Support Training for Improving Mortality Outcome: A Systematic Review and Meta-analysis. *The New Ropanasury Journal of Surgery* **8**, (2023).
18. Vestrup, J. A. *et al.* Impact of advanced trauma life support training on early trauma management. *Am J Surg* **155**, 704–707 (1988).
19. Ariyanayagam, D. C. *et al.* The impact of the ATLS course on traffic accident mortality in trinidad and tobago. *West Indian Med J* **41**, 72–74 (1992).
20. Ali, J. *et al.* Trauma outcome improves following the advanced trauma life support program in a developing country. *J Trauma* **34**, 890–899 (1993).
21. Olson, C. J. *et al.* Influence of trauma system implementation on process of care delivered to seriously injured patients in rural trauma centers. *Surgery* **130**, 273–279 (2001).
22. Olden, G. D. J. van *et al.* Clinical impact of advanced trauma life support. *Am J Emerg Med* **22**, 522–525 (2004).
23. Wang, P. *et al.* Comparison of severe trauma care effect before and after advanced trauma life support training. *Chin J Traumatol* **13**, 341–344 (2010).
24. Drimousis, P. G. *et al.* Advanced trauma life support certified physicians in a non trauma system setting: Is it enough? *Resuscitation* **82**, 180–184 (2011).
25. Hashmi, Z. G. *et al.* Hospital-based trauma quality improvement initiatives. *J Trauma* **75**, 60–68 (2013).
26. Petroze, R. T. *et al.* Can focused trauma education initiatives reduce mortality or improve resource utilization in a low-resource setting? *World J. Surg.* **39**, 926–933 (2014).
27. Giovanni Bellanova, R. B., Francesco Buccelletti. How formative courses about damage control surgery and non-operative management improved outcome and survival in unstable politrauma patients in a mountain trauma center. *Annali italiani di chirurgia* **87**, 68–74 (2016).

28. Magnone, S. *et al.* Impact of ATLS Guidelines and Trauma Team Introduction on 24 Hours Mortality in Severe Trauma in a Busy Italian Metropolitan Hospital: A Case Control Study. *Ulus Travma Derg* (2015).
29. Kamau, C. *et al.* Impact of advanced trauma life support training on 30-day mortality in severely injured patients at a Kenyan tertiary center: A retrospective matched case-control study. *International Journal of Emergency Medicine* **17**, 153 (2024).
30. Gerdin Wärnberg, M. *et al.* A pilot multicentre cluster randomised trial to compare the effect of trauma life support training programmes on patient and provider outcomes. *BMJ Open* **12**, e057504 (2022).
31. Hemming, K. *et al.* The stepped wedge cluster randomised trial: Rationale, design, analysis, and reporting. *BMJ* **350**, h391–h391 (2015).
32. Hemming, K. *et al.* Reflection on modern methods: When is a stepped-wedge cluster randomized trial a good study design choice? *Int J Epidemiol* **49**, 1043–1052 (2020).
33. Kasza, J. *et al.* The batched stepped wedge design: A design robust to delays in cluster recruitment. *Stat Med* **41**, 3627–3641 (2022).
34. Harris, P. A. *et al.* Research electronic data capture (REDCap)—a metadata-driven methodology and workflow process for providing translational research informatics support. *Journal of Biomedical Informatics* **42**, 377–381 (2009).
35. Harris, P. A. *et al.* The REDCap consortium: Building an international community of software platform partners. *Journal of Biomedical Informatics* **95**, 103208 (2019).
36. Aukstakalnis, V. *et al.* Impact of video recordings review with structured debriefings on trauma team performance: A prospective observational cohort study. *European Journal of Trauma and Emergency Surgery: Official Publication of the European Trauma Society* (2024).
37. Nielsen, Niklas. Sedation, Temperature and Pressure after Cardiac Arrest and Resuscitation – the STEPCARE trial. (2023).
38. Diaz, T. *et al.* A call for standardised age-disaggregated health data. *The Lancet Healthy Longevity* **2**, e436–e443 (2021).
39. Li, F. *et al.* Mixed-effects models for the design and analysis of stepped wedge cluster randomized trials: An overview. *Stat Methods Med Res* **30**, 612–639 (2020).
40. Campbell, M. K. *et al.* Determinants of the intracluster correlation coefficient in cluster randomized trials: The case of implementation research. *Clinical Trials* **2**, 99–107 (2005).
41. Eldridge, S. M. *et al.* How big should the pilot study for my cluster randomised trial be? *Stat Methods Med Res* **25**, 1039–1056 (2015).

42. Hemming, K. *et al.* A tutorial on sample size calculation for multiple-period cluster randomized parallel, cross-over and stepped-wedge trials using the shiny CRT calculator. *Int J Epidemiol* **49**, 979–995 (2020).
43. Martin, J. *et al.* Intra-cluster and inter-period correlation coefficients for cross-sectional cluster randomised controlled trials for type-2 diabetes in UK primary care. *Trials* **17**, (2016).
44. Korevaar, E. *et al.* Intra-cluster correlations from the CLustered OUtcome dataset bank to inform the design of longitudinal cluster trials. *Clinical Trials* **18**, 529–540 (2021).
45. Lashoher, A. *et al.* Implementation of the World Health Organization Trauma Care Checklist Program in 11 Centers Across Multiple Economic Strata: Effect on Care Process Measures. *World Journal of Surgery* **41**, 954–962 (2017).
46. Kapitan, E. *et al.* The effect of trauma quality improvement programme implementation on quality of life among trauma patients in urban India. *medRxiv* 2024.09.28.24314529 (2024).
47. Higgins, A. M. *et al.* The psychometric properties and minimal clinically important difference for disability assessment using WHODAS 2.0 in critically ill patients. *Critical Care and Resuscitation* **23**, 103–112 (2021).
48. ICMJE | Recommendations | Defining the Role of Authors and Contributors.



