

# ICF

# Core Sets

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(Editors)

Manual for  
Clinical Practice

2nd edition

**ICF** Research Branch

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# ICF Core Sets

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# Preface

Gerold Stucki

The diagnosis of health conditions and the assessment of an individual's functioning are at the core of clinical practice. For more than 100 years, health professionals have relied on the World Health Organization (WHO) *International Classification of Diseases* (ICD) for the diagnosis and classification of health conditions (<https://www.who.int/classifications/icd/en/>). Since 2001 health professionals have been able to turn to the ICD companion reference classification, the *International Classification of Functioning, Disability and Health* (ICF) for the assessment and description of functioning.<sup>1</sup> The ICD and the ICF are used for health statistics so that mortality, morbidity and functioning (and disability) data can be collected in a uniform and internationally comparable fashion. There are a variety of other uses for these classifications, such as program eligibility and reimbursement. Most importantly, however, the ICF has great potential for enhancing clinical practice by providing a standardised description of functioning by means of ICF-based tools, such as the one described here. Functioning information is central for key aspects of clinical practice: to structure the clinical assessment of functioning, the assignment to health services and health interventions and the management of services and interventions, including outcome evaluation. In this manual, we focus on the description of functioning for which standardisation is of crucial importance, both for consistent practice and for comparable health outcomes.

When the ICF was endorsed by the World Health Assembly in 2001, it represented the outcome of a unique international collaborative exercise that produced not only a paradigm shift in our understanding of functioning and disability, but also a complete reference system that, for the first time, made health and disability information comparable around the globe. Yet, as an exhaustive classification, it was clear that the ICF is not directly usable as a practical tool in daily practice, since clinicians need only a fraction of the categories found in the ICF. Responding to the need for practical ICF-based tools for clinical practice, the ICF Core Set project was initiated soon after its launch.<sup>2,3</sup>

ICF Core Sets provide health professionals with invaluable tools tailored for specific health-care areas. In this manual, health professionals will find practical guidance on how to apply ICF Core Sets in their clinical practice in structuring clinical descriptions, and the assessment and reporting of functioning. Although ICF Core Sets are intended for all health practitioners, the emphasis in this manual is on the needs of health professionals who apply the ICF Core Sets in the context of rehabilitation. The manual is inherently multiprofessional and may be used not only by practitioners working in different settings but also by students in the health professions, their teachers and their mentors.

To facilitate the use of the manual, each chapter can be read on its own. The manual starts with an introduction to the concept of functioning as the lived experience of health. It then provides an introduction to the ICF and the process of developing ICF Core Sets. A chapter outlining the principles that govern an approach for using ICF Core Sets in practice is followed by a series of case examples illustrating this approach in different contexts. To further promote the use of ICF Core Sets in clinical practice, the manual is accompanied by an open access interactive web-based tool (<https://www.icf-core-sets.org/>). Please see Chapter 9 in this book for more information.

The editors and authors of this manual are enthusiastic about the enormous potential the implementation of the ICF and ICF Core Sets has for improving the understanding of patients' problems and addressing their needs accordingly. We recognise that this manual would not have been possible without the outstanding effort of health professionals around the world and the indispensable support provided by the Classifications and Terminologies (previously Classification, Terminology and Data Standards) Team at WHO. We wish to commend everyone who has contributed to bringing this manual, now in its 2nd edition, to fruition.

Although the value of the ICF and ICF Core Sets for clinical practice are increasingly being recognised, system-wide implementation continues to be challenging. We would therefore like to encourage users of this manual to support the implementation of the ICF and ICF Core Sets by sharing with the ICF Research Branch their experience with applying the approach outlined in this manual and ICF implementation in general (see <https://www.icf-research-branch.org/>). Let's learn from each other!

