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Martial arts for people who use wheelchairs : an instructor's manual

Jennifer Schachner
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**MARTIAL ARTS FOR PEOPLE WHO USE WHEELCHAIRS:
AN INSTRUCTOR'S MANUAL**

A Thesis

Presented to

The Faculty of the Department of Human Performance

San Jose State University

In Fulfillment

of the Requirements for the Degree

Master of Arts

By

Jennifer Schachner

August 2002

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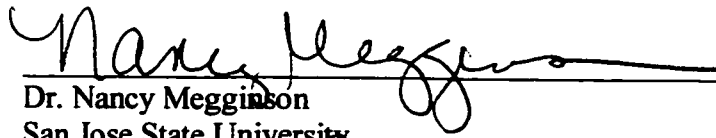
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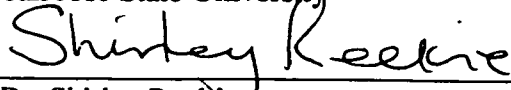
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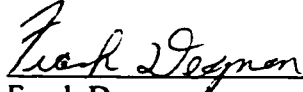
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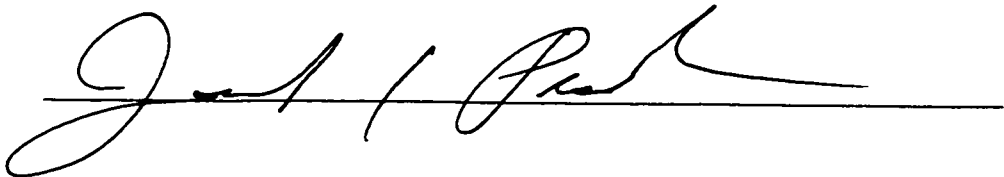


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Abstract

The purpose of this project was to provide a guidebook for martial arts instructors on how to teach a student who uses a wheelchair. A guidebook was written based on the results of a survey of experts regarding potential topic areas for the book. Twenty-one martial arts instructors from across the country were sent a survey based on a four-point Likert-type scale to evaluate the potential content of the manual. The instructors were chosen based on their experience in working with students who use wheelchairs. The content for the guidebook was developed, based on the results of this survey. After the manual was completed, pre- and post-tests were developed to assess the potential knowledge gained. In addition, a survey was devised to address the content and technical merit of the manual. These surveys were sent to 15 practicing martial arts instructors in the San Jose, California area. The results of the survey indicated that these instructors had a knowledge gain after reading the manual and that they deemed its technical/content merit of "good quality."

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Table of Contents

Table of Contents.	vi
Table of Appendices.	ix
List of Tables.	x
Chapter One: Introduction.1
Statement of Problem4
Operational Definitions4
Development of the Guidebook7
Delimitations7
Limitations.7
Professional Evaluation8
Hypothesis8
Delimitations8
Limitations8
Summary.8
Chapter Two: Review of Literature	10
Martial Arts	10
Self-Esteem and Self-Concept	11
Depression	14
Physical Benefits	18
The Works of Ron Scanlon.	20
Physical Techniques	22
Instructor Guidebooks.	25

Summary	26
Chapter Three: Methodology.	28
Guidebook Development Information	28
Wheelchair Organizations	28
Internet Search	29
Pre-Writing Survey	29
Topic Areas	30
Population Surveyed (Pre-Writing Survey)	30
Application of Content to the Participant	30
Guidebook Development	31
Production	31
Content	31
Models	32
Photography	32
Validation	32
Population Surveyed	32
Evaluation of Instruments	33
Summary	33
Chapter Four: Results	35
Prewriting Survey Results.	35
Response of Review Committee.	36
Results of Pre- and Post-tests.	36

Results of Technical/Content Survey	38
Summary	40
Chapter Five: Conclusions	41
Pre- and Post-tests	41
Technical/Content Survey Results	42
Recommendations	43
Summary	43
Appendix A: Wheelchair Sport Organizations	45
Appendix B: Pre Writing Survey Cover Letter	46
Appendix C: Pre Writing Survey--Proposed Topic Areas	47
Appendix D: Biographical Sketches of Responses to Pre- Writing Survey	48
Appendix E: Martial Arts for People Who Use Wheelchairs: An Instructor's Manual	49
Appendix F: Agreement to Participate in Research	50
Appendix G: Guidebook Cover Letter	51
Appendix H: Technical/Content Survey	52
Appendix I: Pre- Test	53
Appendix J: Post-test.	55
Appendix K: Mean Values on Pre- Writing Survey.	57
Appendix L: Summary of Comments from Pre- Writing Survey	58

Appendix M: Biographical Sketches of Review Committee 59

Appendix N: Technical/Content Survey--General Reviewer Comments 62

References. 65

List of Tables

Table 1: Review Committee Responses37

Table 2: Scores form Pre- and Post-tests38

Table 3: Responses for Technical/Content Survey39

Chapter One

Introduction

The many types of martial arts differ in origin and style, but they all were developed for the same basic reasons: self-defense. In ancient Asia, when rulers were fighting to control the people, a common practice was to make weapons illegal (Park, Park, & Gerrard, 1989). This was done to keep the peasants and townspeople from overthrowing the government. This worked at first, but then the people began to develop various forms of hand-to-hand combat. Without the use of weapons, the people were forced to rely on their own bodies for self-defense. They would use their martial arts skills to defend themselves, their families, and even their countries (Park, Park, & Gerrard, 1989). The only techniques that were effective were the ones that kept a person alive (E. Fong, personal communication, September 1, 2001). One can assume that it was because of this “survival of the fittest” notion that those with disabilities were not training in martial arts nor encouraged to do so. Those people who had a disability or an injury were not looked at as “one of the fittest.” According to the National Council on Disability (1996), people with disabilities were and are still seen as weak and unable to defend themselves.

It was not until the early 1980s that martial arts began to make appearances in certain rehabilitation programs for those with spinal cord injuries (Gordon, Gordon, Felton, Scalise, & Jones, 1980). Doctors began to see that training in martial arts could help people not only develop their broken bodies, but their broken minds and spirits as well. Martial arts began to take shape as a vital component in rebuilding a person’s self-

esteem and self-concept, which could be seriously lowered after a traumatic injury. The benefits of martial arts go far beyond the physical. Martial artists teach self-confidence, focus, and awareness of the surrounding environment, and also awareness of the individual student's own ability (Bennett, 2001).