## 20 Appendices

### 20.1 Initial hospital screening instrument

#### Screening call

Page 1

This form is for screening potentially eligible clusters for the ATLS vs standard care trial. Please fill it in while talking to the hospital representative. Thank you so much for helping with this task!

Please complete the questions below.

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Synopsis Title Effects of Advanced Trauma Life Support® Training Compared to Standard Care on Adult Trauma Patient Outcomes: A Cluster Randomised Trial

Rationale Trauma is a massive global health issue. Many training programmes have been developed to help physicians in the initial management of trauma patients. Advanced Trauma Life Support® (ATLS®) is the most popular of these programmes and have been used to train over one million physicians worldwide. Despite its widespread use, there are no controlled trials showing that ATLS® improves patient outcomes. Multiple systematic reviews emphasise the need for such trials.

Aim To compare the effects of ATLS® training with standard care on outcomes in adult trauma patients.

Primary Outcome In-hospital mortality within 30 days of arrival at the emergency department.

Trial Design Batched stepped-wedge cluster randomised trial in India.

Trial Population Adult trauma patients presenting to the emergency department of a participating hospital.

Sample Size 30 clusters and 4320 patients.

Eligibility Criteria

Cluster will be hospitals with a baseline admission rate of at least 400 patients with trauma per year or 35 patients with trauma per month for at least the last six months, that provide emergency surgical and orthopaedic services around the clock, and where no more than 25% of initial trauma care providers trained in a formalised trauma life support training programme.

Patients will be at least 15 years old, who present to the emergency department of participating hospitals with a history of trauma occurring less than 48 hours before arrival, and who are admitted or die between admission, or who are transferred from the emergency department of a participating hospital to another hospital for admission.

Intervention The intervention will be ATLS® training, a proprietary 2.5 day course teaching a standardised approach to trauma patient care using the concepts of a primary and secondary survey. Physicians will be trained in an accredited ATLS® training facility in India.

Ethical Considerations In-hospital data collection will be conducted under a waiver of informed consent. Patients will be informed about the trial and their right to opt out of data collection. Patients will be informed that they can withdraw their data from the trial at any time.

Trial Period 2024-10-01 to 2029-10-01

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#### Hospital details

Hospital name and address

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**Eligibility assessment**

Does the hospital admit trauma patients?

- ☐ Yes  
☐ No

Is the hospital representative interested in potentially participating?

- ☐ Yes  
☐ No  
(Comment: \_\_\_\_\_)

If the hospital representative is not interested in participating then you can go ahead and submit the form.

How many trauma patients aged 15 years or older, excluding patients with isolated limb injuries, are admitted each month?

- ☐ < 30  
☐ 30-60  
☐ > 60  
☐ Not sure  
(Comment: \_\_\_\_\_)

Does the hospital provide emergency surgery and orthopaedic services around the clock?

- ☐ Yes  
☐ No  
(Comment: \_\_\_\_\_)

Out of the physicians involved in the initial resuscitation of trauma patients, are less than 25% trained in a formalised trauma life support training programme like ATLS or Primary Trauma Care?

- ☐ Yes  
☐ No  
(Comment (like name of other training programme): \_\_\_\_\_)

Unfortunately, the hospital does not fulfil the eligibility criteria and you may go ahead and submit the form.

The hospital fulfills the cluster eligibility criteria. Please enter the hospital representative's contact details:

Name E-mail Phone number

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Before you can proceed to fill in descriptive information about the potential cluster, please confirm that the contact details are complete:

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**Cluster descriptive information**

Out of the patients with trauma who present to the emergency department, what percentage are referrals or transfers from other hospitals?

- ☐ < 20%  
☐ 20-50%  
☐ 51-80%  
☐ > 80%  
☐ Not sure  
(Comment: \_\_\_\_\_)

Out of the patients with trauma who are admitted, what percentage are transferred to other hospitals?

- ☐ < 10%  
☐ 10-20%  
☐ 21-30%  
☐ > 30%  
☐ Not sure  
(Comment: \_\_\_\_\_)

