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A Community Re-Integration Manual for Individuals with Amputations: Preparing for the Paralympics

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A COMMUNITY RE-INTEGRATION MANUAL FOR INDIVIDUALS WITH AMPUTATIONS: PREPARING FOR THE PARALYMPICS

by

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A Scholarly Project
Submitted to the Occupational Therapy Department
of the
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for the degree of
Master’s of Occupational Therapy

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This Scholarly Project Paper, submitted by Carmen Schempp in partial fulfillment of the requirement for the Degree of Master's of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

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Department Occupational Therapy

Degree Master’s of Occupational Therapy

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ABSTRACT

Being an athlete with an injury is difficult, but an amputation poses even more challenges to one’s life dreams for sports competition. This scholarly project focused on advancing an athlete’s community re-integration, specifically back into the sporting community. Presently, there is a gap in existing occupational therapy services for persons with amputations between the completion of inpatient rehabilitation and the return to full community re-integration, particularly for the sports competitor. This scholarly project product is a manual of sequential therapeutic activities for athletes who have the goal of returning to the occupation of sports participation. This product is intended to guide occupational therapists in working with athletes who have amputation and wish to fully re-integrate into the community, including competition in sports challenges such as the Paralympics.

The procedure included gathering of information through a review of the literature. This review included articles on amputation and relevant rehabilitation aspects, the Paralympics, and the occupational therapy rehabilitation process for persons post-amputation. The expansion of OT services for persons post-amputation who have the desire to return to a competitive sports participation role was developed for this scholarly project product.
This scholarly project included the following findings. A team approach is recommended for an individual with an amputation to have the best recovery (Kent & Fife, 1999). An individual with an amputation can have a low balance confidence and may be afraid of falling. Knowledge of this allows clinicians a better understanding of the events an individual with an amputation may go through (Miller & Deathe, 2004). An individual’s level of participation in physical activity and sports may be affected by one’s body image. Clinicians that encourage sports participation as a part of rehabilitation may have increased sports participation in their clients (Wetterhan, Hanson, & Levy, 2002). An individual’s function with their wheelchair, their athletic discipline, and their capacity to train for hours explain and control the individual’s aerobic capacity (Woude, Bouten, Veeger, & Gwinn, 2002).
CHAPTER I

INTRODUCTION

When an athlete is injured it can be devastating to them and to their sports career. Being an athlete and having an injury heal is one aspect, but an amputation poses even more challenges to one’s life dreams for sports competition. For most Olympians, who have even higher sporting aspirations, this can mean the end of their Olympic career. The alternative for all serious athletes who experience amputation is to prepare to compete in the Paralympics.

The route to the Paralympics can start in the post-amputation rehabilitation phase. Occupational therapy is a key player on the rehabilitation service delivery team. Occupational therapy assists the individual post-amputation by providing physical rehabilitative intervention and supporting the individual through the rehabilitation process. Occupational therapy also assists with the prosthetic phase and the individual’s function with tasks and activities while wearing the prosthetic.

Many health professionals feel that the rehabilitation process is complete once the individual with an amputation has been able to re-gain their independence in basic daily living activities. However, there is one step that is most often missed with individual’s post- amputation and that is the re-integration into the community, including the individual competing in sports again, such as the Paralympics. Occupational therapy can also be involved in this aspect of an individual’s recovery.
Occupational therapists work with individuals who have amputations on many different levels. We are there initially after the limb has been lost; we are there while the residual limb is prepared for a prosthetic and when the individual with an amputation is fit with the prosthetic. Once the prosthetic has been fit, occupational therapy assists the individual with re-gaining their strength and mobility using the prosthetic. Occupational therapists have the educational background and knowledge to take the rehabilitation process farther. An occupational therapist will assist the individual with re-integrating back into the community post-amputation while wearing the prosthetic. Occupational therapy can also assist individuals who are athletes to train and prepare for the Paralympics. The latter is virtually unexplored as a role for occupational therapists. In this scholarly project, the intervention role for an occupational therapist working with an individual post-amputation who has a passionate interest in sports competition will be presented.

