

In the Name of God

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۸۵۳۰ - ۸۵۳۵	خبر مقدم، معرفی برنامه و اهمیت نظام ثبت بیماری‌ها نکتر قاسمہ رتکز جدی
۸۵۳۵ - ۹۰۰۰	اهمیت طبقه بندی و نگهداری بیماری‌ها نکتر قاسمہ رتکز جدی
۹۰۰۳ - ۹۰۰۴	آشنائی با طبقه بندی و نگهداری بیماری‌ها و ارتباط آن با تظاهرات ثبت نکتر قاسمہ رتکز جدی
۹۰۰۳ - ۹۰۰۴	آشنائی با طبقه بندی و نگهداری صناعات و آسیب‌ها سرکار هادی ریخته سادات حریف
۹۰۰۳ - ۹۰۰۳۵	استراحت
۹۰۰۳۵ - ۹۰۰۳۵	آشنائی با طبقه بندی و نگهداری عوامل خارجی حوادث و بیماری‌ها نکتر ایلا هکری زاده
۹۰۰۳۵ - ۹۰۰۹۵	بررسی الزامات نظام ثبت تروما و آسیب‌های داخلی نکتر ایلا هکری زاده سرکار هادی ریخته سادات حریف
۹۰۰۹۵ - ۹۰۰۳۰	جمع بندی و اختتامیه نکتر قاسمہ رتکز جدی



کارگاه نظام ثبت بیماری‌ها و پیامدهای سلامت

موضوع:

آشنائی با طبقه بندی‌های بین‌المللی بیماری‌ها

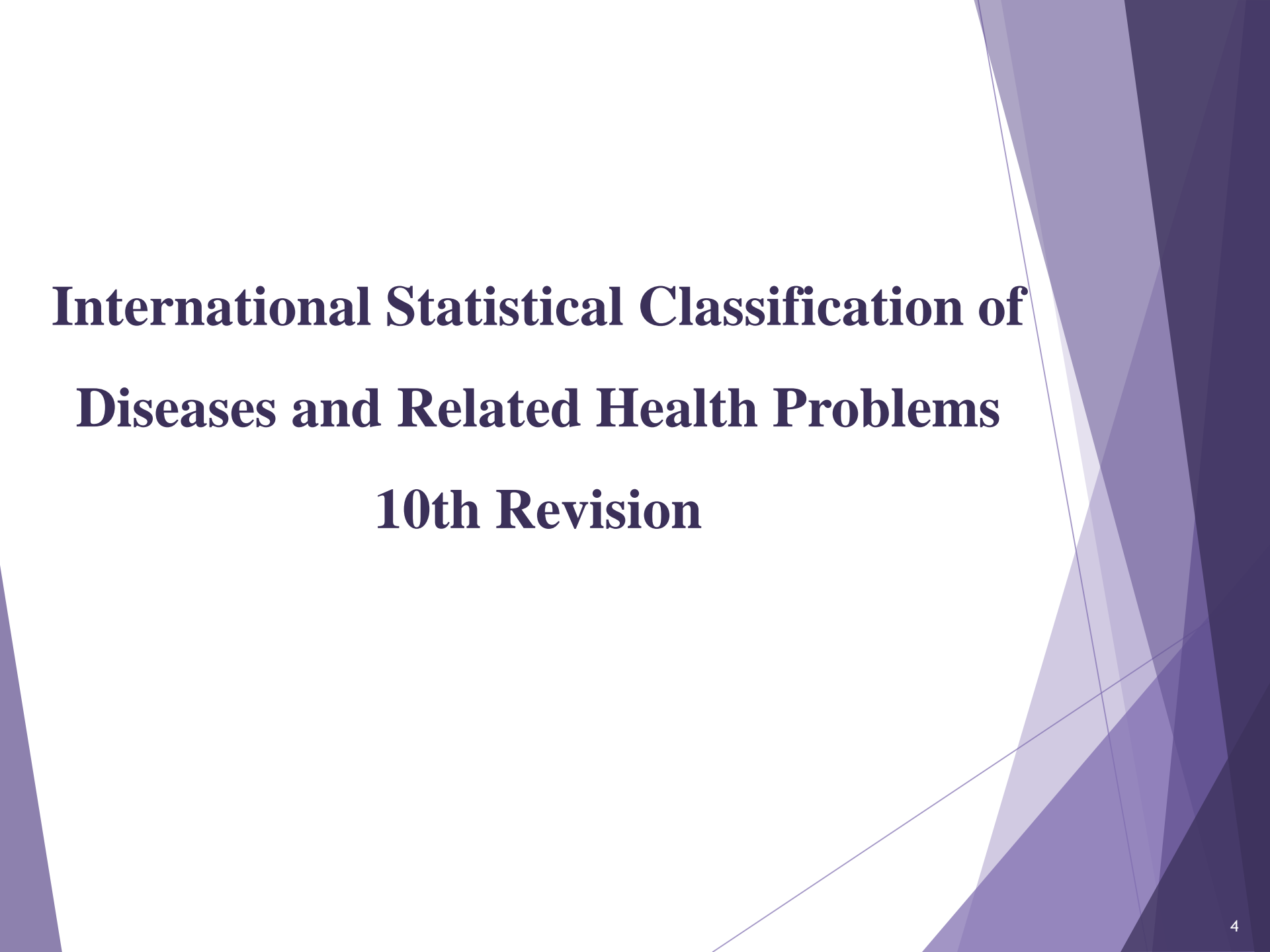
زمان: یک هفته ۱۴۰۱/۱۱/۰۲

مکان: سالن دکتر محمد قریب دانشکده پزشکی

فرهنگیان: کارمندان مراکز ثبت دانشگاه علوم پزشکی کاشان

مدیر علمی: دکتر قاسمہ رتکز جدی
برگزار کننده: کمیته ثبت بیماری‌ها و پیامدهای سلامت و گروه مدیریت و فناوری اطلاعات سلامت

کارشناس هماهنگ کننده: ترچس صیادی



**International Statistical Classification of
Diseases and Related Health Problems
10th Revision**

Definition:

- ▶ is the bedrock for health statistics
- ▶ maps the human condition from birth to death
- ▶ also captures factors influencing health, or external causes of mortality and morbidity
- ▶ have enormous financial importance
- ▶ provides a common vocabulary for recording, reporting and monitoring health problems