Another potential reason why students using wheelchairs are not on the training floor is simply due to social conditioning (Olkin, 1999). According to the National Organization for Victims Assistance (NOVA), the general American society does not view differences in ability as normal. These differences tend to frighten a person without a disability. Therefore, people with disabilities are treated differently than the rest of the population without disabilities. Most of the time, this altered treatment affects a person with a disability in a very negative way (Olkin, 1999).

Within the category of disabilities, there are subcategories as to the extent and type of impairment (Olkin, 1999). These subcategories have their own hierarchy. Wheelchair users are at the higher end of the list of those disabilities that are looked upon and treated least favorably (Olkin, 1999). As a result of this, attitudes toward people who use wheelchairs are negatively influenced. Their self-esteem and self-confidence can be altered. It is through this misunderstanding that people without disabilities can negatively influence the self-esteem and self-concept of those people who use wheelchairs.

Exercise in particular can be a major influence on self-concept for those without disabilities (Stein & Motta, 1992). In grade school, a child who has been continually chosen last for team sports may begin to feel bad about himself or herself as a person. It

may be that the child may need more practice in the particular sport or skill, but other children use that child's poor physical skill to judge that child overall. This view is amplified when dealing with a person who has a disability, such as someone who uses a wheelchair (Sherrill, 1998). Martial arts training can be used to influence how people who use wheelchairs can feel about themselves and their self-confidence (Blinde & McClung, 1997).

It is challenging to find enough information about how to teach a student who uses a wheelchair. There is some information available involving case studies and inspirational stories (Smith, 1988). Specific guidance on how to teach a student who uses a wheelchair is very difficult to find (G. Garcia, personal communication, August 11, 2001). Martial arts instructors have a hard time finding information on what to teach and how to teach a student who uses a wheelchair. Many martial arts instructors feel that literature is either non-existent or not available to them (T. Taylor, personal communication, February 8, 2001). It is not in the "mainstream" literature. It is accessible through college and university libraries, but not many martial arts instructors realize that they have ways to access the resources in order to find this type of information. This is why a guidebook for martial arts instructors on how to teach a student who uses a wheelchair needs to be written. There is no guidebook for instructors of wheelchair users to turn to for help (R. Contreras, personal communication March 5, 2001).

Statement of the Problem

The purpose of this project was not only to provide martial arts instructors with guidelines and general information on how to teach a student who uses a wheelchair, but also to provide information on how to teach those students in a positive learning environment. Those who use wheelchairs are conditioned by society to be inferior, simply because they have physical limitations (Sherrill, 1998). Wheelchair users tend to have lower self-esteem and self-confidence, thus being seen by society as easy targets for violent crime (Madorsky, Scanlon, & Smith, 1989). Another purpose of this guidebook was to expand the awareness of martial arts training for those who use wheelchairs that may or may not participate in martial arts programs.

Operational Definitions

Adapted Physical Activity -- "Umbrella term for services that promote an active, healthy lifestyle by remediating psychomotor problems that interfere with goal achievement and self actualization" (Sherrill, 1998, p. 5).

Aerobic--with oxygen.

Aikido-- A soft style martial art from Japan. Aikido emphasizes the harmony with one's life force. The teachings of Aikido stress the balance between mind, body, and morality. There are no punches or kicks involved in this art. All techniques are circular and promote helping the student overcome physical and psychological barriers. The circle represents wholeness and unity. It is a defensive style that stresses self-defense. Students of Aikido use the opponent's force to overcome them. Its entire root is in the philosophy of Zen Buddhism (Lawler, 1996).

Americans with Disabilities Act (ADA) -- PL 101-336 is a law that was passed in 1990. It prohibits discrimination based on physical ability. It covers five different areas: (a) employment in the private sector, (b) public accommodations, (c) public services, (d) transportation, and (e) telecommunications (Sherrill, 1998).

Anaerobic -- without oxygen

Black Belt -- In almost all systems of martial arts, a black belt represents the highest level of skill. It represents mastery of the foundations of the basics of the individual martial art. In some systems, the black belt can also be broken down into different levels. They are 1st Dan, 2nd Dan, 3rd Dan, etc. Each Dan, or degree, takes many years to earn and a plain black belt must be earned before a higher Dan level can be achieved.

Disability -- The loss of functional ability and/or ability to perform certain types of activity (World Health Organization, 1980).

Grandmaster -- The title given to a master instructor who has trained a student up to their master level. Most of the time, a Grandmaster holds a black belt higher than a 5th Dan.

Jiu-Jitsu -- A style which specializes in hand-to-hand combat. It is a soft, grappling style whose basic principle is to use the least amount of force as possible when dealing with an attacker.

Karate -- A hard style martial art derived from a combination of Chinese and Japanese martial arts.

Kata -- Japanese term for a series of movements that are designed to enhance martial arts performance. Many times these "forms," or patterns, involve preset movements with imaginary attackers.

Kung Fu --The general term for many of the Chinese styles of martial arts.

Martial Art --The name for the various Asian fighting styles that emphasize combat techniques.

Self-esteem -- The feelings and behaviors that people have towards themselves.

TaeKwonDo -- The Korean martial art that primarily stresses punches and kicks.

Tai Chi -- Tai Chi is one of the oldest martial arts in the world. It is a Chinese style that consists of slow, concentrated movements.

Traditional Belt System -- Almost every martial art has a ranking system in order to distinguish beginning, intermediate, and advanced level students. Each specific martial art has a specific color system usually involving belts or sashes. Most commonly recognized is the black belt that is a symbol of mastery. A white belt usually is given to the beginner and symbolizes purity in the art. There are many colors in between white and black. The organization and hierarchy of these belts is specific to the style and school.

Uechi-ryu Karate -- A modern form of Karate that includes grappling and striking techniques.