To guide the development of this scholarly project, the Occupational Adaptation frame of reference was chosen (Schkade & Schultz, 2003). Occupational Adaptation focuses on the occupations, the adaptive capacity, relative mastery and the occupational adaptation process. Occupations are broken into three sub-systems: the individual is actively involved in the occupation, the occupation is meaningful to the individual, and the occupation involves a product. The product may be tangible or intangible, such as sports competition in the Paralympics. Adaptive capacity is the competence within the individual to perceive the need for change. An individual is able to respond positively to change through use of adaptive capacity. Relative mastery is when the individual evaluates his/her own response to occupations they are
engaged in. When an individual is engaged in *relative mastery*, there are three properties taking place: a) the use of time and energy required to complete the occupation; b) effectiveness is the second property, which is looking at whether the desired goal is achieved; and c) the third property is the individual’s level of self-satisfaction and satisfaction within society. The satisfaction is self-rated by the individual and consists of perceptions of the engagement in an occupation and how satisfying it is for them. The *occupational adaptation* process is the fourth area in the components of Occupational Adaptation. The *occupational adaptation* process occurs when an individual is faced with an occupational challenge, which has occurred due to the person or environmental circumstances, and a series of events unfolds from the resulting challenge. An example of an occupational challenge would be when a person who experiences an amputation considers returning to competitive sports.

In this scholarly project a review of the relevant literature has been completed and is summarized in Chapter II. Data was gathered using electronic library searches for articles relating to the title of the project. A total of ten articles were selected for the literature review. The review of the literature emphasizes the importance of the need for occupational therapy in the community re-integration phase for an individual with an amputation who wishes to compete in the Paralympics.

The product developed for this scholarly project is *A Manual for Individuals with Amputations: Preparing for the Paralympics as Part of Community Sports Re-Integration*. This product will assist occupational therapists who have patients with amputations who are athletes looking for ways to re-integrate into the community and compete in sports challenges such as the Paralympics.
CHAPTER II
LITERATURE REVIEW

Occupational therapy as a profession looks at an individual in a holistic view (Crepeau, Cohn, & Schell, 2003). This means, that occupational therapists look at all aspects of the individual we are treating. We, as occupational therapists, take into account their activities of daily living and what they want to accomplish for themselves. Occupational therapists review all areas of occupation important to an individual (American Occupational Therapy Association, 2002), such as, activities of daily living that consist of bathing, eating, dressing, and functional mobility. We also look at the instrumental activities of daily living that includes community mobility, financial management, meal preparation, and safety procedures. Other areas of occupation include education and work, specifically, formal education the individual has received, job performance, employment interests, and pursuits. Community, peer, and family interaction, leisure participation and exploration are the other areas of occupation and are included under occupational therapy’s domains. Occupational therapists take all of the above named into account when treating individuals in a holistic manner. We look at all aspects of the individual’s life and what the individual wants, using a client-centered approach to therapy.

This literature review will specifically focus on the role of occupational therapy for individuals with amputations competing in the Paralympics. Persons who have amputations, who are athletes and Olympians, may feel that when they have a
limb amputated their athletic or Olympic career is over. With the help of occupational therapists, several other health care professionals, and relevant research, occupational therapy personal design the rehabilitation for individuals with amputations and assist them in achieving a level allowing them to compete in the Paralympics.

An athlete who has had an amputation most often has a change in their level of activity in sports. According to Donachy, Brannon, Hughes, Seahorn, Crutcher, and Christian (2003), an individual with an amputation has to exercise differently than an individual who has all extremities intact. This case study looked into adapting a strength and endurance program for individuals with amputations in order for these individuals to see the best results for their bodies (Donachy et al., 2003). This program was designed for an individual with an amputation. This individual was increasing his strength and endurance for biking across the United States. The result of the case study was that a strength and endurance program should be adapted for the individual. Having a general strength and endurance program for individuals with amputations is a good idea, but individuals with amputations will have to adjust that program to their own needs to achieve their athletic goals with their own level of amputation.

Once an individual who is an athlete has completed their rehabilitation, has been fitted with a prosthetic, and is interested in getting back to training and competing in the Paralympics, they need to be in top physical condition. Athletes with amputations have to adapt when exercising in order to isolate specific muscle groups (Donachy et al., 2003). The average athlete with no amputation is better able to target the desired muscle group with a typical training program, however once a
limb has been removed the training program needs to be modified by the health professional to assist the individual with the amputation.

Severity of amputation also plays a role in an individual’s recovery. Traumatic amputations are the most severe class of amputation. Amputations can also happen due to congenital anomalies or through disease. According to Lin-Chan, Neilsen, Shurr, and Saltzman (2003), individuals with traumatic amputations are usually younger and have a higher level of activity. While having an amputation at a younger more active age is traumatic, the individual’s rehabilitation and community re-integration likelihood are higher.

