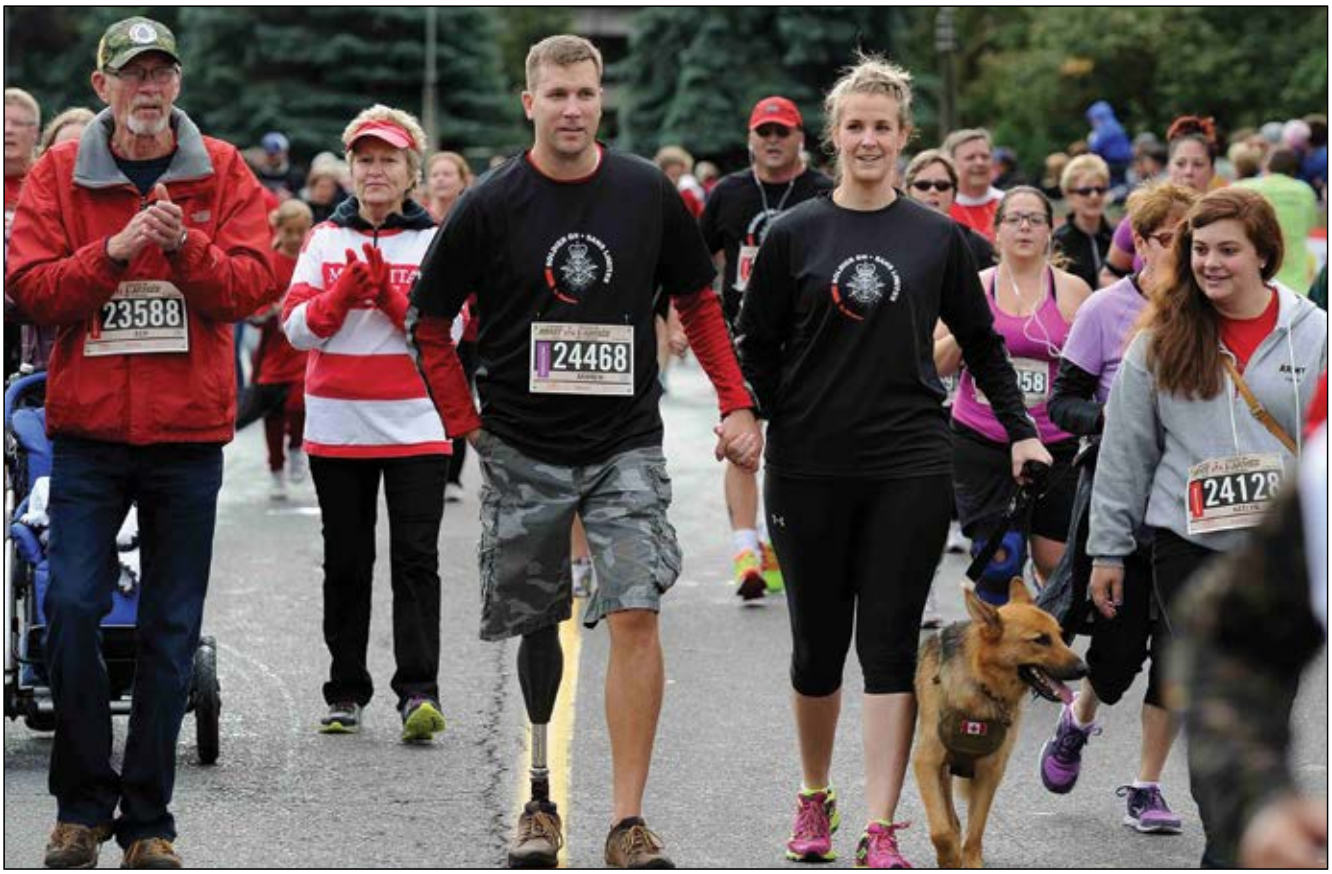

Soldier On photo LF2013-073-08 by Corporal Philippe Archambault

Race participants Andrew Knisley and his wife Erin Moore head to the finish line at the 2013 Canada Army Run, Ottawa, 22 September 2013.

Wounded Soldiers: Can We Improve the Return to Work?

Simon Mailloux

Introduction

To acknowledge that soldiers coming back from the battlefield with an amputation might require some form of special rehabilitation or adaptation is not new, nor is it particularly revolutionary. In the First Century AD, an early crude example of this practice is exemplified through a story told by Pliny the Elder, who details the experience of a wounded Roman general. The general had lost his arm, but, rather than let this be the end of his career, he had an iron prosthetic made to hold his shield up for when he returned to battle. Stories of such resilience abound in historical records, but they are usually brought about by a stubborn individual, or by unusual events requiring extreme measures. On no occasion were such rare achievements repeatable due to the medical knowledge of the time.