Wheelchair Users -- Any person who utilizes a wheelchair as an assistive device. Wheelchair users include accident victims, those with spinal cord injury, or those with

neurological disorders. Being a wheelchair user usually involves not being able to use the lower body for support or transportation.

Development of the Guidebook

Delimitations. The information presented in the guidebook is to be used by martial arts instructors. A person who has no previous martial arts experience should not try using the guidebook to teach another person. The content of the guidebook is to be specifically used by martial arts instructors who are teaching students who use wheelchairs.

Guidebook content was limited to the following topic areas: communication, terminology, accessibility, screening/evaluation, equipment, instructor roles, and basic self-defense techniques. Content was presented to give general information on how to teach martial arts to a student who uses a wheelchair. Content was general to all martial arts; it did not concentrate on a specific martial art. Content was general to all students who use wheelchairs. There was no specification as to type or severity of disability.

Limitations. The author has been training in the martial art of TaeKwonDo for 12 years, and teaching TaeKwonDo for 8 of those years. The author's theories, philosophies, and beliefs have been greatly influenced by this experience in the area of TaeKwonDo.

The guidebook serves general purposes only. There are many types of disabilities that can cause a person to need the assistance of a wheelchair. Therefore, it may not be specific enough for certain disabilities. It was also limited in terms of specific martial

arts technique. Its main focus was on how to teach students who use wheelchairs martial arts techniques in a positive learning environment.

Professional Evaluation

Hypothesis. The information contained in the guidebook will be deemed of at least “good” quality by results of a 4 point Likert-type scale. A mean of 2.5 was used to represent an agreement that the specific topic area should be included into the guidebook. The technical merit and content was also evaluated using a 4 point Likert-type scale. The scale ranged from 1 to 4. The mean of 2.5 was again used to determine “good” quality. The scores of the pre- and post-test will not lead to a significant difference in knowledge gained.

Delimitaitons. Individuals with the following expertise from the San Jose, California area were asked to evaluate the content of the guidebook: certified martial arts instructors (those who were not certified, but learning to teach), assistant martial arts instructors, adapted martial arts instructors, and an adapted martial artist. No single evaluator will be an expert in all fields that have been previously presented.

Limitations. Misunderstanding of the content within the guidebook or the questionnaire might have affected the quality of responses. The evaluator’s prior knowledge or opinions of wheelchair users may have affected the results. Any prior experience with a person who used a wheelchair may have also affected the responses.

Summary

This project involved the development of a guidebook for martial arts instructors. It specifically focused on students who use wheelchairs. Martial arts training can be an

asset to a wheelchair user. It can help a wheelchair user develop the mind and body as well as the spirit. The guidebook covered many subject areas in order to give an instructor the proper background on how to work with a wheelchair user who is learning martial arts. This guidebook is intended to serve as a learning tool to the martial arts community.

Chapter Two

Review of Literature

Martial Arts

The history of martial arts dates back for many centuries. In ancient times, when weapons were outlawed, people were forced to use their own bodies to not only defend their families, but their countries as well (Park, Park, & Gerrard, 1989). Through the years, as weapons were again legalized, the purpose of martial arts began to change. Not only were martial arts needed for self-defense, but people also began to realize the mental and spiritual influence that martial arts training had on their lives. Along with the change in emphasis, came a change in attitude as to who could and could not benefit from the martial arts training (G. Garcia, personal communication, January 14, 2002.).

Martial arts can be broken down into three different areas of influence: physical, mental, and spiritual (R. deOliveira, personal communication, January 12, 2002). These are separate concepts that interact with one another to provide a sense of “balance” in one’s life. People who use wheelchairs are now part of this martial arts interaction and are learning to find a sense of “balance” in their lives as well. The mental and physical aspects of martial arts are generally discussed together and have a unique interaction with one another. The mental aspect represents the physical brain and the thought process involved in movement, while the spiritual represents one’s attitudes and beliefs toward one’s life and one’s own capabilities. The mental and spiritual aspects involve things such as self-confidence, self-perception, attitudes, and beliefs. In the discussion of these

three concepts (mental, physical and spiritual), one concept is never truly isolated from the other.

Self-Esteem and Self-Concept

Individuals with disabilities tend to have negative self-concepts. These self-concepts are influenced by society's view that people with disabilities are physically incapable (Sherrill, 1998). Many times, society sees a physical disability as being a mental and social disability as well (Olkin, 1993). This attitude helps to negatively influence people with a disability. They begin to change their own view of who they are. Because the self-esteem and self-confidence of individuals can be greatly influenced by their own physical ability, those with disabilities tend to have lower views of their own self-worth (Blinde & McClung, 1997).

In a study by Richman and Rehberg (1986), Karate students of different levels took a written test before and after a Karate competition. The test was designed to evaluate the students' self-esteem and their confidence in their Karate abilities. There were two main goals of this investigation. The primary goal was to evaluate the relationship between belt-level and self-esteem, while the secondary goal was to assess the relationship between self-esteem and martial arts training. Based on the results, the study showed that martial artists who trained longer had higher self-esteem and self-confidence scores than those who had only trained for a short period of time. The researchers came to the conclusion that two months of Karate training was sufficient to improve a student's self-esteem.

Finkenberg (1990) conducted a study to discover the relationship between self-concept and martial arts training, and how this affected self-esteem. He designed his study specifically around college-age women. Fifty-one women were placed in a two-month long TaeKwonDo program. The control group consisted of 49 women who were enrolled in general education classes. None of the women had any martial arts training prior to the study. At the beginning and at the completion of the course, the women were given a written test based on the Tennessee Self-Concept Scale. The TaeKwonDo group had higher overall scores on the self-concept post-tests than the control group.

Finkenberg went on to conclude that two months of TaeKwonDo training was sufficient to raise the self-confidence of college students. The studies conducted by Finkenberg (1990) and Richman and Rehberg (1986) did not involve wheelchair users, but show the importance of martial arts training on self-confidence, self-concept and self-esteem.