No matter the manner of amputation, an individual who wants to compete as an athlete in the Paralympics requires a certain level of training with the prosthetic to obtain the athletic level it takes to compete in the Paralympics (Esquenazi, 2004). Once this level of training with the prosthetic has been reached, not only is the athlete on their way to achieving their goal of competing in the Paralympics, but they also are re-integrating themselves back into the community.

Community re-integration is an important step with a person having an amputation. The individual has insecurities about how they will be perceived and accepted into the community with their amputation (Esquenazi, 2004). Therefore, it is important for the individual to establish an emotional support system. Athletes most often have a group of supporters to cheer them on to win the race. When an individual has an amputation they also have a support group, taking on various roles at different times. The support group is first there for the individual while they are going through rehabilitation, fitting the prosthetic, and learning to use the prosthetic.
The final stage for a support group for an individual with an amputation is the community re-integration and the training for the Paralympics.

To re-integrate into the community, an individual with an amputation must be psychosocially and physically prepared. Occupational therapy has a role in both these areas (Refaat, Gunnoe, Hornicek, & Mankin, 2002). Psychologically, occupational therapists assist the individual with self-esteem, anger management, and stress. Occupational therapy assists the individual with an amputation with self-esteem by examining their progress with their prosthetic and seeing how they are dealing with the amputation process. Anger management is assisted by occupational therapists by discussing the steps of grief with the individual and how to deal with the loss of a limb. Lastly occupational therapy assesses the individual’s stress level and assists with looking at ways to decrease the stress that comes with having an amputation.

Physically, an individual with an amputation must be at a level where they can function independently and maneuver independently in their community. The individual with an amputation must feel comfortable with their prosthetic and feel comfortable maneuvering in their community with that prosthetic on. According to, Lin-Chan, Neilsen, Shurr, and Saltzman (2003), the longer the residual limb is, the better then functional performance when walking with a prosthetic.

The individual with the amputation is assisted by an occupational therapist when it is time for the prosthetic usage and training. Occupational therapy educates the individual on how to use the prosthetic, keep the limb and the prosthetic clean, don and doff the prosthetic, and finally how to function with the prosthetic on while completing daily tasks, including athletic training.
Occupational therapy places emphasis on doing tasks with meaning and purpose. Part of the re-integration to the community for an individual is to make sure the individual physically can accomplish their community goals (Wetterhan, Hanson, & Levy, 2002). If the individual cannot be mobile in their community physically, and community interaction is not purposeful to them, then they are not ready for community re-integration (Kent & Fyfe, 1999).

Occupational therapy's role with an individual with an amputation begins as soon as the rehabilitation starts. Occupational therapists start by assisting the individual with completing the daily activities of bathing, dressing and grooming; then move on to completing these and other daily tasks in a functional manner. Occupational therapists assist with educating the individual, with an amputation, on how to complete functional daily tasks without the amputated limb. Using the Functional Independence Measure™ (FIM) occupational therapists can assess the individual level of function. The FIM™ measures what the individual with an amputation can accomplish in a functional manner as independently as possible (Kent & Fyfe, 1999). As the individual works to master daily tasks and regain their independence, the occupational therapist assists with the psychosocial aspect.

According to Wetterhan, Hanson, and Levy (2002), a person’s body image is affected when an individual has a lower limb amputation. An individual with a lower limb amputation frequently has what is known as “phantom pain”. This phantom pain occurs in the limb that has been amputated. Phantom pain is pain in the non-existent limb that individuals with amputations feel. For example, an individual who had his/her foot amputated may have pain in that foot even after an amputation. The
individual with the amputation can still feel pain in the limb that is no longer there. Phantom pain can affect an individual’s rehabilitation because when an individual has pain their level of cooperation can be decreased. Phantom pain can also decrease an individual’s motivation to continue therapy. Once phantom pain is under control and the individual is coping with their amputation, therapy can continue with an increase in cooperation and motivation (Wetterhan, Hanson, & Levy, 2002).

An additional factor affecting rehabilitation and community re-integration is energy level. Research shows that individuals with amputations who have lower limb prosthetics have to expend more energy to complete a task as simple as walking (Klute, Berge, Orendurff, Williams, & Czernieck, 2006). When an individual has an amputation their rehabilitation process is long. The individual begins with taking care of their residual limb; they move on to gaining their balance and strength back, along with the fitting and wearing of the prosthetic. This process is the same for persons who have upper extremity or lower extremity amputations.

