

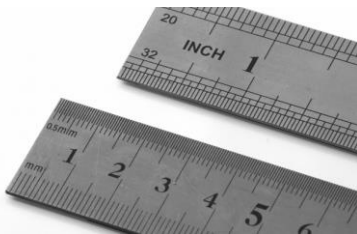
## WHO ICF Core Set for Trauma Rehabilitation

Dr Karen Hoffman

## Background

- Need for classifications
- Functioning and disability
  - Context bio-psycho-social model
- World Health Report on Disability (2011)
- Injury severity, disability and care dependency are often used to quantify rehabilitation requirements
- Major trauma development – lack of rehabilitation

## The need for a classification



## Injury Severity Score

**TRAUMA.ORG**  
trauma scoring

**Injury Severity Score**

The Injury Severity Score (ISS) is an anatomical scoring system that provides an overall score for patients with multiple injuries. Each injury is assigned an Abbreviated Injury Scale (AIS) score and is allocated to one of six body regions (Head, Neck, Chest, Abdomen, Extremities (including head), Extremity). Only the highest AIS score in each region is used. The three highest injured body regions have their score squared and added together to produce the ISS score. An example of the ISS calculation is shown below:

**Abbreviated Injury Scale**

Head Face  
Chest Abdomen  
Extremity Extremity  
Extremity  
ISS

Region	Injury Description	AIS	Region Squared
Head & Neck	Cerebral Contusion	3	9
Face	No Injury	0	
Chest	Flail Chest	4	16
Abdomen	Misc Contusion of Liver Complex Regional Splenic	2	4
Extremity	Fractured Femur	3	9
Extremity	No Injury	0	
<b>Injury Severity Score:</b>			<b>38</b>

## In a "globalised" world

World Health Organization

Health topics Data Media centres Publications Countries Programmes Governance About WHO

**Classifications**

**Family of International Classifications**

Family of International Classifications network

**Classification of Diseases (ICD)**

**Classification of Injuries, Disability and Health (ICIDH)**

**Classification of Health Interventions (CHI)**

Frequently asked questions

**The WHO Family of International Classifications**

The WHO constitution mandates the production of international classifications on health so that there is a consistent, meaningful and useful framework which governments, providers and consumers can use as a common language.

Internationally endorsed classifications facilitate the storage, retrieval, analysis, and interpretation of data. They also permit the comparison of data within populations over time and between populations at the same point in time as well as the compilation of nationally and internationally consistent data.

The purpose of the WHO Family of International Classifications (WHO-FIC) is to provide an appropriate selection of classifications for a range of settings in the health field around the world.

The basis for the WHO-FIC and the principles governing the admission of classifications are set out in the paper on the "WHO Family of International Classifications: definition, scope and purpose". This paper also provides a protocol for the admission of new classifications to the WHO-FIC.

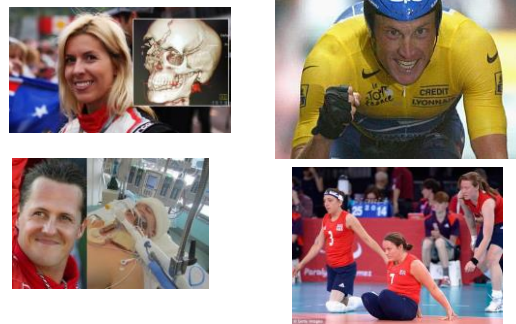
**ICD Revision**

Revision Notes  
Steering Group  
Topic Advisory Groups  
External Review of the ICD-11 Revision  
ICD-11 Project Plan  
ICD-11  
ICD-11 Newsletter - February 2016  
ICD-11

**WHO-FIC Network Meeting 2016**

2016 Network Meeting in Tokyo, Japan

## Same diagnoses - different outcome



## Bio-psycho social model of health

We know quite a lot about the disease but not so much about the **personal experience** of people suffering from a disease

The conceptual basis of the ICF provides a **multi-dimensional approach** to describe human **functioning and disability**

and serves as a framework for **organizing this information**.



## The International Classification of Functioning, Disability and Health ICF

Approved by the World Health Assembly in May 2001



## Development of ICF Core Sets

ICF Research Branch in cooperation with the  
WHO-FIC Collaborating Centre in Germany (at DIMDI)  
Swiss Paraplegic Research  
Ludwig-Maximilians-University

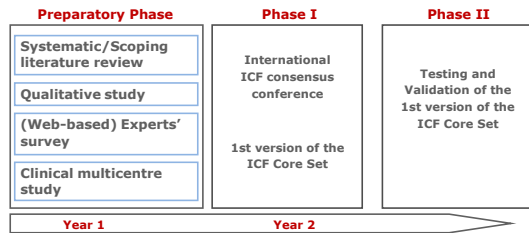
WHO  
Classifications, Terminology and Standards Team

