Occupational Health in ICD 11
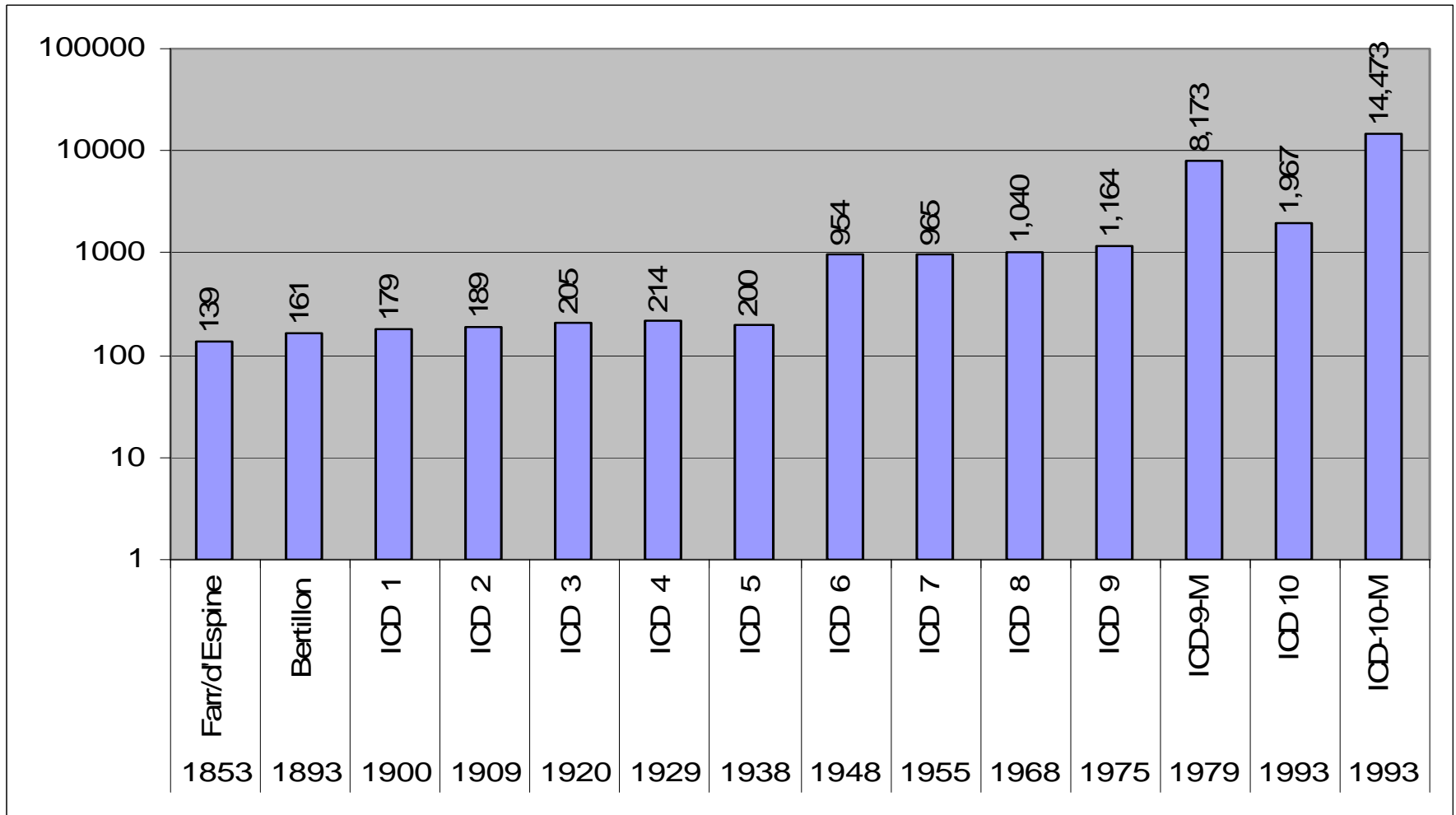
Dr Anil Adisesh

Chair, WHO Working Group

Origins of ICD

William Farr (1807-1883)

"The advantages of a uniform statistical nomenclature, however imperfect, are so obvious, that it is surprising no attention has been paid to its enforcement in Bills of Mortality. Each disease has, in many instances, been denoted by three or four terms, and each term has been applied to as many different diseases: vague, inconvenient names have been employed, or complications have been registered instead of primary diseases. The nomenclature is of as much importance in this department of inquiry as weights and measures in the physical sciences, and should be settled without delay."