Prosthetics is a competitive and complex market in the world of rehabilitation for individuals with amputations. Choosing the right fabric, making sure the prosthetic fits correctly, and ensuring the individual with the amputation is able to complete the tasks and daily activities they want to while wearing their prosthetic are some of the myriad of rehabilitation issues. For some individuals, that meaningful activity and major goal is competing in a sport (Klute, Berge, Orendurff, Williams, & Czernieck, 2006). Competing in sports requires a high level of balance skill. When an individual has an amputation their balance is greatly challenged. Sports, specifically
the Paralympics, can especially challenge balance due to the high demands to compete at an Olympic level with an amputation (Miller & Deathe, 2004).

Research suggests that individuals with amputations perform familiar activities in short increments. Individuals with amputations tend to find vocational activities more challenging than recreational activities (Klute, Berge, Orendurff, Williams, & Czernieck, 2006). Recognizing that individuals with amputations prefer recreational activities over vocational activities is a representation that individuals with amputations do not want to be lazy and allow their life to be consumed by their amputation. Individuals with an amputation are enjoying recreational sports more than vocational tasks and this is encouraging their community participation and activity level, as well as the possibility of participation in the Paralympics.

Researchers today are looking at the level of activity completed while wearing the prosthetic, the comfort of the prosthetic while wearing it during activity, and how the individual has to train specifically to target the desired muscle groups to maintain competitiveness in their sport (Garvey, 1989). An individual may train for an athletic event as part of their rehabilitation with an amputation. Training right away after the amputation and maintaining athletic ability has shown to be a self-esteem builder for an individual with an amputation (Miller & Deathe, 2004). Staying in shape and keeping one’s athletic ability through a vigorous rehabilitation phase is one way for an individual to re-integrate themselves back into the community.

Once the rehabilitation phase is completed, the athlete with an amputation is ready to train for their Paralympic event. As Woude, Bouten, Veeger, and Gwinn (2002) point out “The focus on physical activity and exercise in rehabilitation and
daily life has become much more prevalent" (p. 262). Individuals with amputations want to maintain their athletic status in their daily lives, and for some this athletic status is competing in the Paralympics. One of the factors for individuals with amputations when training for an athletic event, such as the Paralympics, is their aerobic capacity. Individuals with amputations have to train differently to sustain an adequate amount of aerobic capacity to compete at a wheelchair level in the Paralympics (Woude, et al., 2002). According to Woude, et al. (2002), the upper extremity muscles are not specialized to anaerobic or aerobic activity. It is the individual’s training hours and the intensity of training that increases an athlete’s aerobic capacity.

Occupational therapy has a significant role in the rehabilitation of an individual with an amputation. Occupational therapists educate the individual on keeping their residual limb clean, properly applying their prosthetic, and assist with completing activities of daily living, such as dressing, bathing, and daily tasks. A individual post-amputation also requires the assistance of an occupational therapist with regaining balance and in some cases increasing the self-esteem of the individual with an amputation. Having the individual complete their daily tasks independently increases their self-worth and motivates the athletic individual to pursue a dream of competing in the Paralympics.

In regaining their quality of life back, it is important for individuals to look at the level of satisfaction with their life as an individual with an amputation. The individual has the same roles to fill, but they have to be completed in a different manner, thus their quality of life has changed paradigms. An individual with an
amputation is no less the individual they were before the amputation, thus their quality of life is no less compromised. Their quality of life is changed, but still remains high after their amputation (Refaat, Gunnoe, Hornicek, & Mankin, 2002). An individual with an amputation who is able to complete their daily activities as they want to has been shown to be an indicator of quality of life. According to Refaat, Gunnoe, Hornicek, and Mankin, 2002, “patients who had an amputation were (as) satisfied, competent, and emotionally stable” (p. 304). This improvement in quality of life was found after the limb sparing surgery and allowed the patient to re-gain their independence.

When an individual has an amputation, traumatic or elective, their psychological reaction has an impact on their quality of life. Where the individual once had a limb, they now have a residual limb; a part of them is no longer there. Occupational therapists take into consideration the individual’s emotional stability. We make sure the patient not only can complete their basic activities of daily living such as bathing, dressing, and grooming cares; we also look at how the individual is feeling about their amputation and how psychosocially the individual is dealing with the trauma of having an amputation. Occupational therapists are equipped with a psychosocial background and are educated on listening to the patient and in leading groups (for example, leading support groups for persons post-amputation).

