

Physical rehabilitation following polytrauma. The Canadian Forces Physical Rehabilitation Program 2008–2011

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As a consequence of Canada's involvement in the war in Afghanistan, many members of the Canadian Forces have experienced debilitating injuries. Despite the Canadian Forces Health Services (CFHS) having outstanding relationships with many civilian care providers for the rehabilitation of injured soldiers, it became apparent early on that the high-level goals and aspirations of these returning soldiers were sometimes beyond the capability of these centres to facilitate. From this reality grew the need to develop a Physical Rehabilitation Program within the CFHS. This article describes the lessons learned since the creation of the program and outlines the future vision in terms of unique challenges and opportunities. The primary purpose of this article is to describe a hybrid model of civilian–military rehabilitation for injured soldiers and discuss the benefits and challenges of such a model of care.

En résultat de la participation du Canada à la guerre en Afghanistan, beaucoup de membres des Forces canadiennes ont subi des blessures invalidantes. Or, même s'il existe une excellente collaboration entre les Services de santé des Forces canadiennes (SSFC) et les nombreux fournisseurs de santé au civil qui offrent des soins de réadaptation aux soldats blessés, il est rapidement devenu clair que les objectifs et les aspirations de haut niveau de ces soldats de retour du combat dépassaient parfois les capacités de prestation de ces centres. De cette réalité est né le besoin de mettre sur pied un programme de réadaptation physique au sein des SSFC. Cet article décrit les leçons apprises depuis la création du programme et donne un aperçu de sa vision pour l'avenir en termes de défis et possibilités sans pareils. L'article vise surtout à décrire un modèle hybride de réadaptation civile–militaire des soldats blessés et discute des avantages et des défis que présente un tel modèle de soins.

Advances in trauma care have resulted in substantially greater proportions of soldiers who survive severe life- and limb-threatening injuries. Currently, there are about 5 battle-related injuries for every fatality, based on the Canadian Forces (CF) casualty statistics from Afghanistan. As a result, although the absolute number of Canadian casualties from Afghanistan is much less than that in previous conflicts, the relative proportion of repatriated wounded soldiers versus the number of soldiers killed in action is higher than that in previous conflicts. These soldiers have expectations for recovery and rehabilitation that reach far beyond traditional outcomes achieved by standard rehabilitation practices. As a result, the Canadian Forces Health Services (CFHS) has developed its Physical Rehabilitation Program. This article summarizes the lessons learned since the program's inception.

HISTORY

As of May 1918, the Canadian military discharged for disability about 28 000 of the 250 000 Canadian soldiers who had served up to that time in World War I.¹ As of 1948, there were about 30 000 seriously disabled Canadian veterans of World War II registered with Casualty Rehabilitation.² Most of these soldiers had disabilities relating to the musculoskeletal system or tuberculosis. During the Korean War, Canada sustained 1557 total casualties, including 516 deaths.³ In stark contrast, as of January 2011, Canadian operations in Afghanistan had produced 136 fatal casualties, 615 battle injuries and 1244 nonbattle injuries among about 30 000 deployed Canadian soldiers. Of

these soldiers, about 147 have injuries considered to be debilitating enough to potentially preclude further military service.⁴

Modern rehabilitation medicine originated during World War I. Robert Tait McKenzie, a Canadian physician from Almonte, Ontario, authored a textbook in 1918 entitled *Reclaiming the Maimed: A Handbook of Physical Therapy*.⁵ The basic principles of rehabilitation described by McKenzie — physical modalities, exercise and occupational therapy — still remain today. Howard A. Rusk, another father of physical medicine and rehabilitation, convinced US President Franklin Roosevelt to create a comprehensive rehabilitation program within the US Army after World War II. The program's goals were to return soldiers to physical and mental health; find ways for soldiers to function despite their disabilities; help the Army and Army Air Corps preserve personnel by returning soldiers back to duty, if possible; and help soldiers choose new military jobs, if necessary, and retrain them appropriately.⁶

The Vietnam War brought further advances to military amputee care. Paul W. Brown was a senior orthopedic surgeon at Fitzsimons General Hospital in Denver, Colorado, during the Vietnam War. His article, "Rehabilitation of the combat-wounded amputee," published by the Army Surgeon General's Office in 1994, provided insight into the principles and practice of combat amputee care. Brown recognized that the key to a successful program lay in tapping into and facilitating the "motivation" of the soldier/patient. His key recommendations can be summarized as follows: create centres of excellence, incorporate rehabilitation principles early, limit convalescence leave, introduce recreational/motivational activities, better define the role of Veterans' Affairs and provide holistic care.⁷