In the article entitled "Enhancing the Physical and Social Self: Accounts of Individuals with Disabilities," Blinde and McClung (1997) explored the importance of self-confidence and self-esteem. The authors first pointed out that the population of those with disabilities tends to have lower self-esteem and a more negative self-concept than individuals without disabilities. People with disabilities become victims of stigmas and discrimination solely because they cannot physically do many activities. The goal of Adapted Physical Activity (APA) is to enhance self-actualization (Sherrill, 1998), according to Maslow's hierarchy of needs (Seaward, 1997). This will never happen if the person is afraid. If the person does not reach the second level of this hierarchy (feeling of

safety), they will, according to Maslow, not be able to self-actualize. To Maslow, it was very apparent how one's physical self can greatly affect the mental and spiritual self.

Blinde and McClung (1997) conducted their study on physical activities and disabilities to determine the effect of various sport activities on self-concept. Eleven women and twelve men with various types of physical disabilities (cerebral palsy, head injury, paraplegia, spina bifida, quadriplegia, muscular dystrophy, and osteogenesis) were participants in this study. They were all college volunteers who consisted of twenty Caucasians, two African Americans, and one Native American. The authors assumed that despite the difference in disabilities, the study's participants would all share similar experiences in self-esteem and self-concept. An interview was conducted using open-ended questions. These questions covered four different areas in the subjects' lives. The interviews were conducted after the program was implemented. The areas were: how the program impacted physical capabilities; impact of program on social, self, school, and community life; impact on employment-related skills; and the total experience of the subject. The individual participants chose the activity in which they chose to participate. The choices were horseback riding, swimming, general fitness, weight lifting, racquetball, bowling, tennis, fishing and Tai Chi. Most respondents participated for 5-10 weeks and transportation was provided for all the participants.

The results were broken down into two areas: physical self and social self. Four areas of the physical self were impacted. These were new body experiences, enhancements of the perceptions of physical attributes, redefining physical capabilities, and increasing self-concept. Social self was also impacted. These two main areas were

the expansion of the social interactions and experiences and expansion of social activities to other contexts. Tai Chi was very popular with the participants. The benefits of a structured physical activity program were supported by this study. After a 6-week Tai Chi class, participants experienced a greater sense of control over their physical and social lives than they had experienced before taking the classes. This study did not specifically focus on martial arts for a wheelchair user, but the effect of sport activity on wheelchair users was shown. When asked a question about the program, a Tai Chi student replied:

Hey, I can do this... I don't have to wait for someone to come and do it for me. I'm doing it because I want to, and when you feel as though you can act upon the world around you instead of reacting to it, I mean, that is a good feeling, and that spills out, I mean, past the physical training. (Blinde & McClung, 1997, p. 14)

It has also been theorized that depression can be linked to low self-esteem and self-concept. It is important to discuss how physical activity can lead to decreased levels of depression (Gleser & Mendelberg, 1990). More specifically, for the proposed project, it is important to discuss how martial arts training can help to alleviate student's feelings of depression.

Depression

The notion of "mens sana in corpore sano" (a healthy mind in a healthy body) dates as far back as the ancient Greeks (Stein and Motta, 1992). To this day, people believe in the same ideals. Many feel that the key to happiness is the balance between the mind and the body. So what happens when the mind or the body falls out of that balance?

Psychologists and physicians speak about the mind being able to heal the body (Olkin, 1999), but what about the body being able to heal the mind? Some of the most recent studies focus on exercise and its effectiveness in treating depression.

People with disabilities, who are active, tend to rate their emotional well being at a much higher level than their sedentary counterparts (Canada Fitness Survey, 1986). Depression can occur for many reasons (Olkin, 1999). Persons may begin to experience depression after an accident requires them to use a wheelchair. They may begin to feel like less of a person because of the disability (Olkin, 1999). Whatever the reason, it is an important concept to consider when dealing with physical activity and martial arts training.

Early research on depression seems to have concentrated only on the benefits of aerobic exercise. Cardiorespiratory improvement is not the only link to decreasing depression levels, however. In their study, Stein and Motta (1992) concluded that not only does aerobic exercise lower depression levels, but anaerobic exercise can as well. Two hundred forty-two college students made up three different groups. The first group was the aerobic group. They all were enrolled into a fitness swimming class. The second group represented the anaerobic group and all were enrolled in a weight training class. The researchers considered the third section to be the control group because they did not perform any structured physical activity. All students were to adhere to their assigned category. For example, the anaerobic group was to continue with strictly anaerobic activities, while the aerobic group was to continue with strictly aerobic activities.

On the first day of class, the participants took The Beck Depression Inventory (Beck, 1978), the Depression Adjective Checklist (Lubin, 1965), and the Tennessee Self-Concept Scale (Fitts, 1965). Each class met for 90 minutes per session two times a week. The courses lasted for 14 weeks. Upon completion of the courses, all participants were reevaluated using the previous three tests. The main observation was that both the aerobic and the anaerobic groups had reduced depression scores (a positive trait) when compared to the control group. The researchers did not find any significant differences in the level of reduction between the groups. They concluded that aerobic as well as anaerobic exercise was sufficient to reduce depression levels.

In another study, law enforcement personnel participated in a weight-training course (Norvell & Belles, 1993). This study used law enforcement workers because they experience some of the highest number of stress-related disorders in the country and depression is considered to be a major stress-related disorder. After administering a depression survey, the researchers concluded that the workers were experiencing high levels of depression. The subjects were divided into two different groups. Group 1 underwent a four-month circuit weight-training program, while the second group (the control group) did not participate in any exercise program. This study concluded that weight training helped the subjects feel less depressed, increased their self-confidence and lowered their feeling of anxiety (Norvell & Belles, 1993).

Gleser and Mendelberg (1990) reviewed studies involving exercise and many psychological components. They warned that, with the large variety of different exercises, caution should be taken when generalizing the results. There are many

underlying reasons for the decrease in incidence of depression, not only physical reasons, but mental as well. According to the researchers, the increase in physical fitness leads to higher self-esteem and lowers the chances of experiencing depression. The increase in blood flow and oxygen uptake leads to an increase in oxygen to the brain and aids in mental functioning. While working out, the body produces its own natural endorphins. These endorphins cause the body to be on a "natural high." Many times, runners and joggers refer to this as a "runner's high" (Seaward, 1997, p. 454). It is the experience of feeling really good about oneself and one's life. By being involved in sports and exercising, a person experiences many social and mental changes. The group participation aspect of many sports gives a person a feeling of belonging to a group and a sense of place within that environment (Pensgaard & Sorensen, 2002).

