

The Abbreviated Injury Scale (AIS)

A brief introduction

**Abbreviated
Injury Scale**

1990 Revision

Update 98

The Abbreviated Injury Scale

produced by:

Association for the Advancement of Automotive Medicine

(AAAM)

Based in Illinois, U.S.A.

**Developed in 1971 to aid vehicle crash
investigators**

**Extended in 1990 to be more relevant to
medical audit and research**

AIS - Evolution

- 1976 - Clarified injury terminology
- 1980 - Revised 'brain' section
- 1985 - Extended in 1990 to be more relevant to medical audit and research
- 1990 – Introduced age (<15) to some injury descriptors
- 1990 - Update-98
 - Expanded coding rules
 - Clarified coding of External injuries
 - Included the Organ Injury Scale grades
- 2004 – Update due with expansion of Orthopaedic codes

AIS defined

The AIS is an:

Anatomically based

Consensus derived

Global

Severity scoring system that classifies each injury in every body region according to its relative importance on a six point ordinal scale

The 6 point ordinal AIS (Post dot) severity scale

1 = minor

2 = moderate

3 = serious

4 = severe

5 = critical

6 = maximum (Currently untreatable)

What does the AIS severity score indicate?

The relative risk of “threat to life”
in an average person
who sustains the coded injury
as his or her only injury

In addition to the single 'Post dot' AIS severity code, there is a 6 digit 'Pre dot' numerical identifier

e.g. Femoral Shaft fracture:-

Numerical identifier = 851814

AIS = .3

How are the numerical identifiers structured?

Example: Femoral shaft fracture = 851814.3

8 = Body Region: Lower Extremity

5 = Type of Anatomic Structure: Skeletal

18 = Specific Anatomic Structure: Femur

14 = Level of injury: Shaft

.3 = AIS: Severity score

The structure & content of the AIS dictionary

AIS Dictionary has 9 separate chapters

Head

All codes begin with 1

Face

All codes begin with 2

Neck

All codes begin with 3

Thorax

All codes begin with 4

Abdomen & pelvic contents

All codes begin with 5

Spine

All codes begin with 6

Upper extremities

All codes begin with 7

Lower extremities

All codes begin with 8

External, burns & other trauma

All codes begin with 9

Most AIS chapters have injuries categorised in the following order:

Whole Area

Vessels

Nerves

Internal Organs

Skeletal

Exceptions are:-

Head Chapter

Which has two additional categories:

- 1) Length of Unconsciousness
- 2) Level of Unconsciousness



Spinal Chapter

Which is divided into 3 sections:

(1) Cervical Spine, (2) Thoracic Spine, (3) Lumbar spine

And has a unique structure:

- Cord Injury
- Disc Injury
- Ligament Injury
- Nerve Root Injury
- Whole Area

Cervical Spine also contains: Brachial Plexus Injury

Lumbar Spine also contains: Cauda Equina Injury



Abdomen & Pelvic Contents Chapter

Which has no skeletal injuries

Upper & Lower Extremities Chapter

Which includes 2 additional categories

1) Muscles, Tendons, Ligaments

2) Joints

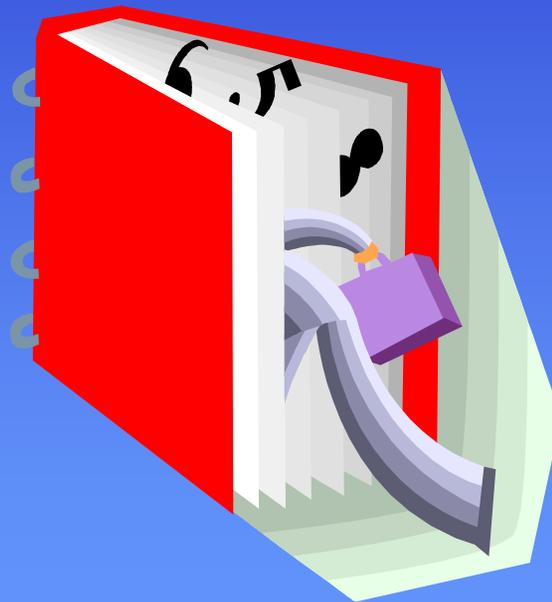


External, Burns, Other Trauma Chapter

Which has a unique structure:

- Skin and Subcutaneous Tissue
- Burns
- Other Trauma

How to code using the AIS dictionary



AIS Allows Coding of

- **Blunt Trauma**
- **Penetrating Trauma**
- **Burns**
- **Selected Other Trauma**
 - Inhalation injury
 - High Voltage electrical injury

Preliminary diagnosis are not coded!

- Suspected
- Possible
- Probable
- Rule out

Complications are not coded!

Examples:-

- Infections
- Pneumonia
- Epilepsy following head injury
- Pulmonary embolism following skeletal injury

Consequences or outcomes are not coded as injuries!

Including:-

- Death
- Blindness
- Asphyxia
- Obstruction
- Miscarriage
- Detachment
- Deafness
- Swelling (except in the brain)

With the following exceptions>>>>>>>

- **Blood loss**
- **Air embolism**
- **Haemo/pneumothorax**
- **Cerebral oedema**
- **Compartment syndrome**
- **Retroperitoneal haemorrhage**

Each of these may affect the severity score of a given AIS code, but must only be taken into account, following strict AIS guidelines!

NFS = Not further specified

**This appears throughout the AIS dictionary
& allows the coding of injuries when
detailed information is lacking**

e.g. Injury description is Liver laceration

Would be coded as: 541820.2 (Liver laceration NFS)

Rules for coding AIS 6 injuries

- **Never code AIS 6 just because a patient dies!**
- **An AIS 6 code should only be used when there is documented medical evidence of an injury equivalent to AIS 6**

List of AIS 6 Injuries by body region

Head or Neck

- » Brain stem: laceration, crush, penetrating or transection
- » C3 or higher complete cord transection or contusion

Thorax

- » Heart: rupture, multiple lacerations or avulsion
- » Total chest crush
- » Aortic rupture + haemorrhage not confined to mediastinum

Abdominal & Pelvic contents

- » Liver avulsion

External

- » 2nd or 3rd degree burns \geq 90% Total Body Surface

AIS 9

Usually appears at the start of an AIS chapter

What does AIS 9 mean?

We have no information regarding injury to specific organ or structure e.g.

Closed head injury NFS 115099.9

Blunt thoracic injury NFS 415099.9

Blunt cervical spine injury NFS

– died without further evaluation 615999.9

When should AIS 9 be used?

▪ AIS 9 should only be used for frequency counts

▪ AIS 9 does not allow the calculation of an Injury Severity Score (ISS) - & therefore should not be used on this course

FINALLY



ALWAYS REMEMBER:

To help the coder, the *Anatomical Index* at the Back of the dictionary, lists:

- All the injury descriptions in alphabetical order
- The body region in which the injury is located
- The page on which it can be found