Until 1995, the CFHS had a full-time uniformed physical medicine and rehabilitation specialist and a 25-bed inpatient rehabilitation unit. However, during the mid-1990s, the CFHS experienced budget cuts and reorganization (Operation Phoenix) that eliminated all medical specialties except those required for acute care in deployed operations. As a consequence, all complex rehabilitation services were outsourced to civilian providers. The status quo remained until 2006, when more and more Canadian Forces members were being repatriated from Kandahar with severe battle-related injuries. As a consequence, the need for a national military rehabilitation program became apparent.

ESTABLISHMENT OF THE CFHS PHYSICAL REHABILITATION PROGRAM

In 2008, the Standing Senate Committee on National Security and Defence recommended that the Department of National Defence must ensure "state-of-the-art treatment for wounded military" and that rehabilitation programs must share information and lessons learned among rehabilitation centres across Canada regarding the care of

injured soldiers. "When [CF] members are seriously injured at home or abroad, intensive rehabilitation programs are required across the country to meet the challenges faced by these traumatically injured soldiers who often want to get better as quickly as possible and continue their careers in the CF."⁸

Under the direction of the Surgeon General, Cmdre Hans Jung, the CFHS Rehabilitation Program was officially launched on Sept. 1, 2008.

The CF General Order that created this program acknowledged the pressing need for a CF-owned program. Furthermore, it identified the challenges to establishing such a program, which would need to balance the desire to be near family versus the benefits of centralized expert rehabilitative care (Box 1). The mission statement and goals of the program are listed in Box 2.

NEEDS ANALYSIS

To assess specific areas of need, a survey of injured soldiers was conducted early during the program's development. Key issues were

1. the lack of systematic mental health screening during the acute care phase;
2. nonuniform approach regarding access to care and prosthetic procurement;
3. the importance of an experienced assisting officer in navigating administrative issues postinjury;
4. the desire for meaningful return-to-work programs and vocational rehabilitation;
5. the wish for some centralized centre of convalescence and/or rehabilitation where injured soldiers could motivate each other;
6. the desire to see uniformed personnel (nurses, doctors, physiotherapists) on a regular basis when admitted to civilian institutions;
7. the importance of (clinical) case management;
8. the desire for clarity regarding entitlements and benefits after injury, specifically pertaining to assistive devices as well as home and vehicle modifications; and
9. the desire for uniformity in practices between CF military centres of expertise and the need for regular quality-assurance visits to civilian centres.

BASIC STRUCTURE OF THE PROGRAM

The CFHS did not wish to rebuild a central military tertiary care centre that would administer acute care and rehabilitation to its injured soldiers. Such a centre would not be feasible because it would not accommodate the desire to achieve part of the rehabilitation close to family, nor would it be possible to rebuild in a short period of time. Therefore, the CF identified 7 main military sites that were to become "hubs" of military rehabilitation expertise. These were matched with civilian rehabilitation

centres of excellence with academic affiliations and with similar standards of practice. These centres are listed in Table 1. In August and September of 2008, all facilities were visited by the Head of the CFHS Physical Rehabilitation Program, who confirmed the objectives of the program and confirmed the ability of these facilities to achieve them. Since then, the level of reception and collaboration from these centres has been outstanding.

THE KEY TO SUCCESS: THE CASUALTY MANAGEMENT TEAM

The casualty management team (CMT) has proven to be the single most important element associated with ensuring a successful rehabilitation. Furthermore, when managed by such teams, patients report greater satisfaction and report that they have received more comprehensive and systematic care. The CMT provides military-specific input and additional medical/rehabilitation support as required. It also serves to support important linkages with

the CF chain of command, the Directorate of Casualty Support and Management and Veterans Affairs Canada.

The CMT is composed of the base surgeon (the senior general duty medical officer at the base), a general duty medical officer, a nurse case manager, a link nurse, a physiotherapy officer and a psychologist. The most important team member is, of course, the patient. The head of the CFHS Physical Rehabilitation Program may participate as required. From a national perspective, he may assist in determining the most appropriate rehabilitation options for the patient. He also maintains contact with civilian physical medicine specialist counterparts. Representatives from the mental health team also participate, if needed.

