Implementing the ICF in the social accident insurance system in Germany

Michaela Coenen
ICF – the first universal language for functioning and disability

providing a **bio-psycho-social perspective** of functioning and disability along the continuum of care
To use the ICF in persons with hand conditions

- broad range of limitations in functioning, restrictions in participation
- 40% of work-related accidents are hand injuries
2008

Step 1
To be useful in clinical routine and rehabilitation, **practical ICF-based tools** need to be tailored to the needs of the users.

> 1400 ICF categories
ICF Core Sets for hand conditions

A guide on how to develop an International Classification of Functioning, Disability and Health Core Set

- Minimal international standard to describe functioning
- Applicable to any patient with a specific hand condition
- Along the continuum of care
Joint effort

- Department of Hand Surgery, Plastic- and Microsurgery, BG Unfallklinikum Hamburg

- Chair for Public Health and Health Services Research, Ludwig-Maximilians-University (LMU) Munich

- Cooperating hospitals
International ICF consensus conference

- 23 experts from 22 countries
- different health professions

Nottwil, May 2009
WHAT aspects should be addressed to describe functioning of persons with hand conditions.

ICF Core Sets for hand conditions:
WHAT aspects should be addressed to describe functioning of persons with hand conditions

HOW to measure these aspects

HOW to implement ICF Core Sets in clinical routine and rehabilitation
Step 2
2012

German Social Accident Insurance
Aim

to operationalize, implement and use the ICF Core Sets for hand conditions as a monitoring tool in clinical practice and rehabilitation of persons with hand conditions from the acute phase to rehabilitation and (re-)integration to work treated in all hand surgery departments run by the German Social Accident Insurance system
Specific aims / tasks

- To develop an assessment tool based on the ICF Core Set
- To develop ICF-based treatment guidelines for selected injuries
- To include the ICF-based assessment in the clinical information system
- To develop a standardized ICF-based reporting system
- To develop a score on functioning
- To provide training materials for health professionals and services providers
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Assessment tool based on the ICF Core Set for hand conditions

We developed an ICF-based assessment tool using information

- To collect **data on functioning** and environmental factors
- In a **standardized way**
- For the **entire spectrum** of hand injuries and disorders
- Along the **continuum of care**
- Across **health professions**
Assessment tool based on the ICF Core Set for hand conditions

Multistep procedure

Patient perspective
- DASH questionnaire

Clinical perspective
- Screening
- Specific assessment (optional)
Assessment tool based on the ICF Core Set for hand conditions

**Brief ICF Core Set for Hand Conditions**

<table>
<thead>
<tr>
<th>ICF code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>b152</td>
<td>Emotional functions</td>
</tr>
<tr>
<td>b265</td>
<td>Touch function</td>
</tr>
<tr>
<td>b270</td>
<td>Sensory functions related to temperature and other stimuli</td>
</tr>
<tr>
<td>b280</td>
<td>Sensation of pain</td>
</tr>
<tr>
<td>b710</td>
<td>Mobility of joint functions</td>
</tr>
<tr>
<td>b715</td>
<td>Stability of joint functions</td>
</tr>
<tr>
<td>b730</td>
<td>Muscle power functions</td>
</tr>
<tr>
<td>b760</td>
<td>Control of voluntary movement functions</td>
</tr>
<tr>
<td>b810</td>
<td>Protective functions of the skin</td>
</tr>
<tr>
<td>s129</td>
<td>Spinal cord and related structures</td>
</tr>
<tr>
<td>s720</td>
<td>Structure of shoulder region</td>
</tr>
<tr>
<td>s730</td>
<td>Structure of upper extremity</td>
</tr>
<tr>
<td>d230</td>
<td>Carrying out daily routine</td>
</tr>
<tr>
<td>d430</td>
<td>Lifting and carrying objects</td>
</tr>
<tr>
<td>d440</td>
<td>Fine hand use</td>
</tr>
<tr>
<td>d445</td>
<td>Hand and arm use</td>
</tr>
<tr>
<td>d5</td>
<td>Self-care</td>
</tr>
<tr>
<td>d6</td>
<td>Domestic life</td>
</tr>
<tr>
<td>d7</td>
<td>Interpersonal interactions and relationships</td>
</tr>
<tr>
<td>d800 - d809</td>
<td>Work and employment</td>
</tr>
<tr>
<td>e1</td>
<td>Products and technology</td>
</tr>
<tr>
<td>e3</td>
<td>Support and relationships</td>
</tr>
<tr>
<td>e5</td>
<td>Services, systems and policies</td>
</tr>
</tbody>
</table>
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ICF-based treatment guidelines