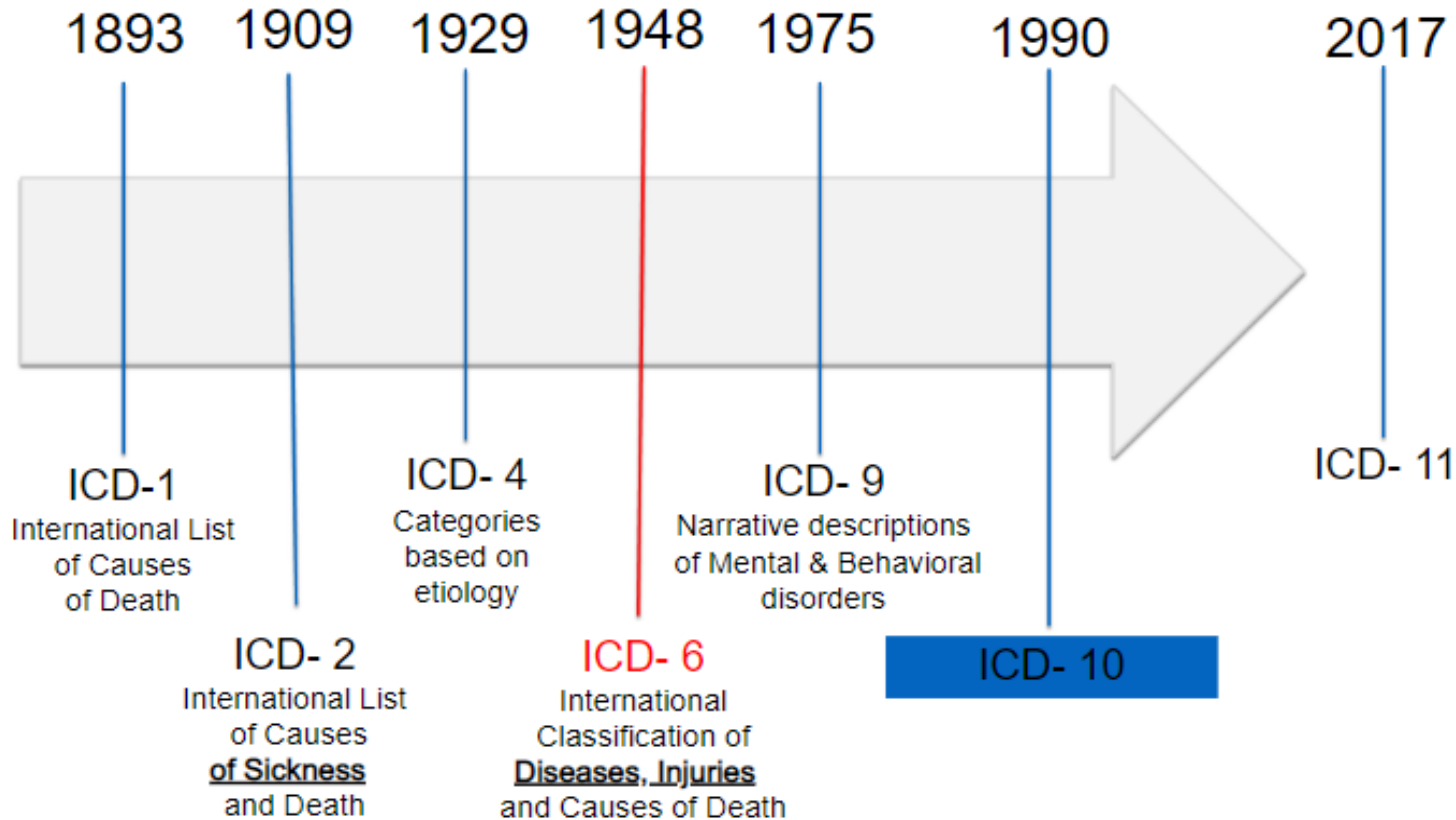
Benefit:

- ▶ provides a common language for recording, reporting and monitoring diseases.
- ▶ allows the world to compare and share data in a consistent and standard way – between hospitals, regions and countries and over periods of time.
- ▶ facilitates the collection and storage of data for analysis and evidence-based decision-making.


Disease Registry System (DRS) :

- ▶ is a system with one or more *specific purposes* in which standard data about a pre-determined *population of patients with the same disease/condition/outcome* are continuously collected, analyzed, and reported.
- ▶ Using *standard coding and classification systems* along with the *standard definitions* for data items should also be considered for comparability.
- ▶ Registry managers should have a data quality plan and continuously monitor data quality and provide feedback to improve the quality of DRSs.


120+ years of ICD History




1893 ISI adopted 1st edition of international classification system: *The International List of Causes of Death*




1899 "Causes of Death" adopted by some American and European countries



New ICD edition approximately every 10 years




ICD-2 1909 (1910-1920) renamed: International Classification of Causes of Sickness and Death




ICD-4 1929 (1930-1938), transfer to categories based on etiology

ICD-5 1938 (1939-1948),
comparability between successive
ICD versions



ICD-6 1948 (1949-1957), WHO entrusted ICD as its
criterion: International Classification of Diseases,
Injuries, and Causes of Death:

- For the first time included morbidity
 - New main category: **Mental, Psychoneurotic, and Personality Disorders**
- 

ICD-8 1965 (1968-1978)
Expanded cross-indexing
hospital clinical records

ICD: History (cont.)

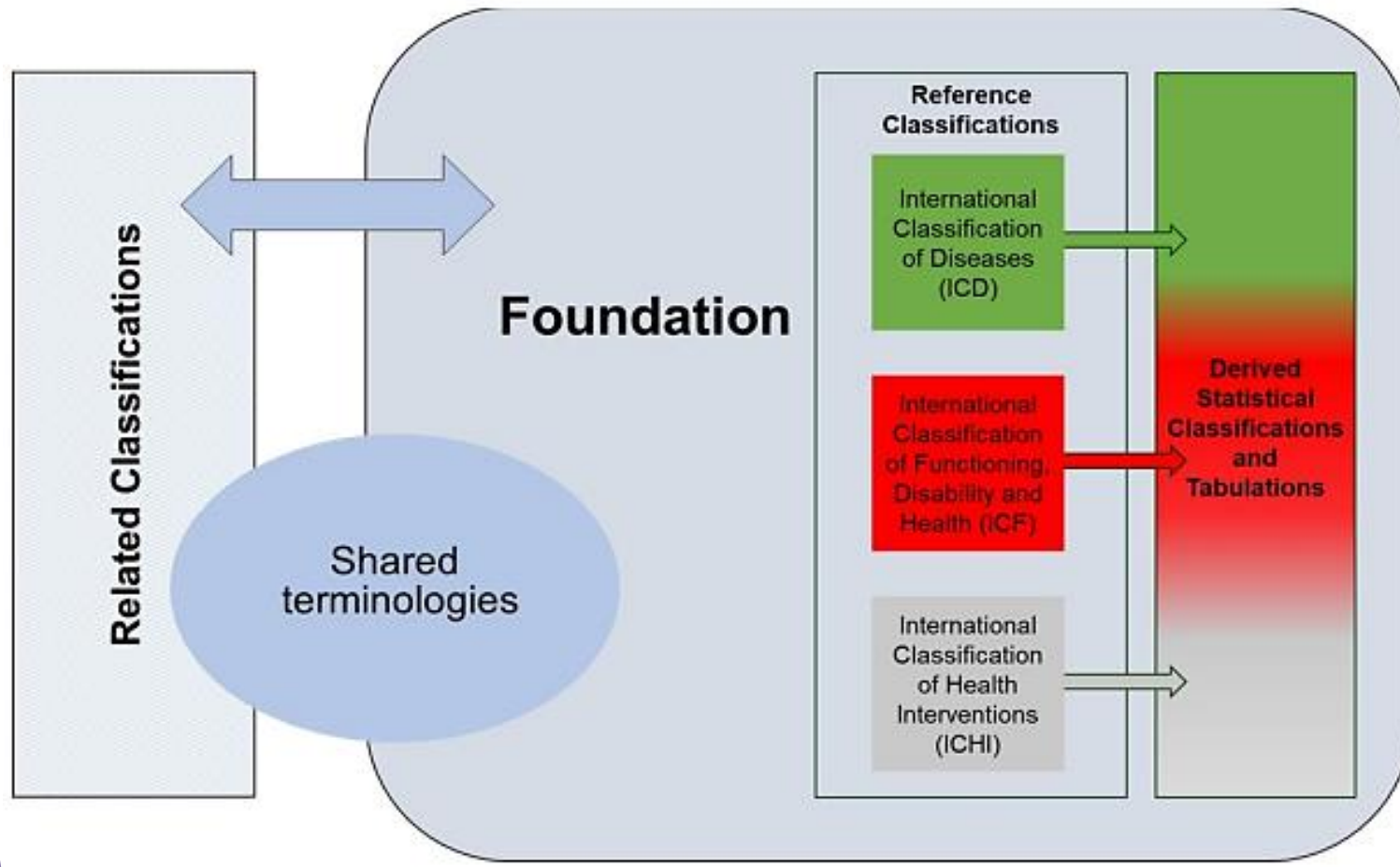
ICD-9 1975 (1979-1994) Included narrative MBD descriptions similar to DSM-II language.