Who performs the initial resuscitation of trauma patients as they arrive to the hospital?	<input type="checkbox"/> Casualty medical officers <input type="checkbox"/> Emergency medicine residents <input type="checkbox"/> Surgical residents <input type="checkbox"/> Not sure (Comment: _____)
How many CMOs work in the emergency department?  This question is here to help us estimate the number of people we will need to train.	<input type="radio"/> < 10 <input type="radio"/> 10-20 <input type="radio"/> 21-30 <input type="radio"/> > 30 <input type="radio"/> Not sure (Comment: _____)
How many emergency medicine/general surgery residents are admitted each year?  This question is here to help us estimate the number of people we will need to train.	<input type="radio"/> < 10 <input type="radio"/> 10-20 <input type="radio"/> 21-30 <input type="radio"/> > 30 <input type="radio"/> Not sure (Comment: _____)
What specialities are available around the clock to care for trauma patients?	<input type="checkbox"/> General surgery <input type="checkbox"/> Orthopaedics <input type="checkbox"/> Neurosurgery <input type="checkbox"/> Vascular surgery <input type="checkbox"/> Interventional radiology <input type="checkbox"/> Emergency medicine <input type="checkbox"/> Not sure (Comment: _____)
What facilities are available around the clock?	<input type="checkbox"/> X-ray <input type="checkbox"/> Ultrasound/FAST <input type="checkbox"/> CT <input type="checkbox"/> MRI <input type="checkbox"/> Blood bank <input type="checkbox"/> Not sure (Comment: _____)
How many beds does the hospital have?	<input type="radio"/> < 250 <input type="radio"/> 250-500 <input type="radio"/> 501-750 <input type="radio"/> 751-1000 <input type="radio"/> >1000 <input type="radio"/> Not sure (Comment: _____)
How many ICU beds does the hospital have?	<input type="radio"/> No ICU beds <input type="radio"/> 1-10 <input type="radio"/> 11-20 <input type="radio"/> 21-30 <input type="radio"/> > 30 <input type="radio"/> Not sure (Comment: _____)
How many dedicated trauma beds does the hospital have?	<input type="radio"/> No dedicated trauma beds <input type="radio"/> 1-10 <input type="radio"/> 11-20 <input type="radio"/> 21-30 <input type="radio"/> > 30 <input type="radio"/> Not sure (Comment: _____)



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Please submit the form once you have completed all questions above.



## 20.2 In-depth hospital screening interview instrument

### Hospital screening interview for the ATLS vs standard care trial

Page 1

This is the screening interview form for the Advanced Trauma Life Support® vs Standard Care trial planned by Karolinska Institutet along with The George Institute. You have expressed preliminary interest in participating in this trial. We are undertaking this hospital screening interview in order to assess whether the study could be conducted at your hospital. We appreciate your efforts to answer as many of these questions as possible and we will follow up on your responses and any questions you may have in a separate call. Thank you!

**Synopsis Effects of Advanced Trauma Life Support® Training Compared to Standard Care on Adult Trauma Patient Outcomes: A Cluster Randomised Trial Rationale** Trauma is a massive global health issue. Many training programmes have been developed to help physicians in the initial management of trauma patients. Among these programmes, Advanced Trauma Life Support® (ATLS®) is the most popular, having trained over one million physicians worldwide. Despite its widespread use, there are no controlled trials showing that ATLS® improves patient outcomes. Multiple systematic reviews emphasise the need for such trials.

**Aim** To compare the effects of ATLS® training with standard care on outcomes in adult trauma patients.

**Primary Outcome** All-cause mortality within 30 days of arrival at the emergency department.

**Trial Design** Batched stepped-wedge cluster randomised trial in India.

**Trial Population** Adult trauma patients presenting to the emergency department of a participating hospital.

**Sample Size** 30 clusters and 4320 patients.

#### Eligibility Criteria

**Hospitals** are secondary or tertiary hospitals in India that admit or refer/transfer for admission at least 400 patients with trauma per year.

**Clusters** are one or more units of physicians providing initial trauma care in the emergency department of tertiary hospitals in India.

**Patients participants** are adult trauma patients who presents to the emergency department of participating hospitals and are admitted or transferred for admission.

**Intervention** The intervention will be ATLS® training, a proprietary 2.5 day course teaching a standardised approach to trauma patient care using the concepts of a primary and secondary survey. Physicians will be trained in an accredited ATLS® training facility in India.

**Ethical Considerations** We will use an opt-out consent approach, in which consent is presumed unless actively declined. Note that consent here refers to consent to data collection, as it will not be possible for patients to opt out from being subjected to the intervention. This approach is justified because the trial can be considered to involve only minimal risk and the data

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collection is non-invasive and mostly involve extracting routinely collected data from medical records. Patient participants will be informed about the study and their right to opt out once they are admitted or telephonically if they are transferred. Patients will be informed that they can withdraw their data from the trial at any time before final analysis of the data.

**Trial Period October 1, 2024, to September 30, 2029**

#### Hospital details

[hospital\_address]

#### Contact person details

**Name [contact\_name]**

**E-mail [contact\_email]**

**Phone number [contact\_phone\_number]**

Will you [contact\_name] also be the site investigator?

☐ Yes  
☐ No

#### Investigator details

Please enter the name and contact details of the site investigator

Name \_\_\_\_\_

E-mail \_\_\_\_\_

Phone number \_\_\_\_\_

Please enter these additional investigator details

Designation \_\_\_\_\_

Specialization \_\_\_\_\_

State Medical Council registration number \_\_\_\_\_

Is the investigator trained in International Council for Harmonisation, Guideline for Good Clinical Practice (ICH GCP)?

☐ Yes  
☐ No

Will there be a co-investigator at your site?

☐ Yes  
☐ No

Will you [contact\_name] be the co-investigator?

☐ Yes  
☐ No

Please enter the name and contact details of the site investigator

Name \_\_\_\_\_

E-mail \_\_\_\_\_

Phone number \_\_\_\_\_

---

Please enter these additional co-investigator details

Designation \_\_\_\_\_  
Specialization \_\_\_\_\_  
State Medical Council registration number \_\_\_\_\_

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Is the co-investigator trained in International Council for Harmonisation, Guideline for Good Clinical Practice (ICH GCP)? ☐ Yes ☐ No

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**Ethical review details**

Does your hospital have an ethics committee registered with CDSCO? ☐ Yes ☐ No

---

Please enter the ethics committee registration number

---

In the next three months when is your IEC meeting up?