Ideally, the CMT meets weekly and discusses issues of clinical and administrative importance to the CF member undergoing rehabilitation. Their most important role is the early establishment of clear, military-specific goals with input from the CF member and his or her family, the nucleus of the team.

Box 1. New Physical Rehabilitation Program initiative for Canadian Forces personnel (CANFORGEN 179/08 CMP 077/08 301704Z SEP 08; unclassified)

1. Given that CF operations have evolved in recent years, the nature of injuries sustained by CF personnel has changed as well. This has given rise to a need for advanced and specialized rehabilitation services that allow personnel to achieve the highest level of function possible with the injuries they have sustained. For some time, the CF has relied almost exclusively on civilian providers and limited CF resources to attain this goal. It is recognized that civilian providers have excellent rehabilitation programs; however, the expectation by CF personnel of regaining high levels of function after injury, and their expectation of reintegration into the workplace and return to military duties raises the bar above the level that most civilian centres can reasonably be expected to provide. The creation of a CFHS Physical Rehabilitation Program is intended to ensure that all CF personnel who have sustained life-altering injuries or illness have access to and receive optimal physical rehabilitation services and that those services consider their unique needs as military personnel.
2. For the CFHS Rehabilitation Program to be effective, we must recognize that one of the most important factors of rehabilitation success is the presence of family and social support. It is entirely normal that injured CF personnel returning from deployment wish to be among their loved ones as soon as possible. This being said, the best outcomes can only be obtained by providing the right services at the right time and in the right place. This often entails going to a specialized centre, remote from family and support networks. One of the goals of the CFHS Rehabilitation Program is to endeavour to coordinate and implement high-quality clinical services as close to home as possible.
3. The Directorate of Health Services Delivery has been tasked to develop and manage this program. The multidisciplinary CFHS Rehabilitation Program management team will consist of a physiotherapist, an occupational therapist, a psychologist, a nurse, a case manager and a policy and programming officer. The team will be led by a uniformed physical medicine and rehabilitation specialist. The CFHS has been fortunate to recruit LCol Markus Besemann to fill this leadership role. For the last 12 years, he has been chief of physical medicine and rehabilitation at the regional trauma centre and the regional rehabilitation centre in Gatineau, Québec. He also holds a diploma in sports medicine from the Canadian Academy of Sports Medicine.
4. The program management team will assume the following roles:
 - a. liaise with civilian partners and establish corridors of service to ensure the appropriate services at the appropriate time,
 - b. standardize policies and procedures regarding the prescription of prosthetic, orthotic and other assistive devices,
 - c. implement standardized protocols for specific injuries,
 - d. monitor the clinical and functional outcomes achieved by program participants,
 - e. coordinate the clinical activities of the 7 centres of expertise for rehabilitation within the CF, and
 - f. establish close links with case management, casualty tracking and management, Veterans Affairs Canada and the director of casualty support and administration.
5. Seven satellite centres of expertise will be established in the following locations:
 - a. CFB Esquimalt,
 - b. CFB Edmonton,
 - c. CFB Shilo (jointly with CFB Winnipeg),
 - d. CFB Petawawa,
 - e. CFB Valcartier,
 - f. CFB Gagetown, and
 - g. CFB Halifax.
6. Each centre of expertise will initially be staffed by 1 physiotherapist and 1 occupational therapist who will augment the existing rehabilitation personnel and liaise with their civilian counterparts and the local CF casualty support centres.
7. Once established, the CFHS Rehabilitation Program will work with a number of other key programs and initiatives aimed at caring for, supporting, managing and employing ill and injured personnel. This comprehensive and integrated approach will not only provide personnel recovering from injury with top-notch health care services, but will also ensure they have access to administrative support, peer support, assistance with reintegration into the workplace, support services for their families, and help in preparing for transition to civilian life when the time comes.
8. Signed by MGen W. Semianiw, CMP

CF = Canadian Forces; CFB = Canadian Forces Base; CFHS = Canadian Forces Health Services; CMP = Chief of Military Personnel.

LESSONS LEARNED 2008–2011

For the sake of continuity and clarity, the lessons learned are broken down in a sequential fashion, reflecting the chronology of events from point of injury to lifelong rehabilitation.

