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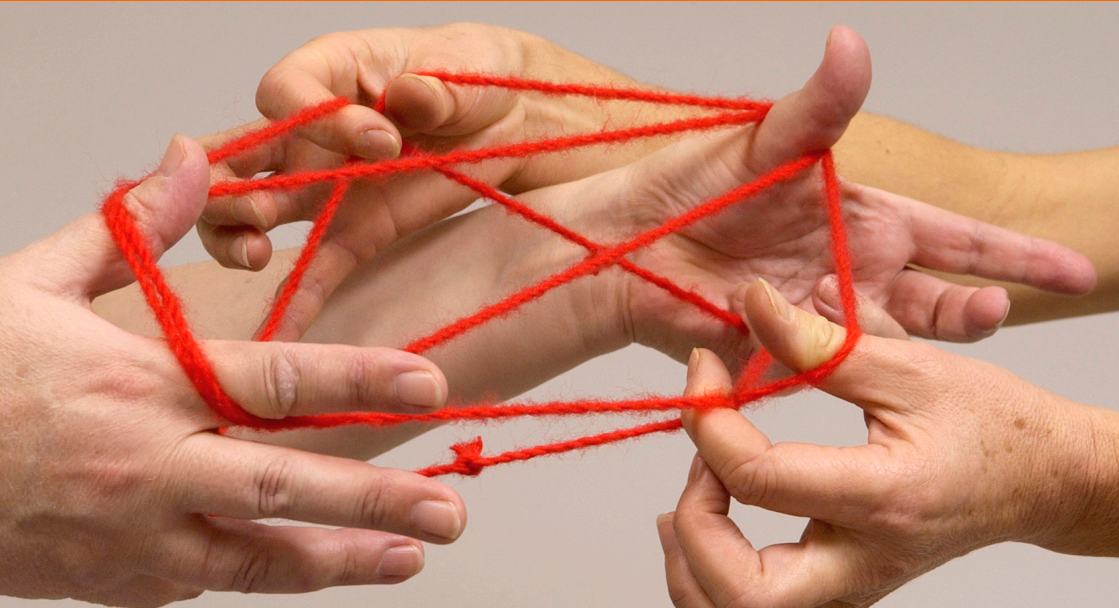
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ICF Case Studies

Translating Interventions into Real-life Gains – a Rehab-Cycle Approach

Social Service Support In SCI Rehabilitation

Case Study 18



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Preface

Functioning is a central dimension in persons experiencing or likely to experience disability. Accordingly, concepts, classifications and measurements of functioning and health are key to clinical practice, research and teaching. Within this context, the approval of the **International Classification of Functioning, Disability and Health (ICF)** by the World Health Assembly in May 2001 is considered a landmark event.

To illustrate the use of the ICF in rehabilitation practice **Swiss Paraplegic Research (SPF)** together with **Swiss Paraplegic Centre (SPZ)**, one of Europe's leading (acute and rehabilitation) centres for paraplegia and spinal cord injury (SCI), performed a series of case studies. Conducting ICF-based case studies was one approach to address SPF's aim to contribute to optimal functioning, social integration, health and quality of life for persons with SCI through clinical and community-oriented research. The ICF-based case studies project began in October 2006.

In this project, persons of different age groups and gender and who are living with SCI of varying etiology and levels of severity, were accompanied during their rehabilitation at SPZ. The rehabilitation process is then described using the Rehab-Cycle® and the corresponding ICF-based documentation tools. Since persons with SCI are faced with a number of physical, psychological and social challenges, the case studies aimed to cover a broad spectrum of these challenges. With this in mind, each case study highlighted a specific theme of SCI rehabilitation.

A booklet is published for each case study conducted. To better understand the case studies described in these booklets, find below some basic information about SCI, the ICF, ICF Core Sets, the Rehab-Cycle® and the ICF-based documentation tools.

Spinal Cord Injury (SCI)

Spinal cord injury (SCI) is an injury of the spinal cord that results in a temporary or permanent change in motor, sensory, or autonomic functions of the injured person's body. The spinal cord is divided into four sections which can be further subdivided into individual segments:

- 8 cervical segments (C1 to C8)
- 12 thoracic segments (T1 to T12)
- 5 lumbar segments (L1 to L5)
- 5 sacral segments (S1 to S5)

The damage of the spinal cord is called lesion. Important functions such as mobility (motor functions) or sensation (sensory functions) fail below the lesion. To help determine future rehabilitation and recovery needs, the extent of a SCI in terms of sensory and motor functions is described using the American Spinal Injury Association (ASIA) impairment scale.

International Classification of Functioning, Disability and Health (ICF)

The ICF is a classification of the **World Health Organization (WHO)** based on the integrative bio-psycho-social model of functioning, disability and health. Functioning and disability reflect the human experience related to the body functions, body structures, and activities and participation. It is viewed in terms of its dynamic interaction with a health condition, personal and environmental factors.

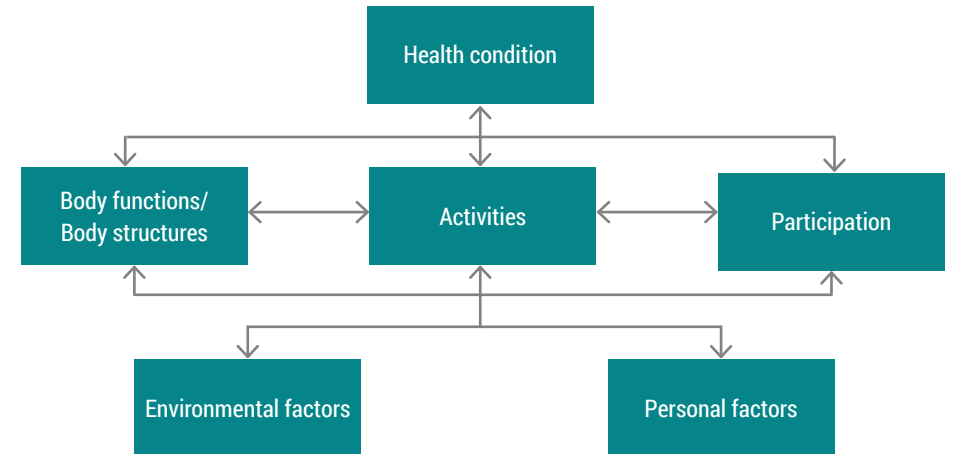


Figure 1: Bio-psycho-social model of functioning, disability and health

The ICF classification corresponds to the components of the model. Within each component, there is an exhaustive list of categories that serve as the units of the classification. ICF categories are denoted by unique alphanumeric codes and are hierarchically organised in chapter, second, third and fourth levels. When going from the chapter level to the fourth level, the category's definition becomes more detailed.

The classification also comprises so-called ICF qualifiers, which quantify the extent of a problem experienced by a person in a specific ICF category. Since environmental factors can also be facilitators, the ICF qualifier for facilitators are indicated with a plus sign.

Generic Scale of ICF Qualifiers	
0	NO problem (none, absent, negligible,...) 0-4%
1	MILD problem (slight, low,...) 5-24%
2	MODERATE problem (medium, fair,...) 25-49%
3	SEVERE problem (high, extreme,...) 50-95%
4	COMPLETE problem (total,...) 96-100%
8	not specified (used when there is insufficient information to quantify the extent of the problem)
9	not applicable (used to indicate when a category does not apply to a particular person)

ICF Core Sets

To facilitate the use of the ICF in clinical practice, it is essential to have ICF-based tools that could be integrated into the existing processes. The first step toward providing ICF-based tools for clinical practice was the development of ICF Core Sets. ICF Core Sets are shortlists of ICF categories that are considered to be most relevant for describing persons with a specific health condition or in a particular setting. In a rehabilitation setting an ICF Core Set can help guide the rehabilitation management process. ICF Core Sets have been developed for several health conditions e.g. for spinal cord injury, health condition groups e.g. for neurological conditions and for various settings. ICF Core Sets can serve as a basis when using the **ICF-based documentation tools** that follow the **Rehab-Cycle®**.