As advances in medicine progressed, the probability that a patient would survive multiple traumatic injuries increased, while his capacity to reintegrate into society as a productive member also experienced several advances. Major leaps forward coincided with intense conflicts, such as the Napoleonic Wars, the American Civil War, and the two World Wars. These events challenged contemporary knowledge. However, recent technological advances, coupled with the large samples of motivated injured soldiers that the recent conflicts have returned to Canada, have demonstrated that rehabilitation into the ranks as a career soldier is possible. A recent study of British amputees from Iraq and Afghanistan between 2001 and 2008 concluded: "…[that] amputation does not necessarily mean the end of a military career, and rehabilitation with vocational support can place these patients back at work."[1] With this complete return to work in sight, an important threshold has been set, which raises new challenges for the medical profession but which also allows soldiers to see injuries in a different light. Indeed, the concern of rehabilitation is not simply medical, but also operational as "amputation is one of the most feared injuries of warfare in Service personnel, and it is a particular concern that they will be left disabled, ending their military career and opportunities outside."[2] This concern can be significantly mitigated or reduced with the right support and training, but, most importantly, with the intelligent use of military ethos when treating injured men and women in uniform.

While the case of every injured soldier is inherently different, and every case follows a different path, I will endeavour to share my experiences in going through the rehabilitation process to delineate some lessons learned. To achieve this, I have divided this brief article into two parts. The first will summarize my

Corporal Claude Arsenault

Captain Simon Mailloux (right, in red/white T-shirt) provides 'helping hands' during a PT session in preparation for his second deployment to Afghanistan in 2009.

experience of the Canadian Armed Forces repatriation, rehabilitation, and re-integration system until a return to combat operations two years later. The second will highlight a logical process that could strengthen soldiers' rehabilitation by leveraging the existing military culture and applying some lessons learned.

The Personal Rehabilitation Experience

I was injured in November 2007 in Kandahar, Afghanistan. I was commanding the vanguard of a combat team leaving a patrol base to conduct a night operation in the Zharay district. Shortly after our departure and 'shake-out' into formation, my command vehicle was hit by a Command-Wired IED that defeated the armour and safety systems aboard our Light Armoured Vehicles. The initial blast and subsequent fire that spread to the ammunition and explosives we were carrying generated three Killed-in-Action (KIA) and three Wounded-in-Action (WIA) personnel.

All the leadership component within our vehicle was either injured or dead, and the vehicle driver was the only individual able to move us to cover by dragging us behind a concrete block. Our platoon medic was amongst the KIAs, and it took approximately 20 minutes before the company medical technician could reach our position and begin stabilizing the condition of the three WIAs. One of the WIAs, had multiple fractures and was not ambulatory. However, no blood loss could be seen and he was conscious, albeit in a lot of pain. The second WIA was the most critical. His right leg had been torn all the way up to the femur. Shrapnel had ripped his underbelly and generated significant blood loss, which was not controlled by a tourniquet, and this was causing low blood pressure and a state of shock. As for myself, my left leg had an open fracture on the tibia and fibula, and a closed fracture on the femur. The upper right mandible of my jaw was fractured, but it was kept in place by the swelling generated. Our wounds had been dragged in the sand causing a lot of pain, and I was fighting to keep conscious during the evacuation, but with little success. Our torn limbs were quickly immobilized, and, around 45 minutes after the explosion, we were evacuated by helicopter to Kandahar Air Field.

In spite of the enormous efforts by the medical teams in Kandahar Air Field Hospital Role 3 and Landstuhl Military Hospital, Germany, I was disarticulated through the left knee, below my broken femur.

Following my repatriation to the city of Québec, I was placed in the Intensive Care Unit of the Tertiary Trauma Center l'Enfant-Jésus.

Rehabilitation and recovery can be a competitive process for individuals accustomed to challenging military environments. As soon as I learned that my brother-in-arms next door had quit his morphine doses, I decided to stop using it as well. The pain endured was great, but my pride would have none of it. This decision decidedly assisted in my recovery, since I regained control of my memory and could make sound decisions and commitments. One such decision was to be released from hospital and to return home for Christmas. The medical staff had been debating the issue, concerned that discharging me around Christmas time would create a potential mental health risk. Doctors were also worried that I was losing weight, and that I was not active enough. Their judgment was calling for me to transition as an in-patient to the Institut de Réadaptation en Déficience Physique de Québec (IRDPQ), which was an all-encompassing civilian facility for rehabilitation from all kinds of injuries, ranging from muscle pains to severely burned patients.