Since it has been demonstrated that depression can be linked to self-esteem, it is important to discuss how martial arts training can lessen or even prevent depression. Abramson, Seligman, and Teasdale (1978) concluded that loss of control is an important component of depression. Madden (1990) researched control and vulnerability at the beginning and end of a Karate course. This study was specifically centered on college-aged students who were enrolled in a one-semester Karate class through their respective colleges. Students were given pre- and post-tests that were designed to measure their perceived health (mental and physical), and their perceived control over their lives. On the post-test, students believed themselves to be in greater physical condition, to have more control over their lives, and they experienced feelings of depression less often than they had before the

training. This study demonstrated the relationship between martial arts training, a decreased occurrence of depression, and an increase in students' self-esteem (Madden, 1990).

Layton (1990) also showed that martial arts training decreased the number of times that the students reported being depressed. In his study on self-esteem and self-confidence, he also found that feelings of depression were less common in Karate practitioners than non-Karate practitioners. Unlike the self-esteem scores, Layton found there to be no difference in black belt practitioners and non-black belt practitioners. All the students who participated in the Karate course exhibited fewer feelings of depression.

Many of the studies did not use wheelchair users for subjects, but one can see how martial arts training can benefit the mentality of students with disabilities. The increase in self-esteem and self-concept can lead to a decrease in feelings of depression and help to empower a student who uses a wheelchair. Along with these mental benefits, there are also many physical benefits that can be achieved through martial arts training.

Physical Benefits

In an article entitled, "Uechi-ryu Karate in Spinal Chord Injury_Rehabilitation: The Sepulveda Experience" (Gordon, Gordon, Felton, Scalise, & Jones, 1980), information about the specific benefit of Uechi-ryu Karate on those with spinal cord injuries was reviewed. This program was implemented in 1979 at the Sepulveda Veterans' Administration Hospital Spinal Cord Injury Clinic in Long Beach, CA. Two of The researchers, Gordon and Jones, both third degree black belts, began holding classes once or twice weekly for the patients. According to the authors, the main objective of the class was "to provide an enjoyable and effective method of exercise and to develop the

ability to concentrate and focus for long periods of time” (Gordon et al., 1980, p. 167). Everyone was encouraged to join in the program, regardless of the severity of his or her injury.

Each class began with a warm up that stressed working on the neck and upper body (Gordon et al., 1980). The class then moved into a series of movements called *Katas*. As each student mastered these techniques, they were then taught to work with another partner on specific self-defense techniques. They were awarded belts based on their mastery of technique and level of concentration. The main finding at the time this article was written was that the students reported greater flexibility and range of motion in their upper extremities. The instructors also felt that more research was needed on the actual physiological benefits of the training.

Also in the 1970s, professors at Brooklyn College began researching different physical and mental effects of sport. In their article, "Wheelchair Karate", Bacon and Umansky (1972) outlined the story of three young men. These men each used wheelchairs in a high school in New York. Howard and Philip Umansky, both black belt instructors at this school, were approached by these young men and were asked to teach them Jiu-Jitsu and Karate. The instructors agreed, and before long, the young men had learned a great number of martial arts techniques.

Later, when enrolled in graduate school, the Umansky brothers developed a videotape in which the three young men demonstrated their many skills. This videotape inspired many wheelchair athletes, as well as other students. Many students without disabilities, who were studying physical education at Brooklyn College, learned martial

arts techniques from wheelchairs so that if they had students who used wheelchairs they could teach them these techniques. The authors of this article and the instructors who taught the program hoped that this would inspire future participation of wheelchair athletes in martial arts. The young men grew stronger and learned practical self-defense techniques.

The Works of Ron Scanlon

Ron Scanlon has been included in his literature review because he is one of the leading martial arts instructors who teaches students who use wheelchairs. He is a wheelchair user and his life story has been used to show the benefits of martial arts for wheelchair users. Ron Scanlon is unique because he is a Kung Fu instructor who actually uses a wheelchair. "Kung Fu: Synthesis of wheelchair sport and self-protection" (Madorsky, Scanlon, & Smith, 1989) outlines Scanlon's life. At nine years old, Scanlon fractured and dislocated the T-10 and T-11 vertebrae. He had complete motor paralysis and partial sensory sparing below the T-10 spinal chord level. In rehabilitation, he resented activities that did not include competition. He was very resistant to adapted sports. He missed football and baseball. At 14, complications forced him to use a self-catheterization device. Due to his situation, in junior high school, Scanlon was frequently the target of criticism and sometimes violence. When faced with violence, Scanlon simply could not run away. Many times, he was involved in wrestling matches in which he was thrown to the ground. At 17, he joined a Kung Fu school that made no exceptions or allowances for his disability. He continued to train three hours per day, four days per week. By the age of 31, Scanlon held an 8th degree

black belt in Kung Fu San Soo. He currently uses theories of kinesiology and physics in his self-defense. He can throw, flip, or even sweep an opponent off his/her feet.

Scanlon has been a self-defense instructor for over ten years and teaches both students who use and do not use wheelchairs in the same class (Smith, 1988). He teaches law enforcement, rape prevention, and self-defense at local schools in the Los Angeles area. He is also the director of a self-defense program at Casa Colina hospital for Rehabilitative Medicine. There he teaches self-defense as part of rehabilitation for many types of injuries and diseases. He teaches people to use not only their hands or legs, but also their canes, crutches, and even wheelchairs as weapons. Scanlon is an excellent example of these "new" self-defense programs that concentrate on teaching adapted and non-adapted participants. Persons with limitations need to understand prevention, psychological defense, and assertive communication skills, before having to use physical contact (R. Contreras, personal communication, July 19, 1999). However, if ever attacked, there are self-defense skills that they can learn to use.