Rehab-Cycle® and Corresponding ICF-based Documentation Tools

The Rehab-Cycle® is one approach that reflects the structured processes inherent in multidisciplinary rehabilitation management. The Rehab-Cycle® consists of an assessment phase, assignment phase, intervention phase and evaluation phase. An ICF-based documentation tool has been developed to guide each of the Rehab-Cycle® phases: the ICF Assessment Sheet, the ICF Categorical Profile, ICF Intervention Table and ICF Evaluation Display. These tools can help a multidisciplinary rehabilitation team to better understand the role of functioning within the rehabilitation process and to more comprehensively describe a person's functioning - hence support ICF-based rehabilitation management.

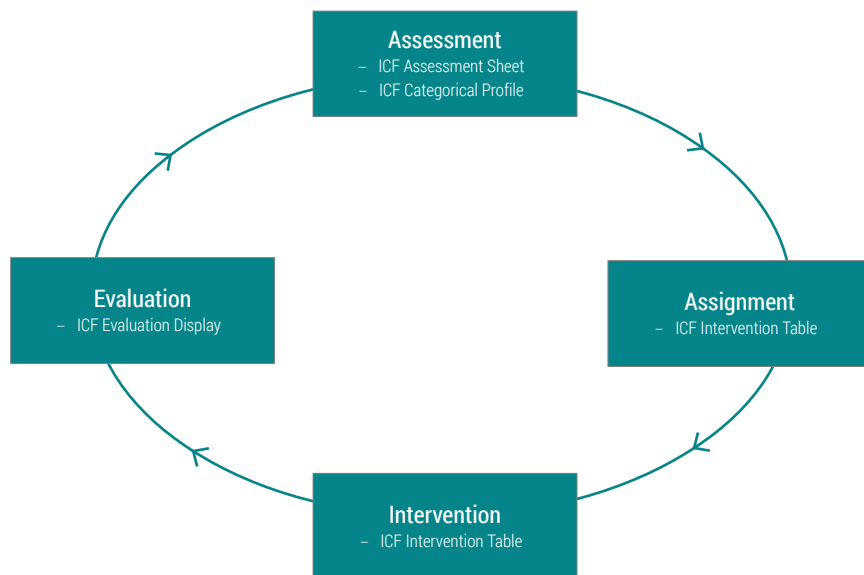


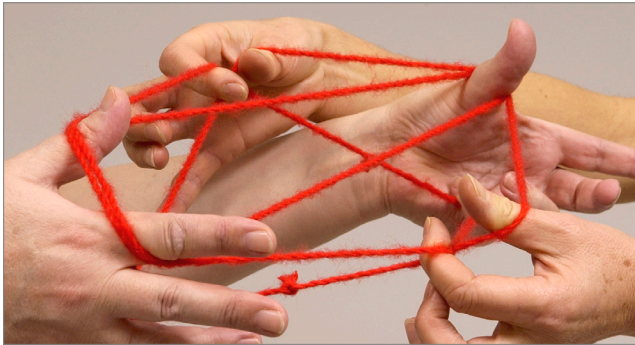
Figure 2: Rehab-Cycle®

You can find more detailed information about SCI, the ICF, ICF Core Sets, the Rehab-Cycle® and the ICF-based documentation tools on the website www.icf-casestudies.org.

Literature

- **American Spinal Injury Association.** Worksheet International standards for neurological classification of spinal cord injury (ISNCSCI); Revised version November 2015. [Internet] Available from <http://asia-spinalinjury.org>. Accessed March 2017.
- **Cieza A, Kirchberger I, Biering-Sørensen F, Baumberger M, Charlifue S, Post MW, Campbell R, Kovindha A, Ring H, Sinnott A, Kostanjsek N, Stucki G.** ICF Core Sets for individuals with spinal cord injury in the long-term context. *Spinal Cord.* 2010; 48(4): 305-312.
- **Chin LS, Mesfin FB, Dawodu ST.** Spinal cord injuries: Practice essentials, background, anatomy, pathophysiology, etiology, epidemiology, prognosis, patient education. [Internet] October 2016. Available from: www.emedicine.com/pmr/topic182.htm. Accessed March 2017.
- **Ewert T, Grill E, Bartholomeyczik S, Finger M, Mokrusch T, Kostanjsek N, Stucki G.** ICF Core Set for patients with neurological conditions in the acute hospital. *Disability and Rehabilitation.* 2005; 27(7/8): 367-374.
- **Kirchberger I, Cieza A, Biering-Sørensen F, Baumberger M, Charlifue S, Post MW, Campbell R, Kovindha A, Ring H, Sinnott A, Kostanjsek N, Stucki G.** ICF Core Sets for individuals with spinal cord injury in the early post-acute context. *Spinal Cord.* 2010; 48(4): 297-304.
- **Swiss Paraplegic Research.** Community. [WIKI/Body & complications] Spinal cord injury – what does it mean? Basic knowledge about the injured body. [Internet]. Available: <http://community.paraplegie.ch>. Accessed July 2017.
- **Rauch A, Cieza A, Stucki G.** How to apply the International Classification of Functioning, Disability and Health (ICF) for rehabilitation management in clinical practice. *Eur J Phys Rehabil Med* 2008; 44: 329-342.
- **Avellanet M, Selb M, Stucki G, Cieza A.** Utility of using the ICF Core Sets in clinical practice. *Rehabilitación.* 2015; 49(4): 197-201.
- **Selb M, Escorpizo R, Kostanjsek N, Stucki G, Ustun B, 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): 105-17.
- **Shepherd Center.** Understanding spinal cord injury: What you should know about spinal cord injury and recovery. [Internet] Available from: www.spinalinjury101.org/details/levels-of-injury. Accessed March 2017.
- **Stier-Jarmer M, Grill E, Ewert T, Bartholomeyczik S, Finger M, Mokrusch T, Kostanjsek N, Stucki G.** ICF Core Set for patients with neurological conditions in early post-acute rehabilitation facilities. *Disability and Rehabilitation.* 2005; 27(7/8): 389-396.
- **World Health Organization.** International Classification of Functioning, Disability and Health. Geneva: World Health Organization; 2001.

General Introduction



For persons with spinal cord injury (SCI), there are issues beyond the physical disability, including financial and insurance issues, issues related to employment, and various other environmental factors, that often need to be addressed for rehabilitation and community reintegration to be successful. Social service support in rehabilitation is essential to help navigate through these issues.