---

What is the expected timeline for ethics review at your site?

---

In which languages do you think the consent form should be translated, considering the languages spoken by the potential participants treated at your hospital?

---

**Departmental logistics**

Does your hospital require any additional departmental review besides the ethics? Can you please elaborate on that review?

---

Are there any potential logistical issues which may interfere with set up or running of this project at your site?

(E.g. contract review, adequate space, lack of resources etc.)

---

What is the expected timeline for contract review, negotiations and execution (in days)?

---

What is the maximum expected timeline?

**Initial trauma care**

How do patients typically arrive to your hospital?

---

Who are involved in the management of trauma patients in the emergency department?

---

What happens when additional expertise is needed?

---

What is the role of the casualty medical officers?

---

Are physicians organised in units?

---

How big are those units?

---

How are those units composed in terms of residents and faculty?

---

How often do the units rotate?

---

How many units are there working in the emergency department?

---

How many trauma patients aged 15 years or older are admitted per day, excluding patients with isolated limb injuries and those who are admitted directly to the ward?

---

**Intervention and patient inclusion**

How many patients do you think you could include in to the proposed trial per month? (We need to include at least 12 patients per month)

---

What is the basis of your patient enrollment estimate?

(For example database review, emergency department record, review of patient records, other)

Do you see any problems with including 12 patients per month at your site? Can you please elaborate on those problems?

---

All hospitals in this trial will receive the intervention. The intervention is that we will train approximately 10 physicians providing initial trauma care in ATLS in your hospital. Who do you think we should train to maximise the effect?

\_\_\_\_\_  
(Surgical residents? Emergency medicine residents? Casualty medical officers? Someone else??)

The time point when the training will be implemented will be randomised, but there will be a minimum of three months between the start of the data collection and the training. The training will happen during a one month long "transition period". How long notice do you need to plan the participation of the physicians from your hospital?

\_\_\_\_\_

Are you aware of any plans to train providers in any formalised trauma life support training programme during the next few years?

\_\_\_\_\_

Are you aware of any plans to implement other interventions or changes that may radically change how you treat trauma patients at your site?

\_\_\_\_\_

\_\_\_\_\_  
(For example building a trauma centre, building a new emergency department, shifting the CT)

If we would like to visit your hospital to observe trauma care delivery in the emergency department and talk to providers, how can that be arranged?

\_\_\_\_\_

#### General

How are the patient medical records organised at your site?

- ☐ Hard-copy  
☐ Electronic  
☐ Not sure

Do you currently have any competing studies or are you committed to new competing studies?

\_\_\_\_\_

Do you have access to a computer with high-speed internet access?

- ☐ Yes  
☐ No

Do you currently have the necessary study team including research coordinator and co-investigators to conduct this study? Can you please elaborate on the composition and experience of that team?

\_\_\_\_\_

What are your expectations of this trial?

\_\_\_\_\_

Do you have any questions or comments regarding this trial?

\_\_\_\_\_

Are you interested in participating in this trial?

- ☐ Yes  
☐ No

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If you have any questions, feel free to contact Martin Gerdin Wörnberg (martin.gerdin@ki.se), Monty Khajanchi (monta32@gmail.com) or Samriddhi Ranjan (sranjan@georgeinstitute.org.in)





## 20.3 Case Record Form

ATLS  
Page 1

## Screening V1.0.01.10.24

Screening ID	
1. Date of screening	
2. Date of data entry	
<b>Inclusion criteria</b>	
1. Is the patient at least 15 years old?	(Source: Medical record or interview)
2. Did the patient present with a history of trauma defined as having any of the reasons listed in the International Classification of Diseases chapter XX as the reason for presenting?	(Source: Medical record or interview)
Please see <a href="https://icd.who.int/browse10/2019/en#/XX">https://icd.who.int/browse10/2019/en#/XX</a> for a complete list of ICD-10 codes	
3. Did the trauma occur less than 48 hours before arrival to the hospital?	(Source: Medical record or interview)
4. Was the patient admitted?	(Source: Medical record)
5. Did the patient die after arrival but before admission?	(Source: Medical record)
6. Was the patient transferred to another hospital for admission?	(Source: Medical record)
<b>Exclusion criteria</b>	
1. Did the patient present with isolated limb injury?	(Source: Medical record)
2. Was the patient directly admitted to a ward without being seen by a physician in the emergency department?	(Source: Medical record)
<b>Eligibility</b>	
The patient is not eligible for inclusion.	
Is the patient eligible? (Eligible=1; Not Eligible=0)	
Any other comments?	

## Consent V1.0.01.10.24

### Study Consent

In this trial, consent refers to consent for data collection. It is not possible for patients to opt out from being subjected to the intervention, as the intervention is delivered at the cluster level. Patient participants will be included in this trial under the following modes of consent:

- Opt-out consent for collection of routinely recorded data
- Opt-in consent and assent for non-routinely recorded data, including but not restricted to Quality of Life (EQ5D5L), Disability (WHODAS 2.0) and Return to Work.
- Waiver of informed consent for patients who are unconscious or otherwise unable to provide consent and do not have a legally acceptable representative.

When possible, all patient participants must be approached and provided with information about the study, the option to opt out, and consent for collection of non-routinely recorded data.