To conclude, having an amputation is a life altering event. Throughout this literature review I have discussed the many aspects in which occupational therapists assist an individual with an amputation to maximize their potential in rehabilitation and community re-entry. Also discussed was the relevant research on physical
training and psychosocial considerations with individuals who have amputations and their competing in the Paralympics. Through the use of occupational therapy and its holistic view for individuals with amputations, the objectives of the individuals with amputations are able to be achieved.
CHAPTER III

METHODOLOGY

The product in this scholarly project is *A Manual for Individuals with Amputations: Preparing for the Paralympics as Part of Community Sports Re-integration*. This manual takes the individual with an amputation, with the guidance of the occupational therapist, through the process of re-integrating back into the community post-amputation. This manual also goes through the process of when to train, how to train, and when to compete in the Paralympics post-amputation. The manual was written for the occupational therapist audience, to advance the outpatient service delivery role for persons post-amputation who wish to return to sports competition.

The process of gathering information and developing the product for this scholarly project began with conducting a review of the literature. This review included articles on amputation and relevant rehabilitation aspects, the Paralympics, and occupational therapy involved in the rehabilitation process for persons post-amputation. From the literature review, the need for further development of the occupational therapy role in the rehabilitation, outpatient and community-reintegration phases for sports-minded clients was apparent. In particular, the expansion of OT services for persons post-amputation who seriously wish to return to a competitive sports participation role was developed for this scholarly project product presented in Chapter IV.
The model of Occupation Adaptation (Schkade and Schultz, 2003) was chosen for this scholarly project and assisted with developing the manual. This model’s focus helped to build an understanding of: sports competition as a valued occupation, adaptive capacity of each client including the quest for relative mastery in sports activity, and the numerous body structure, function, and environmental challenges facing persons post-amputation. These elements of the model of Occupational Adaptation provided important structure to developing this product manual.

My decision process for a product came from the lack of resources individuals with amputations have for assisting them in their return to the sporting community. Some of the resources I used to build my product are my occupational therapy curriculum books, electronic library resources, the articles from my literature review, and individual’s person websites who are a part of the Paralympics. My product, in its entirety, will be presented in the following Chapter IV.
A Manual for Individuals with Amputations: Preparing for the Paralympics as Part of Community Sports Re-Integration

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Manual contents:

Phase 1: Preparing for community sports re-integration

Phase 2: Community sports re-integration

Phase 3: Post community sports re-integration
Phase 1
Preparing for Community Sports Re-Integration

This phase is the first phase in the community sports re-integration process. This is the phase where the individual begins his/her journey to competing in the Paralympics. This phase includes a pre-survey for the occupational therapist to administer, for the gathering of data and to assess the individual’s wants and needs in the sporting community.

Groups 1 and 2 are completed in this phase. (See following pages) Group 1 is for the individual and the occupational therapist to assess how the individual feels about playing sports again, and to discuss what sporting community re-integration will involve. Group 2 is a role play scenario between the individual and the occupational therapist. This allows the individual to gain sporting experience within the clinic in a controlled setting.

Sports re-integration starts in inpatient rehabilitation.
1. The occupational therapist administers the pre-survey to assess the individual’s inventory of their roles, wants and needs in the community. (See pre-survey)
   - This pre-survey is for the gathering of more data about the individual and their interest in sports. The occupational therapist uses the information gained to plan for further intervention.

2. A therapy session by the occupational therapist and the individual with an amputation is conducted to discuss how the individual wants to re-integrate into sports in the community (See group 1 description following).
   - The therapy session may also include:
     a. The individual’s family
     b. The individual’s friends
     c. The recreation therapist or athletic trainer
     d. A prosthetics health care professional
3. Conduct an occupational therapy session lead by the occupational therapist with the individual with an amputation to complete “Role Play” activities related to engaging in sports again.
   a. Joint role playing with recreational therapist and occupational therapist.
   b. The therapy session will be an educational session for the individual to learn about community sports.
   c. Completing a community experience with an occupational therapist while on the rehab unit (See group 2 description following).
Pre-Survey
To assess the individual’s inventory of their roles, wants, and needs in the community.

1. On a scale of 1-5, how well do you feel your rehabilitation process has gone thus far?

   1  2  3  4  5
   Not well at all  Extremely well

   Comments:

2. On a scale of 1-5, how well do you feel you participated in the community prior to your amputation?

   1  2  3  4  5
   Not well at all  Extremely well

   Comments:

3. On a scale of 1-5, how comfortable do you feel, at this point in your rehabilitation, about engaging in community activities?