After experiencing such a life-changing event, a person with SCI has to deal not only with the arduous process of medical recovery and regaining of functioning, the person may also be confronted with ensuring financial coverage of medical and rehabilitation services, acquiring financial support for assistive products, personal care assistance, or modifications to car or home, or clarifying whether returning to work is possible

Insurance – A Key Socioeconomic Component

For persons with SCI, a key socioeconomic component of the rehabilitation and community reintegration process is insurance. The coverage and type of insurance can impact outcome. For example, the large-scale SCIRehab Project found that compared to private insurances, non-private

given the new health and life situation. **Having to handle all these and many other issues can be overwhelming if the person with SCI has to do it alone. Thus, providing social service support in rehabilitation, for example through a social worker-case manager (SW-CM), is essential, especially considering the myriad of insurances and regulations in healthcare.**¹

payers with more limited insurance coverage like Medicaid, the social welfare program in the United States, was associated with lower social integration and mobility scores, higher likelihood of rehospitalisations, more time in psychology interventions, lower likelihood to be working or at

school at 1 year post-SCI, and less life satisfaction in persons with SCI. The SCIRehab investigators suggest that the negative influence of more limited insurance coverage on outcome may be related more to social and other circumstances, such as lower socioeconomic status that may, in turn, influence educational and vocational opportunities, rather than the insurance coverage itself.^{2,3} **Nevertheless, dealing with insurances is among the most important and time-consuming tasks of a SW-CM in the**

rehabilitation of persons with SCI, especially as part of discharge planning.^{1,3,4}

Box 1 gives an overview of different types of insurances that are relevant for persons with SCI using the high-resource country example of Switzerland. Note that other countries, especially low-resource countries, may have different types of insurances as well as insurances with a different scope of coverage.⁵

Box 1 | Insurance Systems in Switzerland

In Switzerland, there are various types of insurances that are relevant for persons with SCI:⁶

- **Health insurance:** All residents in Switzerland must have health insurance. The insured person pays a premium for coverage for basic healthcare for illness, pregnancy or accidents (if not covered by accident insurance). The premium rate depends on the person's choice of health insurance company, insurance policy, and place of residence, and is generally not income-dependent. However, a reduced premium rate is available for selected low-income insurers.
- **Accident and occupational diseases insurance:** Paying into this insurance fund is compulsory for all employed and unemployed persons. The employer is responsible for paying the premium for workplace accidents and occupational diseases, while the employee is responsible for paying the premium for non-occupational accidents. However, the employer pays the insurer the whole premium and deducts the employee's part

from the salary. For persons not gainfully employed (housewives or househusbands, children, students, retired persons) and self-employed persons, this type of insurance can be taken up on a voluntary basis. Accident and occupational diseases insurance covers medical treatment in- and outpatient, medical tests, medication, rescue and transport costs, and some medical devices.

- **Invalidity (disability) insurance:** This insurance is compulsory for anyone who is living and working in Switzerland. This insurance aims to eliminate or reduce the impact of long-term (more than 1 year) physical, psychological, or mental disability first and foremost through the provision of rehabilitation measures, and as a last resort cash benefits. Cash benefits are granted when the insured person, after receiving rehabilitation, is still unable to work or complete daily tasks at full capacity. Benefits are determined by the degree of disability (or invalidity). The invalidity (disability) insurance also offers a so-called "helplessness allowance" that pays for personal assistance required by

persons with disability to complete day-to-day tasks, such as self-care.

- **Old-age and survivor's insurance:** Starting with 17 years of age until the statutory retirement age (currently 64 years of age for women and 65 years of age for men) persons in gainful employment are required to pay into the old-age and survivor's insurance. This insurance is a sort of fund from which the person's retirement benefits (or old-age pension) is derived. This insurance also offers subsidies to cover the cost of certain assistive technologies and devices, such as hearing aids or wheelchairs, for retired persons with disability.

These insurances, along with other insurance systems e.g. unemployment insurance, are embedded in the general social security system in Switzerland. **One essential feature of the Swiss social security system is the three-pillar system:**⁶

- The 1st pillar, a state-run programme, is the old-age, survivors and invalidity insurance (AHV), and aims to cover basic living costs. Contributions from employers, employees, and self-employed into the system is compulsory; public authorities contribute to the AHV as well.

- The 2nd pillar is the so-called “occupational benefit plan”. Contributions to this pension plan is compulsory for employees earning at least 21'150 Swiss Francs (status 2016) annually and is financed equally by employees and employers. The 2nd pillar together with the 1st pillar aim to ensure that the person is able to maintain their standard of living as much as possible.
- The 3rd pillar is a voluntary system in which the person pays into a fund at a selected occupational benefit institution such as a bank or private insurance company. The aim of the 3rd pillar is to supplement other pensions so that the person is able to maintain their usual lifestyle after retirement.

Beyond the support provided through the various insurances and Swiss social security system, there are also organisations in Switzerland that offer different types of assistance. For example, membership in the benefactors' association run by the Swiss Paraplegic Foundation (www.paraplegie.ch) provides a one-time benefit of 200'000 Swiss Francs in case the member experiences an accident resulting in a SCI and consequently requires a wheelchair to get around.

Impact of SCI on Financial Status

Acquiring insurance coverage for as many SCI-related expenses as possible is essential for preventing the person with SCI from experiencing financial hardship, especially considering the high financial burden associated with SCI. Despite the lack of comparable data on the cost of SCI, the existing evidence indicates that persons with SCI bear much of the costs. Expenses, such as the cost of assistive devices and long-term personal care assistance, tend to be high even after initial healthcare costs have decreased.⁵ In one study that examined the prevalence of medical debt in personal bankruptcy filings of persons with SCI or traumatic brain injury, the investigators concluded

that medical debt played a major contributing role in the bankruptcies (filed within 5 years post-injury) of the 93 persons included in the study.⁷

Furthermore, given that the employment rate among persons with SCI is relatively low, particularly for those who are older,^{5,8,9} finding other means of maintaining financial security after SCI is essential.

Thus, besides helping persons with SCI to deal with insurances, financial assessment and planning, are also among the most important tasks of a SW-CM during discharge planning.^{1,3,4}

Defining Social Work

In 2014, the profession of social work was broadly defined by the International Federation of Social Workers (IFSW) as “a practice-based profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. Underpinned by theories of social work, social sciences, humanities and indigenous knowledge, social work engages people and structures to address life challenges and enhance well-being.”¹⁰

These general principles of social work is universal. However, social work focus and practice may vary across countries and cultures. For example, in Switzerland the general aim of social work is to promote a person's independence and self-determination to enable the person to fully participate in life situations and in society as a whole.¹¹

Social work practice encompasses a variety of interventions, such as “various forms of therapy and counselling, group work and community work; policy formulation and analysis; and advocacy and political interventions.”¹⁰

Drawing scientific and practical knowledge from diverse disciplines, the expertise of social workers is essentially interdisciplinary and transdisciplinary. Social workers recognise the dynamic interaction between a person with his or her environment, and implement measures to empower a person to take responsibility for actively addressing life challenges and for finding strategies to enrich his or her life.

Within a rehabilitation context, specifically rehabilitation for persons living with SCI, social workers aim to achieve many of the same general goals as in other contexts. Box 2 outlines the role of social work-case management in SCI rehabilitation.

Box 2 | Social Work-Case Management in SCI Rehabilitation

According to the social work-case management taxonomy developed within the SCIRehab Project,^{1,3,4} social work-case management in SCI rehabilitation encompasses the following tasks:

- **Financial assessment and planning:** Social workers-case managers (SW-CMs) provide information and assistance in dealing with various insurances and in optimising available benefits through the social service system.
- **Discharge planning:** SW-CMs review the feasibility of returning to the preferred discharge location, and assist the person and his or her family with identifying possible safety and accessibility issues, the need for caregiver support, and any barriers, such as financial barriers, to returning to the preferred discharge location. SW-CMs also provide assistance in finding a suitable discharge location if the preferred location is ill-suited.
- **Discharge services:** SW-CMs identify and coordinate necessary services to ensure that the person's discharge from inpatient rehabilitation and community transition is successful. Examples of services include personal care assistance, home health nursing services, and day rehabilitation programme. SW-CMs also provide assistance in getting required assistive devices, e.g. wheelchair, and medical supplies, e.g. bowel and bladder management supplies. The outcome of discharge planning informs the decision about the necessary services.
- **Rehabilitation team and patient/family conferences:** SW-CMs participate in

regular conferences with the interdisciplinary rehabilitation team to review and discuss the person's progress and goal achievement status, and possible modifications to the rehabilitation activities and goals. Additionally, the team discusses any issues and exchange information about dealing with these issues. The person with SCI and his or her family are also invited to selected conferences.