ICD Revisions

Construction of ICD-10:
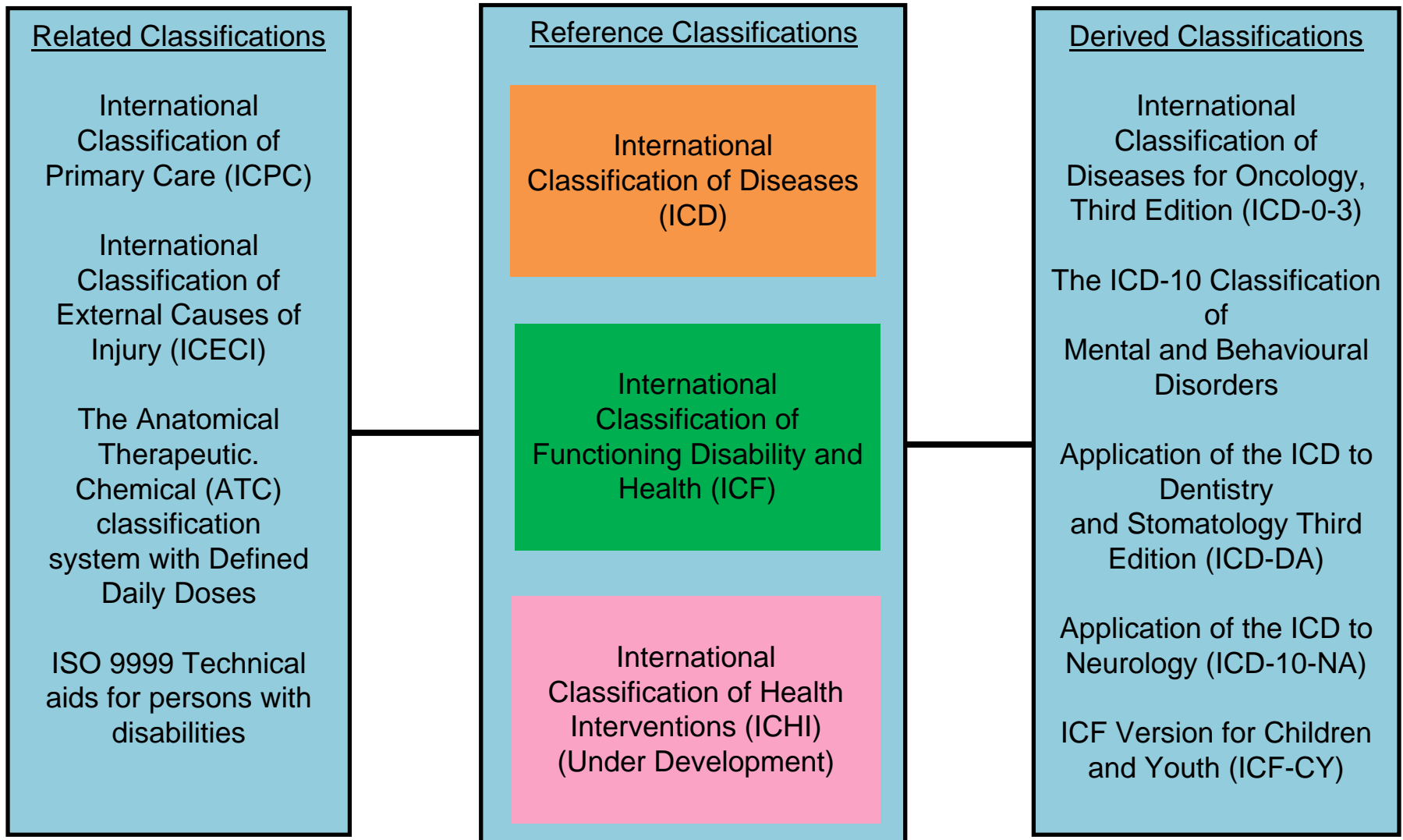## *Revision Process in the 20th Century*

- 8 Annual Revision Conferences (1982 - 89
  - 17 – 58 Countries participated
  - 1- 5 person delegations
  - mainly Health Statisticians, and some epidemiologists
- Manual curation
- Exchange of prepared lists of updates
- Index was done later
- Method of discussion: paper mail…
- Output: Paper Copy
- Work in English only
- Limited testing in the field