   1  2  3  4  5
   Not comfortable  Extremely comfortable

   Comments:

4. On a scale of 1-5, prior to your amputation how much sporting activity did you engage in on a weekly basis?

   1  2  3  4  5
   Not engaged  Extremely engaged

   Comments:
5. In the future which roles do you want to engage in on a daily basis? (please check all that apply)

☐ Parent  ☐ Sibling  ☐ Friend  

☐ Worker  ☐ Community Member  ☐ Volunteer  

☐ Other (please specify)  

6. Please list community activities and sporting activities you engaged in prior to your amputation.

   

   

7. Please list community activities and sporting activities you engage in now after your amputation?

   

   

8. Please list all the community activities and sports you want to engage in when done with your rehabilitation.

   

   

20
Group 1 Pre Community Outing

Conducted by: The occupational therapist

Session length: 45-60 minutes

Objectives:
1. To allow the individual with an amputation to set their goals for their community sporting integration.
2. To allow the individual with an amputation to discuss their feelings about re-integrating into the sporting community.
3. To allow the individual with an amputation to plan for sports re-integration.

Purpose:
The purpose of this therapy session is for the occupational therapist and the individual with the amputation to discuss how the individual wants to re-integrate into the sporting community. This session may include:

a. The individual’s family
b. The individual’s friends
c. The recreation therapist or athletic trainer
d. A prosthetic health care professional

Therapist Questions:
1. Where does the individual see themselves in the sporting community now that they have an amputation?
2. What sports would the individual like to compete in?
3. What worries or concerns does the individual have about competing in sports now?
4. What support system does the individual have, to compete sports with their amputation?
5. Does the individual feel physically and emotionally ready to compete in sports with their prosthetic? If not, what is needed?
6. What are the next steps needed for building a sports participation plan?
   a. What activity does the individual want to participate in?
   b. Who will the individual participate with?
   c. How long will the individual engage in sport activity.
Resource list:


2. North Dakota Sports and Outdoor Recreation, http://ndsl.lib.state.nd.us/Subject/NDSports.html; this site allow you to click your desired link to get more information on sports and recreation activities taking place in North Dakota.
Group 2 “Role Playing”

Conducted by: The occupational therapist

Session length: 60-90 minutes

Equipment needed: The individual, the occupational therapist, a recreation therapist, the role playing scenario’s, sporting equipment of the individual’s chosen sporting event, a large room to allow for role playing scenarios to take place.

Objectives:
1. To allow the individual with an amputation to gain the practical knowledge of what it will be like to be in the sporting community.
2. To educate the individual with an amputation about adapted sporting events within their community.
3. To educate the individual about the resources available to them in their community about sports.
4. To allow the individual to complete a community sporting experience in a controlled environment.

Purpose:
The purpose of this role play is for the individual to practice what they will do in the sporting community. This role play allows the individual to get hands on experience of what it will be like to compete in a sport, or engage in a sport as a spectator, or teammate in the community, while still in a controlled environment. The individual is also able to practice their desired sport to compete in, in a controlled safe environment.

Role Playing:
The occupational therapist or the recreational therapist will sit down with the individual and role play what will happen in a community sporting event.

Scenario:
The individual with the amputation portrays themselves.

The occupational therapist or the recreational therapist is the individual’s sporting teammate.

Prompts or contexts for the role play scenario:
- The sport has been identified by the individual.
- The sporting environment has been determined.
- The individual invites the sporting teammate to an event.
- The individual discusses any pertinent information or concerns with his/her teammate.
Phase 2
Community sports re-integration
In phase 2 the individual is no longer in inpatient rehabilitation. This phase is the outpatient phase. The patient has been fit with their prosthetic and is gaining confidence in using their prosthetic. In this phase the individual starts to attend sporting activities within the community. Group 3 is in this phase. Group 3 involves the individual attending their first community sporting event, and then discussing the experience of the sporting event within a group setting. Within this phase the occupational therapist also assists the individual in finding community sporting resources. Also a support group is formed or the individual may join an already existing support group for individuals with amputations who wish to compete in sports post amputation.

1. The individual completes their first sporting activity in the community.
   a. May include attending a local sporting event or visiting a gym.
   b. The individual may engage in this sporting community event with family and friends, or independently.
   c. The occupational therapist attends this sporting activity with the individual.