- **Supportive counselling:** In consultation with psychologists or other clinical team members, SW-CMs also provide counselling to address psychosocial issues, such as alcohol or drug abuse, coping and adjustment problems, sexuality, etc...
- **Peer/Advocacy groups:** SW-CMs provide information about peer and advocacy groups that, in turn, provide persons with SCI and their families with support, education, and resources on various topics, such as community resources, disability legislation, new products and technologies.
- **Education:** Persons with SCI and families are provided education about, among other things, available support services and resources, and about the person's rights, such as those related to medical decisions. In addition, SW-CMs assist the person and families in completing all required documentation.
- **Community/In-house services:** SW-CM makes referrals for various other services not included in the other tasks, such as pastoral (chaplain) services, lifeline telephone services that calls the police or local hospital in case of emergency, etc.

Since social workers (includes case managers, but will not refer to case managers explicitly from now on) in various healthcare settings gather and employ functioning information, as well as conduct ongoing functioning assessments in clinical settings, it is important that social workers are familiar with the World Health Organization's (WHO) International Classification of Functioning, Disability, and Health (ICF).^{12,13} Furthermore, the biopsychosocial model of the ICF is closely related to the principals of social work, especially in emphasising the impact of a person's environmental factors on functioning and disability and in promoting a person's participation in life situations. In support of the interdisciplinary and transdisciplinary nature of social work, the ICF

also facilitates the communication and collaboration among diverse health professionals.^{13,14,15} Lastly, the ICF provides social workers with a standardised terminology to describe a person's functioning status, strengths and weaknesses, and informs the planning of social work interventions.¹⁴

The use of the ICF in rehabilitation management, that also includes social work services, is illustrated in this case study of Conrad. Conrad's case also shows the role of the social worker in addressing issues that persons with SCI face in planning for community integration, specifically in navigating the landscape of the social security and insurance systems.

Conrad's Story



Conrad, a 57-year old Swiss border guard, sustained a spinal cord injury (SCI) as a result of a surgical intervention performed to treat an abdominal aortic aneurysm.

An aortic aneurysm is a widening of the aorta that can lead to a weakening or rupture of the vessel wall. While smaller aneurysms may be treated medically, major aortic aneurysms may require surgery to repair the damaged tissue. Unfortunately, this surgical intervention is associated with a risk of paraplegia, occurring in 3-18% of the cases.^{16,17,18} This was the case with Conrad.

At 57, Conrad had raised four children, who were now adults and had children themselves. He lived with his wife in an old, historically protected house in the mountains approximately 2000 metres above sea level. His wife ran a restaurant on the ground floor of their home. On his days off and after hours working as a border guard, Conrad helped his wife in running the restaurant. And in his spare time, he enjoyed hunting and other activities outdoors. In general, Conrad loved nature and being outdoors. A well-liked and respected

individual in the community, he enjoyed meeting friends and acquaintances.

The surgery and the subsequent SCI occurred less than a year before Conrad was set to retire (under an early retirement plan). **Conrad's SCI was diagnosed as incomplete paraplegia¹⁶ below the first vertebrae of the lumbar spine (L1) with an American Spinal Injury Association (ASIA) Impairment Scale grade C.** This meant that he had motor functioning at the level of the hip and pelvis and below, with active movement and full range of motion without gravity in more than half of the key muscles. In the months following the SCI, Conrad suffered from various complications, including a temporary disorientation to time and place, a blockage of the intestine that required surgery to create an artificial opening to empty the intestine, and a rapid breakdown of damaged skeletal muscle that resulted in renal

failure, consequently requiring dialysis. Moreover, he also experienced a build-up of excessive pressure in the forefoot as a complication of a pre-injury vascular condition; this was treated with an anticoagulant.

Medical treatment of these conditions continued for six weeks before Conrad was able to be transferred to a rehabilitation centre specialising in SCI. He recovered from the surgery to repair the damage caused by the aortic aneurysm, and his health had greatly improved.

"...in addition to medical rehabilitation and various therapies, the rehabilitation centre's social services played a major role in Conrad's rehabilitation."

At the rehabilitation centre, Conrad and his rehabilitation team were faced with a number of issues related to impaired body functions, limitations in everyday activities, restrictions in participation, specifically in consideration of life after discharge from the rehabilitation centre, and the potential impact of environmental factors and Conrad's personal factors on rehabilitation and community reintegration. Moreover, **given that he had been within months of retiring when the SCI occurred, there were many open questions related to**

returning to work and financial security for him and his wife. Thus, in addition to medical rehabilitation and various therapies, the rehabilitation centre's social services played a major role in Conrad's rehabilitation.

Conrad's rehabilitation was managed in consideration of the biopsychosocial model of the International Classification of Functioning, Disability and Health (ICF)¹² and structured according to the Rehab-Cycle[®] approach.

Assessment



To get an overall picture of Conrad's functioning, the Rehab-Cycle® began with a comprehensive assessment that encompassed a series of discipline-specific testing and evaluations (health professional perspective), as well as a face-to-face interview with Conrad (patient perspective).

The International Classification of Functioning, Disability and Health (ICF) Core Set for spinal cord injury (SCI) in the early post-acute setting was used to guide the comprehensive assessment.¹⁹ Documented using the **ICF Assessment Sheet**, the results of the comprehensive assessment were structured according to the ICF components of body functions and structures, activities and participation, environmental factors, and personal factors. In addition, the ICF Assessment Sheet lists key statements made by Conrad during the interview. See "Table 1: ICF Assessment Sheet" on page 30 at the end of this booklet.

The comprehensive assessment revealed that the **issues in body functions and structures that confronted Conrad were primarily pain, fatigue, motor function problems, such as in impaired joint mobility and insufficient muscle power,**

as well as impaired protective functions of the skin. The pain especially affected his ability to complete day-to-day activities, particularly when the weather changed.

"I have pain...in the area around the pelvis and genitals, in my back...in my feet and in the lower leg..."

Conrad

Moreover, he continued to lose weight although Conrad, in his own words, had a "normal appetite". He also sometimes felt that he was unable to summon enough energy to do his physical exercises.

With regard to activities and participation, Conrad was able to maintain a sitting position without difficulty. However, **his mobility was still clearly**

limited. For example, he had moderate difficulty maintaining a standing position and severe difficulty moving around using equipment. Additionally, he perceived the inability to walk as a limiting factor in his life. There were differences of opinion with regard to transferring ability. While Conrad felt that he was able to transfer himself to and from the bed and into and out of the car well, the rehabilitation team assessed transferring as a moderate problem for Conrad.

In addition to mobility issues, **Conrad also presented moderate to severe limitations in self-care activities**, such as washing himself, caring for body parts, regulating urination and defecation, and looking after his health.

Conrad's independence in various functioning areas was assessed by the rehabilitation team using the Spinal Cord Independence Measure (SCIM).²⁰ A SCIM score (0-100) is reached by adding up sub-scale scores for self-care (0-20), respiration and sphincter management (0-40), and mobility (0-40). Conrad's overall SCIM score was 20 out of 100. This low SCIM score was due to zero scores, meaning complete dependence, in bowel and bladder sphincter management, transferring from bed-to-wheelchair and from wheelchair-to-toilet/bathtub, as well as in indoor and outdoor mobility. Conrad's independence in self-care and respiration were rated better with scores of 6 (out of 20) and 10 (out of 10) respectively.