- 1978 refined classification and diagnosis of mental disorders
- 1982 diagnostic instruments and algorithms shaped and refined

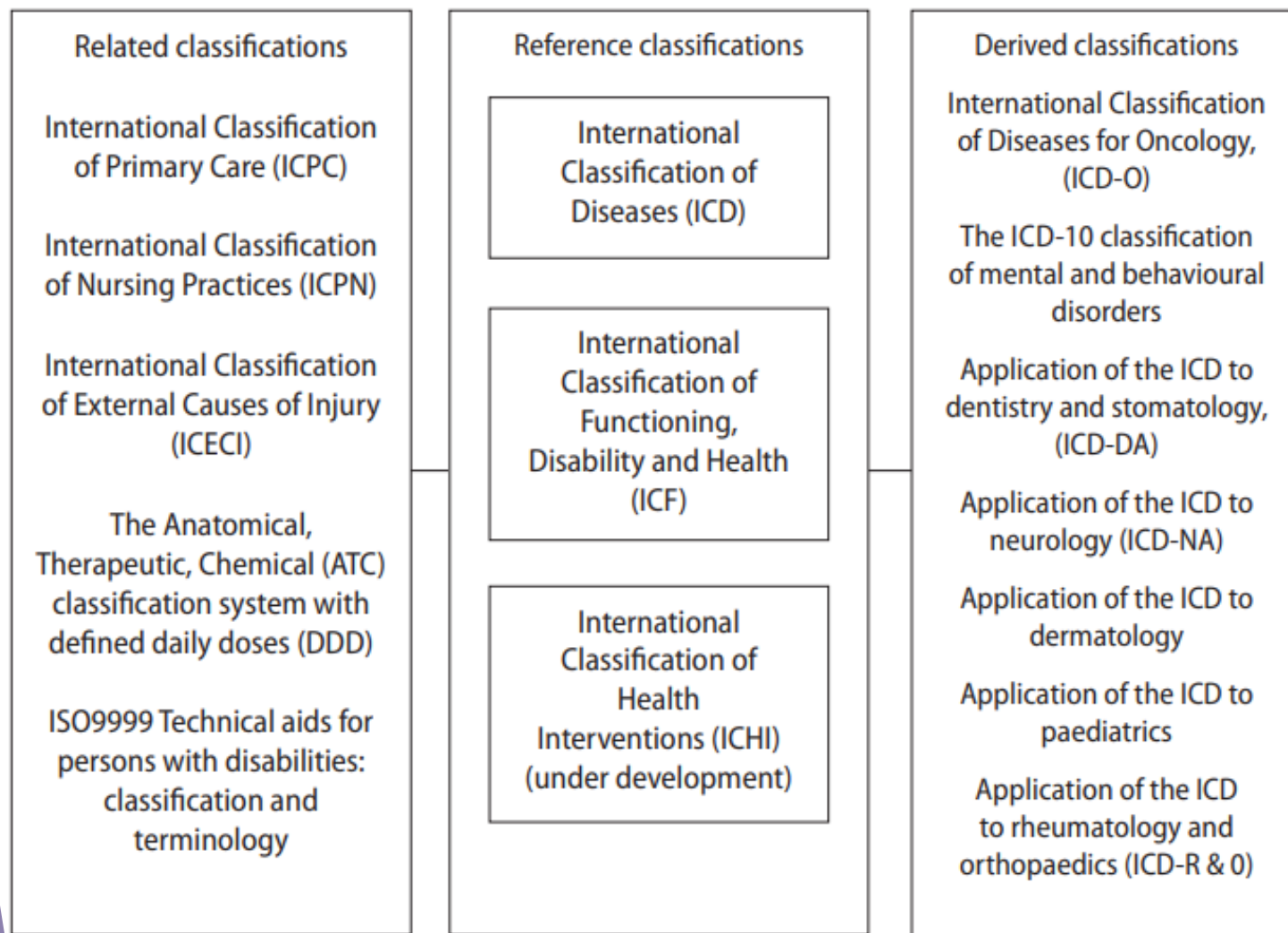
ICD-10 1990 (1994-present) 20,000 scientific articles citations

ICD-11 expected *2017*

World Health Organization Family of International Classifications



Schematic Representation of the WHO-FIC



ICD-10 Version:2019



Link:

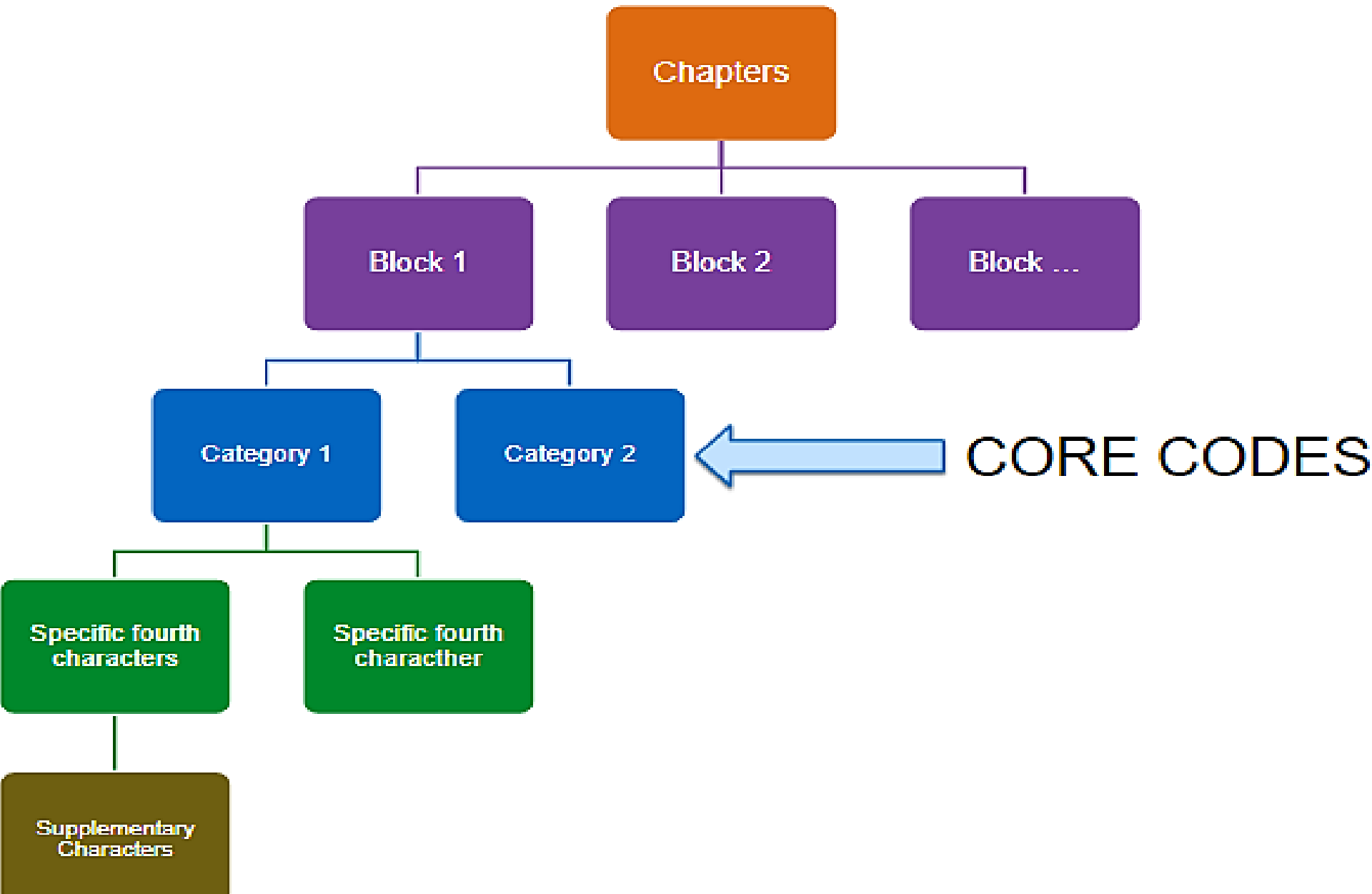
<https://icd.who.int/browse10/2019/en#/XIX>

ICD-10

At a Glance

Chapter #	Chapter Title	Alphab. code
I	Certain infectious and parasitic diseases	A,B
II	Neoplasms	C,D
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	D
IV	Endocrine, nutritional and metabolic diseases	E
V	<u>Mental and behavioural disorders</u>	F
VI	Diseases of the nervous system	G
VII	Diseases of the eye and adnexa	H
VIII	Diseases of the ear and mastoid process	H
IX	Diseases of the circulatory system	I
X	Diseases of the respiratory system	J
XI	Diseases of the digestive system	K
XII	Diseases of the skin and subcutaneous tissue	L
XIII	Diseases of the musculoskeletal system and connective tissue	M
XIV	Diseases of the genitourinary system	N
XV	Pregnancy, childbirth and the puerperium	O
XVI	Certain conditions originating in the perinatal period	P
XVII	Congenital malformations, deformations and chromosomal abnormalities	Q
XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	R
XIX	Injury, poisoning and certain other consequences of external causes	S,T
XX	External causes of morbidity and mortality	V,X,Y
XXI	Factors influencing health status and contact with health services	Z
XXII	Codes for special purposes	U

ICD-10 Organization



▶ **Chapter I**

Certain infectious and parasitic diseases (A00-B99)

▶ **Chapter II**

Neoplasms (C00-D48)

▶ **Chapter III**

Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)

- ▶ **Chapter IV**
Endocrine, nutritional and metabolic diseases
(E00-E90)
- ▶ **Chapter V**
Mental and behavioural disorders (F00-F99)
- ▶ **Chapter VI**
Diseases of the nervous system (G00-G99)

▶ **Chapter VII**

Diseases of the eye and adnexa (H00-H59)

▶ **Chapter VIII**

Diseases of the ear and mastoid process (H60-H95)

▶ **Chapter IX**

Diseases of the circulatory system (I00-I99)

▶ **Chapter X**

Diseases of the respiratory system (J00-J99)

▶ **Chapter XI**

Diseases of the digestive system (K00-K93)

▶ **Chapter XII**

Diseases of the skin and subcutaneous tissue (L00-L99)

▶ **Chapter XIII**

Diseases of the musculoskeletal system and connective tissue (M00-M99)

▶ **Chapter XIV**

Diseases of the genitourinary system (N00-N99)

▶ **Chapter XV**

Pregnancy, childbirth and the puerperium (O00-O99)

▶ **Chapter XVI**

Certain conditions originating in the perinatal period (P00-P96)

▶ **Chapter XVII**

Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)

▶ **Chapter XVIII**

Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)

▶ **Chapter XIX**

Injury, poisoning and certain other consequences of external causes (S00-T98)

▶ **Chapter XX**

External causes of morbidity and mortality (V01-Y98)

▶ **Chapter XXI**

Factors influencing health status and contact with health services (Z00-Z99)

▶ **Chapter XXII**

Codes for special purposes (U00-U85)

Chapter XIX
Injury, poisoning and
certain other consequences
of external causes
(S00-T98)

This chapter contains the following blocks:

- [S00-S09](#) Injuries to the head
- [S10-S19](#) Injuries to the neck
- [S20-S29](#) Injuries to the thorax
- [S30-S39](#) Injuries to the abdomen, lower back, lumbar spine and pelvis
- [S40-S49](#) Injuries to the shoulder and upper arm
- [S50-S59](#) Injuries to the elbow and forearm
- [S60-S69](#) Injuries to the wrist and hand
- [S70-S79](#) Injuries to the hip and thigh
- [S80-S89](#) Injuries to the knee and lower leg
- [S90-S99](#) Injuries to the ankle and foot
- [T00-T07](#) Injuries involving multiple body regions
- [T08-T14](#) Injuries to unspecified part of trunk, limb or body region
- [T15-T19](#) Effects of foreign body entering through natural orifice
- [T20-T32](#) Burns and corrosions
 - [T20-T25](#) Burns and corrosions of external body surface, specified by site
 - [T26-T28](#) Burns and corrosions confined to eye and internal organs
 - [T29-T32](#) Burns and corrosions of multiple and unspecified body regions
- [T33-T35](#) Frostbite
- [T36-T50](#) Poisoning by drugs, medicaments and biological substances
- [T51-T65](#) Toxic effects of substances chiefly nonmedicinal as to source
- [T66-T78](#) Other and unspecified effects of external causes
- [T79-T79](#) Certain early complications of trauma
- [T80-T88](#) Complications of surgical and medical care, not elsewhere classified
- [T90-T98](#) Sequelae of injuries, of poisoning and of other consequences of external causes

Excludes:

Excl.: birth trauma ([P10-P15](#))
obstetric trauma ([O70-O71](#))
malunion of fracture ([M84.0](#))
nonunion of fracture [pseudarthrosis] ([M84.1](#))
pathological fracture ([M84.4](#))
pathological fracture with osteoporosis ([M80.-](#))
stress fracture ([M84.3](#))

Superficial injury including:

abrasion

blisters (nonthermal)

contusion, including bruise and haematoma

injury from superficial foreign body (splinter) without major open wound

insect bite (nonvenomous)

Open wound including:

animal bite

cut

laceration

puncture wound:

- NOS
- with (penetrating) foreign body

Fracture including:

Fracture:

closed:

- comminuted
- depressed
- elevated
- fissured
- greenstick
- impacted
- linear
- simple
- slipped epiphysis
- spiral

with or without delayed healing

- dislocated
- displaced

Fracture:

open:

- compound
- infected
- missile
- puncture
- with foreign body

with or without delayed healing

Excl.: fracture:

- pathological ([M84.4](#))
- with osteoporosis ([M80.-](#))
- stress ([M84.3](#))

malunion of fracture ([M84.0](#))

nonunion of fracture [pseudoarthrosis] ([M84.1](#))

Dislocation, sprain and strain including:

avulsion laceration sprain strain traumatic: <ul style="list-style-type: none">• haemarthrosis• rupture• subluxation• tear	of	cartilage joint (capsule) ligament
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Injury to nerves and spinal cord including:

complete or incomplete lesion of spinal cord
lesion in continuity of nerves and spinal cord
traumatic:

- division of nerve
- haematomyelia
- paralysis(transient)
- paraplegia
- quadriplegia

Injury to blood vessels including:

avulsion cut laceration traumatic: <ul style="list-style-type: none">• aneurysm or fistula (arteriovenous)• arterial haematoma• rupture	of blood vessels
--	------------------

Injury to muscle, fascia and tendon including:

avulsion cut laceration strain traumatic rupture	of muscle, fascia and tendon
--	------------------------------

Injuries to the head (S00-S09)

Incl.: injuries of:

- ear
- eye
- face [any part]
- gum
- jaw
- temporomandibular joint area
- oral cavity
- palate
- periocular area
- scalp
- tongue
- tooth

Excl.: burns and corrosions ([T20-T32](#))

effects of foreign body:

- in:
 - ear ([T16](#))
 - larynx ([T17.3](#))
 - mouth ([T18.0](#))
 - nose ([T17.0-T17.1](#))
 - pharynx ([T17.2](#))
- on external eye ([T15.-](#))

frostbite ([T33-T35](#))

insect bite or sting, venomous ([T63.4](#))

S00 Superficial injury of head

Excl.: cerebral contusion (diffuse) ([S06.2](#))
focal cerebral contusion (diffuse) ([S06.3](#))
injury of eye and orbit ([S05.-](#))

S00.0 Superficial injury of scalp

S00.1 Contusion of eyelid and periocular area

Black eye

Excl.: contusion of eyeball and orbital tissues ([S05.1](#))

S00.2 Other superficial injuries of eyelid and periocular area

Excl.: superficial injury of conjunctiva and cornea ([S05.0](#))

S00.3 Superficial injury of nose

S00.4 Superficial injury of ear

S00.5 Superficial injury of lip and oral cavity

S00.7 Multiple superficial injuries of head

S00.8 Superficial injury of other parts of head

S00.9 Superficial injury of head, part unspecified

<https://icd.who.int/browse10/2019/en#/S00-S09>

Link:

<https://icd.who.int/browse10/2019/en#/XIX>

Chapter XX
External causes of
morbidity and mortality
(V01-Y98)

- ▶ This chapter, which in previous revisions of ICD constituted a *supplementary classification*, permits the classification of environmental events and circumstances as the cause of injury, poisoning and other adverse effects.
- ▶ Where a code from this section is applicable, it is intended that it shall be used in addition to a code from another chapter of the Classification indicating the *nature of the condition*.

- ▶ **Most often**, the condition will be classifiable to Chapter XIX, Injury, poisoning and certain other consequences of external causes (S00-T98).
- ▶ **Causes of death** should preferably be tabulated according to both **Chapter XIX** and **Chapter XX**, but if only one code is tabulated then the code from **Chapter XX** should be used in preference.

- ▶ * Other conditions that may be stated to be due to external causes are classified in **Chapters I to XVIII**. For these conditions, codes from Chapter XX should be used to provide **additional information for multiple-condition analysis only**.
- ▶ * Categories for **sequelae of external causes of morbidity and mortality** are included at **Y85-Y89**.

This chapter contains the following blocks:

- [V01-X59](#) Accidents
 - [V01-V99](#) Transport accidents
 - [V01-V09](#) Pedestrian injured in transport accident
 - [V10-V19](#) Pedal cyclist injured in transport accident
 - [V20-V29](#) Motorcycle rider injured in transport accident
 - [V30-V39](#) Occupant of three-wheeled motor vehicle injured in transport accident
 - [V40-V49](#) Car occupant injured in transport accident
 - [V50-V59](#) Occupant of pick-up truck or van injured in transport accident
 - [V60-V69](#) Occupant of heavy transport vehicle injured in transport accident
 - [V70-V79](#) Bus occupant injured in transport accident
 - [V80-V89](#) Other land transport accidents
 - [V90-V94](#) Water transport accidents
 - [V95-V97](#) Air and space transport accidents
 - [V98-V99](#) Other and unspecified transport accidents
 - [W00-X59](#) Other external causes of accidental injury
 - [W00-W19](#) Falls
 - [W20-W49](#) Exposure to inanimate mechanical forces
 - [W50-W64](#) Exposure to animate mechanical forces
 - [W65-W74](#) Accidental drowning and submersion
 - [W75-W84](#) Other accidental threats to breathing
 - [W85-W99](#) Exposure to electric current, radiation and extreme ambient air temperature and pressure

- [X00-X09](#) Exposure to smoke, fire and flames
- [X10-X19](#) Contact with heat and hot substances
- [X20-X29](#) Contact with venomous animals and plants
- [X30-X39](#) Exposure to forces of nature
- [X40-X49](#) Accidental poisoning by and exposure to noxious substances
- [X50-X57](#) Overexertion, travel and privation
- [X58-X59](#) Accidental exposure to other and unspecified factors
- [X60-X84](#) Intentional self-harm
- [X85-Y09](#) Assault
- [Y10-Y34](#) Event of undetermined intent
- [Y35-Y36](#) Legal intervention and operations of war
- [Y40-Y84](#) Complications of medical and surgical care
 - [Y40-Y59](#) Drugs, medicaments and biological substances causing adverse effects in therapeutic use
 - [Y60-Y69](#) Misadventures to patients during surgical and medical care
 - [Y70-Y82](#) Medical devices associated with adverse incidents in diagnostic and therapeutic use
 - [Y83-Y84](#) Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure
- [Y85-Y89](#) Sequelae of external causes of morbidity and mortality
- [Y90-Y98](#) Supplementary factors related to causes of morbidity and mortality classified elsewhere