Smith (1988), in his article about Ron Scanlon, not only told the same history as the previously mentioned article, but gave more insight into Scanlon as well. After giving Scanlon's history, the author illustrated the mental side of Scanlon's training. Not only has he had to adapt skills to his chair, he also had to learn to teach many skills which he physically could not perform. He wanted to be able to teach kicking, punching, and rolling. Scanlon said, "the fortunate part about learning all of the arts is that it allows me to be an instructor of self-defense, and not just self-defense for the disabled" (p.14). According to this article, Scanlon also teaches classes across the country. Scanlon

emphasizes basic forms of the art but insists on students perfecting the quality of their techniques so that they are performing to the best of their own ability. Scanlon has been on numerous television shows and has appeared in magazines such as *Paraplegia News* and *Playboy* (Smith, 1988). As a role model for all populations, according to Smith (1998) Scanlon truly has achieved physical, mental, and spiritual balance in his life.

Physical Techniques

Aikido proves to be another martial art to benefit wheelchair users. Its entire concept is one of mental clarity and using an attacker's power and energy to one's own benefit. In his article, "Aikido...the Gentle Martial Art," Linden (1978) discussed how Aikido could be altered and developed for a person using a wheelchair. For those without disabilities, the basis of Aikido defense involves pivoting and letting the attacker be thrown off balance. Someone who is walking will do this by rotating his/her legs and hips. Through trial and error, it was found that this pivot was not necessary. Someone using a wheelchair could just as effectively use his/her upper body. Physically, however, it is not realistic to say that Aikido will be the proper self-defense for everyone. Certainly, there will be times when it will simply not work for a specific person with a specific disability. According to Linden (1978), It is then that the true purpose of Aikido for those with disabilities is realized: to learn to control one's own body and awareness of one's own attitude toward one's disability. Wheelchair users also learn they are not helpless if in a situation when they need to defend themselves. Mental imagery about what the body could do was very important. A spiritual aspect of Aikido for these students was learning to "balance" lives and learning to blend with their chairs. Students learned how to make

their own chairs a part of them and learned to work with his/her chair instead of against it (Linden, 1978).

In *Karate (Wheelchair-style)*, Himmelstein (1992) briefly explained how Karate could be suited to wheelchair users. She supported the Akido article by presenting the theory that when one is in control of one's physical body, then one can control outside situations such as verbal confrontations and daily challenges. She also said that the students who used wheelchairs in her Karate class learned to improve balance, coordination, speed, and agility.

In *Wheelchair Jiu-Jitsu*, Gamma (1992) outlined five specific strategies that he believed all wheelchair users should know for self-defense. They were the grounding principle, multiple strike principle, trapping principle, follow-up techniques, and strangulation techniques. The grounding principle is important because this is what keeps people in their chairs. Grounding is reabsorbing the force upon striking someone. A person must take their non-striking hand and grab onto the wheelchair at the same time. Once one does this, one must push all of one's weight into the chair so that one does not fall or is pushed out of the chair. The second concept is the multiple strike principle. According to Gamma, this technique was the most important lesson that he would teach to his students. This principle involves knowing where important striking areas are. It allows the "victim" the best advantage over the attacker. The trapping principle allows the wheelchair user to keep control over an attacker. This is done with wrist and joint locks specific to the situation. Follow up techniques again help to gain control and can be used to subdue an attacker. The final strategy is strangulation

techniques. These are geared toward situations when a person is knocked out of his/her chair. This technique may wind up being the last alternative in a self-defense situation. When applied directly to the attacker's carotid artery, the attacker can lose consciousness very quickly, in a matter of seconds. This can be performed either in or out of the chair. With proper training, self-defense can be effectively taught to wheelchair users.

Martial Arts for the Quadriplegic (Pandevela, Gordon, Gordon, & Jones, 1986), outlines a rehabilitation program in the Long Beach, CA, Veteran's Medical Center. The program was called Karuma Isu No Kenla Juko, which in English roughly translates to wheelchair martial arts. Students are taught how to bow and all students wear martial arts uniforms. Students are first taught never to lock their breaks on their wheelchairs. This could cause some of them to tip over. In self-defense, they are better off if they are able to roll. Being knocked out of a chair puts a victim at a much greater disadvantage because they lose much of their mobility.

Each class began with a warm up and a Kata routine (Pandevela et al., 1986). The students worked individually and mimicked their instructor as much as possible within their limitations. Students were taught blocks, strikes, and Katas. They were told to focus on a target area. During the class, the instructors taught by using a wheelchair to provide a good role model. Students also progressed through the traditional belt system. At first, the men were reluctant to try this class because of their disabilities. One man participated on a gurney and not in a chair because this is how he felt most comfortable. Students helped to develop the techniques and helped to adapt to each other's abilities. Mental focus and concentration were also stressed in their hour-long class. Because of

the high incidences of osteoporosis and fracturing of the bones, instructors were extremely careful not to do unnecessary injury and to teach the class material very slowly. Balance was also developed to help keep a low center of gravity, which was important while executing the strikes. Students expressed a feeling of increased range of motion, increased muscle control, and enjoyment in the camaraderie developed in the classes.

Instructor Guidebooks

There are various guidebooks for instructors on how to teach adapted sports, however there is not a guidebook on how to teach adapted martial arts. These guidebooks focus less on how to teach certain sports but focus more on how to adapt the sport to its participant. The authors assume that their target audience understands the basic principles of the activity that they are teaching. The guidebooks are included here to provide an overview of content areas and topics that are of importance when teaching any type of physical activity to those with disabilities.

The first book *Fitness Programming and Physical Disability* was written for general fitness. It is the manual that is used for the Adapted Fitness Instructor Certification Workshops through Disabled Sports USA. Its target audience is for those in the fitness field who will be providing general fitness programs to clients who have various types of ability levels. In this book Miller (1995) covers many different topic areas. Some of these areas are awareness, communication, physiology, flexibility, resistance training, and medical considerations. The book also includes a specific chapter

on how to work with a wheelchair user. The author attempts to cover many different aspects of physical activity as opposed to focusing on just one sport.

There are two guides that are sport specific. The first is *Adapted Aquatics: A Professional Guide*. In this book, Shawn Stevens and George Gayle attempt to provide their readers with a comprehensive guidebook on how to not only teach aquatic activities to those with disabilities, but also how to develop a strong adapted aquatics program. The topic areas are similar to the topics that Miller (1995) provided. Stevens and Gayle divide their book into three sections of importance: foundations of aquatics, aquatic instruction, and program enhancement.