Essential to Consider – Social Security and Insurance Coverage

Considered an environmental factor, social security and insurance coverage also influenced other environmental factors that were related to Conrad's reintegration into the community. These other environmental factors include:

Despite the problems Conrad experienced in self-care and mobility, he seemed to cope well with his situation. The issues that most challenged Conrad were, however, related to his life after leaving the rehabilitation centre i.e. employment/(early) retirement and the prospects for independent living.

"I cannot go back to my previous job... (my mobility problems) will really limit what I can do in life..."

Conrad reflecting on life after discharge from the rehabilitation centre

Conrad and the rehabilitation team agreed that the restrictions in remunerative (paid) employment opened up several questions that needed to be addressed:

- Considering that Conrad's injury occurred just under a year from his (early) retirement, what will happen with his planned retirement?
- Would he receive sufficient social security and/or disability benefits to cover his living expenses?
- Would he be able return to his former job if necessary for financial reasons?
- If yes, would it be possible to make his workplace wheelchair accessible?

To answer these questions it was essential to clarify the financial coverage by the social security system or insurances.

- Assistive devices and technologies that facilitate mobility, including a Swiss-Trac™ (a motorised device for pulling the wheelchair)
- Adaptations to Conrad's home, given that his current residence, a historically protected building, is on a mountainside and not wheelchair accessible

- Adaptations to the family restaurant, considering that the restaurant is also a source of income
- Adaptations to Conrad's car that would enable Conrad to drive to and from the remote location of Conrad's house and handle the mountainous terrain surrounding the house
- Housekeeping services to compensate for Conrad's limitations in doing housework

During the comprehensive assessment, it became clear that the accident and the health insurances would not cover all the expenses that Conrad would incur once he returned home from the rehabilitation centre. For example, housekeeping services were covered only by Conrad's health insurance and only at a very limited rate; this left most of the burden of housekeeping on his wife.

“During the comprehensive assessment, it became clear that the accident and the health insurances would not cover all the expenses”

Additional related challenges were the lengthy waiting time for social security and insurance coverage decisions and the resulting delay in payments. At the beginning of the Rehab-Cycle®, Conrad was on sick leave and receiving only 80% of his normal salary; this salary was not enough to live on at his (and his wife's) standard of living. Conrad's reduced income and the delays in payments for services and for covering living expenses necessitated the exploration of alternative financing options.

Not all of Conrad's environmental factors were barriers. His wife and children, as well as friends and colleagues, were very supportive. He was

also satisfied with the assistance he received from the rehabilitation team.

In terms of Conrad's personal factors that facilitated the rehabilitation process, Conrad seemed to have developed strategies to cope with his condition. He was also motivated, goal-oriented, and maintained a hopeful attitude. He was sporty, and possessed good social skills.

The results of the comprehensive assessment served as the basis for setting rehabilitation goals, identifying specific aspects of functioning to target with interventions, and for planning the corresponding interventions.

Goal-setting/Determination of Intervention Targets



Having an overview of Conrad's functioning based on the rehabilitation team's assessment and Conrad's own statements about his situation facilitated the setting of mutual rehabilitation goals and identification of specific targets to address with interventions.

Mutual Rehabilitation Goals

Based on the results of the comprehensive assessment, Conrad and the rehabilitation team identified short and long-term goals. Within the framework of the Rehab-Cycle® short-term goals are called “cycle goals”. In Conrad's case, **three cycle were set**: improvement in mobility, improvement in self-care, and economic self-sufficiency. Achieving these cycle goals were the “stepping stones ” toward achieving the **service-program goal** set by Conrad and the rehabilitation team i.e. independence in daily living. The service-program goal is the goal that is expected to be achieved at the end of this particular Rehab-Cycle®. The broadest of the goals set was ‘successful community reintegration’; this long-term **global goal** is what Conrad and the rehabilitation ultimately

wanted to achieve, a goal that went beyond this Rehab-Cycle® and rehabilitation in general.

Conrad's cycle goals, service-program goal, and the global goal were documented using the ICF Categorical Profile. The **ICF Categorical Profile** created for Conrad not only showed his goals, but also a visual depiction of the comprehensive assessment results as categories of the International Classification of Functioning, Disability and Health (ICF) and a bar chart that reflected Conrad's status in these categories at time of the initial assessment using ICF qualifiers. See “Table 2: ICF Categorical Profile” on page 32 at the end of this booklet.

Specific Targets to Address with Interventions

The ICF categories (and personal factors) that corresponded to any of the goals set and were associated with a goal value were considered intervention targets. The **intervention targets** were those categories intended to be addressed with specific interventions. For example, for Conrad's cycle goal 1 'improvement in mobility', Conrad and the rehabilitation team defined d465 Moving around using equipment as an

intervention target with a goal value of '0'. This would be a major improvement in moving around using equipment from severe to no difficulty after providing one or more interventions. This meant that Conrad was expected to have no more problems manoeuvring his wheelchair nor using any other devices that facilitated mobility at the end of the Rehab-Cycle®.

"Mobility, especially mobility in the community, is one aspect of functioning that was highlighted during the initial assessment as especially problematic."

Mobility, especially mobility in the community, is one aspect of functioning that was highlighted during the initial assessment as especially problematic. Conrad's mobility in the community was not only impacted by body function impairments, such as b710 Mobility of joint functions, or difficulty in manoeuvring his wheelchair, but also by the lack of accessibility of his home. Thus, Conrad and the rehabilitation team also identified e155 Design, construction and building products and technology of buildings for private use and e515 Architecture and construction services, systems

and policies as intervention targets. To assist with clarifying the accessibility issues, including the financing for possible architectural modifications to Conrad's home, the social service support provided by the social worker (indicated by the intervention target e360 Other professionals) was essential.

The social worker was one of several members of Conrad's rehabilitation team that included a physician, a nurse, sports therapist, physical therapist, and occupational therapist.

Assignment and Intervention



While the social worker was responsible primarily for addressing Conrad's global goal, the other members of Conrad's rehabilitation team provided interventions that targeted the service-program goal, the three cycle goals, and the respective intervention targets.

Sharing Responsibility for Interventions

While the majority of the intervention targets was addressed by one member of the rehabilitation team, the responsibility for selected intervention targets was shared by several team members. For example, for cycle goal 1 'improvement in mobility' the physical therapist provided thermotherapy and movement therapy to help alleviate Conrad's experience of pain in his back (b28013), in the upper (b28014) and lower (b28015) limbs, and in the joints (b28016), while both the physical therapist and the occupational therapist provided wheelchair training to improve

Conrad's ability to manoeuvre his wheelchair and other mobility devices (d465).

The interventions and the corresponding intervention targets, as well as the rehabilitation team member(s) who were responsible for implementing the interventions were documented on the **ICF Intervention Table** that guided Conrad's Rehab-Cycle®.

See "Table 3: ICF Intervention Table" on page 34 at the end of this booklet.

“The occupational therapist coordinated with the social worker, who was responsible for clarifying the financial coverage for the devices and equipment.”

As shown on the ICF Intervention Table, **Conrad's cycle goal 1 was addressed with interventions provided predominately by the nurse, sports therapist, and physical therapist.** The occupational therapist did, however, take on a counselling and coordinative role with regard to deciding on appropriate assistive devices and equipment for indoor and outdoor mobility (e1201), as well as for ordering and adapting the assistive devices and equipment. The occupational therapist coordinated with the social worker, who was responsible for clarifying the financial coverage for the devices and equipment. For example, funding was acquired from a charitable foundation to pay for a specially ordered high-power Swiss-Trac™ to

Interventions Provided by the Social Worker

The interventions to address cycle goal 3 'economic self-sufficiency' was primarily under the responsibility of the social worker. For example, for the intervention target d850 Remunerative employment, the social worker was in contact with Conrad's employer to explore the possibilities

“The social worker also took steps to clarify Conrad's eligibility for insurance coverage and...to initiate the process for acquiring social services and financial benefits.”