We developed treatment guidelines for six common hand injuries and disorders of the hand

(e.g., finger fractures, amputations, complex regional pain syndrome)

To define and specify

• Treatment options for **acute care**

• **Rehabilitative interventions** mapped to ICF categories

<table>
<thead>
<tr>
<th>ICF code</th>
<th>Domain</th>
<th>Description</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>b280</td>
<td>Pain</td>
<td>Pain free in rest and adequate stress pain</td>
<td>- Pain medication&lt;br&gt;- Desensibilisation training (in case of hypersensibility)&lt;br&gt;- Neuroimaginative interventions (in case of phantom pain)</td>
</tr>
<tr>
<td>b730</td>
<td>Muscle power function</td>
<td>Optimal muscle power according to location and extent of amputation</td>
<td>- Training with de (plasticine, BTE, power web, Digi-flex)</td>
</tr>
</tbody>
</table>
ICF-based treatment guidelines

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To define and specify

• Treatment options for **acute care**

• **Rehabilitative interventions** mapped to ICF categories

• **Time points** for the application of the ICF-based assessment to inform about change over time
Specific aims / tasks

- To develop an assessment tool based on the ICF Core Set
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ICF-based assessment and clinical information system

We established a **data documentation module** that was included in the clinical information system of the collaborating hospitals

- To **document data** assessed with the ICF-based assessment in a **standardized way**

- To provide an **electronic platform** for health professionals involved in the care and rehabilitation of patients with hand conditions
Specific aims / tasks

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ICF-based reporting system

We established a **standardized reporting system** using the data assessed with the **ICF-based assessment** and documented in the **clinical information system** using an **intuitive form of presentation**

- To report on the **current status of (limitations in) functioning**
- To **track changes over time** based on the time points specified in the treatment guidelines
- **To inform health professionals and (health) service providers** along the continuum of care
ICF-based reporting system
Specific aims / tasks

- To develop an assessment tool based on the ICF Core Set
- To develop ICF-based treatment guidelines for selected injuries
- To include the ICF-based assessment in the clinical information system
- To develop a standardized ICF-based reporting system
- **To develop a score on functioning**
- To provide training materials for health professionals and services providers
Score of functioning

We developed a score of functioning using **2150 data sets** collected with the ICF-based assessment

• To provide an **overall score** ranging from 0 to 100 to inform on the extent of limitations in functioning

• To **track changes over time** in individual persons or (sub-)populations
Score of functioning

![ICF Score Hand](image)

Results of a multicenter study in Germany \((N=234)\)
Score of functioning

Change over time in five patients
Specific aims / tasks

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Training materials

To ensure quality of data collection with the ICF-based assessment and the application of the treatment guidelines training materials and an interactive e-learning were developed including

- An introduction to the ICF and its conceptualization, development of ICF Core Sets

Die ICF-Lernplattform Hand gliedert sich in folgende fünf Lernmodule:

MODUL 1 - EINFÜHRUNG IN DIE ICF
Wir stellen Ihnen die Internationale Klassifikation der Funktionsfähigkeit, Behinderung und Gesundheit (ICF) vor. Sie erfahren mehr zu Hintergründen und Zielen und lernen den zentralen Ansatz der ICF, das biopsychosoziale Verständnis von Gesundheit und Behinderung, kennen.

MODUL 2 - ICF CORE SETS
Sie erfahren mehr zu ICF Core Sets im Allgemeinen und lernen darüber hinaus die ICF Core Sets der Hand kennen. Wir stellen Ihnen das Projekt zur Entwicklung der ICF Core Sets der Hand vor und informieren Sie dabei über die Studien, die internationale Konsenskonferenz sowie über die Validierungsphase.

