CONVENTIONAL TREATMENT AND THE RECREATIONAL ART THERAPY: REINTEGRATION FOR SPORTS PERSONNEL WITH SPINAL CORD INJURY

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ABSTRACT

The purpose of this article is to examine how a probe into the creative aspect of mind could offer wounded players living with a spinal cord injury (SCI) an affective opportunity to improve their quality of life, and use the same as a therapy or treatment leading to a possible cure. The data presented herein seeks to explore the reasons for receiving damage to the cord, how sports has been deemed as a major factor that causes the spinal cord injury, biological and scientific rationale for recovery of normal physical functioning following conventional SCI treatment, and a non-conventional rehabilitative means where the injured personnel immerse themselves in their artistic practice on their road to recovery. The article discusses the above in light of findings that have resulted from clinical trials and cutting-edge rehabilitation research conducted on SCI population samples throughout the USA.

Key words: Spinal Cord Injury, Sport Injury, SCI Treatment, Therapeutic Recreation, Recreational / Art Therapies.

Introduction: Overview of SCI

According to a fact sheet produced by the World Health Organization Media Center (2013), globally, each year, 'between 250,000 and 500,000 people suffer a spinal cord injury (SCI).' This is when, due to a physical trauma or a degenerative tissue disease, an individual's spinal cord or vertebral column end up getting damaged either in part or wholly (Medtronic, 2013). Particularly at risk, in this respect, is the cervical spine (Landro, 2013). As Landro elaborates further, this is an area between (C1), i.e. the first vertebrae, and (C7), i.e. the seventh cervical vertebrae, and shields the spinal cord from harm (See figure 1).

Fig. 1: Cervical Nerves (C1 – C8) presented by the Shepherd Centre (2015)

The injury can occur to the spinal cord anywhere between C1 and C7 (Zeigler, 2015). This cord, further explains Zeigler, comprises of nerves that spread out from the base of the brain and move down towards the 1st or 2nd lumbar vertebrae of the lower back (figure 2).

Fig. 2: Lumbar Nerves (L1 – L5) presented by the Shepherd Centre (2015)

Running from the neck to the lower back, the spinal cord is a major component of the central nervous system and ensures the brain's connection to and control of various parts of the human body (Zeigler, 2015). Therefore any damage to the cord could disrupt the exchange of motor information, i.e. the ability to move muscles, and sensory information, i.e. the ability to feel, between the brain and the rest of the body (ibid). The impact of the injury could, however, either be minor or major depending on the level of damage to the cord. In case of the former, for instance, the injury leads to a partial disruption of nerve transmission that in turn causes reduced function or a temporary set-back in 'mobility, sensation and reflex activity below the level of the injury' (Medtronic, 2013). As a result, the injured individual may experience a limited and / or short-term 'loss of sensory function or motor control of arms, legs and/or body' (WHO Media Centre, 2013). However, if the injury is severe, it may result in a complete and/or permanent loss of the same (ibid).

Common to the SCI sufferers are wounds such as 'contusions (bruising), compressions, lacerations and central cord syndrome (specific damage to the nerve tracts of the cervical region of the

cord)' (Medtronic, 2013). Although severe impairment has been reported to occur in ten to fourteen percent of SCI related accidents, majority of such incidents lead to 'broken backs, necks or vertebral fractures' which cause minimal and/or temporary damage to individuals, and are of a treatable nature (ibid).

Spinal Cord Injuries in Sports

While there are many responsible factors, sport has been deemed as the one physical activity frequently prone to leading to a spinal cord injury (Landro, 2013; Smith, 2013, p.3). This is particularly the case in highly risky games such as 'horseback riding, motorized sports (especially snowmobiling), parachuting, hang gliding, paragliding, climbing, ice hockey, bicycling, snowboarding, downhill skiing, ski jumping, football,' etc. (Bahr, R. & Maehlum, S, 2004; also cited in Zeigler, 2015). The mentioned researchers believe that in these sporting activities athletes utilize violent and hazardous means and end up receiving neck, back and head injuries and get their spinal cord damaged as a result. The majority of SCIs are caused by 'unorganized sport activities,' instances when players either bash into each other using the top of their heads while playing ball games, collide with each other or into sporting equipment, take a violent plunge into water while swimming, etc. (Zeigler, 2015).

According to recent records researched between 2002 and 2013 by Smith (2013), sports personnel with SCI can end up experiencing severe physical disabilities to enormous psychological stress (p.3). Players who become quadriplegic, i.e. who get paralyzed as a result, either experience incomplete or complete inability to feel sensations and/or face loss of movement in all four limbs (Zeigler, 2015). While some players are reported to have suffered 'permanent or temporary neurological damage and paralysis,' with others having died after sustaining cervical injuries, most athletes end up receiving concussions, broken neck or fractures that are recoverable (Landro, 2013). However, even when the physical damage is of a minimal nature and normal body functioning recoverable, the wounded personnel may experience

certain secondary symptoms that can be more devastating, make daily activities more challenging or life threatening than the physical injuries themselves (Smith, 2013, p.3). The WHO factsheet (2013) lists those conditions as, for instance, 'deep vein thrombosis, urinary tract infections, muscle spasms, osteoporosis, pressure ulcers, chronic pain, respiratory complications,' and especially "depression." See also, for instance, Anson & Shepherd (1996) in this regard.