### Section I: Consent Wavier

**Please note that the consent for the collection of the routinely recorded data (in-hospital) will be presumed unless actively declined by the participant/ legally acceptable representative (LAR), using the opt-out form. Information for all forms except for baseline characteristics (marital and work status, education and income), follow-up (Quality of Life (EQ5D5L), Disability (WHODAS 2.0) and Return to Work) will be presumed, unless opted-out.**

1. Is this patient included under the waiver of informed consent because the patient is unconscious or otherwise unable to provide consent and do not have a legally acceptable representative?

### Section II: Opt in consent for follow up data collection

1. Did the participant/ or legally acceptable representative (LAR) provided consent for collection of non-routinely recorded data

2. Who gave consent for collection of non-routinely recorded data?

3. What is the LAR's relationship with the participant?

4. Why was Legally acceptable representative (LAR) approached for consent for collection of non-routinely recorded data?

5. Date when participant or legally acceptable representative (LAR) gave consent for collection of non-routinely recorded data.

---

6. How did the participant or legally acceptable representative (LAR) consent for collection of non-routinely recorded data?

---

7. Reconsenting done?

---

7.1 Date when the participant was reconsented?

---

7.2 Why consenting was not done?

---

### Section III: Assent form

1. Did the minor give assent for collection of non-routinely recorded data?

---

2. Date when the minor gave assent for collection of non-routinely recorded data.

---

3. In case the minor refused to participate, date when minor refused

---

### Section IV: Opt out form

1. Is the participant or LAR wants to opt out from study?

---

2. Who opted-out of the routinely recorded data (in-hospital)?

---

3. Date when participant or legally acceptable representative (LAR) opted-out.

---

4. Did the participant or legally acceptable representative (LAR) suggested to delete all the previously recorded data?

---

Any other comments?

---

**Consent\_Withdrawn V1.0.01.10.24****Consent withdrawal**

1. Does the participant or legally acceptable representative (LAR) want to withdraw the consent?

2. Date of consent withdrawal for follow-up data collection.

3. Procedure(s) for which consent has been withdrawn

Any other comments?

**Baseline V1.0.01.10.24**

1. Age in years	(Source: Medical record of interview)
2. Sex	(Source: Medical record of interview)
3. Current marital status	(Requires opt-in consent, not routinely recorded. Source: Interview)
4. Education level	(Requires opt-in consent, not routinely recorded. Source: Interview)
5. If other, please specify	(Requires opt-in consent, not routinely recorded. Source: Interview)
6. Main work status	(Requires opt-in consent, not routinely recorded. Source: Interview)
7. If other, please specify	(Requires opt-in consent, not routinely recorded. Source: Interview)
8. Income level in INR per month	(Requires opt-in consent, not routinely recorded. Source: Interview)
9. Mechanism of injury description	
10. Mechanism of injury ICD 10 code	(Coded using ICD 10. Please see <a href="https://icd.who.int/browse10/2019/en#/XX">https://icd.who.int/browse10/2019/en#/XX</a> for a complete list of ICD-10 codes. Source: Medical record)

---

11. Clinical Frailty Scale

(Source: Medical record or treating physician)

Very Fit - People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

Fit - People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.

Managing well - People whose medical problems are well controlled, but are not regularly active beyond routine walking.

Living with very mild frailty - While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up", and/or being tired during the day.

Living with mild frailty - These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

Living with moderate frailty - People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

Living with severe frailty - Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

Living with very severe frailty - Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

Terminally ill - Approaching the end of life. This category applies to people with a life expectancy < 6 months, who are not otherwise evidently frail.

12. Comorbidities (Charlson Comorbidity Index)	(Source: Medical record, treating physician or interview)
Myocardial infarction - History of definite or probable MI (EKG changes and/or enzyme changes)	
Congestive heart failure - Exertional or paroxysmal nocturnal dyspnea and has responded to digitalis, diuretics, or afterload reducing agents	
Peripheral vascular disease - Intermittent claudication or past bypass for chronic arterial insufficiency, history of gangrene or acute arterial insufficiency, or untreated thoracic or abdominal aneurysm ( $\geq 6$ cm)	
Cerebrovascular disease - History of a cerebrovascular accident with minor or no residua and transient ischemic attacks	
Dementia - Chronic cognitive deficit	
Chronic pulmonary disease - Asthma, chronic bronchitis, emphysema, and other lung disease who have ongoing symptoms such as dyspnea or cough, with mild or moderate activity.	
Peptic ulcer disease - Any history of treatment for ulcer disease or history of ulcer bleeding	
Liver disease - Severe = cirrhosis and portal hypertension with variceal bleeding history, moderate = cirrhosis and portal hypertension but no variceal bleeding history, mild = chronic hepatitis (or cirrhosis without portal hypertension)	
Renal disease - Severe = on dialysis, status post kidney transplant, uremia, moderate = creatinine $>3$ mg/dL (0.27 mmol/L)	
13. Severity of liver disease	(Source: Medical record, treating physician or interview)
14. Severity of diabetes	(Source: Medical record, treating physician or interview)
15. Severity of malignancy	(Source: Medical record, treating physician or interview)
Any other comments?	