Partner-Organizations  
e.g. ISPRM, WCPT, WFOT, ISPO



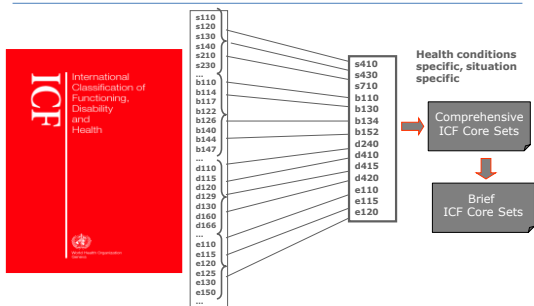
## Development of ICF Core Sets

→ Specific to a health condition or setting



Selb M, Escorpizo R, Kostanjsek N, Stucki G, Ustün TB, Cieza A. A guide on how to develop an international classification of functioning, disability and health core set. *Eur J Phys Rehabil Med*. 2015; 51(1): 105-117.

## Development of ICF Core Sets



## Creation of an ICF Based Documentation Form

### Selection Process - Step 2

ICF Core Set(s) selected:  
Musculoskeletal Acute Brief

The selected ICF Core Set(s) consist(s) of the following ICF categories:

- b130 Energy and drive functions (G)
- b152 Emotional functions (G)
- b112 Blood vessel functions
- b455 Respiration functions
- b455 Exercise tolerance functions
- b525 Defecation functions
- b620 Urination functions
- b710 Mobility of joint functions
- b725 Muscle tone functions
- d240 Handling stress and other psychological demands

Here you can add ICF categories from the corresponding Comprehensive Core Set(s):  
To select more than one category mark the categories by holding the CTRL-button pressed.

- b110 Consciousness functions
- b134 Sleep functions
- b180 Experience of self and time functions
- b260 Proprioceptive function
- b280 Sensation of pain (G)
- b715 Stability of joint functions
- b720 Muscle power functions

**The selected ICF Core Set(s) consist(s) of the following ICF categories:**

- b130 Energy and drive functions (G)
- b152 Emotional functions (G)
- b415 Blood vessel functions
- b440 Respiration functions
- b455 Exercise tolerance functions
- b525 Defecation functions
- b620 Urination functions
- b710 Mobility of joint functions**
- b735 Muscle tone functions
- d240 Handling stress and other psychological demands
- d410 Changing basic body position

**These ICF categories were selected from the corresponding Comprehensive Core Set(s):**

- b130 Energy and drive functions**
- b710 Mobility of joint functions**
- b280 Sensation of pain (G)
- d450 Walking (G)

**These additional ICF categories were selected from the whole ICF:**

- b1101 Continuity of consciousness
- b1140 Orientation to time

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**ICF Based Documentation Form**

Reminder: The categories of the Generic Set are indicated by the letter (G).

**PATIENT INFORMATION**

**BODY FUNCTIONS**  
Physiological functions of body systems (including psychological functions)

How much impairment does the person have in ...

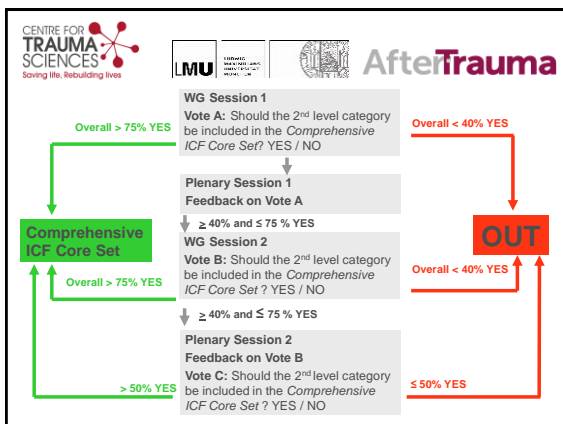
	0	1	2	3	4	5	6	7	8	9
b1101 Continuity of consciousness										
Mental functions that produce sustained wakefulness, alertness and awareness and, when disrupted, may produce fugues, trances or other similar states. Sources of information: <input type="checkbox"/> Case history <input type="checkbox"/> Patient reported questionnaire <input type="checkbox"/> Clinical examination <input type="checkbox"/> Technical investigation Description of the problem:										
b1140 Orientation to time										
Mental functions that produce awareness of day, date, month and year. Sources of information: <input type="checkbox"/> Case history <input type="checkbox"/> Patient reported questionnaire <input type="checkbox"/> Clinical examination <input type="checkbox"/> Technical investigation										