2. The occupational therapist and the individual with the amputation have a therapy session to discuss and analyze the completion of the first community outing. (See group 3)

3. The individual completes their second and third sporting community activity.
   a. A therapy session is completed after both activities to further discuss the integration of the individual into the community of sports.
4. The occupational therapist, may be with a recreational therapist, assists the individual with the amputation in finding community sports resources. The community sports may or may not be adapted, depending on the individual’s preference.

5. The individual, through the assistance of the occupational therapist joins a support group for with other individuals with amputations who want to compete in sports.

a. If no support group is available, the OT may lead or co-lead the support group with a recreational therapist.

b. The support group allows the individual to see how other individuals who are interested in playing sports have re-integrated into the community.

6. Through the support group the individual is able to increase their self-esteem and meet other individuals who have had similar experiences with competing in sports and re-integrating into the community.

- A support group will allow the individual to meet peers who have also had amputations and are competing or wanting to compete in sports. Support groups offer their members emotional support, words of encouragement, ideas to build up their skills, and sporting advice with their new prosthetic. A support group meets on various dates, some meet weekly or monthly. Support groups may meet at a variety of locations, including, the YMCA, church, or local gymnasiums. The leader of the support group can be an occupational therapist, a recreational therapist, and or even an athlete who has an amputation.
Group 3 Discussion of the Community Outing

Conducted by: Occupational therapist

Session length: 45-60 minutes

Session setting: Out patient therapy setting

Objectives:
1. To allow the individual to reflect upon their first community outing.
2. To discuss the positives and the areas for improvement on the individuals next community sporting outing.

Purpose:
The purpose of this therapy session is for the individual to reflect and discuss the completion of their first community sporting outing. The individual with an amputation may write up a reflection paper to the following questions, and then discuss with the therapist. The individual may also just discuss the questions and answers with the therapist during the session.

Therapist Questions:
1. What did you like about your community sporting outing?
2. What did you not like about your community sporting outing?
3. What would you change about your community sporting outing?
4. How did you feel during your community sporting outing?
5. Did you feel your support system was supportive enough during your community sporting outing?
   a. If not, what would you like them to do differently on your next outing?
6. Do you feel this first outing was successful? Why or Why not?

Resource list:
2. North Dakota Sports and Outdoor Recreation, http://ndsl.lib.state.nd.us/Subject/NDSports.html; this site allow you to click your desired link to get more information on sports and recreation activities taking place in North Dakota.
Phase 3
Post community sports re-integration
Phase 3 is the final phase in community sports re-integration. This phase consists of groups 4 and 5 and the completion of the post survey. The purpose of group 4 is to discuss the individual’s gains and experiences in engaging and participating in sporting events in the community. In this phase the individual has begun training for the Paralympics and group 5 allows the individual to discuss their experiences in competing in the Paralympics. The post-survey is also administered in this final phase, to collect data and for the individual to see their progress from when they took the pre-survey. This session is through the outpatient therapy services and reimbursable.

1. A therapy session with the occupational therapist and the individual is completed. Throughout this session the individual is allowed to discuss their progress thus far through out the sporting community re-integration.
   a. Family may be included
   b. Friends may be included
   c. Recreational therapist may be included
      - This session is to emphasize the progress and successes of the individual within the sporting community. (See group 4)

2. The follow-up survey is administered to allow the occupational therapist and the individual to see the progress that has been made throughout this sporting community re-integration process.
   a. The survey allows the occupational therapist to collect data and analyze the progress made by the individual who has integrated into the sporting community
   b. The survey allows the individual to see on paper their progress into the sporting community. (See post-survey)

3. The occupational therapist, and if needed, the recreational therapist, assist the individual in receiving information on the Paralympics. The occupational therapist then assists the individual in finding a coach and trainer for the Paralympics.
a. Thus the individual has completed their regular rehabilitation, has been fitted for and is wearing comfortably a prosthetic. The individual is able to complete their daily routines and community events, and life is returning to a regular routine for the individual.

b. It is now time for the individual to start training for the Paralympics. The occupational therapist assists the individual with finding a trainer and coach to allow the individual to compete in the Paralympics. This step allows the individual to achieve the ultimate goal of competing in the Paralympics.

4. A follow up group session may take place with the occupational therapist and the individual to discuss the experience of training and competing in the Paralympics. (See group 5)

5. The individual remains in the support group, and gains the role of a mentor for other individuals who are looking to compete in the sporting community and eventually compete in the Paralympics.
Post-Survey-
To assess the individual’s inventory of their roles, wants, and remaining needs in the community.