1. Acute phase care (in-theatre)

An early marker for successful rehabilitation is the early involvement of a uniformed physiotherapy officer. Physiotherapy involvement can reduce inpatient complications. In addition, the physiotherapist can assess the immediate and long-term rehabilitation needs of each patient. Early establishment of rehabilitation goals also sets the stage for managing realistic expectations, both for the patient and for his or her commanding officers, who may inadvertently promise outcomes that no rehabilitation program could ever deliver.

2. Tertiary care (in Canada)

We have observed the presence of a “link nurse” to be critical. This nursing officer is attached to the civilian institutions where soldiers are being repatriated. The nursing officer serves as the CF link to the civilian institution and reminds the patient that he or she is a CF member and has not been abandoned by the CF.

Box 2. Vision, mission and values of the Canadian Forces Health Services Physical Rehabilitation Program

Vision

We are a team of military rehabilitation experts who provide CF members with standardized, uniformed, high-quality programs and services that enable the attainment of optimal potential following illness or injury.

Mission

Our mission is to provide the clinical expertise, coaching and resources to assist CF personnel in the reintegration of meaningful activity.

Values

We believe that

- the ill or injured CF member is at the centre of the rehabilitation team;
- rehabilitation outcomes are strongly linked to motivation, effort and support;
- families, peers and CoC are strong sources of motivation and are essential members of the team; and
- ill and injured CF members are recovering athletes and need to be challenged and provided with an environment that fosters discipline and focus.

Goals of the CFHS Physical Rehabilitation Program

Primary goal: Returning injured personnel to their previous duty as soon as medically possible.

Secondary goal: When return to previous duty cannot be accomplished through physical rehabilitation, the secondary goal of the CFHS Rehabilitation Program is preparing soldiers for alternative military employment within the functioning requirements of universality of service.

Tertiary goal: When return to any military duty is impossible, the tertiary goal of the CFHS Rehabilitation Program is preparing soldiers to attain optimal physical function for transition to civilian life.

CF = Canadian Forces; CFHS = Canadian Forces Health Services; CoC = chain of command.

In addition, during this phase, CF members have repeatedly expressed the need for regular and systematic mental health follow-up. As such, strong ties exist between the CFHS Rehabilitation Program and the Directorate of Mental Health. We have learned that in the process of recovery and rehabilitation, one cannot separate the mind from the body.

3. Choosing the most appropriate acute care and rehabilitation facility

Early on, we noted that patients needed their families, friends and unit members to motivate them to progress. Therefore, as of September 2008, our program began grouping casualties from similar geographic regions together in the same facilities to improve morale, improve motivation and effort, allow for closer clinical and administrative follow-up from a military perspective, achieve a sense of cohesiveness and collaboration among similarly injured soldiers, facilitate the implementation of uniform and systematic practices and create the Injured Soldiers Network (an accredited peer-support group of similarly injured currently serving and former CF members).

4. Professional development of CF physiotherapists

Another lesson was the need to develop specific expertise among CF physiotherapy officers to deal with war wounds, particularly amputee care. To acquire this particular skill set, the program organized visits by CF physiotherapists to Brooke Army Medical Center in San Antonio, Texas. Such training proved to be extremely useful. Aside from clinical exchanges with our American allies, CF physiotherapists were sent to international meetings, such as those of the International Society for Prosthetics and Orthotics, and were brought together for a national-level working group to further develop their expertise in the outpatient rehabilitation of these challenging patients.

5. Acute phase of rehabilitation

During the initial phases of rehabilitation both at the acute

Table 1. Designated Canadian Forces Rehabilitation Centres with affiliated civilian centres

Canadian Forces Base	Civilian centre
Esquimalt/Vancouver	Victoria General Hospital GF Strong Rehab Centre (Vancouver)
Edmonton	Glenrose Rehab Centre
Shilo/Winnipeg	Winnipeg HSC/Riverview Rehab Centre
Petawawa/Ottawa	TOHRC Ottawa
Valcartier	IRDPO Quebec
Gagetown	Stan-Cassidy Rehab Centre/Injured Workers
Halifax	Nova Scotia Rehab Centre

HSC = health sciences centre; IRDPQ = Institut de réadaptation en déficience physique de Québec; TOHRC = The Ottawa Hospital Rehabilitation Centre.

care hospital and rehabilitation centre, members often require further procedures. In addition, they are often not yet able to tolerate aggressive rehabilitation efforts. Nevertheless, they still benefit from visits by a CF physiotherapist and nurse case manager, which fosters a strong link to the military community. Important issues, such as home modifications, visits to the CF member's unit, plans for return to work and logistical support, frequently fell between the cracks before the implementation of such visits.