# Contents

<b>Preface</b> .....	v
<i>Gerold Stucki</i>	
<b>1 What Is Functioning and Why Is It Important?</b> .....	1
<i>Jerome Bickenbach</i>	
<b>2 Introduction to the International Classification of Functioning, Disability and Health</b> ...	5
<i>Melissa Selb and Alarcos Cieza</i>	
2.1 Integrative Model of Functioning, Disability and Health .....	5
2.2 Structure and Codes of the ICF Classification .....	7
2.3 ICF Qualifiers .....	9
<b>3 ICF Core Sets</b> .....	15
<i>Melissa Selb and Alarcos Cieza</i>	
3.1 ICF Core Set Development Process .....	16
3.2 Available ICF Core Sets .....	18
<b>4 Use of ICF Core Sets in Clinical Practice</b> .....	23
<i>Melissa Selb and Alarcos Cieza</i>	
4.1 Selection of ICF Core Sets (“What to Describe”) .....	23
4.2 Description of Level of Functioning (“How to Describe”) .....	28
4.3 Documentation Form .....	31
4.4 Creating a Functioning Profile .....	34
<b>5 Case Examples</b> .....	37
5.1 Case Example 1: Applying the ICF Core Set for Musculoskeletal Conditions in Acute Care .....	38
<i>Alexandra Rauch and Melissa Selb</i>	
5.2 Case Example 2: Applying the Comprehensive ICF Core Set for Spinal Cord Injury in Post-Acute Care .....	53
<i>Alexandra Rauch and Melissa Selb</i>	
5.3 Case Example 3: Applying the ICF Core Set for Multiple Sclerosis in Long-Term Care .....	69
<i>Andrea Glässer and Miriam Lückenkemper</i>	



5.4	Case Example 4: Applying the ICF Core Set for Vocational Rehabilitation in Long-Term Care <i>Monika Finger</i>	81
5.5	Case Example 5: Applying the ICF Core Set for Low Back Pain in Long-Term Care <i>Todd E. Davenport, Sean D. Rundell and Reuben Escorpizo</i>	93
<b>6</b>	<b>References</b>	111
<b>7</b>	<b>Acknowledgements</b>	119
<b>8</b>	<b>Key Terms</b>	133
<b>9</b>	<b>Documentation Online</b>	135
	<b>Peer Commentaries</b>	136

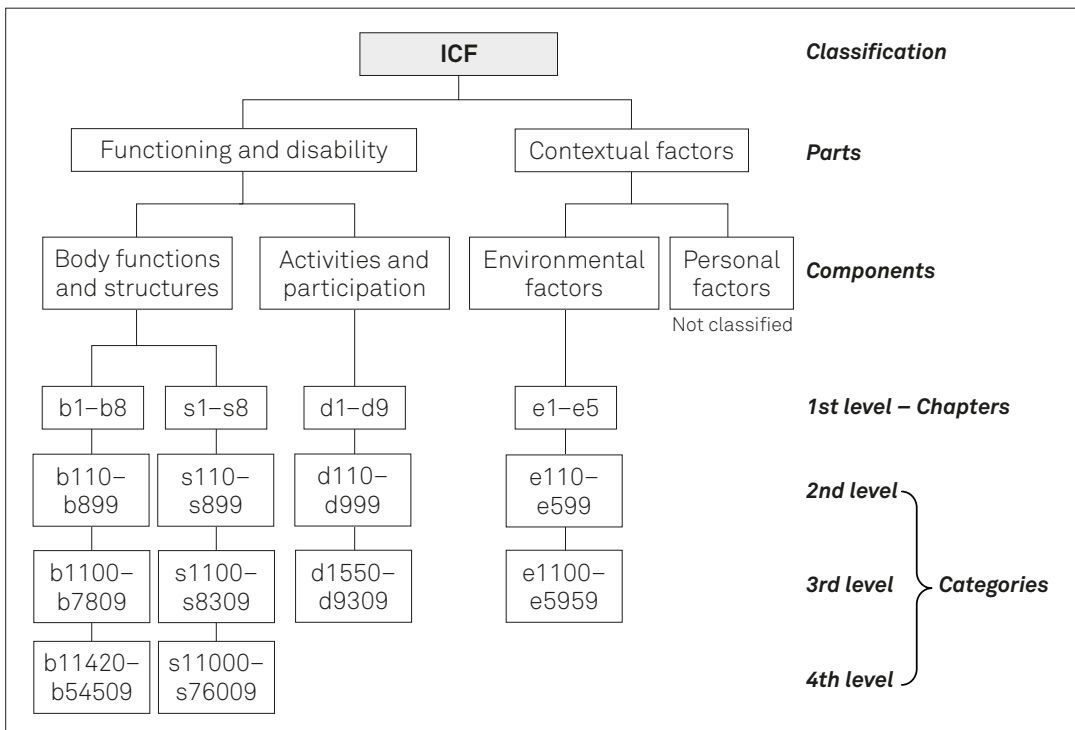
this, it is important that environmental factors are taken into account when describing a person's level of functioning.<sup>8,9</sup>