MODUL 3 - ICF-BASIERTES ASSESSMENT
Wir zeigen Ihnen, wie sich Funktionsfähigkeit anhand des Kurzen ICF Core Sets der Hand erfassen lässt. Wir stellen Ihnen eine Reihe von klinischen Messverfahren, Tests und Bewertungsinstrumenten vor, die sich eignen, um die Inhalte des Kurzen ICF Core Sets der Hand im klinischen Alltag zu erheben.

MODUL 4 - BEHANDLUNGSSTANDARDS
Sie erfahren, wie das Kurze ICF Core Set der Hand im Klinikalltag der handchirurgischen Abteilungen von Berufsgenossenschaftlichen Krankenhäuser eingeführt wird, um das berufsgenossenschaftliche Heilverfahren zu steuern. Wir stellen Ihnen die entwickelten ICF-basierten Behandlungsstandards für ausgewählte Verletzungen und Erkrankungen der Hand vor.

MODUL 5 - FALLSTUDIEN HAND
Wir zeigen Ihnen anhand konkreter Fallbeispiele die Umsetzung der entwickelten Behandlungsstandards und die Anwendung des ICF-basierten Assessments in der klinischen Routine.
Training materials

To ensure quality of data collection with the ICF-based assessment and the application of the treatment guidelines training materials and an interactive e-learning were developed including

- An introduction to the ICF and its conceptualization, development of ICF Core Sets

- A detailed description of the ICF-based assessment (images, videos)
ICF-based assessment
Assessment of functioning based on the Brief ICF Core Set for Hand Conditions

The Brief ICF Core Set for Hand Conditions provides a selection of health domains and health-related domains that should be taken into account to describe functioning in persons with hand injuries or hand disorders. The Brief ICF Core Set for Hand Conditions lists 20 ICF categories of the components body functions, body structures and activities and participation as well as three ICF categories of the component environmental factors. The Brief ICF Core Set for Hand Conditions only defines WHAT to measure without providing information on HOW to measure its content.

On this page, we present outcome measures and clinical tests selected within the Lighthouse Project Hand to assess in clinical practice the aspects contained in the Brief ICF Core Set for Hand Conditions. Established diagnostic imaging techniques, such as radiography are used to document impairments in body structures (i.e. anatomical structures, such as bones of the hand) and are not shown here.

Body Functions

Activities and Participation
Training materials

To ensure quality of data collection with the ICF-based assessment and the application of the treatment guidelines training materials and an interactive e-learning were developed including:

- An introduction to the ICF and its conceptualization, development of ICF Core Sets
- A detailed description of the ICF-based assessment (images, videos)
- Case studies for the application of the ICF-based assessment and the treatment guidelines

Materials are provided on the project homepage: www.leuchtturmpunkt-hand.de
Conclusion

Within the Lighthouse Project Hand we have ...

- used and implemented the ICF as a basis for communication among health professionals

- developed a standardized ICF-based assessment tool, score and treatment guidelines for clinical practice in institutions of the German Social Accident Insurance along the continuum of care

- implemented an ICF-based documentation and reporting system to improve communication within/among departments

- developed teaching materials / an (e-)learning tool
Conclusion

The Lighthouse Project Hand can serve as a **use case**

- for institutions of the German Social Accident Insurance on which to base efforts for implementing the ICF in clinical practice, documentation, health statistics and clinical research of **other health conditions**

- for **other institutions and health systems** to implement the ICF in clinical routine and rehabilitation
Step 3
What will come next ....

- To establish an **user-friendly tablet-based version** within the clinical information system to document the ICF-based assessment
- To inform the **coding of functioning properties** within the ICD-11
- To set up an **ICF-based data pool** within institutions of the German Social Accident Insurance to be used for **health statistics** and research and to provide **evidence**
- To strengthen efforts to implement the ICF-based assessment at an **European / international level**
Thank you!