6. Prolonged rehabilitation

Most civilian rehabilitation centres discharged patients only after a therapeutic plateau had been reached. However, military patients are often highly motivated and extremely physically fit. Many military patients continued to improve and did not reach a therapeutic plateau, resulting in prolonged stays of more than 12–18 months in rehabilitation.

Following a visit to Headley Court Rehabilitation Centre, the central rehabilitation facility for injured British soldiers, we noted that much shorter bursts of intensive rehabilitation seemed as effective as prolonged rehabilitation stays. Our British allies have instituted a policy whereby soldiers are admitted for 6-week blocks of intensive rehabilitation followed by discharge to a home or unit environment where they consolidate the lessons learned. Whenever feasible, we have attempted to institute such a practice.

7. Interim housing

A barrier to early discharge was the unavailability of adapted housing on or near CF Bases. A nationally directed housing project was launched to provide interim accommodations for members and their families during rehabilitation at one of the centres of excellence.

A central organization, the Directorate of Casualty Support and Management, with the assistance of CF-hired occupational therapists, produced a national policy outlining and clarifying entitlements for housing and vehicle adaptations for injured soldiers.

8. Transfer to base/unit of origin

Traditionally, injured soldiers remained members of their original units until their final disposition was known. With the large numbers of casualties, individual units were overwhelmed administratively. Therefore, a Joint Personnel Support Unit with Integrated Personnel Support Centres across the CF was created as an interim unit for injured soldiers while they recovered from injuries. These centres provide members the supervision, support and leadership required to achieve their military-specific or transition to civilian life goals. With this administrative structure, injured members have up to a 3-year window to transition to an alternate civilian career, if desired.

9. Ongoing rehabilitation

Many injured CF members wish to continue military service. Therefore, outpatient efforts are still required to augment their level of function in order to pass the physical fitness tests required for service in the CF. This required intensive follow-up with base physiotherapy clinics. This caseload was in addition to the regular ambulatory patients with musculoskeletal injuries that occupy CF physiotherapists and that comprise up to 45% of sick parade visits and are responsible for 53% of medical releases in the CF. About 25% of CF personnel access physiotherapy services every year, which resulted in 162 771 treatment sessions in 2009 alone. It was important for the program's long-term vision not to neglect this important facet of rehabilitating the "walking wounded." As such, whenever possible, integrating the severely injured soldiers into existing programs, particularly group-based physiotherapy, was deemed logistically essential.

10. Reconditioning

When does formal rehabilitation end, and when does "reconditioning" begin? Since everyone faces decline without a lifelong commitment to physical activity, we incorporated a lifelong leisure and sport program as a means to maintain and improve on the gains made during traditional rehabilitation. Through the "Soldier-On" program, initiated by the Chief of Military Personnel, injured soldiers were offered the possibility of attending various sports camps. Furthermore, 8 regional adapted fitness specialists and numerous physical exercise specialists were hired to structure reconditioning programs to allow the injured to participate in sports. The goal of these endeavours was to foster a passion for lifelong adapted fitness, as this has been shown to substantially improve physical and mental well-being in both able-bodied and disabled populations.

11. Universality of service rehabilitation for retention

The CF has a tenet of universality of service. All active-duty CF members must achieve a basic minimal standard of physical fitness that allows them to fulfill all basic military duties, including overseas deployments. Thirty percent of severely injured members with lower-extremity amputations have been able to meet universality of service requirements, and about 10% of amputees who lost limbs in theatre have redeployed. This compares favourably with the numbers being reported by our NATO allies.

12. Return-to-work/vocational rehabilitation

One cautionary lesson we learned is that rehabilitation professionals must balance the desire of the patient to rapidly return to military duty versus his or her chances at

better functional recovery. In some cases, early return to duty compromised the functional outcomes that could have been achieved with more thorough physical, cognitive and psychosocial rehabilitation. Rehabilitation sometimes took a back seat to unit reintegration at a critical stage of the rehabilitation process. This short-term success can substantially compromise long-term rehabilitation outcomes.