Construction of ICD-11:
Revision Process in the 21st Century

- **Internet-based permanent platform**
  - **All year round**
  - **Open to all people** in a structured way
  - **Content experts** focus

- **Digital** curation
  - **Wiki** enabled collaboration
  - **Ontology** based
- Enhanced **discussion & peer review**
  - TAGs serve as the editorial group

- **Electronic copy** → print version
- Work in **multiple languages**
- **Planned field tests**
  - Based on Use Cases

The WHO Family of International Classifications

World Health Organization

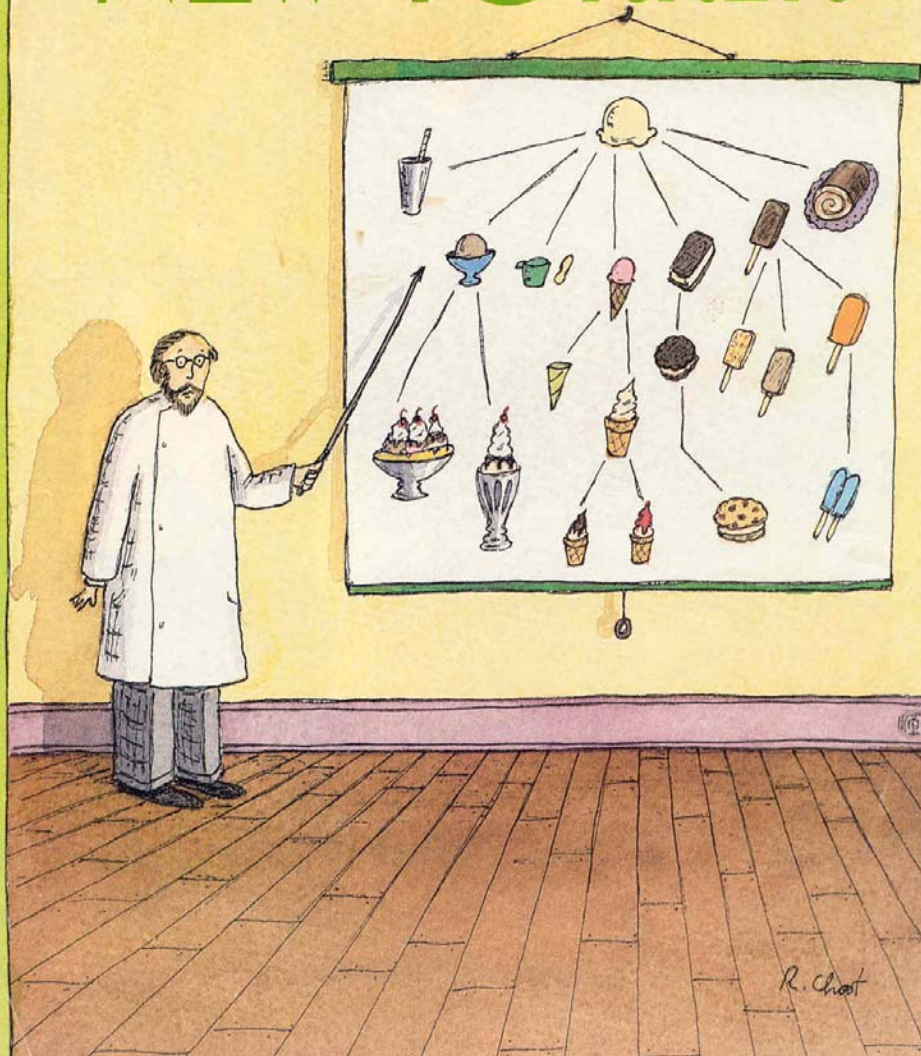| Related Classifications	Reference Classifications	Derived Classifications
International Classification of Primary Care (ICPC)	International Classification of Diseases (ICD)	International Classification of Diseases for Oncology, Third Edition (ICD-0-3)
International Classification of External Causes of Injury (ICECI)	International Classification of Functioning Disability and Health (ICF)	The ICD-10 Classification of Mental and Behavioural Disorders
The Anatomical Therapeutic. Chemical (ATC) classification system with Defined Daily Doses	International Classification of Health Interventions (ICHI) (Under Development)	Application of the ICD to Dentistry and Stomatology Third Edition (ICD-DA)
ISO 9999 Technical aids for persons with disabilities		Application of the ICD to Neurology (ICD-10-NA)
		ICF Version for Children and Youth (ICF-CY)