With this biopsychosocial model, the ICF contributes to a better understanding of functioning and disability, and offers a comprehensive approach for describing the lived experience of health. This model also serves as the basis for the ICF as a classification.

Like all reference classifications in the WHO *Family of International Classifications* (WHOFIC),<sup>10</sup> the ICF provides a standard language, specifically for the description, assessment and reporting of functioning, by classifying all relevant components of functioning and environmental factors. Health conditions (disorders or diseases) are a component of the integrative model of functioning, disability and health, and can be classified using the *International Classification of Diseases* (ICD) (<https://www.who.int/classifications/icd/en/>). Since the ICD and the ICF are complementary, users are advised to use them together to describe both the health condition and its impact on a person's functioning.

## 2.2 Structure and Codes of the ICF Classification

The ICF classification is arranged hierarchically. See Figure 3. Overall, the classification consists of two parts: (1) functioning and disability and (2) contextual factors, each with two *components*. Part 1 consists of the components body functions and body structures and activities



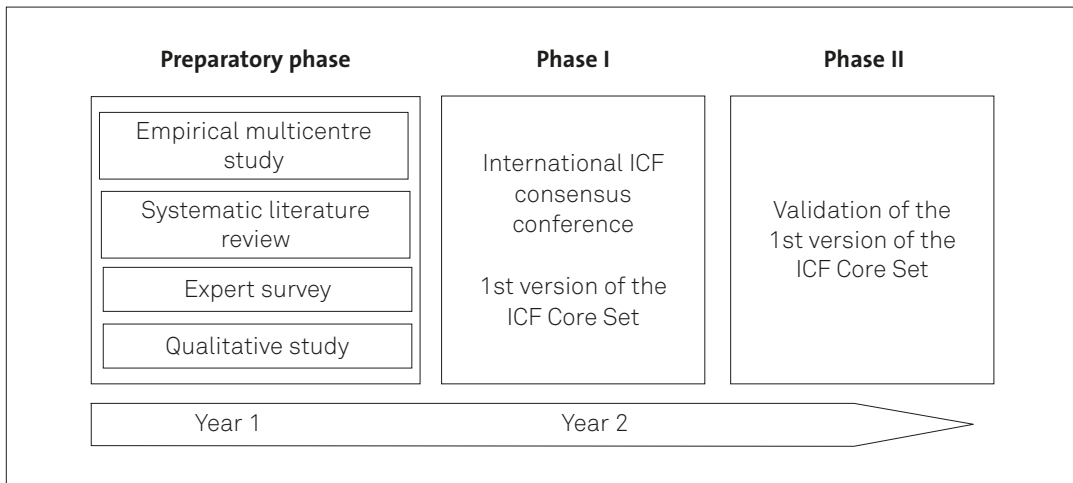
**Figure 3.** The hierarchical structure of the International Classification of Functioning, Disability and Health (ICF). In the category codes: b = body functions; s = body structures; d = activities and participation; e = environmental factors.<sup>1</sup>

advantage of the beneficial synergy between the two classifications. Using both ensures that both diagnostic information and information about the lived experience of health are included to optimise our understanding of the true impact of a health condition.<sup>21,22</sup>

In clinical practice, the purpose of an ICF Core Set is to make the ICF practical for everyday use by presenting the most relevant ICF categories for a particular health condition, condition group and healthcare context. Use of the ICF Core Sets in clinical practice supports the interdisciplinary and comprehensive description of functioning by helping professionals caring for a patient to consider every potentially relevant aspect of functioning at every stage of an assessment, even in areas of functioning beyond their discipline.<sup>23,24</sup>