The second sport specific book is *A Guide for Teaching Scuba to Divers with Special Needs*. Frank Degnan (1988) provides a comprehensive, illustrated guide on how to teach scuba diving to those with disabilities. The topic areas are again consistent with the other guides. Communication, medical considerations, and inclusion are all topics that have been included in these guidebooks. They are general themes that outline basic adapted programming concepts so that those instructors who may not have dealt with disabilities can now be more educated while teaching.

Summary

After reading and evaluating the different aspects of the literature, one can begin to realize the benefits of exercise, not only for those who do not use wheelchairs, but also for the wheelchair user. The importance of exercise has been studied and exercise has been shown to have many benefits. Martial arts exercise not only provides many physical benefits, but mental and spiritual ones as well. More specifically, martial arts

have been instrumental in improving the lives of participants who did not have a disability, as well as wheelchair users. These improvements can be physical, mental or spiritual. No longer are wheelchair users made to feel inadequate while using their chairs; instead they can learn to feel powerful and safe through martial arts training. Through the physical work and development that is taught in the martial arts, mental and spiritual power is developed to give participants a sense of balance in their lives. No longer do people have to feel “trapped” in their chairs with their problems, they can learn to be “free” and more effectively deal with the challenges of everyday life.

Unfortunately, there is a lack of support for instructors who wish to teach wheelchair participants. There are adapted guides for other sports, but none for martial arts. Therefore, a guidebook on how to teach a student who uses a wheelchair will be an added asset to the martial arts and wheelchair communities. It will not only raise awareness of martial arts for special populations, but it will provide the much-needed educational background to many instructors of all different martial arts styles.

Chapter Three

Methodology

A comprehensive guidebook was developed. The guide provided information to martial arts instructors on how to teach a student who uses a wheelchair. Since the intended use of the guide was for martial arts instructors, basic theories of martial arts were not included. The main focus of the book was on the physical and mental adaptations needed to teach martial arts to a wheelchair users. The concentration focused less on physical techniques and more on adapting individual teaching styles to provide a positive learning environment to a student who uses a wheelchair.

Guidebook Development Information

Wheelchair Organizations. The author first needed to discover if anyone had written a similar text. The first step was to write a letter to different wheelchair sport organizations (Appendix A). This letter briefly explained the intent of the guidebook and solicited any related information from the individual organizations. A total of 36 letters was sent out nation wide. Four organizations replied by ether telephone or electronic mail and indicated that the author should contact Master Ron Scanlon. Six letters were sent back with the postmark "undeliverable address" and one organization sent a general information packet about wheelchair sports. None of the other 25 organizations responded by phone, facsimile electronic mail or U.S. mail.

An advertisement in the November, 2001, issue of *Black Belt Magazine* provided an electronic mail address for the organization, Ability First. After an electronic mail was sent to the organization, a videotape and packet from a martial arts program named

“MindBodySpirit” were sent to the author. They specifically focused on teaching martial arts to children with disabilities, which also included wheelchair users. None of the contacts from the various organizations responded with any pertinent information pertaining to a guidebook for martial arts instructors on how to teach a student in a wheelchair.

Internet Search. Over a two-month period, the author searched many Internet databases in an attempt to find information about wheelchair martial arts programs. Information on specific schools was found, but none of the information led to the discovery of a guidebook for those students who use wheelchairs. Most of the information found on the Internet led to specific martial arts schools and their class schedules.

Pre-Writing Survey. Before the guidebook was written, a cover letter and survey about guidebook content were developed for martial arts instructors who had experience working with students who used wheelchairs (Appendix B & C). Twenty-one instructors were sent this survey. They were chosen based on experience level in working with students who used wheelchairs. Out of the twenty-one instructors contacted, six professionals completed this survey. After the cover letter survey and cover letter were approved by the San Jose State University Human Subjects Committee, they were mailed to the 21 evaluators. This survey consisted of a list of potential guidebook topics (Appendix C). The respondent was asked to answer whether they agreed or disagreed with the topic inclusion into the guidebook. The surveys were a 4-point Likert-type scale. A Likert scale with an even number of responses forced the respondents to either

agree or disagree with the topic inclusion. The rating of “1” indicated strong disagreement with the inclusion of the topic into the guidebook. The rating of “2” indicated some disagreement with the inclusion of the topic into the guidebook. A rating of “3” indicated some agreement with the topic inclusion while a rating of “4” indicated strong agreement with the topic inclusion into the guidebook. When the surveys were returned, all topic areas with a mean of 2.5 or higher were included into the book.

Topic Areas. Only those guidebook subjects rated with a mean of 2.5 or higher were included into the content of the guidebook. These topic areas were determined after the pre-writing survey has been sent out, returned, and analyzed by the author.

Population Surveyed (Pre- Writing Survey). Twenty-one surveys were mailed to martial artists across the United States. The group consisted of 20 martial arts instructors who taught students who use wheelchairs and one martial arts student who uses a wheelchair. Participants were chosen based on their martial arts experiences and experience in teaching martial arts to wheelchair users. This group determined the topic areas to be included in the guidebook. (See Appendix D for a biographical sketch of the six participants who provided pre writing survey input.)

Application of Content to Participant. The basis for the chapter in the proposed guidebook regarding ‘Self-Defense Techniques’ stemmed from an article outlined in Chapter 2 of this thesis. Along with this information, the author served as the martial arts instructor and worked with a student using a trial and error framework to teach adapted martial arts techniques. The author worked with a female volunteer who had no prior martial arts experience who used a wheelchair. After obtaining a consent form from the

San Jose State University Human Subjects committee (Appendix F), the author begin teaching the volunteer student martial arts classes one to two times weekly from January 2002 through April 2002. This author taught from a wheelchair when appropriate to the lesson being taught. The author requested feedback from the volunteer during the course of the classes to be sure that the techniques being taught were working for the volunteer.