ICD-11 Use–Cases

1. Mortality
2. Morbidity
3. Case Mix Groupings
4. Primary Care
5. Quality and Safety
6. Scientific agreement on clinical phenotype

Use Case Template

Use Case	Use case identifier and reference number and modification history
Description	Goal to be achieved by use case and sources for requirement
Actors	List of actors involved in use case
Assumptions	Conditions that must be true for use case to terminate successfully
Steps	Interactions between actors and system that are necessary to achieve goal
Variations	Any variations in the steps of a use case
Non-Functionals	List any non-functional requirements that the use case must meet
Issues	List of issues that remain to be resolved

What is Ontology?

- Ontology (philosophy)
  - the Organization of Reality ☺ !!!

- **Ontology (computer science)**
  - the explicit – operational description of the conceptualization of a domain:
    - Concepts: **entity** and **quality** *(properties and attributes)*

- An ontology defines:
  - a **common vocabulary** → a shared understanding/exchange:
    - among people
    - among software agents
    - between people and software
      - to reuse data - information
      - to introduce standards to allow interoperability

Fit for use
Input AND *Output*

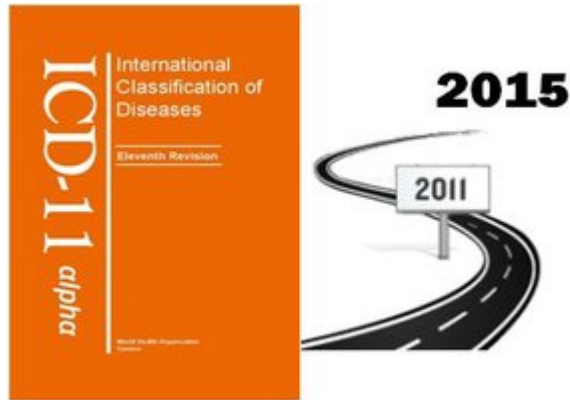| Mortality |
|---|
| Morbidity |
| Casemix |
| Quality |
| Primary care |

ICD-11

World Health Organization

Multiple Settings
- Primary Care
- Clinical Services
- Research

Specialty Adaptations
- Dermatology
- Mental Health
- Musculoskeletal
- Neurology
- Paediatrics

The International Classification of Diseases 11th Revision is due by 2015

ICD is the **international standard** to measure health & health services
- Mortality statistics
- Morbidity statistics
- Health care costs
- Progress towards the **Millenium Development Goals**
- Research

ICD-11 Timeline

- **2011** : **Alpha version** (ICD 11 alpha draft)
  - **+1 YR   : Commentaries and consultations**

- **2012   : Beta version** & Field Trials Version
  - **+2 YR : Field trials**

- 2014   : **Final version** for public viewing
  - **2015 : WHA Approval**

- **2015+ implementation**

Definitions

All ICD entities will have definitions:

that give key descriptions and guidance on what the meaning of the entity/category is