## 3.1 ICF Core Set Development Process

The ICF Core Sets are developed by means of a rigorous, multimethod scientific process, as represented by the steps shown in Figure 4.<sup>17</sup>



**Figure 4.** Overview of the development of International Classification of Functioning, Disability and Health (ICF) Core Sets

### 3.1.1 Preparatory Studies

Evidence is first gathered in four preparatory studies – an empirical multicentre study, a systematic literature review, a qualitative study and an expert survey. The *empirical multicentre study* identifies the most common problems experienced by the target group of individuals in a clinical setting by applying the ICF checklist. The *systematic literature review* summarises the international scientific literature on the particular health condition, health condition group or healthcare context. The *expert survey* identifies problems of the target group that are considered relevant by the experts and professionals who treat them. While these studies address the perspective of professionals and researchers, the *qualitative study* reflects the view of persons living

### 3.2.6 ICF-Based Tools

Several ICF-based tools have been based on ICF Core Sets. For example, the *Work Rehabilitation Questionnaire* (WORQ) was developed using the Brief ICF Core Set for VR plus additional categories from the comprehensive version. Available in multiple languages (<https://www.my-worq.org/>), WORQ is a patient-centred questionnaire with a self-reported and an interviewer-administered version which can be used in evaluating work-related functioning in VR settings.<sup>75,76</sup> The *Assessment of SpondyloArthritis international Society (ASAS) Health Index* is another ICF Core Set-based instrument; its items were derived from the ICF Core Set for Ankylosing spondylitis. A self-report outcome instrument to assess health in patients with spondyloarthritis, the ASAS Health Index measures 17 aspects of functioning and health and 9 environmental factors, and is available in over 30 languages (<https://www.asas-group.org/clinical-instruments/asas-health-index/>).<sup>77</sup>

Another example is the *Clinical Functioning Information Tool* (ClinFIT), which has been developed based on the ICF Generic Sets and under the auspices of the International Society of Physical and Rehabilitation Medicine to collect and use data on functioning at all levels of the health system.<sup>78</sup>

As one can see, the application of ICF Core Sets is quite versatile. Essential to the optimal application of ICF Core Sets is a decision about the purpose for which they will be used. Knowing the purpose will facilitate the selection of the suitable ICF Core Set(s) to use.

#### Summary Box

- ICF Core Sets are tools to implement the ICF in clinical practice.
- ICF Core Sets should be used jointly with the ICD.
- ICF Core Sets have been developed for different health conditions and healthcare contexts using an established scientific process.
- There are also ICF Generic Sets that can be used as the minimum standard for assessing and reporting functioning irrespective of health condition or healthcare context.
- ICF Core Sets support the interdisciplinary, comprehensive assessment of functioning.
- To be able to optimally use the ICF Core Sets, it is important to decide on the purpose for their use.

Although the majority of the health condition-specific ICF Core Sets are listed for the long-term context, practitioners in highly specialised acute or post-acute facilities may still wish to select the ICF Core Set for a particular health condition in order to focus on the functioning aspects that are specific to a patient's health condition. For example, for a person presenting with acute myocardial infarction due to coronary heart disease who has been admitted to a specialised cardiac centre, the ICF Core Set for Chronic ischaemic heart disease<sup>40</sup> can be applied in both the acute and post-acute contexts, as this ICF Core Set is directly related to the person's health situation.

#### 4.1.2 Selection of Type of ICF Core Set

After selecting the appropriate ICF Core Set to describe functioning in a person with a particular health condition, the *type* of ICF Core Set needs to be chosen: the brief or comprehensive version, which vary in the number and often in the specificity of ICF categories included.

The selection of the appropriate type depends on the setting in which the ICF Core Set will be used and for what purpose. The following considerations can help the user to select the most appropriate type of ICF Core Set.

##### **Brief ICF Core Set**

Brief ICF Core Sets consist of categories derived from the corresponding Comprehensive ICF Core Sets. Categories included in the Brief ICF Core Set are predominately at the second or first level to enable a broader and less detailed description of functioning. However, there are a few Brief ICF Core Sets (for chronic widespread pain, depression and bipolar disorders) that include third level categories. Furthermore, some brief versions contain very few categories (e.g., 8 categories for obesity), while some comprise many categories (e.g., 27 categories for diabetes mellitus). In general, Brief ICF Core Sets are used to describe only the most likely areas of functioning associated with a health condition, as well as those areas for which information is required.