The medical staff felt that they could not release me when my health, both physical and mental, was at risk. However, the answer lay in a completely opposite direction. I needed to be discharged and return home to gain weight, to raise my confidence in my abilities, and to find a mental balance. As the result of the decision to allow me to return home, I gained weight and muscle mass very quickly, while my sleep normalized and my morale improved. Hospitals are excellent at their core work, namely, saving lives. Once that is done, and especially for a soldier, what is required to rehabilitate, when medically possible, is time with family at home, and consistent work hours at a rehabilitation centre. Hospitals and rehab centres alone do not ensure that patients are made stronger and more confident. It also created a healthy balance from our recent exposure at the Institut to much older civilians with cancer or diabetes, who had very different goals than most repatriated military personnel.

The IRDPQ has a very collegial approach to the rehabilitation process. Although this particular centre has specialists from all disciplines of rehabilitation who schedule dedicated sessions with each patient, bi-weekly meetings were held to allow information sharing across specialities. These meetings, chaired by a medical doctor and attended by the physiotherapist, occupational therapist, kinesiologist, prosthetic technician, psychologist, and others, had, as their main objective, to facilitate the decision making with respect

to recovery steps. This became crucial when the time for prosthetic fitment came about, as the team of specialists could vouch for the preparedness of the patient, and this allowed for the rehabilitation to be an empowering experience with all the specialists' inputs, as opposed to something to which the patient passively submits.

The same brother-in-arms that helped me wean myself off morphine also followed me throughout the rehabilitation process. We were always challenging each other to 'go the extra mile,' and to push the physiotherapist and the kinesiologist to show who was the first one about to break in any given challenge. For example, we had a running bet as to who could achieve the highest score on the VO2 Max machine, which led us through a gruelling exercise schedule, and, in the end, both of us broke the IRDPQ's all-time record. While this is quite counter-intuitive for a medical institution, such behaviour is quite common in a combat unit, and competition is fostered to take advantage of the pride of the members to push themselves beyond their known limits. While it needs to be tempered, the pressure to not disappoint your peers is sometimes what makes the difference between a rehabilitation that lasts months, versus one that lasts years. I believe this form of 'competitive rehabilitation' should be used whenever possible, since, in general, soldiers have shown that they respond well to this type of environment.

I left the IRDPQ in July 2008 after seven months of intense work. From there, I was posted to Ottawa as an Aide-de-Camp to the Governor General of Canada, and, with that move, I took on progressively more demanding work. Learning to run became important once I was able to complete a full week of work, and completing our physical fitness test was the next natural step. This phase of rehabilitation seemed so much easier to deal with because my life was not in a holding pattern any longer. I needed more time for the next steps of rehabilitation, but these steps *fit themselves into* my schedule, rather than *dictating* it. I completed a return to a truly functional state once I re-deployed as a combatant in November 2009, completing the battle fitness test, and I fulfilled my duties, even when they called for me to liaise 'outside the wire.'

Lessons Learned from a Soldier's Perspective

From this experience, I have learned some lessons that have allowed me to successfully come back from a crippling injury, and they are in line with University of Maryland anthropology professor Seth Messinger's work that rehabilitation requires a "person centered approach," as opposed to a "technology driven model."[3] This is even more important for programs geared towards injured soldiers, as the mental plane is what 'makes or breaks' a warrior, and it is generally not his equipment.

An injured soldier often has different stress and breaking points or indicators than those of a civilian patient, and, therefore, he/she should not be treated as such. The 'patient phase' of early medical evacuation and attendance to life-and-limb threatening emergencies is necessary to let the medical system do its job. However, early and regular communication should let injured soldiers know that they are still serving their country, and that it is expected that they give their utmost to re-integrate quickly with their peers, or to continue to work hard to ease their transition, should they chose another life path. These communications can take the form of a military liaison officer regularly visiting injured service-members at the hospital, leaving them their uniform at the bedside for them to see or wear during visits, and by using their rank when being addressed by medical staff. It is sometimes helpful to remember that soldiers injured from a traumatic incident will have lost consciousness on the battlefield while being part of a combat outfit that had a mission, leadership, and a sense of purpose. Awakening in a medical environment that deprives them of all that was part of the social construct of their daily life in operation exacerbates the trauma, and it creates chaos with respect to their social identity.

DND photo LF2013-0073-10 by Corporal Philippe Archambault

Soldier On

Father and son at the Army Run.

It is recognized that patients "…with traumatic limb loss construct new post-injury bodies and social worlds by focussing upon their relationships with other patients, [and] clinician."[4] Having a military presence to remind them of their strengths, but also of their identity as part of their unit, is crucial during this social identity reconstruction. Depriving him or her of a military affiliation at this juncture is wrong, even if the member's plan is to release from service, as it diminishes his prospects of rehabilitation by removing the soldier's bearings too early in the recovery process. Keeping this affiliation will help the soldier deal with mental health issues that can arise from guilt, post-traumatic stress disorder, and other trauma-related health issues during the rehabilitation.

