# Assessments used in school-aged children with acquired brain injury - Linking to the ICF

Rita Ehrenfors Lena Borell Helena Hemmingsson Gunilla Eriksson

# ICF should be used in the rehabilitation process to:

identify a core set of clinical relevant assessments

support optimal recovery, community integration and outcome evaluation

achieve a better understanding of disability as a result from interaction between the functioning and environmental factors

#### Overlapping - ICF categories overlapped by more than one assessment

3 Thought functions (b160)

4 Higher-level cognitive functions (b164)

9 Mental functions of language (b167) 2 Muscle power functions (b730)

## Discussion (d355)

Using communication devices and techniques (d360)

General interpersonal interactions (d710-d729) Particular interpersonal relationships (d730-d779)

**Education (d830-839)** 

Conversation (d350)

Basic economic transactions (d860)

**Energy and drive functions (b130)** 

**Emotional functions (b152)** 

Purposeful sensory experiences (d110-129)

Calculation (d172)

**Solving problems (d175)** 

Making decisions (d177) Undertaking a single task (d210)

Undertaking multiple tasks (d220)

Carrying out daily routine (d230)

Handling stress and other psychological demands (d240)

7 Perceptual functions (b156)

4 Reading (d166) **3 Writing (d170)** 3 Communication (d3) 3 Mobility (d4) 3 Fine hand use (d440)

2 Moving around (d455)

2 Intellectual functions (b117)

5 Attention functions (b140)

3 Psychomotor functions (b147)

7 Memory functions (b144)

Products and technology for personal use in daily living (e115)

Products and technology for personal indoor and outdoor mobility and transportation (e120)

Missing - ICF categories not coved by the assessments

Products and technology for communication (e125)

Products and technology for education (e130)

Design, construction and building products and technology of buildings for public use (e150) Design, construction and building products and technology of buildings for privet use (e155)

Immediate family (e310) Friends (e320)

Acquaintances, peers, collegues, neighbours and community members (e325)

Personal care providers and personal assistans (e340)

Attitudes (e4)

Social security service (e5700)

General social support service (e5750)

Health services (e5800)

Educational and training service (e5850)

# Rehabilitation after ABI

Rehabilitation should aim on re-entry into school, home and community life. Rehabilitation is a complex intervention based on:

- the views, experiences, and perspective of all stakeholders involved
- interdisciplinary team work
- an educational and problem-solving process focusing on activity limitations and aiming to optimize social participation and wellbeing

# ABI in childhood

Causes disruption of the development processes within

- Physical ability
- Cognitive development

Communication skills

Behavioural functioning

- Adaptive functioning
- Academic achievements
- Social interaction
- Independence in everyday life activities

Difficulty of returning to education and stress on the family is often reported, resulting in poor participation, difficulties to maintain employment and social relations in a long term perspective.

The aim was to examine widely used assessment methods within the rehabilitation of school aged children with acquired brain injury (ABI) with the ICF as a framework.

### Data collection

All professions in 10 units within the Swedish network of rehabilitation of children with ABI ware included.

#### Assessment selection

All assessments used by the respondents — including checklists, documenting forms and unstructured observations in natural settings. Formal assessments - identified by using reference literature and a database search. Standardized assessments. > 5 units > 50 % of the children

#### Linking method

Specific rules has been developed for the linking technical and clinical measures to the ICF Cieza et al 2005

 Define the aim with which the technical or clinical measure is used

#### Pediatric Evaluation of Disability Intervention

Comprehensive clinical assessment used to provide the level of independent performance of functional activities in the child's natural environment, by observing self-care, mobility and social function. The social function domain includes living with others, functional communication as well as interaction and community life.

#### d6 Domestic life

Carrying out domestic and everyday activities and tasks

#### d5 Self-care

Carrying for oneself, caring for one's body and body parts. Dressing, eating and drinking, and looking after one's health.

#### d4 Mobility

Moving by changing body position or location or by transferring from one place to another, by carrying, moving or manipulating objects, by walking, running or climbing, and by using various forms of transportation.

#### d3 Communication

General and specific features of communication by language, signs and symbols, including receiving and producing messages, carrying on conversations, and using communication devices and techniques.

#### d7 Interpersonal interactions and relationships Carrying out the actions and tasks required for basic and complex

### d9 Community, social and civic life

The actions and tasks required to engage in organized social life outside the family, in community, social and civic areas of life.

interactions with people in a contextually and socially appropriate manner.



Rita Ehrenfors, Reg OT; PhD student Karolinska Institutet Department of Neurobiology, Care Sciences and Society

Rehab Station Stockholm Frösundaviks Allé 13 S 16989 Solna Sweden rita.ehrenfors@rehabstation.se