Brief ICF Core Sets are perhaps the best choice for describing functioning in single health-care provider settings. However, they can also be used as a minimum standard for other purposes – for example, as a guiding framework for interdisciplinary teams or for exchanging patient information with professionals working in other settings across the care continuum. A Brief ICF Core Set may also be helpful as a framework for health insurers for service planning.

##### **Enlarged Brief Version: Brief ICF Core Set Augmented With Selected Categories From the Comprehensive ICF Core Set**

The use of Brief ICF Core Sets facilitates a broad description of functioning that offers professionals, in particular those working in a single-discipline setting, a starting point for the description of functioning in persons with specific health conditions. If additional areas of functioning or more detailed specifications with third- or fourth-level categories are required to describe functioning adequately, a user can add selected categories from the corresponding

BODY FUNCTIONS = physiological functions of body systems (including psychological functions) <i>How much impairment does the person have in...</i>		④										
		No impairment	Mild impairment	Moderate impairment	Severe impairment	Complete impairment	Not specified	Not applicable				
b420	Blood pressure functions	0	1	2	3	4	8	9				
①	<b>Functions of maintaining the pressure of blood within the arteries.</b> <i>Inclusions: functions of maintenance of blood pressure; increased and decreased blood pressure; impairments such as in hypotension, hypertension and postural hypotension</i> <i>Exclusions: heart functions (b410); blood vessel functions (b415); exercise tolerance functions (b455)</i>											
	<b>Sources of information:</b> <input checked="" type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input checked="" type="checkbox"/> Clinical examination <input checked="" type="checkbox"/> Technical investigation							②				
③	<b>Description of the problem:</b> <i>Blood pressure measure: 160/90 in rest, Hypertension. Already known since several years</i>											
BODY STRUCTURES = anatomical parts of the body such as organs, limbs and their components <i>How much impairment does the person have in the...</i>		④										
		No impairment	Mild impairment	Moderate impairment	Severe impairment	Complete impairment	Not specified	Not applicable				
s750	Structure of lower extremity	Extent	0	1	2	3	4	8	9			
		Nature <sup>a</sup>	0	1	2	3	4	5	6	7	8	9
		Location <sup>b</sup>	0	1	2	3	4	5	6	7	8	9
	<b>Sources of information:</b> <input checked="" type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input checked="" type="checkbox"/> Clinical examination <input checked="" type="checkbox"/> Technical investigation											
	<b>Description of the problem:</b> <i>Femoral amputation above knee joint (right leg)</i>											
ACTIVITIES AND PARTICIPATION = execution of a task or action by an individual and involvement in a life situation <i>How much difficulty does the person have in the...</i> <b>P</b> = performance of... <b>C</b> = capacity in...		④										
		No difficulty	Mild difficulty	Moderate difficulty	Severe difficulty	Complete difficulty	Not specified	Not applicable				
d450	Walking	P	0	1	2	3	4	8	9			
		C	0	1	2	3	4	8	9			
	<b>Moving along a surface on foot, step by step, so that one foot is always on the ground, such as when strolling, sauntering, walking forwards, backwards or sideways.</b> <i>Inclusions: walking short or long distances; walking on different surfaces; walking around obstacles</i> <i>Exclusions: transferring oneself (d420); moving around (d455)</i>											
	<b>Sources of information:</b> <input checked="" type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input checked="" type="checkbox"/> Clinical examination <input checked="" type="checkbox"/> Technical investigation											
	<b>Description of the problem:</b> <b>P:</b> <i>With a walking frame or crutches, walking distance is severely reduced due to lack of muscle endurance in the upper body and left leg; with walking frame 50m, with crutches 15m.</i> <b>C:</b> <i>Without devices walking is impossible.</i>											