Place of occurrence code

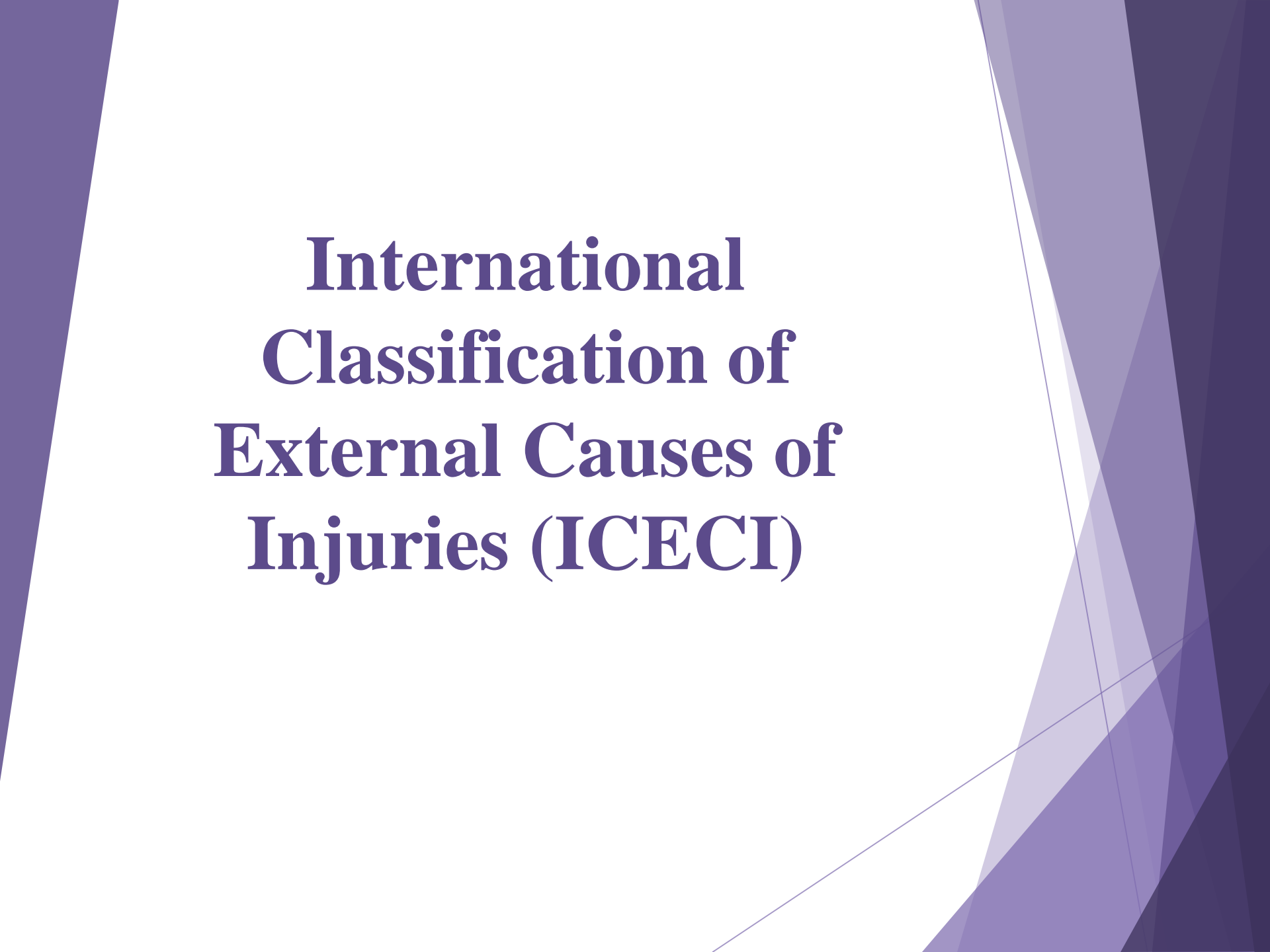
- ▶ The following categories are provided to be used as separate variables in addition to ICD categories W00-Y34 to identify the place of occurrence of the external cause where relevant:

0	Home
1	Residential institution
2	School, other institution and public administrative area
3	Sports and athletics area
4	Street and highway
5	Trade and service area
6	Industrial and construction area
7	Farm
8	Other specified places
9	Unspecified place

Activity code

- ▶ The following categories are provided to be used as separate variables in addition to categories V01-Y34 to indicate the activity of the injured person at the time the event occurred.

0	While engaged in sports activity
1	While engaged in leisure activity
2	While working for income
3	While engaged in other types of work
4	While resting, sleeping, eating or engaging in other vital activities
8	While engaged in other specified activities
9	During unspecified activity

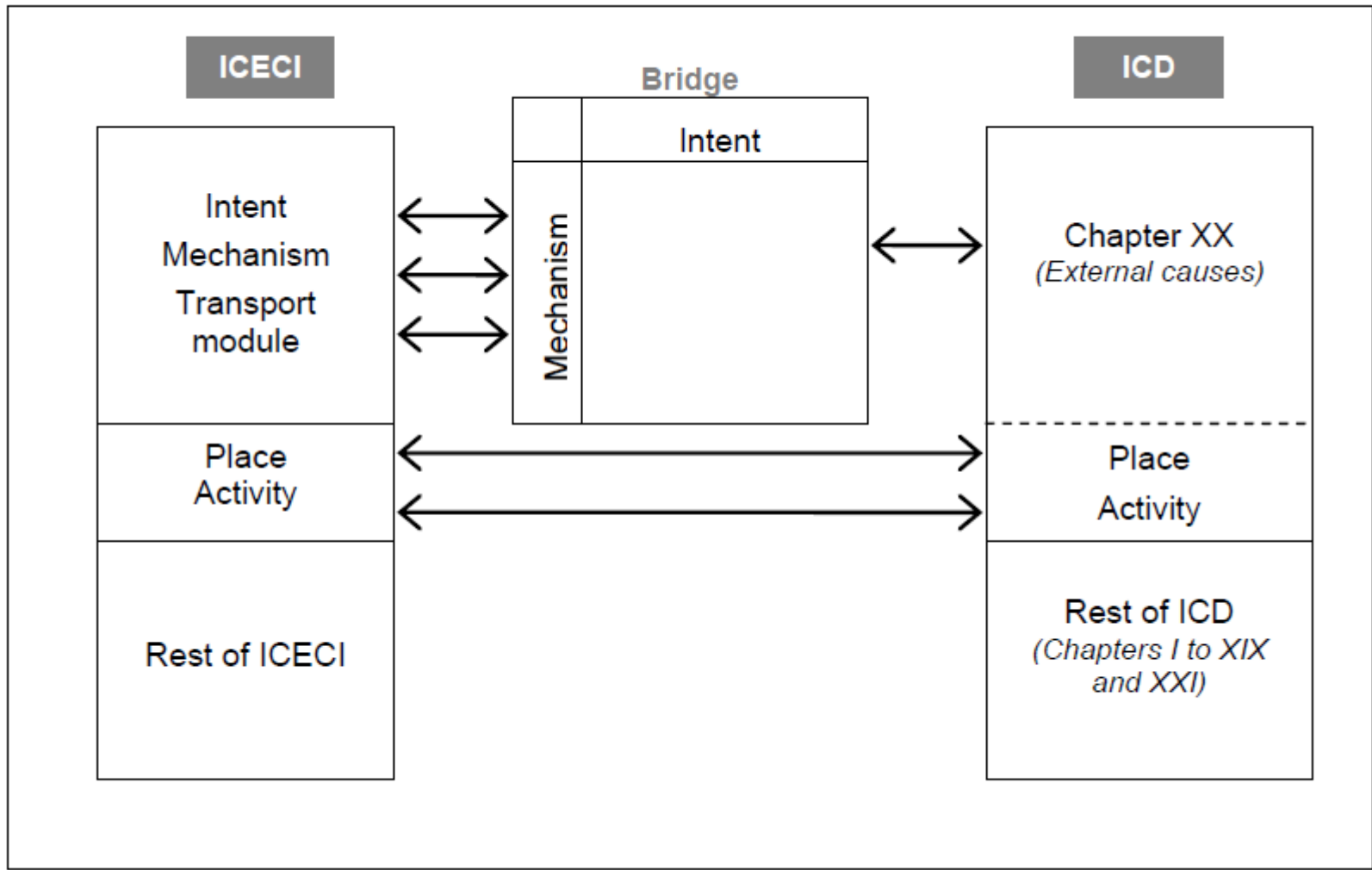
The background features abstract, overlapping purple geometric shapes, including triangles and polygons, in various shades of purple, creating a modern and professional aesthetic.