Prehospital V1.0.01.10.24

1. Date of injury	<div></div> <div>(Source: Medical record of interview)</div>
1.1 Time of injury	<div></div>
2. Mode of transport to the participating hospital	<div></div> <div>(Source: Medical record of interview)</div>
2.1 If other, please specify	<div></div> <div>(Source: Medical record of interview)</div>
3. Referred or transferred to the participating hospital from another hospital	<div></div> <div>(Source: Medical record of interview)</div>
4. Date of referring or transferring	<div></div>
5. Time of referring or transferring	<div></div>
Any other comments?	<div></div>

**ATLS adherence V1.1.22.10.24**

ATLS adherence checklist

**Airway**

1. Airway patency checked	(Source: Observation)
---------------------------	-----------------------

**Breathing**

1. Chest wall palpated	(Source: Observation)
------------------------	-----------------------

2. Breath sounds checked	(Source: Observation)
--------------------------	-----------------------

3. Respiratory rate measured	(Source: Observation)
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4. Saturation (SpO2) measured	(Source: Observation)
-------------------------------	-----------------------

**Circulation**

1. Heart rate measured	(Source: Observation)
------------------------	-----------------------

2. Blood pressure measured	(Source: Observation)
----------------------------	-----------------------

3. Abdomen palpated	(Source: Observation)
---------------------	-----------------------

4. Thighs palpated	(Source: Observation)
--------------------	-----------------------

5. IV access obtained	(Source: Observation)
-----------------------	-----------------------

**Disability**

1. GCS checked	(Source: Observation)
----------------	-----------------------

2. Pupils checked	(Source: Observation)
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**Exposure**

1. Patients exposed for assessment	
------------------------------------	--

2. Temperature measured	(Source: Observation)
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3. Interventions and adjuncts performed according to ATLS	
---	--

**Airway interventions**

1. Which airway interventions were performed? (Source: Observation)

2. If other airway interventions given, specify

3. Were airway interventions performed while minimising c-spine movement? (Source: Observation)

**Breathing interventions**

1. Which breathing interventions were performed? (Source: Observation)

2. If other breathing Interventions done, specify

**Circulation interventions**

1. Which circulation interventions and adjuncts were performed? (Source: Observation)

2. If other circulation Interventions done, specify

**Disability interventions**

1. Which disability intervention was performed? (Source: Observation)

2. If other disability interventions done, specify

**Exposure interventions**

1. Which exposure intervention was performed? (Source: Observation)

2. If other exposure interventions done, specify

Any other comments?

**Emergency Department V1.0.01.10.24**

---

1. Date of arrival to the emergency department at the participating hospital.

(Source: Medical record of interview)

---

2. Time of arrival to the emergency department at the participating hospital

---

3. First recorded systolic blood pressure (mmHg)

(Source: Medical record)

---

4. First recorded diastolic blood pressure (mmHg)

(Source: Medical record)

---

5. First recorded heart rate (beats per minute)

(Source: Medical record)

---

6. First recorded respiratory rate (breaths per minute)

(Source: Medical record)

---

7. First recorded Glasgow Coma Scale

(Source: Medical record)

---

8. First recorded body temperature (°F)

(Source: Medical record)

---

9. First recorded oxygen saturation (%)

(Source: Medical record)

---

10. Emergency department disposition

(Source: Medical record)

---

10.1 Date of death

---

10.2 Time of death

---

11. If other, please specify

(Source: Medical record)

---

12. Date and time of referral or transfer for admission

(Source: Medical record)

---

Any other comments?

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**Hospital V1.0.01.10.24**

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1. Date of admission to the participating hospital

---

(Source: Medical record)

---

2. Time of admission to the participating hospital

---

(Source: Medical record)

---

3. Type of admitting ward

---

(Source: Medical record)

---

4. Ward name or number

---

(Source: Medical record)

---

5. Admitted to intensive care unit during admission

---

(Source: Medical record)

---

6. Date of first intensive care unit admission

---

(Source: Medical record)

---

7. Time of first intensive care unit admission

---

(Source: Medical record)

---

8. Was the participant discharged from intensive care unit?

---

9. Date of first intensive care unit discharge

---

(Source: Medical record)

---

10. Time of first intensive care unit discharge

---

(Source: Medical record)

---

11. Hospital disposition

---

(Source: Medical record)

---

12. Was the patient transferred to another hospital for admission?

---

(Source: Medical record)

---

13. Date of discharge or transfer from participating hospital

---

(Source: Medical record)

---

14. Time of discharge or transfer from participating hospital

---

(Source: Medical record)

---

Any other comments?  

---

**Surgery V1.0.01.10.24**

---

1. Surgery done?

---

2. Date of surgical procedure

---

(A surgical procedure is defined as any procedure performed in the operating room, interventional dropdownlogy suite, or at the bedside, requiring general or regional anesthesia. Source: Medical record)

---

3. Time of surgical procedure

---

(A surgical procedure is defined as any procedure performed in the operating room, interventional dropdownlogy suite, or at the bedside, requiring general or regional anesthesia. Source: Medical record)

---

4. Preoperative ASA score

---

(Source: Medical record or treating physician)

---

5. Description of procedure

---

(Source: Medical record)

---

6. Procedure coded according to SNOMED CT

---

(Source: Medical record)

---

Any other comments?

---

Imaging V1.0.01.10.24

1. Date and time of imaging	<div></div> <div>(Source: Medical record)</div>
2 Time of imaging	<div></div> <div>(Source: Medical record)</div>
3. Type of imaging	<div></div> <div>(Source: Medical record)</div>
Any other comments?	<div></div>



Transfusion V1.0.01.10.24

1. Transfusion done?	
2. Date of transfusion	<div>(Source: Medical record)</div>
3. Time of transfusion	<div>(Source: Medical record)</div>
4. Type of blood product	<div>(Source: Medical record)</div>
5 Other specify	
6. Number of units transfused	<div>(Source: Medical record)</div>
Any other comments?	