Of all medical conditions following SCI among athletes, depresssion has been reported to cause 'a severe negative impact on improvements in functioning and overall health' (WHO Factsheet, 2013). The suffering individuals often fall prey to these secondary disorders, and face enormous difficulty to manage them, often to the point of experiencing a worsening of mobility issues and active participation in society (ibid). However, there is no reason to assume why such athletes cannot engage in certain other activities to 'experience (positive) post-traumatic growth and new ways of being' (Smith, 2013, p.3). Rehabilitative care measures can not only help maintain their health, but can also lead to possible regeneration of regular body functions (WHO Factsheet, 2013). Various medical facilities have been active, in this regard, to develop treatment approaches that could treat numerous primary as well as secondary conditions following the SCI in sportsmen (Medtronic, 2013). While there are cutting edge scientific technologies and numerous medicinal means utilized to treat players with spinal cord injury(s), the usage of creative practice (fiction writing, poetic, dramatic representations, etc.) can bring such individuals out of their cocoons and speed up their rehabilitation (Smith, 2013, p.6).

Conventional Treatment Options for Sportsmen Suffering from SCI

Usually, when sportsmen sustain a spinal cord injury, they are usually provided with emergency care to ensure that they don't get further hurt or develop severe breathing problems (Wilberger & Dupre, 2015). As the mentioned researchers report, the first priority of emergency personnel is to keep the injured sportsman's neck immobile while moving

them. To inhibit movement, the individual gets 'strapped to a firm board,' and has to wear a collar around their neck. This is done to guarantee that the spinal cord receives no further pressure, or the spine shifts, which could lead to permanent paralysis (ibid). Later, they are sent off to medical care units to undergo rehabilitation and curative treatment for months. This care comprises of "occupational therapy" and "physical therapy" so the athletes could be enabled to regain their normal manner of living (Zeigler, 2015). The former therapy is intended to help athletes maintain their focus on the usual everyday activities; the latter enables them retain or improve their motor activities (2015). Some individuals also develop breathing difficulties in wake of sport injuries. For them, Dr. Colin Tidy (2014) suggests the "respiratory muscle training," which is 'effective for increaseing respiratory muscle strength and perhaps also lung volumes for people with cervical spinal cord injury.'

Concussions and physical injuries are also treated using speech therapy, oral medicines and curative technologies such as 'neurosurgery, injection therapy, orthopaedic surgery, or the ITB therapy' etc. (Medtronic, 2013). The last therapy has been most recent; in it an 'implanted drug pump delivers medication directly to where it is needed inside the spinal cord' (ibid). Sometimes, following the injury, the build-up of blood and fragments of the broken bone could exert severe pressure on the spinal cord. Wilberger & Dupre (2015) suggest this situation demands surgery be performed on the athelete, and the possible implantation of steelrods around the unstable spine, so as to keep it 'immobilized until the bone and other tissues have had time to heal.' Injured athletes may also immediately be injected with methylprednisolone or other corticosteroids, and ideally during the first eight hours after receiving the SCI, 'to help prevent swelling around the injury' (Wilberger & Dupre, 2015). The individuals could also be put on "analgesics" or pain killers such as "opioids" initially, and later on milder pain relievers such as 'acetaminophen or ibuprofen,' and "muscle relaxants," such as 'baclofen or tizanidine,' to take away the spastic muscular pain (ibid).

It is always a possibility for injured players to return to sports after undergoing intensive therapy for a while. Prior to getting back to their usual gaming activities, Zeigler (2014) suggests they must ensure that they are "asymptomatic (symp-tom free)" or are fit to play. This can only be achieved after following a five-stage rehabilitation procedure. In the first stage, the injured athlete is prescribed aerobics or muscle relaxing training exercises. In the next stage, they are encouraged to adopt specific sport related activities and exercises, so as to enable a beginning of their return to sports. Having progressed from the first to the second stage, they are made to adopt slightly more complex drills. However, it is not until their reception of medical clearance that they enter the fourth stage, within which they begin to 'participate in normal practice activities' (Zeigler, 2014). In the last stage, they are cleared to return to sports competitions (ibid). A progression of each step occurs if no concussion symptom returns during the particular stage. If it does, sports personnel are motivated to resume the previous level of activity and observe the impact accordingly (Zeigler, 2014).