International Classification of External Causes of Injuries (ICECI)

Relationship between ICECI and ICD

- ▶ ICECI is designed to have a *role complementary* to the ICD-10 external causes classification.
- ▶ Most parts of the ICD (ie. Chapters I to XIX and Chapter XXI) do not deal with external causes of injury and poisoning.
- ▶ the conceptual scope of several items in the Core module of the ICECI overlaps with the scope of ICD-10 Chapter XX.

Figure 2: Schematic diagram of relationship between ICECI and ICD



Part A

- INTRODUCTION

Part B

MODULOES

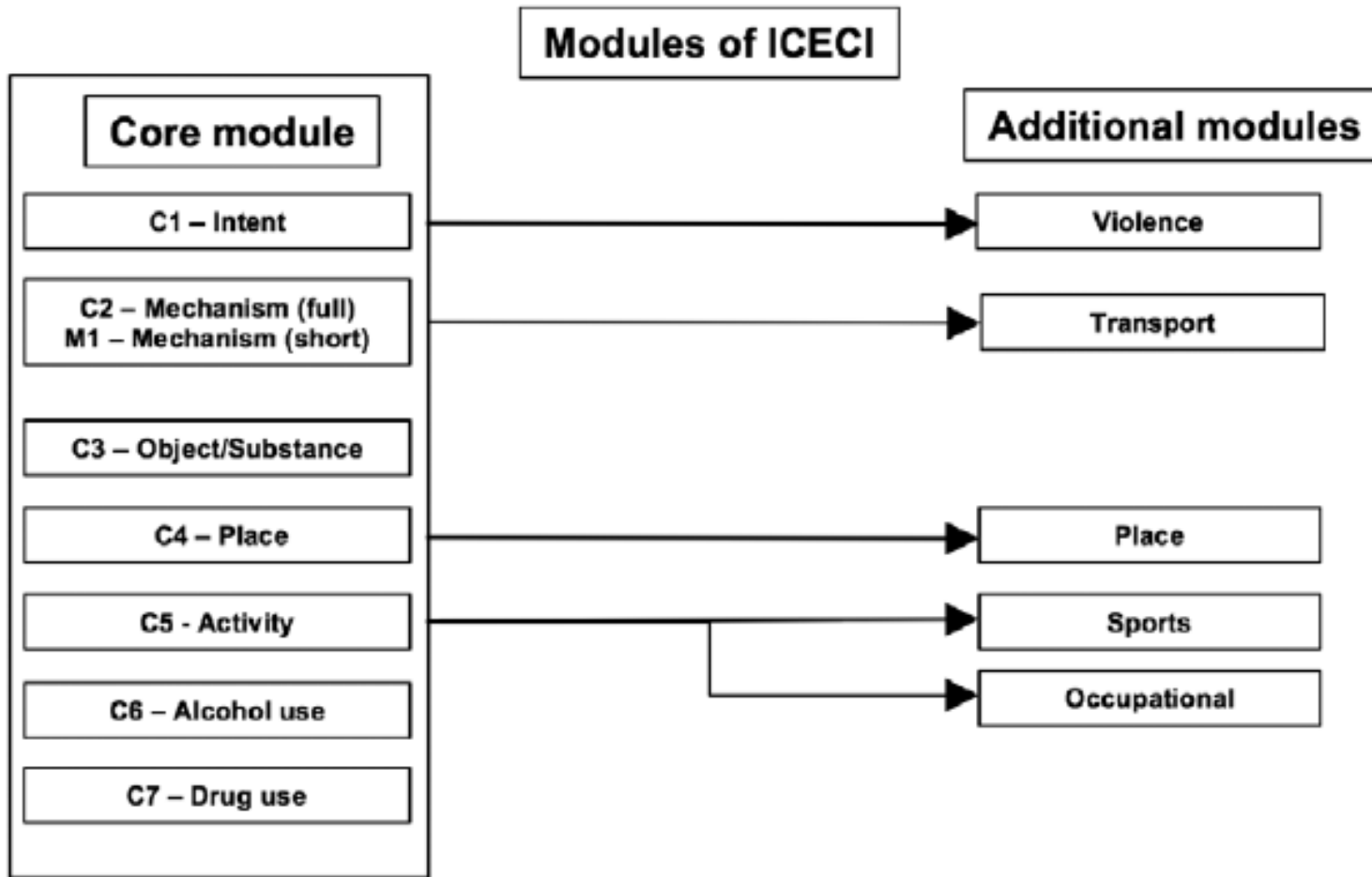
Part C

- GLOSSARY OF TERMS

Part D

INDEX

Modules



Glossary of Terms

Blunt force

Any external force that produces a change in the speed or direction of a moving object or that causes a *stationary object* to deform or move and that does not involve *piercing/penetrating force* or *machinery*.

(Based on Manser & Thomson, 1995)

Bus

A motor vehicle designed or adapted primarily for carrying 20 or more persons and requiring a special *driver's licence*.

(Based on WHO, 1992)

Excludes:

- Minibus
- *Passenger van or minivan*

Car = Automobile

A four-wheeled motor vehicle designed primarily for carrying up to 10 persons.

(WHO, 1992)

Includes:

- *Passenger van or minivan*

Classification

A system of concepts connected by generic relations.