**Injury V1.0.01.10.24**

1. Injury description	<div></div> <div>(Source: Medical record)</div>
2. Injury ICD 10 code	<div></div> <div>(Coded using ICD 10. Source: Medical record)</div>
3. Injury source data	<div></div> <div>(Source: Medical record)</div>
Any other comments?	<div></div>

Individual Mortality Status V1.0.01.10.24

1. Is the patient dead?	(Source: Medical record or interview)
2. Date of death	(Source: Medical record or interview)
3. Time of death	
Any other comments?	

## Quality of Life (EQ5D5L)

---

Health Questionnaire

English version

VERSION FOR INTERVIEWER ADMINISTRATION

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Note to interviewer: although allowance should be made for the interviewer's particular style of speaking, the wording of the questionnaire instructions should be followed as closely as possible. In the case of the EQ-5D-5L descriptive system of the questionnaire, the precise wording must be followed.

If the respondent has difficulty choosing a response or asks for clarification, the interviewer should repeat the question word for word and ask the respondent to answer in a way that most closely resembles his or her thoughts about his or her health today.

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### INTRODUCTION

(Note to interviewer: please read the following to the respondent.)

We are trying to find out what you think about your health. I will explain what to do as I go along, but please interrupt me if you do not understand something or if things are not clear to you. There are no right or wrong answers. We are interested only in your personal view.

First, I am going to read out some questions. Each question has a choice of five answers. Please tell me which answer best describes your health TODAY.

Do not choose more than one answer in each group of questions.

(Note to interviewer: first read all five options for each question. Then ask the respondent to choose which one applies to him/herself. Repeat the question and options if necessary. Mark the appropriate box under each heading. You may need to remind the respondent regularly that the timeframe is TODAY.)

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### EQ-5D DESCRIPTIVE SYSTEM

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1. Date of filling this form

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2. First, I would like to ask you about MOBILITY. Would you say that:  
(Requires opt-in consent, not routinely recorded. Source: Interview)

- ☐ You have no problems in walking about?
- ☐ You have slight problems in walking about?
- ☐ You have moderate problems in walking about?
- ☐ You have severe problems in walking about?
- ☐ You are unable to walk about?

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3. Next, I would like to ask you about SELF-CARE. Would you say that:  
(Requires opt-in consent, not routinely recorded. Source: Interview)

- ☐ You have no problems washing or dressing yourself?
- ☐ You have slight problems washing or dressing yourself?
- ☐ You have moderate problems washing or dressing yourself?
- ☐ You have severe problems washing or dressing yourself?
- ☐ You are unable to wash or dress yourself?

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4. Next, I would like to ask you about USUAL ACTIVITIES, for example, work, study, housework, family or leisure activities. Would you say that:  
(Requires opt-in consent, not routinely recorded. Source: Interview)

- ☐ You have no problems doing your usual activities?
- ☐ You have slight problems doing your usual activities?
- ☐ You have moderate problems doing your usual activities?
- ☐ You have severe problems doing your usual activities?
- ☐ You are unable to do your usual activities?

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5. Next, I would like to ask you about PAIN OR DISCOMFORT. Would you say that:  
(Requires opt-in consent, not routinely recorded. Source: Interview)

- ☐ You have no pain or discomfort?
- ☐ You have slight pain or discomfort?
- ☐ You have moderate pain or discomfort?
- ☐ You have severe pain or discomfort?
- ☐ You have extreme pain or discomfort?

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6. Finally, I would like to ask you about ANXIETY OR DEPRESSION. Would you say that:  
(Requires opt-in consent, not routinely recorded. Source: Interview)

- ☐ You are not anxious or depressed?
- ☐ You are slightly anxious or depressed?
- ☐ You are moderately anxious or depressed?
- ☐ You are severely anxious or depressed?
- ☐ You are extremely anxious or depressed?

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EQ-5D VAS

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Now, I would like to ask you to say how good or bad your health is TODAY.

I would like you to picture in your mind a vertical line that is numbered from 0 to 100.  
(Note to interviewer: if interviewing face-to-face, please show the respondent the VAS line.)

100 at the top of the line means the best health you can imagine.  
0 at the bottom of the line means the worst health you can imagine.

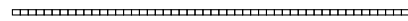
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I would now like you to tell me the point on this line where you would put your health TODAY.  
(Note to interviewer: mark the line at the point indicating the respondent's health today.)

0 - The worst health you can imagine                      100 - The best health you can imagine  
50



(Place a mark on the scale above)

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Any other comments?

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**Disability (WHODAS 2.0)**

Date of form filling

1. Who are you interviewing?

(Requires opt-in consent, not routinely recorded.  
Source: Interview)2. What is the relationship between the representative  
and the participant?(Requires opt-in consent, not routinely recorded.  
Source: Interview)

3. If other, please specify

**Instructions to the interviewer are written in bold - do not read these aloud.****Text for the respondent to hear is written in italic print in blue. Read this text aloud.****Say to respondent:****The interview is about difficulties people have because of health conditions.****By health condition I mean diseases or illnesses, or other health problems that may be short  
or long lasting; injuries; mental or emotional problems; and problems with alcohol or drugs.****Remember to keep all of your health problems in mind as you answer the questions. When I  
ask you about difficulties in doing an activity think about...****Increased effort Discomfort or pain Slowness Changes in the way you do the activity When  
answering, I'd like you to think back over the past 30 days. I would also like you to answer  
these questions thinking about how much difficulty you have had, on average, over the past  
30 days, while doing the activity as you usually do it.****Use this scale when responding: None, mild, moderate, severe, extreme or cannot do.****In the past 30 days, how much difficulty did you have in:**