1. On a scale of 1-5, how well do you feel your sports rehabilitation process has gone thus far?

   1  2  3  4  5
   Not well at all  Extremely well

   Comments:

2. On a scale of 1-5, how well do you feel you currently participate in the sporting community?

   1  2  3  4  5
   Not well at all  Extremely well

   Comments:

3. On a scale of 1-5, how comfortable do you feel about engaging in community activities, compared to when you first left the inpatient rehabilitation experience?

   1  2  3  4  5
   Not comfortable  Extremely comfortable

   Comments:
4. On a scale of 1-5, how much sporting activity do you currently engage in on a weekly basis?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not engaged</td>
<td></td>
<td></td>
<td></td>
<td>Extremely engaged</td>
</tr>
</tbody>
</table>

Comments:

5. Which roles do you want to engage in on a daily basis? (please check all that apply)

- [ ] Parent
- [ ] Sibling
- [ ] Friend
- [ ] Worker
- [ ] Community Member
- [ ] Volunteer
- [ ] Other (please specify)

6. Please list community activities and sporting activities you engage in now.

7. Are there any community activities and sports you want to engage in that you are not engaging in yet?

8. Other comments or requests for information:
**Group 4 Competing in Sports**

Conducted by: Occupational Therapist

Session Length: 30-45 minutes

Setting: Outpatient Occupational Therapy office

Objectives:
1. To allow the individual to discuss the progress they have made in the sporting community.
2. To reflect upon the sporting events the individual has engaged in thus far, and how the individual feels the sporting events have gone.
3. To ensure the individual is pleased with their success and progress and will continue to engage in the sporting community.

Purpose:
The purpose of this group session is to discuss the progress and success of the individual and their competing in sporting community events. The individual may write up their thoughts prior to the session to discuss during the session. This session allows the individual to talk about several community outings and their feelings associated with those sporting events.

Therapist questions:
1. What sporting events have you engaged in so far?
2. Were you a participant, spectator, either or, or both?
3. What do you enjoy about participating in the sporting community now (post-amputation)?
4. What will you continue to do to stay active within the sporting community?
5. What would resources and information would you like to see about the sporting community?
6. Would you be interested in Paralympics information and training information?

Resources:

1. Joshua Sundquist, www.joshsundquist.com Josh is an Paralympic athlete who had a left leg amputation at the hip. Josh is a motivational speaker and a great enthusiast for individual’s with amputations competing in sports.
2. Sports Link, www.sportslink.org, This is a directory for athletes, trainers, and coaches. It has links for all avenues of resources, Paralympics, coaches, and athletes.
3. National Sports Center for the Disabled, www.nscd.org, This site offers information on all sporting events going on nation wide, including the Paralympics.
4. The national center on physical activity and disability, http://www.ncpad.org/, This site offers information on competing in sports with a disability, how to find a trainer, and how to get involved with sports with a disability.
CHAPTER V

SUMMARY

The purpose of this scholarly project was to highlight the role of occupational therapy for individuals with amputations who wish to compete in sports competition and, ultimately, the Paralympics. This scholarly project provides a manual for occupational therapists that highlights the process recommended to start during inpatient rehabilitation and to culminate in re-integration into the community and competing in the Paralympics.

Limitations to the project were difficulty finding the desired articles to complete the literature review. Many articles focused on the physical ramifications of an amputation. Also many articles focused on the prosthetic element following amputation. I found it difficult to find many articles by occupational therapists that had the knowledge and skill working with individuals with amputations. Several of the articles also focused on the amount of energy an individual with an amputation who was using a prosthetic expended during an activity. Limited resources and ideas for producing the manual were also a limitation.

The manual, although helpful and useful for a multitude of settings is not exclusive for one particular individual, nor is the type of amputation specified. The manual is meant to be a guide for the occupational therapist and the individual with an amputation. The manual is intended for individuals with amputations who are athletes and individuals who like competing in sports. This manual allows both the
occupational therapist and the individual with an amputation to go through a process thereby allowing the individual to have a smoother transition into the sporting community.

It is the recommendation from this scholarly project that more information be published for individuals with amputations who are needing guidance for community re-integration and guidance in how to train and compete in the Paralympics. The more information that is available for individuals with an amputation who want to compete in sports and work up to the Paralympics, the smoother and easier the transition will be. Further resources such as this scholarly project will also allow more individuals with amputations to recognize their sporting abilities and become an active sports member of society again.
REFERENCES