The social worker also took steps to clarify Conrad's eligibility for insurance coverage and registered him with the social security agency to initiate the process for acquiring social services and financial benefits. Furthermore, the social worker assessed Conrad's legal and insurance

accommodate for the mountainous location of Conrad's home.

With regard to the interventions to address cycle goal 2 'improvement in self-care', the nurse assisted Conrad with daily skin control and skincare, and provided him with assistance and instruction on strategies to optimally wash himself (d510), care for his body parts (d520), regulate urination (d5300) and defecation (d5301), and dress himself (d540). In addition, **the nurse worked together with the physical therapist and occupational therapist in instructing Conrad on preventative measures** that helped him to more effectively look after his health (d570).

for returning to work in consideration of Conrad's prognosis and functioning limitations, as well as the option for early retirement, given that Conrad's injury occurred less than a year before he had been scheduled to retire.

situation, and explored with him the various options for ensuring his economic self-sufficiency. The interventions provided by the social worker addressed the intervention targets of e570 Social security services, systems and policies and e580 Health services, systems and policies.

As revealed during the initial comprehensive assessment, one of the major challenges that Conrad faced in planning for life after rehabilitation was his wheelchair inaccessible home. Conrad's house was historically protected, meaning that making architectural modifications to the house required following stringent regulations, and not all modifications were allowed. Addressing the intervention target of 155 Design, construction and building products and technology of buildings for private use, **the social worker provided ongoing counselling and coordination of architectural modifications, including clarification**

of financial coverage, financial planning, organisation of house inspections, discussions with architects regarding the costs of the modifications, and assisting with the application for construction permits with the local municipality.

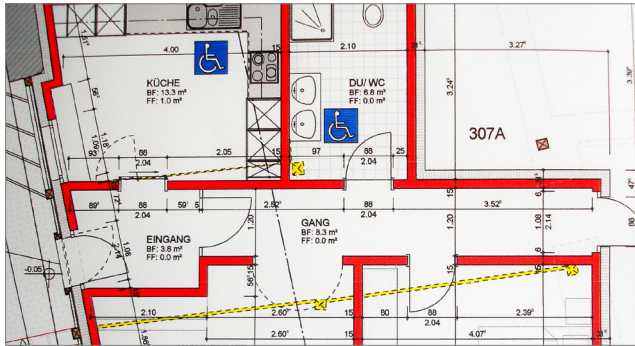
While most of the interventions were conducted within the three and a half months of Conrad's Rehab-Cycle®, the social worker's interventions and support were provided beyond this particular Rehab-Cycle® and beyond his stay at the rehabilitation centre.

“...Conrad's Rehab-Cycle® and his stay in the rehabilitation centre had to be extended...”

Three months after the start of the Rehab-Cycle®, the artificial opening that was created to release Conrad's blocked intestine was surgically closed. This required that a number of physical therapy interventions be cancelled. This resulted in increased joint stiffness and pain. It also meant

that Conrad had to learn alternative strategies for emptying his intestines and bowel. Consequently, Conrad's Rehab-Cycle® and his stay in the rehabilitation centre had to be extended in order to address the joint stiffness and pain, and to improve his bowel management skills.

Evaluation



After four months of interventions, Conrad's functioning was again assessed in order to evaluate whether changes had occurred and whether the goals Conrad and the rehabilitation team had set in the beginning of the Rehab-Cycle® had been achieved.

The results of this re-assessment (or re-evaluation) were documented using the **ICF Evaluation Display**, a "before and after" visualisation (bar chart) of Conrad's functioning in terms of ICF qualifier ratings given at the beginning and at the end of the Rehab-Cycle®. Note that the comparison of the initial and final ratings only show that there was a change and whether the goals were achieved, but not whether the change or goal

achievement was directly due to specific interventions. See "Table 4: ICF Evaluation Display" on page 36 at the end of this booklet.

Although he achieved only one of the three cycle goals, i.e. cycle goal 1 'improvement in mobility', steady gains were made in the intervention targets of the other cycle goals.

Cycle Goal 1: Improvement in Mobility

In the final assessment of the Rehab-Cycle®, **the results showed mixed levels of success in the various intervention targets that corresponded to cycle goal 1 'improvement in mobility'**.

For example, Conrad continued to experience pain, although to a lesser degree, in his back, upper limb

and joints. The rehabilitation team suspected that the residual pain Conrad felt was due to cancelled physical therapy sessions in the last month before the final assessment. Specifically, Conrad was unable to participate in some physical therapy sessions in order to recover from surgery to close the artificial intestinal opening that was surgically

formed at the beginning of rehabilitation. Without the physical therapy, Conrad became stiff and the pain reduction efforts stagnated.

"Conrad's situation over the past months has been very difficult for him...the future seems equally challenging – the financial uncertainty, the delayed building permits, the modifications to his home. Conrad has worked long and hard to get his home the way he and his wife want it for his retirement. Moving somewhere else that is more wheelchair accessible just isn't an option for him at this point. Things are moving forward only very slowly – it isn't an easy process at all."

Social Worker at the final assessment

In addition, the issue regarding Conrad's wheelchair-inaccessible home was still unresolved. The permits for architectural modifications were still being processed, and since the modification costs were not covered by Conrad's insurance, alternative funding through a foundation was in the process of being acquired. This meant a delay in making Conrad's house wheelchair accessible, and that Conrad had to find a temporary solution for getting around within his home.

"I've always been the person to help others – now I am the one who needs help...I believe the more motivation you have, the better the healing...so I have to move forward. Once I get home, I'll just have to see how it goes..."

Conrad at the final assessment

Unfortunately, one solution that Conrad found i.e. going up and down the stairs in a seated position using his arms to push himself up the stairs or support his body down the stairs caused increased pain as well as problems in his shoulders and arm.

Despite these unresolved mobility-related problems, the goals set for several intervention targets were achieved:

- b152 Emotional functions (overarching with cycle goals 2 and 3)
- b28015 Pain in lower limb
- b455 Exercise tolerance functions
- b7603 Supportive functions of the arm or leg
- d4153 Maintaining a sitting position
- d4154 Maintain a standing position
- d420 Transferring oneself
- d465 Moving around using equipment
- e1201 Assistive products and technology for personal indoor and outdoor mobility and transportation
- e360 Other professionals (overarching with the global goal and cycle goal 3)

Furthermore, all other mobility-related intervention targets did improve, despite not reaching the set goals. **In consideration of the intervention target goals that were achieved, almost achieved, and not achieved, the rehabilitation team decided that cycle goal 1 as a whole was achieved.**

Cycle Goal 2: Improvement in Self-care

Conrad is afraid of not being independent, of having to turn to those he's helped and supported in the past. He really loathes the thought of becoming a burden.

Conrad's Physical Therapist at the final assessment

One of the mobility-related intervention targets i.e. d420 Transferring oneself had a positive impact on Conrad's cycle goal 2 'improvement

in self-care'. Being able to transfer himself from the bed, shower and toilet to and from the wheelchair facilitated his ability to independently wash and toilet. Nevertheless, Conrad was still unable to self-catheterise. Furthermore, Conrad still required some assistance from his wife to get dressed. **Although there was some improvement in self-care, the rehabilitation team decided that cycle goal 2 had not yet been achieved.**

Cycle Goal 3: Economic Self-sufficiency

Like cycle goal 2, **there was some progress toward meeting the intervention target goals in Conrad's cycle goal 3 'economic self-sufficiency'**. However, these gains were insufficient for achieving the cycle goal as a whole. In fact, the majority of the intervention target goals, especially those related to getting coverage for architectural modifications or for financial benefits, were not met at the end of the Rehab-Cycle®; some of the decisions on cost coverage and on financial benefits were still pending. Moreover, despite regular discussions between the social worker, Conrad, and his pre-injury employer about potential solutions for returning to work, such as a part-time administrative role or work-from-home options, they had not come to an agreement at the end of the Rehab-Cycle®.