- in human readable terms - to guide users
- All ICD entities will have a concise definition (100 words) in the   print version
- More detailed definitions can be found ONLINE
- the Content Model
- Diagnostic Criteria
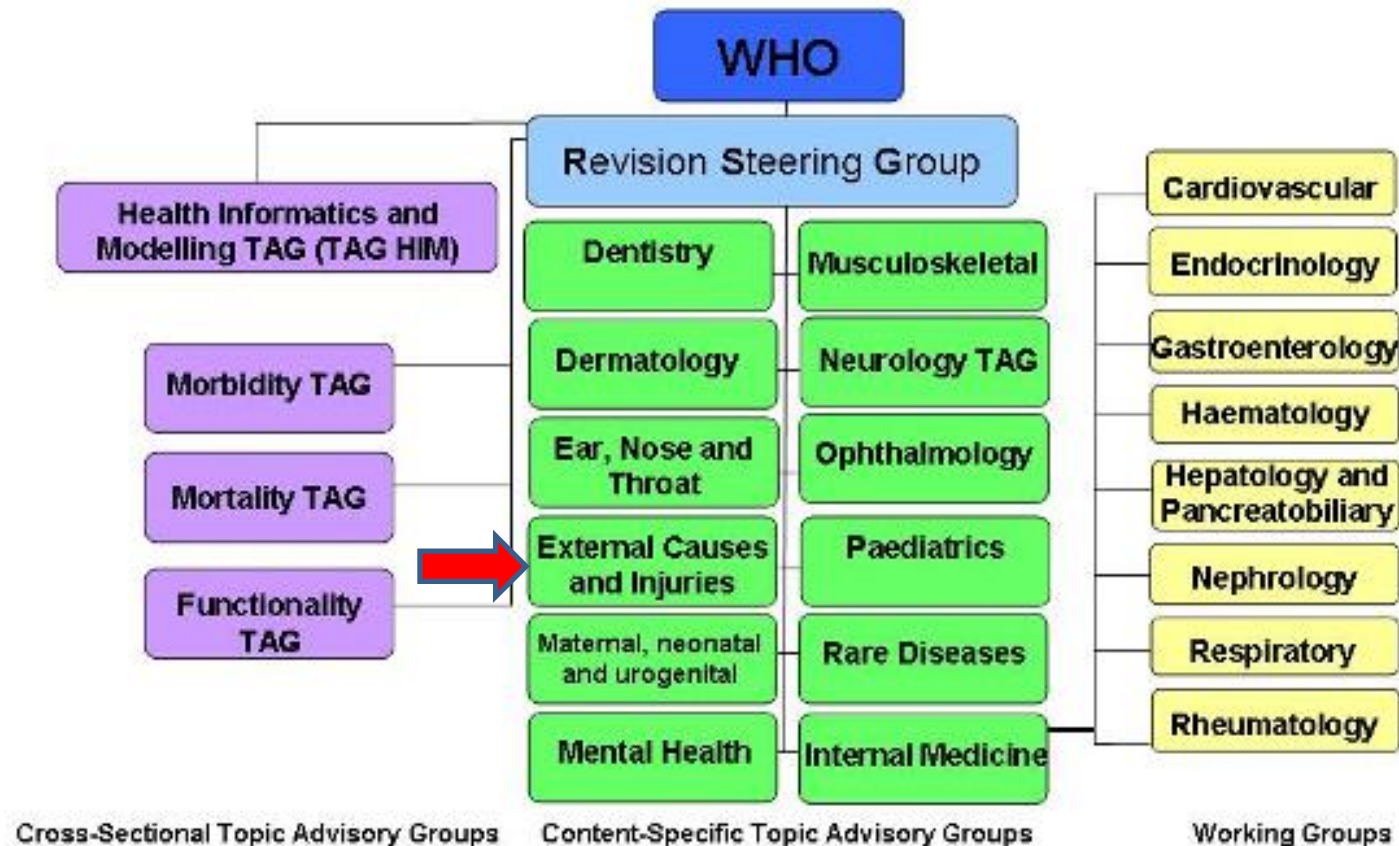- across the whole classification and the versions

Content Model

The content model is a structured framework that captures the knowledge that underpins the definition of an ICD entity.

Content Model Parameters
1. ICD Entity Title
2. Classification Properties
3. Textual Definitions
4. Terms
5. Body System/Structure Description
6. Temporal Properties
7. Severity of Subtypes Properties
8. Manifestation Properties
9. Causal Properties
10. Functioning Properties
11. Specific Condition Properties
12. Treatment Properties
13. Diagnostic Criteria

ICD Revision Organizational Structure

WHO

Revision Steering Group

Cross-Sectional Topic Advisory Groups
- Health Informatics and Modelling TAG (TAG HIM)
- Morbidity TAG
- Mortality TAG
- Functionality TAG

Content-Specific Topic Advisory Groups
- Dentistry
- Dermatology
- Ear, Nose and Throat
- External Causes and Injuries
- Maternal, neonatal and urogenital
- Mental Health
- Musculoskeletal
- Neurology TAG
- Ophthalmology
- Paediatrics
- Rare Diseases
- Internal Medicine