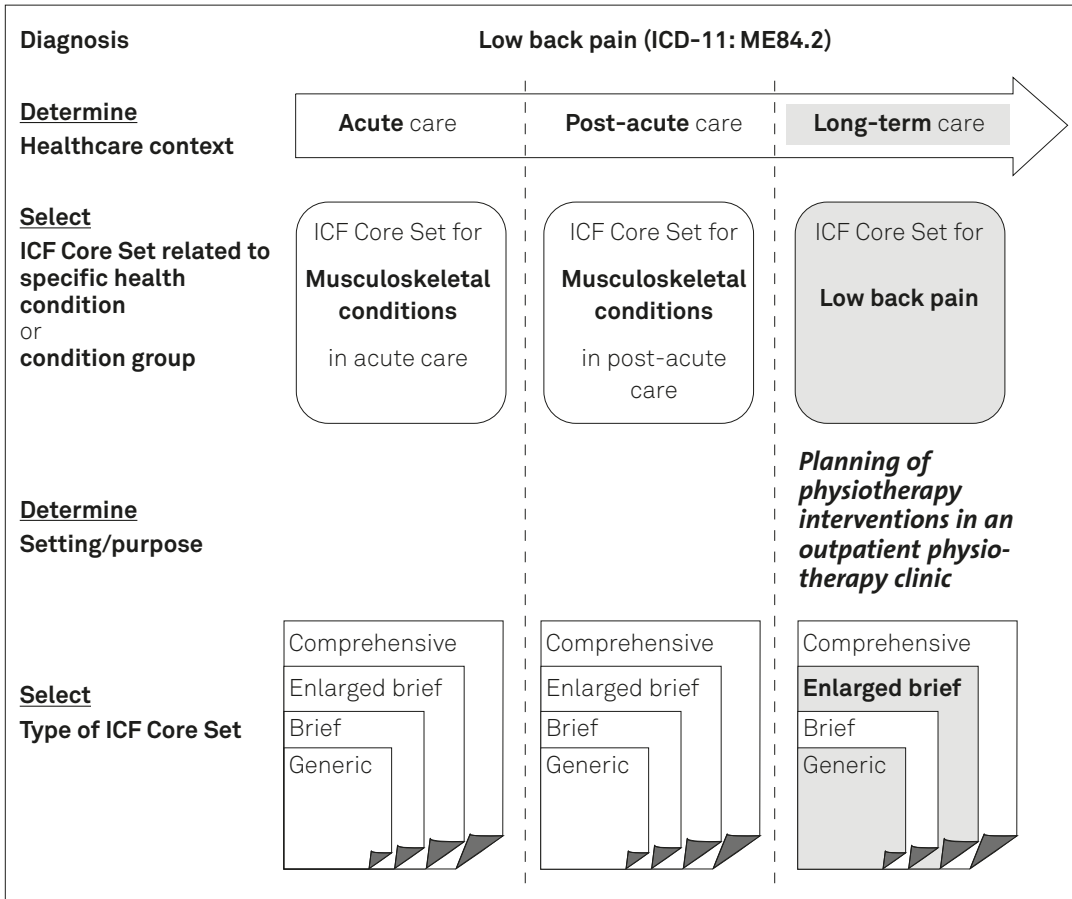
Figure 7. Continued on next page

s710	Structure of head and neck region	Extent	0	1	2	3	4	8	9			
		Nature <sup>b</sup>	0	1	2	3	4	5	6	7	8	9
		Location <sup>c</sup>	0	1	2	3	4	5	6	7	8	9
	<b>Sources of information:</b>											
	<input checked="" type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input type="checkbox"/> Clinical examination <input type="checkbox"/> Technical investigation											
	<b>Description of the problem: –</b>											
s730	Structure of upper extremity	Extent	0	1	2	3	4	8	9			
		Nature <sup>b</sup>	0	1	2	3	4	5	6	7	8	9
		Location <sup>c</sup>	0	1	2	3	4	5	6	7	8	9
	<b>Sources of information:</b>											
	<input checked="" type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input type="checkbox"/> Clinical examination <input type="checkbox"/> Technical investigation											
	<b>Description of the problem: –</b>											
s740	Structure of pelvic region	Extent	0	1	2	3	4	8	9			
		Nature <sup>b</sup>	0	1	2	3	4	5	6	7	8	9
		Location <sup>c</sup>	0	1	2	3	4	5	6	7	8	9
	<b>Sources of information:</b>											
	<input checked="" type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input type="checkbox"/> Clinical examination <input type="checkbox"/> Technical investigation											
	<b>Description of the problem: –</b>											
s760	Structure of trunk	Extent	0	1	2	3	4	8	9			
		Nature <sup>b</sup>	0	1	2	3	4	5	6	7	8	9
		Location <sup>c</sup>	0	1	2	3	4	5	6	7	8	9
	<b>Sources of information:</b>											
	<input checked="" type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input type="checkbox"/> Clinical examination <input type="checkbox"/> Technical investigation											
	<b>Description of the problem: –</b>											
s810	Structure of areas of skin	Extent	0	1	2	3	4	8	9			
		Nature <sup>b</sup>	0	1	2	3	4	5	6	7	8	9
		Location <sup>c</sup>	0	1	2	3	4	5	6	7	8	9
	<b>Sources of information:</b>											
	<input type="checkbox"/> Case history <input type="checkbox"/> Patient-reported questionnaire <input checked="" type="checkbox"/> Clinical examination <input type="checkbox"/> Technical investigation											
	<b>Description of the problem:</b>											
	<i>Inspection: Wound due to amputation not healed yet.</i>											

Figure 10. Continued on next page

### 5.5.4 Selection of the Appropriate ICF Core Set

In general, two steps are required to select an appropriate ICF Core Set. These are the selection of the health condition-specific or condition group-related ICF Core Set and the selection of the appropriate type of ICF Core Set (Figure 21).