Conrad has been working at his employer for 30 years...His employer is a bit stuck in finding a solution, but I think they will eventually find a place for him.

Social Worker

At the time of the final assessment, Conrad was receiving 80% of his pre-injury salary from his health insurance. At the end of the Rehab-Cycle® it was still unclear how Conrad would earn his living or whether he would be able to retire early and get his retirement pension.

There were still several issues that Conrad had to deal with regarding community reintegration at the end of the Rehab-Cycle®. Thus, the social worker on the rehabilitation team continued to support him even after discharge from the rehabilitation centre.

Discussion



For persons with spinal cord injury (SCI) participating in rehabilitation, social workers provide critical support for a range of socioeconomic issues that impact their return to the community.

In the case of Conrad the social worker on his rehabilitation team played a crucial role in helping him to deal with the intricacies of the social security and insurance systems and to make arrangements for his community reintegration, including arrangements for architectural modifications to his home and clarifications with Conrad's pre-injury employer.

This case study utilised the International Classification of Functioning, Disability and Health (ICF)¹² as the framework for describing the stages of Conrad's Rehab-Cycle®. Recent efforts at promoting the use of the ICF as a framework for social work in clinical settings reflect the importance of considering the impact of a multitude of participatory, personal and environmental factors that contribute to better functioning and ultimately in improving the person's lived experience in light of a health condition.^{13,14,15} In Conrad's case, the ICF categories (intervention

targets) related to his cycle goal of economic self-sufficiency, i.e. d850 Remunerative employment, and e570 Social security services, systems and policy, and the intervention targets related to his cycle goal of improvement in mobility, i.e. e155 Design, construction and building products and technology of buildings for private use, and e515 Architecture and construction services, systems and policies, were the focus of the social worker's interventions. These ICF categories were also identified as intervention targets to meet Conrad's global goal of community reintegration. **The interventions provided by the social worker covered the majority of the tasks identified in the social work-case manager taxonomy developed within the SCIRehab Project, including financial assessment and planning, discharge planning and services, rehabilitation team and patient/family conferences, supportive counselling, and education.**^{1,3,4}

“...the considerable time the social worker spent...was in line with the study findings...that social workers spend 89% of their time on discharge planning and services.”

Moreover, the considerable time the social worker spent on addressing these intervention targets was in line with the study findings of Hammond and colleagues from the SCIRehab Project that social workers spend 89% of their time on discharge planning and services.⁴ Unfortunately,

at the end of Conrad's Rehab-Cycle® the decision about returning to work and/or early retirement as well as the financial coverage for adapting Conrad's historically-protected home had not yet been resolved. Consequently, the social worker continued supporting him after discharge.

“...the efforts of the social worker was also done in close collaboration with the other members of Conrad's rehabilitation team...”

Since social work is essentially interdisciplinary and transdisciplinary,^{10,14} the efforts of the social worker was also done in close collaboration with the other members of Conrad's rehabilitation team, especially with the occupational therapist. The regularly scheduled rehabilitation team meetings facilitated the coordination among the team members.

Conrad's case illustrated the complexities of dealing with various issues related to insurance

coverage and financial security faced by persons following a SCI. It also highlighted the important role that social services, specifically social services provided through the social worker, plays in assisting persons with SCI to manage these complexities and in addressing these issues during (and possibly also after rehabilitation) – ultimately to facilitate successful reintegration into the community.

Annex

- Table 1: ICF Assessment Sheet
- Table 2: ICF Categorical Profile
- Table 3: ICF Intervention Table
- Table 4: ICF Evaluation Display
- Literature
- Questions

Table 1: ICF Assessment Sheet

ICF Assessment Sheet	
Patient Perspective	<ul style="list-style-type: none"> - The therapies take a lot of energy; I have to build up enough energy so I can fight back - I have a normal appetite - I've lost weight - Sometimes I feel down, but I probably don't show it - I have pain below the belly button in the area around the pelvis and genitals, in my back - I also have pain in my feet and in the lower leg during therapy sessions - I cannot urinate properly - Bowel movements are not functioning properly - My legs are the body parts that are most affected by my injury
Health Professional Perspective	<ul style="list-style-type: none"> - No impairment in emotional functions - Severe pain in back - Moderate pain in upper limb - Mild pain in lower limb - Severe pain in joints - No impairment in blood vessel functions - Moderately impaired exercise tolerance functions - Moderately impaired mobility of joint functions - Considerably reduced power of muscles in the lower half of the body - Moderately impaired muscle tone functions - No impairment in the supportive functions of arms - Severely impaired sensations related to muscles and movement functions - Severely impaired protective functions of the skin - Severely impaired repair functions of the skin - Severely impaired structure of areas of skin
	<ul style="list-style-type: none"> - Transferring to the bed and back and into the car is going well - Walking is restricted, not being able to walk is a real hindrance for me - Mobility is also restricted, due to the reduced mobility - I can't do many things that I used to do - I have already driven an adapted car and that went well - Getting around with the wheelchair is going well - Getting around with the wheelchair at home would be easier with the Swiss-Trac™, someone would have to push me around without it - I will try to dress by myself when I am not stiff anymore - Dressing the my upper part of my body is no problem - Many people come and visit - I cannot go back to my previous job as a border guard - I do some cabinetmaking - I am also participating in a computer workshop
	<ul style="list-style-type: none"> - Moderate difficulty in changing basic body position - No difficulty in maintaining a sitting position - Moderate difficulty in maintaining a standing position - Moderate difficulty in transferring himself - Severe difficulty in moving around using equipment - Moderate difficulty in washing himself - Moderate difficulty in caring for body parts - Severe difficulty in regulating urination - Severe difficulty in regulating defecation - Moderate difficulty in dressing himself - Moderate difficulty in looking after his health - Complete restrictions in remunerative employment; working outdoors is also restricted - Complete difficulty in doing some sports activities
	<ul style="list-style-type: none"> - Medication is very helpful - Having a seat cushion has been totally helpful in preventing pressure sores - Swiss-Trac™ has facilitated outdoor mobility substantially - Home is located on a mountain, and is not wheelchair accessible - Family restaurant that he has helped run before the injury is located on the ground floor of his home - Has an absolutely supportive wife and children - Friends and colleagues are also completely supportive - Supportive social worker - Situation with insurance coverage is dissatisfying - Satisfied with the support provided by health professionals - Also satisfied with the therapies themselves
	<ul style="list-style-type: none"> - 57 years old, male - Living in the mountains at 1800 metres above sea level - Family owns a restaurant located in his home - Worked as a border guard before the injury, had planned to retire early (within a year) when the injury occurred - He worked hard his whole life - Sporty and nature-loving person - Seems to cope well with his situation - Seems to accept his situation, but perhaps more an avoidance strategy - Is goal-oriented and motivated - Possesses good social skills