Working Groups
- Cardiovascular
- Endocrinology
- Gastroenterology
- Haematology
- Hepatology and Pancreatobiliary
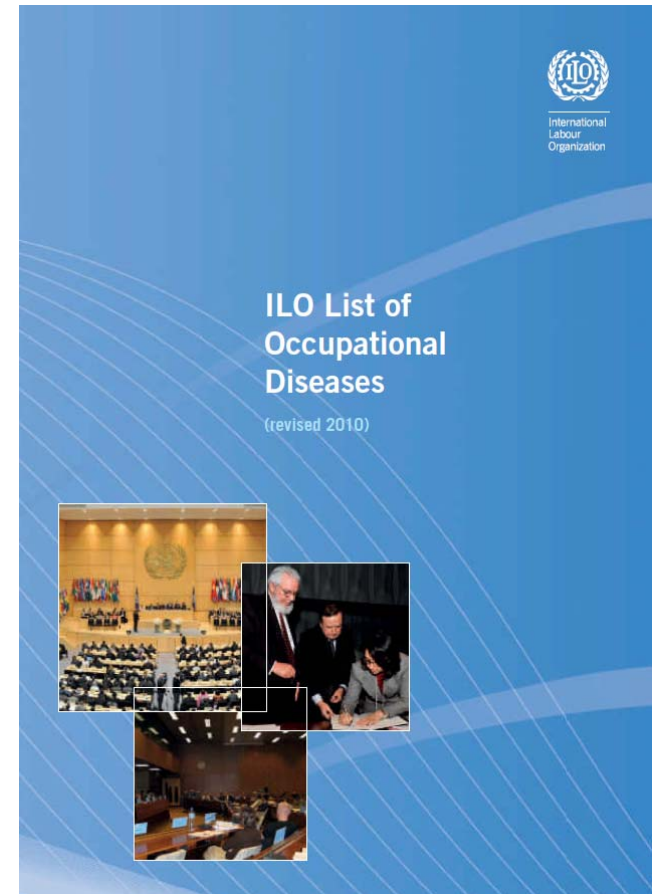- Nephrology
- Respiratory
- Rheumatology

Occupational Diseases in ICD-11

Map the ILO list of diseases and definitions to the appropriate ICD-10 codes, diseases and definitions

Review the ILO List of Occupational Diseases for ICD-11 inclusion

Identify and prioritise diseases from ICD-10 that may be considered for inclusion in ICD-11

Welcome contribution from stakeholders to support the appropriate inclusion of occupational diseases in ICD-11

ILO List of Occupational Diseases
(revised 2010)

Details for G56.0 Carpal tunnel syndrome

Title & Definition | Classification Properties | Terms | Clinical Description | Manifestation Properties | Causal Properties | Temporal Properties | Severity Properties | Functioning Properties

---

*i***CAT** **DEMO and TRAINING PLATFORM**

My ICD | ICD Content | Category Notes and Discussions | Reviews | Change History | Manage Hierarchy | Export and Import

ICD Categories

Create | Watch Branch ▼ | *Search:* [Type search string]

- ⊞ 04 IV Endocrine, nutritional and metabolic diseases 2 2275
- ⊞ 05 V Mental and behavioural disorders 9 207
- ⊟ 06 VI Diseases of the nervous system 1902
  - ⊞ Needing a decision to be made 1 300
  - ⊞ To be retired 1 541
  - ⊞ 06 C Multiple sclerosis and clinically isolated syndromes of the central nervous system 15
  - ⊞ 06 D Epilepsy, seizures and non-epileptic seizures 1 1
  - ⊞ 06 E Headache disorders 1 226
  - ⊟ 06 F Disorders of nerve root, plexus and peripheral nerves 74
    - ⊞ 06 F 00 Disorders of trigeminal nerve 10
    - ⊞ 06 F 01 Facial nerve disorders 6
    - ⊞ 06 F 02 Disorders of other cranial nerves 7
    - ⊞ 06 F 03 0 Postzoster neuralgia 1 5
      - 06 F 03 6 Postherpetic geniculate ganglionitis 3
      - 06 F 03 9 Multiple cranial nerve palsies in sarcoidosis 2
    - ⊞ 06 F 03 Cranial nerve disorders classified elsewhere 1 8
    - ⊞ 06 F 04 Nerve root and plexus disorders 24
    - ⊞ 06 F 05 Nerve root and plexus compressions in diseases classified elsewhere 1 2
    - ⊟ G56 Mononeuropathies of arm 2
      - G56.0 Carpal tunnel syndrome 1
      - G56.1 Other lesions of median nerve
      - G56.2 Lesion of ulnar nerve