A definite plan with challenges, goals, and achievements needs to be established for a successful rehabilitation program, and this is the responsibility of the medical staff, since they assume the leadership of the soldiers under their care. A sound plan gives peace of mind and assurance to soldiers, who then start to work on the tasks so assigned. This plan should be explained to soldiers and their families as early as possible in order to reduce the chances of depression and allow him/her to be reassured of their prospects and capacity to re-integrate into a normal life, even as soldiers.

Being recognized for their sustained efforts and dedication in the service of their country is also an integral part of the motivational process. Going through military rehabilitation should bear the same recognition as undergoing a demanding military qualification. New skills are required from the member to function as an amputee soldier, and the work and time spent in the rehabilitation centre is indeed in the service of his/her country, and it needs to be recognized as such. Soldiers in every NATO country take pride in what they have accomplished, be it a specialist qualification, a rank attained, an operational experience, or just by being a qualified soldier. This system of recognition of efforts is present throughout a military system, identified by and through badges, medals, the granting of positions of authority, acknowledgement of accomplishments, and so on. Rehabilitation programs should leverage this system of recognizing military achievements, and develop clear plans within the chain of command to facilitate rehabilitation into the ranks. While this may seem trivial at first glance, this system of recognition will achieve positive results, as it fosters hard work and it reinforces positive behaviour in many ways similar to combat operations. Soldiers are familiar with this process, and health services can leverage this very easily, provided they are not 'medical achievements,' but true 'military achievements,' recognized by their peers and controlled by the chain of command.

The motivation and willingness of injured soldiers to work hard has always been seen as crucial for a successful rehabilitation. Time and again, medical staff see two patients with "…similarities in their ages and injuries [which] might suggest the they would have similar outcomes, but in fact while

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Corporal Dominic Larocque, who lost a leg to an IED while on patrol in Afghanistan in 2007, will represent Canada with pride at the XI Paralympic Winter Games, Sochi, Russia, March 2014.

they both achieved good clinical outcomes, measured against other considerations [such as return to work, usage of prosthetic and mental health] they fared quite differently."[5] The impact of motivation is supreme with respect to rehabilitation successes. This is in no way foreign to military operations, as morale has always been a critical component of war-winning strategies. In fact, factors such as pain, seemingly unattainable challenges, and physical exhaustion are present and normal in both domains. As such, the enormous advantage of military rehabilitation is that the soldiers will have already learned to overcome obstacles while maintaining high morale, provided they maintain the usual bearings upon which they are used to relying.

The goal of any rehabilitation program is to provide injured personnel with the opportunities to reintegrate where possible into their previous occupations. To this end, a clear connection with their unit and with their support network needs to be maintained, since it has been advanced that a "…disability is a social and not merely a physical phenomenon."[6] Severing all ties to one's identity as a soldier during rehabilitation will lower one's chances of re-integrating into his/her workplace and continuing his/her career. It may even hinder one's prospect of recovery, as their identity as a high performing soldier will be compromised, and it may be replaced by an identity as a 'crippled' individual.

Most soldiers will have access to a strong network of family and friends, and they are vital for mental health. However, the military family also needs to be actually present with the recovering soldier, as this is critical to the return of the member to his/her optimal capacity. It is essential to make the injured soldier feel part of the work routine at the unit, and to be fully engaged in the career progression he or she has chosen.[7] Indeed, soldiers will face new barriers and limits, but above all, they need to experience a reassertion of their social existence and self-worth, which is the foundation of a warrior's confidence and motivation. To help the soldiers redefine their own social existence and also to promote positive perceptions of the wounded soldier's capacities, exercises that emphasize the skills that injured soldiers have regained should be developed. Adventure training is a great example of an opportunity to test these skills, but contributing to their unit training, and ultimately, redeployment into a theatre of operations are the true thresholds.

Conclusion

Ultimately, the desire of most wounded soldiers is to brush off their injuries and to come back in line with their comrades-in-arms. Some soldiers may desire to transition to a civilian life or a different support trade, but all of them want to return to the same physical capacities that they held before the incident. I maintain that now, more than ever before, we are able to make this possible in even the most complex cases, and we can achieve the complete return of amputees to combat operations. The medical branch has accomplished outstanding successes over the years by developing new medical procedures, and by designing new prostheses. The next step is to integrate these advancements with the military ethos to achieve even better results.

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Soldier On photo by Mike Pinder

More proud participants at the 2013 Canada Army Run.

NOTES

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3. Seth D. Messinger, "Incorporating the Prosthetic: Traumatic, Limb-loss, Rehabilitation and Refigured Military Bodies," in *Journal of Disability and Rehabilitation*, Vol. 31, No. 25, 2009, p. 2130.
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