**Figure 21.** Selection of an ICF Core Set for a person with low back pain (LBP) during long-term care. The grey-marked items show that an enlarged version of the Brief ICF Core Set for LBP and the ICF Generic-7 Set were selected for this case example.

#### Choice of ICF Core Set Related to Specific Health Condition or Condition Group

The ICF Core Set for LBP was developed in a long-term care context and hence applies to the current case. Although conflicting evidence exists regarding interrater agreement of the ICF Core Set for LBP,<sup>109</sup> evidence generally supports its feasibility for clinical application<sup>110,111,112,113</sup> and its content validity.<sup>114,115,116</sup> Furthermore, recent research shows good patient self-report test-retest reliability.<sup>117</sup>



### 5.5.6 Discussion – Representing Detailed Clinical Information Using an ICF Core Set

The ICF Core Set for LBP appears to provide an effective framework for physiotherapists to better understand each person's experience with their functioning problems associated with LBP. In this case, a variety of existing valid and reliable clinical assessments (patient or clinician reported) were utilised to assess the various domains of functioning that are commonly assessed in the outpatient physiotherapy setting. Thus, this case demonstrates the transformation of detailed clinical information to an ICF Core Set-based documentation. The ICF Core Set for LBP was valuable in the transformation process without foregoing the vital information from the standard sources (i.e., case history, standard questionnaires, and clinical and technical examinations). The ICF Core Set facilitated the organisation of examination findings which were transformed to the ICF categories and ICF qualifiers, resulting in an ICF-based functioning profile of the patient.

The ICF Core Set for LBP helped to identify impairments of body structure and body function, activity limitations and participation restrictions and the impact of environmental factors. Interventions directed at these impairments, limitations and restrictions, and relevant contextual factors can address the impact of the health condition and help to affect the ability of the patient to execute everyday tasks and participate in major life activities. For example, the painful hypomobility of the lumbar spine played a major role in the patient's functioning since it contributed to the restrictions in work participation.