Parents of G56.0 Carpal tunnel syndrome

G56 Mononeuropathies of arm

Details for G56.0 Carpal tunnel syndrome

Title & Definition | Classification Properties | Terms | Clinical Description | Manifestation Properties | Causal Properties | Temporal Properties | Severity Properties | Functioning Properties
Specific Condition Properties | Treatment | Diagnostic Criteria | ICD 10 Notes and Hints | Editorial Information

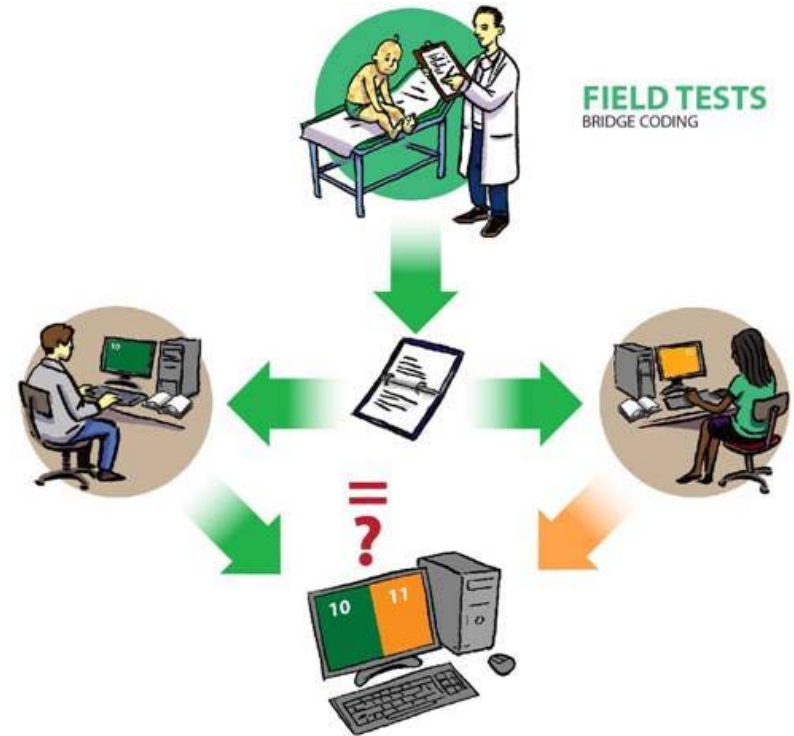**ICD 10 Code** ⑦ — G56.0

Sorting label — G56.0

ICD Title ⑦ — Carpal tunnel syndrome

Fully Specified Name ⑦ —

Short Definition ⑦

Text
A compression neuropathy due to entrapment of the median nerve within the carpal tunnel at the wrist.

Detailed Definition ⑦
➕ Add new value

Text

External Definitions ⑦
➕ Add new value

Definition	Source
entrapment of the median nerve in the carpal tunnel, which is formed by the flexor retinaculum and the carpal bones; this syndrome may be associated with repetitive occupational trauma, wrist injuries, amyloid neuropathies, rheumatoid arthritis, acromegaly, pregnancy, and other conditions; symptoms include burning pain and paresthesias involving the ventral surface of the hand and fingers which may radiate proximally; impairment of sensation in the distribution of the median nerve and thenar muscle atrophy may occur.	UMLS/CSP2 006

Definitions ⑦
➕ Add new value

	Source
entrapment of the median nerve in the carpal tunnel, which is formed by the flexor retinaculum and the carpal bones; this syndrome may be associated with repetitive occupational trauma, wrist injuries, amyloid neuropathies, rheumatoid arthritis, acromegaly, pregnancy, and other conditions; symptoms include burning pain and paresthesias involving the ventral surface of the hand and fingers which may radiate proximally; impairment of sensation in the distribution of the median nerve and thenar muscle atrophy may occur.	UMLS/CSP2 006

Details for G56.0 Carpal tunnel syndrome

Title & Definition	Classification Properties	Terms	Clinical Description	Manifestation Properties	Causal Properties	Temporal Properties	Severity Properties	Functioning Properties