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**Functioning Profile**

FUNZIONI CORPOREE	Menomazione
b280 Sensazione di dolore	0 1 2 3 4
b710 Funzione della mobilità dell'articolazione	
b730 Funzione della forza muscolare	
b735 Funzione del tono muscolare	
b740 Funzione della resistenza muscolare	
ATTIVITÀ E PARTECIPAZIONE	Difficoltà
d230 Eseguire la routine quotidiana	P 0 1 2 3 4
d240 Gestire la tensione e altre richieste di tipo psicologico	C 0 1 2 3 4
d440 Uso fine della mano	
d510 Lavarsi	
d540 Vestirsi	
d760 Relazioni familiari	
d850 Lavoro retribuito	
d920 Recreazione e tempo libero	
FATTORI AMBIENTALI	Facilitatore +4 +3 +2 +1 0 1 2 3 4
e1101 Farmaci	
e115 Prodotti e tecnologia per l'uso personale nella vita quotidiana	
e310 Famiglia ristretta	
e680 Servizi, sistemi e politiche sanitarie	

**ICF Core Sets serve as the foundation for creating a Functioning Profile**




**Comprehensive Core Set n=75**

b114 Orientation functions	d570 Looking after one's health
b126 Temperament and personality functions	d620 Acquisition of goods and services
b130 Energy and drive functions	d630 Preparing meals
b134 Sleep functions	d640 Doing housework
b140 Attention functions	d720 Complex interpersonal interactions
b144 Memory functions	d760 Family relationships
b152 Emotional functions	d770 Intimate relationships
b164 Higher-level cognitive functions	d845 Acquiring, keeping and terminating a job
b180 Experience of self and time functions	d850 Remunerative employment
b210 Seeing functions	d870 Economic self-sufficiency
b240 Sensations associated with hearing and vestibular function	d920 Recreation and leisure
b280 Sensation of pain	e110 Products or substances for personal consumption
b440 Respiration functions	e115 Products and technology for personal use in daily living
b455 Exercise tolerance functions	e120 Products and technology for personal indoor and outdoor mobility and transportation
b525 Defecation functions	e125 Products and technology for communication
b620 Urination functions	e150 Design, construction and building products and technology of buildings for public use
b640 Sexual function	e155 Design, construction and building products and technology of buildings for private use
b710 Mobility of joint functions	e310 Immediate family
b730 Muscle power functions	e320 Friends
b755 Involuntary movement reaction functions	e340 Personal care providers and personal assistants

AIS	Body Structures
Head & Neck	s110 Structures of brain s120 Spinal cord and related structures
Face	s710 Structures of head and neck region
Chest / Thorax	s430 Structures of respiratory system s760 Structures of trunk
Abdomen and pelvic content	s530 Structures of stomach s720 Structures of shoulder region s730 Structures of upper extremity (Elbow, hand, finger) s740 Structures of pelvic region s750 Structures of lower extremity (knee, foot, toes)
Pelvis and Extremity	
External	s810 Structures of areas of skin

ICF Comprehensive Core Set		BSRM Specialist RP	
Body Structures			
s1	Structures of the nervous system	Medical	<input type="checkbox"/> Medical management
s2	The eye, ear and related structures		<input type="checkbox"/> Orthopaedic
s3	Structures involved in voice and speech		<input type="checkbox"/> Neurosurgical
s4	Structures of the cardiovascular, immunological and respiratory		<input type="checkbox"/> Amputee
s5	Structures related to the digestive, metabolic and endocrine		<input type="checkbox"/> Other:
s6	Structures related to the genitourinary and reproductive systems	Psychosocial	
s7	Structures related to movement		
s8	Skin and related structures		
Cognitive and Mental functions / Impairments			
b114	Orientation functions		<input type="checkbox"/> Sensory (Vision / hearing)
b126	Temperament and personality functions		<input type="checkbox"/> Cognitive / perceptual
b130	Energy and drive functions		<input type="checkbox"/> Behavioural management
b134	Sleep functions		
b140	Attention functions		

s8	Skin and related structures		
<b>Cognitive and Mental functions / impairments</b>			
b114	Orientation functions		
b126	Temperament and personality functions		
b130	Energy and drive functions		
b134	Sleep functions		
b140	Attention functions		
b144	Memory functions		
b152	Emotional functions		
b164	Higher-level cognitive functions		
b180	Experience of self and time functions		
d175	Solving problems		
d240	Handling stress and other psychological demands		
<b>Other body functions / impairments</b>			
b210	Seeing functions		

Cognitive / psychosocial	<input type="checkbox"/> Sensory (Vision / hearing)
	<input type="checkbox"/> Cognitive / perceptual
	<input type="checkbox"/> Behavioural management
	<input type="checkbox"/> Mood / emotion
	<input type="checkbox"/> Formal family support
	<input type="checkbox"/> Other:

Other body functions / impairments			
210	Seeing functions	Basic functions	
240	Sensations associated with hearing and vestibular function		
280	Sensation of pain		Pain
440	Respiration functions		
455	Exercise tolerance functions		<input type="checkbox"/> Tracheostomy / ventilator
525	Defecation functions		<input type="checkbox"/> Respiratory / pulmonary rehab
620	Urination functions		<input type="checkbox"/> Continence – urinary / faecal
640	Sexual function		<input type="checkbox"/> Wound management
710	Mobility of joint functions		<input type="checkbox"/> Swallowing / nutrition
730	Muscle power functions		<input type="checkbox"/> Communication
755	Involuntary movement reaction		<input type="checkbox"/> Other:
820	Repair functions of the skin	Spasticity	
230	Carrying out daily routine		

Basic functional profile (Activities)			
d350	Conversation	Physical	<input type="checkbox"/> Mobility
d410	Changing basic body position		<input type="checkbox"/> Upper limb function
d420	Transferring oneself		<input type="checkbox"/> Postural support (seating/W/C)
d430	Lifting and carrying objects		<input type="checkbox"/> Splinting / orthotics
d440	Fine hand use		<input type="checkbox"/> Spasticity
d445	Hand and arm use		<input type="checkbox"/> Pain
d450	Walking		<input type="checkbox"/> Other:
d465	Moving around using equipment		
d510	Washing oneself		
d530	Toileting		
d540	Dressing		
d550	Eating		
More complex functional performance (participation)			<input type="checkbox"/> Personal care / ADL

Environmental functions			
e110	Products or substances for personal consumption - medication	Equipment	<input type="checkbox"/> Orthotics/Prosthetics
e115	Products and technology for personal use in daily living - aids and adaptations / equipment		<input type="checkbox"/> Mobility aids/transfer equipment
e120	Products and technology for personal indoor and outdoor mobility and		<input type="checkbox"/> Specialist seating
e125	Products and technology for communication		<input type="checkbox"/> Bedposture Management
e150	Design, construction and building products and technology of buildings for public use		<input type="checkbox"/> ADL equipment
e155	Design, construction and building		<input type="checkbox"/> Other (eg Environmental controls)
e340	Personal care providers and personal assistants - care packages	Discharge planning	<input type="checkbox"/> Housing / placement
e355	Health professionals - rehabilitation		<input type="checkbox"/> Beneficial finances
e550	Legal services, systems and policies		<input type="checkbox"/> Equipment / home adaptations
e570	Social security services, systems and policies		<input type="checkbox"/> Community visits
e575	General social support services, systems and policies		<input type="checkbox"/> Emotional load on staff
e580	Health services, systems and policies		<input type="checkbox"/> Other:

## Brief Core Set n=19

b130	Energy and drive functions
b152	Emotional functions
b164	Higher-level cognitive functions
b280	Sensation of pain
b710	Mobility of joint functions
b730	Muscle power functions
d230	Carrying out daily routine
d240	Handling stress and other psychological demands
d410	Changing basic body position
d445	Hand and arm use
d450	Walking
d530	Toileting
d720	Complex interpersonal interactions
d760	Family relationships
e110	Products or substances for personal consumption
e115	Products and technology for personal use in daily living
e120	Products and technology for personal indoor and outdoor mobility
e310	Immediate family
e580	Health services, systems and policies

## Spinal example

Assessment (12 weeks post-trauma)				
Global Goal: Complete independence, university entrance.				0
Service-Program-Goal: Independence in activities of daily living				0
Cycle goal 1: d4 Mobility				1
Cycle goal 2: d5 Self-care				0
Cycle goal 3: d9201 Sport				2
ICF categories - intervention targets	problems	ICF Qualifier*	Goal relation	Goal Value*
i260	Proprioceptive functions		-	-
i265	Touch functions		-	-
i279	Sensory functions related to temperature and other stimulants		-	-
i28013	Pain in back		C1	0
i415	Blood vessel functions - at risk		G	0
i420	Blood pressure functions		C1	0

## Spinal example

Assessment (12 weeks post-trauma)				
Global Goal: Complete independence			0	not evaluated yet
Service-Program-Goal: Independence in ADLs			0	not evaluated yet
Cycle goal 1: d4 Independence in mobility			1	
Cycle goal 2: d5 Independence in self-care			0	
Cycle goal 3: d9201 Sport			2	
ICF categories - Intervention Targets	ICF Qualifier*	Goal relation	Goal Value*	
	problems			Goal achievement
	0 1 2 3 4			0 1 2 3 4
i28013 Pain in back		1	0	-
i415 Blood vessel functions - at risk		0	0	+
i420 Blood pressure functions		1	0	+
i7101 Mobility of several joints		1.2	0	-
i715 Muscle tone functions		1	1	+
i755 Involuntary movement reaction functions		1.2	0	+

## Summary

- Classification for Trauma Rehabilitation Prescription / assessment
- Can this be collected to compare patient populations
- Who is it for?