There are four points that need to be kept in mind with this case example. First, while detailed clinical information from case histories or medical records is often in separate documents that are differently structured, the ICF Core Set-based documentation form unifies this information and enables users to easily locate specific information. For example, to search for particular clinical information in the case history provided in the first part of this case example, the user would have to go through the entire case history to find the patient's list of medication. In contrast, this information can easily be found in the ICF category e1101 Drugs of the ICF Core Set-based documentation form. Secondly, in this case, detailed clinical information may be too comprehensive, with technical information only relevant to examinations in physiotherapy. The advantage of transforming this information to an ICF Core Set documentation form, however, is that it aggregates the specific information in a manner that is understandable to other health professionals. Thirdly, users always have the option of adding relevant ICF categories to the Brief ICF Core Set from the Comprehensive ICF Core Set or the whole ICF, if necessary. In this case, b620 Urination functions, b750 Motor reflex functions, d475 Driving and d920 Recreation and leisure from the Comprehensive ICF Core Set for LBP were all added, because they were relevant to this case. Finally, while linking areas examined during patient assessment to an ICF category is an easy matter, transforming an existing measurement scale to the ICF qualifiers can be challenging. For instance, the RMQ is not clear how it defines varying levels of disability and presents this as a checklist rather than as a scale. Pending further research in this area, the selection of an equivalent ICF qualifier depends heavily on the experience of the physiotherapist with the health condition as well as their experience with the particular outcome measure being used, since the transformation of a standard scale to an ICF qualifier does not necessarily mean a one-to-one conversion.

# 8

## Key Terms

- Activity (Activities) 6, 8, 9, 10, 11, 12, 31
- Activity limitation 6
- Acute care 20
- Acute healthcare context 20
- Available ICF Core Sets 18, 19
- Barrier 6, 9, 12, 31
- Body functions 5, 6, 7, 8, 9, 10, 11, 12, 31
- Body structures 5, 6, 8, 9, 10, 11, 31
- Brief ICF Core Set 17, 25, 26
- Capacity 11, 12, 31, 91
- Case history 28
- Clinical examination 29
- Comprehensive ICF Core Set 17, 26
- Condition group ICF Core Set 23, 24
- Contextual factors 5, 7
- Disability 2
- Domain 1, 5
- Environmental factors 6, 10, 12, 31
- Facilitator 6, 9, 10, 12
- Functioning 1, 5
- Functioning profile 34, 35
- Generic qualifier 9
- Health condition 7
- ICF category 7, 8
- ICF component 5, 7, 8
- ICF Core Set development 16, 17
- ICF Core Sets Acute healthcare context 19, 20
- ICF Core Sets Cross-cutting 21
- ICF Core Sets Long-term healthcare context 19, 20
- ICF Core Sets Post-acute healthcare context 19, 20
- ICF Generic Sets 21, 27
- ICF qualifier 9, 10, 11, 12, 30, 31, 32
- Impairment 6
- International Classification of Diseases (ICD) 7, 15
- Long-term healthcare context 20
- Participation 6, 10, 11, 31
- Participation restriction 6
- Patient-reported questionnaires 29
- Performance 11, 13, 31, 91
- Personal factors 5, 6, 8, 80
- Post-acute healthcare context 20
- Technical investigation 30
- Tools ICF Core Set-based 22

# Peer Commentaries

*The 2nd Edition of the ICF Core Sets Manual provides updated practical examples of the standardised use of the ICF across a range of clinical settings. As occupational therapists the symbiotic relationship between the individual, their environment and the activities they participate in is at the very heart of our practice and this manual is an essential contemporary addition to clinical resources. I commend this publication.*

**Marilyn Pattison**, President, World Federation of Occupational Therapists, Adelaide, Australia

*Although the wide range of advantages of the ICF is well-known, its comprehensiveness can be overwhelming. This is where Core Sets come in. ICF Core Sets combine all these advantages with concise patient-centred clinical applications. This manual is a good guide for clinicians, students and teachers in a wide ranges of disciplines and settings on using ICF Core Sets.*

**Michiel F. Reneman**, Professor, UMCG Center for Rehabilitation and Department of Rehabilitation Medicine, Groningen, The Netherlands

*This book provides a clear and concise guide on applying the ICF and ICF Core Sets in clinical practice. The case examples are especially helpful for visualizing how this application approach works, and the link to [www.icf-core-sets.org](http://www.icf-core-sets.org) provides the tool to try it out.*

**Jianan Li**, Professor and Chairman of Medical Rehabilitation Center, First Affiliated Hospital of Nanjing Medical University and President of the Jiangsu Geriatric Rehabilitation Hospital, Nanjing, PR China