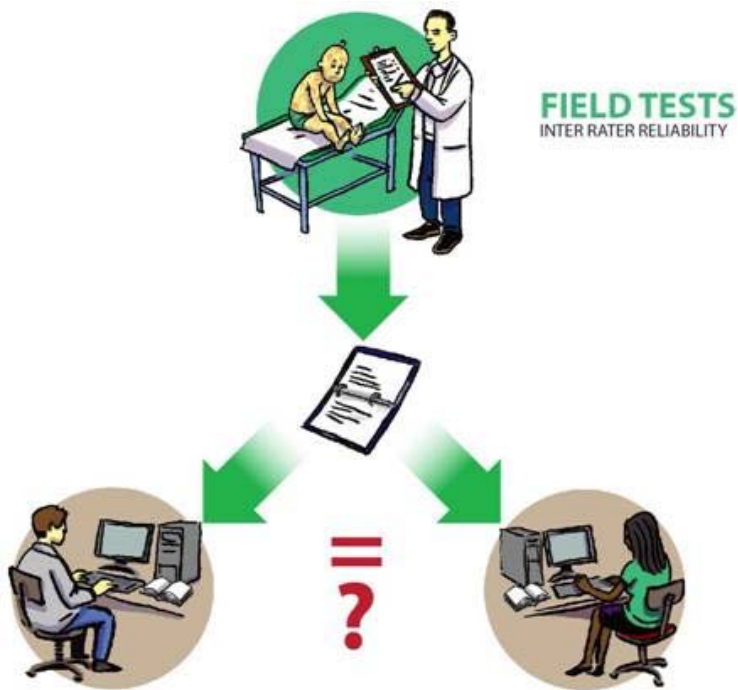| Specific Condition Properties	Treatment	Diagnostic Criteria	ICD 10 Notes and Hints	Editorial Information

Type
- ○ Disease
- ● Disorder/Syndrome
- ○ Exposure to External Causes
- ○ Injuries
- ○ Sign/Symptom
- ○ Reason for Encounter
- ○ Unspecified

Use ?

Linearization	Is part of?	Is grouping?	Sorting label	Linearization Parent		
01. Morbidity	☑	？		[G56 Mononeuropathies of arm]		💬
02. Mortality	？	？		[G56 Mononeuropathies of arm]		💬
03. Primary Care	☑	？		[G56 Mononeuropathies of arm]		💬
04. Research	☑	？		[G56 Mononeuropathies of arm]		💬
05. Spec. Adapt: Mental Health	？	？		[G56 Mononeuropathies of arm]		💬
06. Spec. Adapt: Dermatology	？	？		[G56 Mononeuropathies of arm]		💬
07. Spec. Adapt: Musculoskeletal	？	？		[G56 Mononeuropathies of arm]		💬
08. Spec. Adapt: Neurology	？	？		[G56 Mononeuropathies of arm]		💬
09. Spec. Adapt: Paediatrics	？	？		[G56 Mononeuropathies of arm]		💬
10. Spec. Adapt: Occupational Health	☑	？		[G56 Mononeuropathies of arm]		💬 1

Field Tests

Multiple Languages

Multilingual Representation, not a **Translation**. The aim is to represent equivalent concepts rather than word-by-word translation.

The priority will be on 6 Official United Nations Languages:

English

French

Spanish

Russian

Chinese

Arabic

And two WHO Regional Official languages:

German

Portuguese

Other languages will be at the request of WHO Collaborating Centers in different language areas **< indicate your interest here >**

World Health Organization

🔍 [   ] [Search]   Advanced search

Classifications

The International Classification of Diseases 11th Revision is due by 2015

International Classification of Diseases

ICD-11

Eleventh Revision

alpha

2015

2011

ICD is the **international standard** to measure health & health services
- Mortality statistics
- Morbidity statistics
- Health care costs
- Progress towards the **Millenium Development Goals**
- Research

The alpha-draft can be viewed online at: ICD-11 alpha browser

– Alpha draft is updated **daily** as the work progresses
...takeholders early

ICD-11 Highlights

◄ ►

Register to become involved

WHO wants to know if you are interested in being involved in the ICD Revision.

Sign Up!

Caveats
Read more on what to expect in the ICD-11 Alpha Draft

...on
...ws
...oup
...ory Groups

...etwork Meeting 2011

...rk Meeting in Cape Town,

Electronic Health Record

Occupational Health in ICD-11

WHO Working Group
Anil Adisesh (UK),
Linda Forst (USA),
Claudio Colosio (Italy),
Julietta Rodriguez Guzman (Colombia),
Danuta Kielkowski (South Africa)
P.K. Nag (India),
Zhang Min (China),
Eun A Kim (Republic of Korea),
Shengli Niu (ILO)
Ivan Ivanov (WHO)