(WCC, 1995)

Index

A

Abandonment [Mechanism C.2.98.6](#)

Aberrant behaviour [Type of Legal Intervention V.6.2.2](#)

Abnormal reaction of the patient or later complication caused by surgical operations or other surgical/medical procedures, without mention of misadventure at the time of the procedure, NEC [Mechanism C.2.20.6](#)

Abortion [Proximal Risk Factors V.1.3.2](#)

Above-ground

- spa [Object C.3.14.98.02](#)
- swimming pool [Object C.3.14.98.02](#)

Abrading [Mechanism C.2.1.6](#)

Abseiling/rappelling [Type of Sport Activity S.1.15.01](#)

Abuse

- [Proximal Risk Factors V.1.6](#)
- other specified [Proximal Risk Factors V.1.6.8](#)
- physical [Proximal Risk Factors V.1.6.2](#)
- sexual [Proximal Risk Factors V.1.6.1](#)
- unspecified [Proximal Risk Factors V.1.6.9](#)

Accessories [Object C.3.9.02](#)

Accidental

- [Intent C.1.1](#)
- drug overdose [Mechanism C.2.6](#)
- poisoning by gases or fumes on ship [Transport Event T.4.4](#)

Example

▶ مثال: یک بچه در یک پارک از دوچرخه اش پیاده شد و کلاه ایمنی اش را درآورد سگش را به پدال چرخ بست و روی زمین در کنارش خوابید، برادرش چوبی را پرت کرد و سگ آنرا گرفت در اثر اصابت دوچرخه به بچه سرش دچار بریدگی شد.

←	برخورد با شیء متحرک	↗	مکانیسم
←	سگ	↗	شیء underlying
←	پدال دوچرخه	↗	شیء direct
←	پارک عمومی	↗	مکان
←	فعالیت حیاتی (خوابیدن)	↗	فعالیت

Abbreviated Injury Scale (AIS)
1971

Injury Severity Scale (ISS) 1974

Trauma and Injury Severity
Scale (TRISS) 1983

A Severity Characterization of
trauma (ASCOT) 1990

Abbreviated Injury Scale

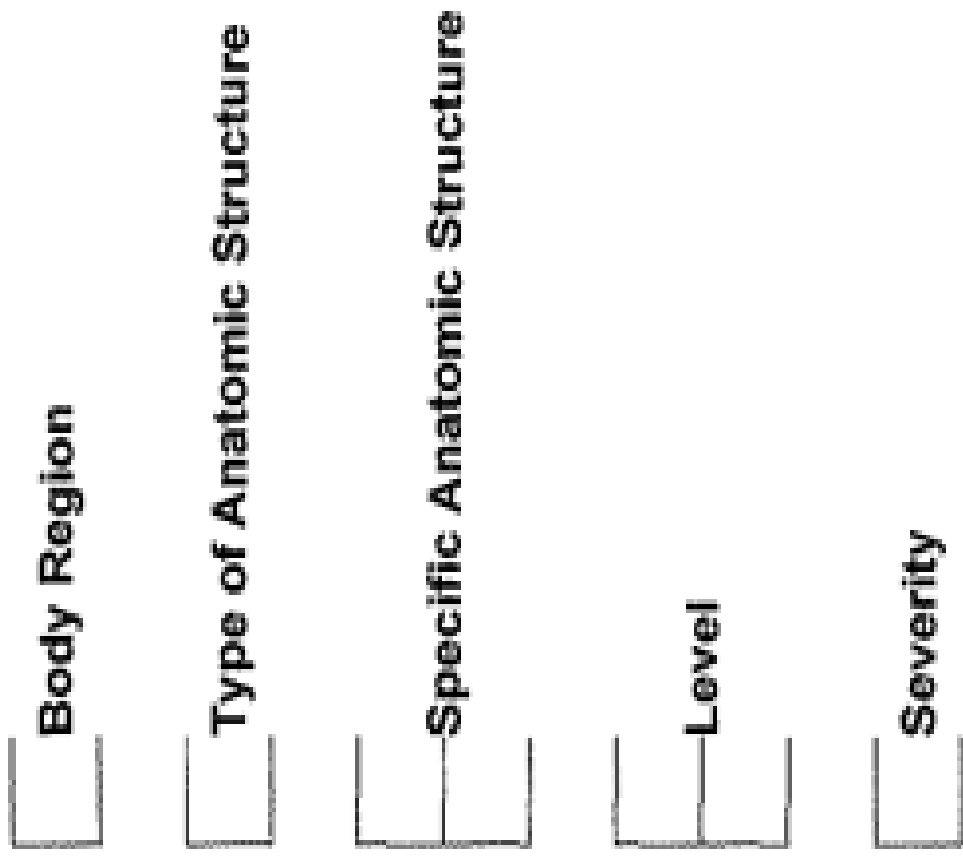
- ▶ AIS is an **anatomical-based coding system** created by the Association for the Advancement of Automotive Medicine to classify and describe the **severity of injuries**.
- ▶ Abbreviated Injury Score-Code is on a scale of one to six, *one being a minor injury and six being maximal* (currently untreatable).
- ▶ An AIS-Code of 9 is used to describe injuries for which not enough information is available for more detailed coding, e.g. crush injury to the head.
- ▶ The AIS scale is a measurement tool for single injuries.

The AIS 2015 dictionary continues in the same general format as previous editions. Its ten chapters are divided as follows: Head (Cranium and Brain); Face (including Eye and Ear); Neck; Thorax; Abdomen and Pelvic Contents; Spine (Cervical, Thoracic, Lumbar); Upper Extremity; Lower Extremity, Pelvis and Buttocks; External (Skin) and Thermal Injuries, and Other Trauma.

Within each chapter, injury descriptions are grouped by Whole Area, Vessels, Nerves, Internal Organs and Skeletal. Some exceptions to this formatting exist in the External, Other Trauma and Spine chapters, which do not lend themselves to these groups.

AIS

Abbreviated injury Score			
AIS-Code ◆	Injury ◆	Example ◆	AIS % prob. of death ◆
1	Minor	superficial laceration	0.1-1
2	Moderate	fractured sternum	1-2
3	Serious	open fracture of humerus	2-16
4	Severe	perforated trachea	16-30
5	Critical	ruptured liver with tissue loss	30-99
6	Fatal	total severance of aorta	100
9	Not further specified (NFS)		



Examples of AIS Codes with Injury Localizers

<i>Injury Descriptor</i>	<i>Full AIS Code</i>
Minor right frontal superficial scalp laceration	110602.1 1100
Small right temporal epidural hematoma	140632.4 1400
Concussion with 15 mins. loss of consciousness	161004.2 0000
Abrasion of left ear	210202.1 2056
Multiple fractures of right third rib	450201.1 3133
2cm laceration right lobe of liver, posterior	541822.2 1300
Fracture C4 right lamina and facet	650217.2 1604 1904
Gunshot wound left small toe	816030.1 2029
Left simple femoral shaft fracture	853251.3 2000
Right simple femoral shaft fracture	853251.3 1000

Injury Severity Score

- ▶ The ISS is based upon the AIS.
- ▶ To calculate an ISS for an injured person, the body is divided into six ISS body regions.
- ▶ To calculate an ISS, take the highest AIS severity code in each of the three most severely injured ISS body regions, square each AIS code and add the three squared numbers for an ISS ($ISS = A^2 + B^2 + C^2$ where A, B, C are the AIS scores of the three most injured ISS body regions).

Thank you for your attention