The Non-Conventional Creative Art Therapy

Surgery and physiotherapy are not the only means that have been reported to help 'repair broken bones in the neck and back' (Spinal Injury Network, 2015). Other than bed rest, there could be some less "invasive" approaches that can accelerate the natural healing process to a great extent (ibid). Of fundamental importance in this regard is the utilization of artistic practice as a means to ensure rehabilitation in wake of experiencing a traumatic SCI whilst playing sport. Individuals after suffering sporting spinal injuries can be exposed to creative crafts, and use them to heal their impaired body and take care of their new physical needs (Reeve & Reeve, 2015). The healing process would be more psychological than of a physical nature, but it can help them reintegrate back into their normal routine and sporting or non-sporting social community (ibid). As Smith (2013) observes in this respect, other than the trained 'policy and health professionals (e.g., physiotherapists and clini-

cal psychologists),' it is the injured sportsmen themselves who can teach their bodies how to retain their original fervour (p.4).

The mission statement fostered by the Christopher and Diana Reeve Foundation (2015) implies that creative arts can positively enhance the entire life style of SCI sufferers to a great extent. For one thing, one does not have to be in perfect "physical," "social," "attitudenal," or "psychological" frame of mind to be able to express themselves creatively via 'visual arts, (creative arts), music, theatre and dance.' This gives the injured personnel the freedom to break barriers and make their own selves physically and mentally strong (Reeve & Reeve, 2015). This process has been termed as "Therapeutic Recreation" by the Florida Department of Health. Under their banner, the Florida Disabled Outdoors Association (FDOA) and the Brain and Spinal Cord Injury Program (BSCIP) have collaborated to use creative expression through various art forms such as 'ceramics, painting, sculpture, gardening, dance, music, drama, etc.' to help people with spinal cord injuries 'to develop and use their leisure time in ways that enhance health, functional abilities, independence and quality of life' (Florida Spinal Cord Injury Resource Center, 2011).

According to the FSCIRC (2011), active engagement in creative outlets can enable injured individuals attain their normal lifestyle and active participation in their sporting or non-sporting activities swiftly. Through creative recreational means, such people can attain health benefits physiccally and emotionally (Florida Spinal Cord Injury Resource Center, 2011). On a physical level, participation in creative activities can bring about 'better respiratory fitness, improved muscle strength and mobility, better muscle to fat ratio, injury prevention, healthier blood lipids, and better skin integrity' (ibid). The Florida Spinal Cord Injury Resource Center (2011) also stipulates this kind of participation can result in 'increase in self-esteem and self-confidence, decrease in depression, reduction of anxiety, increased support systems,' which will lead to better emotional and mental wellbeing. On the whole, this can bring about improved ability to heal and 'pre-

vent secondary health conditions' that arise as a result of the spinal cord injury (ibid).

Conclusion

This article aimed to examine how sports are frequently responsible for a large share of spinal cord injuries these days. While any sport that causes athletes to slip over or get hit by another participant can put them at risk for getting their spinal cord damaged, there is a higher rate of players ending with a SCI in certain sports such as ball games, swimming, bull fighting, gymnastics, skiing, car/bike racing, etc. Typically, once an incident occurs over the course of any sport, the sportsman may find a portion of their spinal cord damaged, and him/herself partially or completely paralyzed.

While there are a number of medical treatments or curative procedures involved, this article also explored information pertaining to recreational creative arts therapy, which has been known to work wonders with injured individuals. Early on Askins (1994) had discovered how leisure activities involving "arts and crafts," for instance, could 'be an integral part of the rehabilitation process for people with spinal cord injuries' (1994, pp. 23, 25). For one thing, by engaging in artistic activities, such individuals can utilize their additional free time effectively, and avoid turning to 'substance abuse and a sedentary lifestyle' instead (1994, p.23). This in turn can help them out-encounter many 'secondary medical complications' associated with the SCI (ibid). Medical professionals at the Ohio State University's Wexner Medical Center in America (2015) offer arts therapy to help individuals with "sports or recreation injuries" to regain their daily skills. Spinal cord injuries of complete as well as of partial nature are treated using the 'creative process to help patients improve physical skills, thinking skills and emotional well-being' (ibid). The same has been supported by Kelly Edens (2015), who is the "manager of Shepherd Center's Recreation Therapy Program" in America. Likewise, we have the New York University School of Medicine, wherein injuries to the spinal cord are treated using 'Therapeutic Recreation, i.e., recreation therapy, art therapy and music therapy' (Rusk Rehabilitation,

NYU School of Medicine, 2015). The National Spinal Cord Injury Association of America similarly promotes that creative art practices can support the rehabilitation of SCI personnel and enhance their life greatly (NSCIA, 2011). Even in case of youngsters and children suffering from this injury, the utilization of "recreational / art therapies" as rehabilitation has been found to improve their medical status and stimulate recovery (C.S. Mott Children's Hospital, University of Michigan Health System, 2015).

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