1. Standing for long periods such as 30 minutes?

(Requires opt-in consent, not routinely recorded.  
Source: Interview)

2. Taking care of your household responsibilities?

(Requires opt-in consent, not routinely recorded.  
Source: Interview)3. Learning a new task, for example, learning how to  
get to a new place?(Requires opt-in consent, not routinely recorded.  
Source: Interview)

4. How much of a problem did you have joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?	(Requires opt-in consent, not routinely recorded. Source: Interview)
5. How much have you been emotionally affected by your health problems?	(Requires opt-in consent, not routinely recorded. Source: Interview)
<b>In the past 30 days, how much difficulty did you have in:</b>	
1. Concentrating on doing something for ten minutes?	(Requires opt-in consent, not routinely recorded. Source: Interview)
2. Walking a long distance such as a kilometre [or equivalent]?	(Requires opt-in consent, not routinely recorded. Source: Interview)
3. Washing your whole body?	(Requires opt-in consent, not routinely recorded. Source: Interview)
4. Getting dressed?	(Requires opt-in consent, not routinely recorded. Source: Interview)
5. Dealing with people you do not know?	(Requires opt-in consent, not routinely recorded. Source: Interview)
6. Maintaining a friendship?	(Requires opt-in consent, not routinely recorded. Source: Interview)
7. Your day-to-day work/school?	(Requires opt-in consent, not routinely recorded. Source: Interview)

**Instructions to the interviewer are written in bold - do not read these aloud.**

**Text for the respondent to hear is written in italic print in blue. Read this text aloud.**

**Say to respondent:**

**The interview is about difficulties people have because of health conditions.**

**By health condition I mean diseases or illnesses, or other health problems that may be short or long lasting; injuries; mental or emotional problems; and problems with alcohol or drugs.**

**Remember to keep all of your health problems in mind as you answer the questions. When I ask you about difficulties in doing an activity think about...**

**Increased effort Discomfort or pain Slowness Changes in the way you do the activity When answering, I'd like you to think back over the past 30 days and, to the best of your knowledge, answer these questions thinking about how much difficulty your friend, relative or carer had while doing the following activities. I will use the term "relative" to mean "friend", "relative" or "carer". For each question, please give only one response.**

**In the past 30 days, how much difficulty did your relative have in:**



1. Standing for long periods such as 30 minutes?	(Requires opt-in consent, not routinely recorded. Source: Interview)
2. Taking care of his or her household responsibilities?	(Requires opt-in consent, not routinely recorded. Source: Interview)
3. Learning a new task, for example, learning how to get to a new place?	(Requires opt-in consent, not routinely recorded. Source: Interview)
4. How much of a problem did he or she have joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?	(Requires opt-in consent, not routinely recorded. Source: Interview)
5. How much has your relative been emotionally affected by his or her health condition?	(Requires opt-in consent, not routinely recorded. Source: Interview)

**In the past 30 days, how much difficulty did your relative have in:**

1. Concentrating on doing something for ten minutes?	(Requires opt-in consent, not routinely recorded. Source: Interview)
2. Walking a long distance such as a kilometre [or equivalent]?	(Requires opt-in consent, not routinely recorded. Source: Interview)
3. Washing his or her whole body?	(Requires opt-in consent, not routinely recorded. Source: Interview)
4. Getting dressed?	(Requires opt-in consent, not routinely recorded. Source: Interview)
5. Dealing with people he or she does not know?	(Requires opt-in consent, not routinely recorded. Source: Interview)
6. Maintaining a friendship?	(Requires opt-in consent, not routinely recorded. Source: Interview)
7. His or her day-to-day work/school?	(Requires opt-in consent, not routinely recorded. Source: Interview)

**Number of days**

1. Overall, in the past 30 days, how many days were these difficulties present?	(Requires opt-in consent, not routinely recorded. Source: Interview)
2. In the past 30 days, for how many days were you totally unable to carry out your usual activities or work because of any health condition?	(Requires opt-in consent, not routinely recorded. Source: Interview)
3. In the past 30 days, not counting the days that you were totally unable, for how many days did you cut back or reduce your usual activities or work because of any health condition?	(Requires opt-in consent, not routinely recorded. Source: Interview)

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Any other comments?

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Return To Work V1.0.01.10.24

1. Date of form filling	
2. Did the participant return to work?	
3. Date and time of return to work	(Requires opt-in consent, not routinely recorded. Source: Interview)
4. Work status	(Requires opt-in consent, not routinely recorded. Source: Interview)
Any other comments?	

Safety Events V1.0.01.10.24

1. Is any safety event reported?	
2. Date reported to trial management team of safety event	
3. Type of safety event	(Source: Medical record or treating physician)
4. Elaborate on other safety event	
	(Source: Medical record or treating physician)
5. Investigator assessment of safety event	
	(Source: Investigator)
Any other comments?	

## End Of Study V1.0.01.10.24

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1. What is the reason for the end of study?

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2. Date of end of study

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Any other comments?

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Scheduling

Day 7	
Day 30	
Day 90	

Scheduling Page

Event Date  
Date of arrival to the emergency departments [initial\_assessment\_arm\_1][arrival\_datetime]  
Day 7 [day7]  
Day 30 [day30]  
Day 90 [day90]