13. Outcome predictors/measures

Traditional rehabilitation outcome measures have been based on independence in activities of daily living and instrumental activities of daily living. Most soldiers, however, start their rehabilitation at a level of function that exceeds the end-state among civilians. As such, most traditional outcome measures are inadequate for our military population. Specifically, such scales as the TUG-test (timed-up-and-go), 6-minute walk test and Amputee Mobility Predictor are not sensitive enough to measure clinically significant gains because of an early ceiling effect.

Researchers in the United States have developed the Comprehensive High Level Activity Mobility Predictor, which is a scale consisting of a series of validated, advanced physical skills tests. Since September 2010, the CFHS Rehabilitation Program has been using this tool to measure progress in our amputee and limb-injured soldiers.

These tests still do not, however, predict overall outcome with any reliability. Rehabilitation success is a multifactorial problem. Motivation is a key ingredient but is not a guarantee of success, as this element is rarely lacking in the military population. Issues related to prosthetic fitting, skin breakdown, residual limb problems, pain, neurologic involvement and mental health all influence outcomes.

14. Transition to civilian employment/ *Veterans Affairs Canada*

Another cautionary lesson that we learned is not to equate “medical release from military service” with failure of rehabilitation. One could argue that a successful transition to a civilian life, with vocational pursuits and fulfilling family and social relationships is the ultimate measure of rehabilitation success in the broadest sense. With our current medical capabilities, some rehabilitation goals are simply unrealistic. Soldiers who are capable of making this shift and adjusting to the “new normal,” a term coined by our mental health colleagues, seem to do very well in the long run.

15. Lifelong rehabilitation

As indicated, rehabilitation does not end with discharge from physiotherapy. All of us in one way or another are “rehabilitating” throughout life as adjustments are made

continuously to adapt to new realities and changes brought about by aging, illness or injury. Our goal as facilitators of this process is to instill in our patients the deep desire to pursue alternate life goals and provide them with the necessary tools to reach them.

16. Use of recent technologic advances/virtual reality

The CFHS has acquired 2 Computer-Assisted Rehabilitation Environments systems. These real-time, virtual-reality simulators allow for both treatment and research of various musculoskeletal and mental health conditions in a safe and controlled environment. In the initial cohort of patients who used the systems, more rapid gains were made than had been the case in the past, likely because patients were able to “push the envelope” without fear of injury and because of the engaging nature of the real-time virtual environment. Furthermore, one has the ability to incrementally introduce more variables into the rehabilitation equation (i.e., physical and cognitive tasks as well as desensitization and habituation of emotionally threatening situations). As such, one can gradually “destabilize” the patient safely to achieve the desired goal. Studies are currently underway to assess the utility of this tool in the context of military rehabilitation.

SUMMARY OF LESSONS LEARNED

1. Military rehabilitation programs form an integral part of comprehensive care for injured and ill service members and should not be dismantled during peacetime.
2. Injured service members expect to be rehabilitated with the same intensity at which they were initially trained.
3. Rehabilitating military personnel need to be treated in groups to enhance motivation and morale.
4. In hybrid military–civilian models of care, the assumption cannot be made that all issues of importance to service members will be dealt with by the civilian institutions, nor is this a reasonable expectation.
5. Despite the lack of pure “specialized clinical expertise,” military rehabilitation clinicians can substantially improve rehabilitation care delivery owing to the breadth of their expertise.
6. Technological advances, although important, are not in and of themselves the answers to the wide-ranging issues involved in rehabilitating “the whole person.”

CONCLUSION

The CFHS Physical Rehabilitation Program is in constant evolution and aims to provide optimal care to injured and ill CF members. Whereas physiotherapy has existed as a core service within the CFHS for some time, intensive rehabilitation of seriously injured and ill service members has only recently been re-established as a treatment mandate.


The CF has established a hybrid program of contracted services with civilian care providers and internal capability to ensure standardized practices and optimal results for CF members. Experience has shown that exclusive reliance on civilian care providers does not satisfy our military members' expectations for recovery, which usually exceed most civilian centres' capabilities. In the short time since the inception of the program, 3 CF members with limb amputations have been rehabilitated to the point of being able to redeploy to Afghanistan or other operational theatres. Others will soon follow. Every day, CF members sustain musculoskeletal injuries both at home and abroad that could potentially end their careers. Continued access to internal, well-structured and well-delivered rehabilitation programs is a key element of health protection and operational readiness.

Competing interests: None declared.

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