Table 3: ICF Intervention Table

Intervention target		ICF Intervention Table									
		Doc	Nurse	Spo	PT	OT	SW	Others	First value	Goal value	Final value
Body functions/structures	b152	Emotional functions									
	b28013	Pain in back	x	x	x	x	x		0	0	0
	b28014	Pain in upper limb				x			3	1	2
	b28015	Pain in lower limb				x			2	0	1
	b28016	Pain in joints				x			1	0	0
	b415	Blood vessel functions				x			3	1	2
	b455	Exercise tolerance functions	x	x					0	0	2
	b710	Mobility of joint functions							2	0	0
	b7303	Power of muscles in lower half of the body				x			2	1	2
	b735	Muscle tone functions				x			2	1	3
	b7603	Supportive functions of arm or leg				x			0	0	0
	b780	Sensations related to muscles and movement functions							3	1	3
	b810	Protective functions of the skin							3	1	3
	b820	Repair functions of the skin		x					3	1	3
	d410	Changing basic body positions							2	0	1
	d4153	Maintaining a sitting position							0	0	0
	d4154	Maintaining a standing position							2	2	2
	d420	Transferring oneself		x		x			2	0	0
	d465	Moving around using equipment				x	x		3	0	0
d510	Washing oneself		x					2	0	0	
d520	Caring for body parts		x					2	0	0	
d5300	Regulating urination		x					3	0	2	
d5301	Regulating defecation		x					3	0	0	
d540	Dressing							2	0	1	
d570	Looking after one's health		x			x		2	0	1	
d850	Remunerative employment						x	4	0	4	
e110	Products or substances for personal consumption		x					3+	3+	3+	
e1151	Assistive products...for personal use in daily living					x		4+	4+	3+	
e1201	Assistive products...for personal...mobility ...						x	3+	4+	4+	
e155	Design, construction...of buildings for private use							x	3	3	
e360	Other professionals (Social Worker)										
e515	Architecture...services, systems and policies						x	3+	4+	3+	
e570	Social security services, systems and policies							0	4+	2+	
e580	Health services, systems and policies						x	2+	4+	2+	
Environmental factors											

Table 3: ICF Intervention Table; Doc = Physician; Spo = Sports Therapist; PT = Physical Therapist; OT = Occupational Therapist; SW = Social Worker. The first value refers to the rating at the initial assessment, the goal value refers to the rating that should be achieved after the intervention, and the final value refers to the rating at the second assessment or evaluation. ICF qualifiers were used to determine these ratings (0 = no problem to 4 = complete problem) in the intervention targets. For the intervention targets representing the environmental and the plus sign next to the value indicates a facilitator.

Literature

1. **Abeyta N, Freeman ES, Primack D, Hammond FM, Dragon C, Harmon A, Gassaway J.** SCIRehab Project series: The social work/case management taxonomy. *J Spinal Cord Med.* 2009; 32(3): 336-342.
2. **Whiteneck G, Gassaway J, Dijkers MP, Heinemann AW, Kreider SED.** Relationship of patient characteristics and rehabilitation services to outcomes following spinal cord injury: The SCIRehab Project. *J Spinal Cord Med.* 2012; 35(6): 484-502.
3. **Hammond FM, Gassaway J, Abeyta N, Freeman ES, Primack D, Kreider SED, Whiteneck G.** Outcomes of social work and case management services during inpatient spinal cord injury rehabilitation: The SCIRehab Project. *J Spinal Cord Med.* 2012; 35(6): 611-623.
4. **Hammond FM, Gassaway J, Abeyta N, Freeman ES, Primack D.** The SCIRehab Project: Social work and case management treatment during inpatient spinal cord injury rehabilitation. *J Spinal Cord Med.* 2011; 34(2): 216-226.
5. **Bickenbach J, Officer A, Shakespeare T, von Groote P.** (eds.) *International perspectives on spinal cord injury (IPSCI).* Geneva, Switzerland: World Health Organization; 2013.
6. **AVS/AI Information Centre, Federal Social Insurance Office and State Secretariat for Economic Affairs.** *Social Security in Switzerland.* AVS/AI Information Centre. [Internet] Update January 2016. Available from: www.ahv-iv.ch. Accessed December 2016.
7. **Relyea-Chew A, Hollingworth W, Chan L, Comstock BA, Overstreet KA, Jarvik JG.** Personal bankruptcy after traumatic brain or spinal cord injury: The role of medical debt. *Arch Phys Med Rehabil.* 2009; 90(3): 413-419.
8. **Lidal IB, Huynh TK, Biering-Sørensen F.** Return to work following spinal cord injury: A review. *Disabil Rehabil.* 2007; 29(17): 1341-1375.
9. **Escorpizo R, Trenaman LM, Miller W.** Spinal cord injury: Vocational rehabilitation and disability evaluation. In: Escorpizo R, Brage S, Homa D, Stucki G. Eds. *Handbook of vocational rehabilitation and disability evaluation: Application and implementation of the ICF.* New York: Springer; 2015. p. 239-261.
10. **International Federation of Social Workers (IFSW).** Global definition of social work. [Internet] Available from: www.ifsw.org/get-involved/global-definition-of-social-work/. Accessed December 2016.
11. **AvenirSocial – Soziale Arbeit Schweiz.** Profile of the social work profession. (In German: Berufsbild der Professionellen Sozialer Arbeit). [Internet] Updated 2014. Available from: <http://www.avenirsocial.ch/>. Accessed December 2016.
12. **World Health Organization.** *International Classification of Functioning, Disability and Health (ICF).* Geneva, Switzerland: World Health Organization; 2001.
13. **Saleeby P.** Using the International Classification of Functioning, Disability and Health in social work settings. *Health Soc Work.* 2011; 36(4): 303-305.
14. **Saleeby P.** Applications of a capability approach to disability and the International Classification of Functioning, Disability and Health in social work practice. *J Soc Work Disabil Rehabil.* 2006; 6(1-2): 217-232.
15. **Barrow F.** The International Classification of Functioning, Disability and Health (ICF) - a new tool for social workers. *J Soc Work Dis Rehabil.* 2006; 5(1): 65-73.
16. **World Health Organization.** *International Classification of Diseases 11th revision (ICD-11) beta-browser.* [Internet] Update November 2016. Available from: <http://apps.who.int/classifications/icd11/browse/f/en>. Accessed November 2016.
17. **Blanchard J.** Epidemiology of abdominal aortic aneurysms. *Epidemiologic Reviews.* 1999; 21(2): 207-221.
18. **Yokoyama O, Sakuma F, Itoh R, Sashika H.** Paraplegia after aortic aneurysm repair versus traumatic spinal cord injury: Functional outcome, complications, and therapy intensity of inpatient rehabilitation. *Arch Phys Med Rehabil.* 2006; 87(9): 1189-1194.
19. **Kirchberger I, Cieza A, Biering-Sørensen F, Baumberger M, Charlifue S, Post MW, Campbell R, Kovindha A, Ring H, Sinnott A, Kostanjsek N, Stucki G.** ICF Core Sets for individuals with spinal cord injury in the early post-acute context. *Spinal Cord.* 2010; 48(4): 297-304.
20. **Miller W, Chan C.** Spinal Cord Independence Measure (SCIM). [Internet] 1 February 2013. Available from: <http://www.scireproject.com/outcome-measures-new/spinal-cord-independence-measure-scim>. Accessed November 2016

Questions

- Q1. Name the various types of insurances that are relevant for persons with SCI in Switzerland. *(Refer to page 9 for the answer.)*
- Q2. What are the main elements that define social work in general? *(Refer to page 11 for the answer.)*
- Q3. In Conrad's case, why were social security and insurance coverage essential to consider in planning for community reintegration? *(Refer to page 17 for the answer.)*
- Q4. What interventions did the social worker on Conrad's rehabilitation team provide? *(Refer to page 22 for the answer.)*
- Q5. List the tasks identified in the SCIR rehab Project social work-case manager taxonomy that corresponded to the interventions provided by the social worker on Conrad's rehabilitation team? *(Refer to page 27 for the answer.)*

ICF Case Studies Website
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