Guidebook Development

On completion of the pre-writing survey and single subject trial and error process, a guidebook was written (Appendix E). This guide focused primarily on the steps necessary to prepare martial arts instructors in the skills needed to make their classes more positive and productive for wheelchair users. It also focused on the actual physical techniques and on what an instructor needed to know to be fully prepared when teaching a student who uses a wheelchair.

Production. The guidebook was produced on a Hewlett-Packard, 7840 Pavilion series computer. The word processing system was Microsoft Word 97 for the Windows 2000 system. Photographs were downloaded from a digital camera. They were taken with a Cannon Powershot S30. The photographs were then edited using Adobe Photosuite and directly added to the body of the guidebook. The entire work was printed using a Hewlett-Packard K60 multi-function printer.

Content. The guide presented information regarding the following topic areas: medical consideration, wheelchair parts and functions, accessibility, instructor roles, warm-up flexibility exercises, and specific martial arts techniques. Photographs were included to support specific topic areas. These topic areas were:

1. Wheelchairs
 - a. sport
 - b. manual
 - c. motorized
2. Accessibility
 - a. parking
 - b. uniforms
 - c. training floor
3. Flexibility
4. Basic Martial Arts Techniques
5. Combinations
6. Self-Defense

Models. The volunteer was asked to act as the model for photographs to be used in the guidebook. One other volunteer was also used for various self-defense illustrations. The model was a martial arts instructor from West Coast Fong TaeKwonDo. A consent form was obtained from all volunteers (Appendix F)

Photography. The author took the photographs that were included in the guidebook. There was no photograph processing since the images were directly downloaded into the author's home computer. The photographs were used throughout the guidebook to illustrate topic areas such as wheelchair parts, flexibility exercises, and martial arts technique.

Validation

Population Surveyed

Fifteen martial arts instructors served as evaluators for the guidebook. They were chosen because they had very little or no experience teaching a wheelchair user. All of the evaluators are certified martial arts instructors from the San Jose, California, area. Their teaching experience ranged from 6 months to over 35 years. One evaluator was higher than 5th degree black belt (evaluator did not specify how much higher), 4

evaluators were 4th degree black belts, 3 evaluators were 3rd degree black belts, 2 evaluators were second degree black belts and 4 evaluators were 1st degree black belts. They were asked to evaluate the guide for its technical merit and content. They were also given a pre- and post-test to determine what knowledge they obtained from reading the guide. The author hypothesized that there would be no significant difference between pre- and post-test scores of the martial arts instructors who read the manual.

Evaluation Instruments. Fifteen evaluators were sent a package of information. This packet contained a cover letter (Appendix G), a copy of the guidebook, a technical/content survey (Appendix H) and specific instructions on how to take the pre- and post-tests. The pre- and post-tests consisted of various true/false questions (Appendix I & J, respectively). Knowledge gained from the guidebook was determined by the pre and posttest results. The evaluators were encouraged to add comments. The evaluations were mailed or hand delivered to the evaluators. A self-addressed, stamped envelope was provided for the survey's return.

Summary

A guidebook for martial arts instructors on how to begin teaching a wheelchair user was written. A thorough Internet search was done to find out if such a guidebook has been previously written. A pre- writing survey was sent out to 21 martial arts instructors nationwide. This survey helped to guide the author as to the importance of specific topic areas. Upon completion of the guidebook, a packet of information was sent to 15 other evaluators in the San Jose, California area. This packet contained a pre- and post-test and a technical/content evaluation survey. These surveys helped to determine

the effectiveness of the guidebook for martial arts instructors on how to teach a student who uses a wheelchair.

Chapter Four

Results

The purpose of this project was to create a guidebook for martial arts instructors on how to teach a student who uses a wheelchair. Before the material was written for the guidebook, a pre-writing survey was sent to 21 martial arts instructors with experience in teaching students who used wheelchairs. This was done in order to determine the importance of specific topic areas to martial arts instructors who would instruct students who used wheelchairs. The guidebook was then created and copies were sent to various experts in the martial arts. They were asked to complete a pre- and post-test in order to evaluate the scholarly value of the guidebook. A content/technical survey was also sent to all the members of this review committee in order to validate and evaluate the quality of the material being presented.

Pre- Writing Survey Results

Twenty-one martial arts instructors were sent a one-page survey that outlined 27 topic areas. They were chosen based on their experience in working with a student who used a wheelchair. They were asked to rate the importance of each topic area based on a 1-4 scale: (1) strongly disagree, (2) some disagreement, (3) some agreement, and (4) strong agreement. Of the 21 potential respondents, only 6 instructors completed the survey. Appendix K outlines the means given for each topic area. The means were calculated using Microsoft Excel 97 for Microsoft Windows ME. All topics with a mean of 2.5 were considered of importance and were included in the content of the guidebook. The mean ratings for the items ranged from 3.50 to 4.00, indicative of strong support for

the inclusion of all topics in the manual. Additional topic suggestions were given by three of the respondents. These suggestions are outlined in Appendix L.

Responses of Review Committee

The evaluation packets consisted of a cover letter, the guidebook, a technical/content survey, a pre- test and a post-test. These packets were given to 15 review committee members. These committee members consisted mainly of certified martial arts instructors. They were chosen because they had little or no experience in teaching martial arts to a wheelchair user. Their specific biographical information is outlined in Appendix M. Of these reviewers, 13 responded in some way. Table 1 outlines the types of forms that were completed by the committee members. As shown in Table 1, 13 sets of review data were returned for the technical/content survey. Both the pre- and post-test scores were obtained from 13 respondents. Eight respondents also had additional comments regarding the technical/content survey.

Results of the Pre- and Post-tests

Committee members #5 and #11 did not return the pre- or post-tests. This left 13 pairs of completed pre- and post-test in which to determine if knowledge was gained. There were no questions left unanswered by any of the other reviewers. The scores are presented in Table 2. There were a total of 20 points possible. The number in Table 3 represents the actual number of correct answers given on both the pre- and post-test by each reviewer. The means and the significant differences of the pre- and post-tests were 17.76 ($SD = 1.30$) and 19.3 ($SD = 0.48$) respectively. On the pre- tests, 3 reviewers indicated confusion involving the wording of question #12, but answered the question

anyway. All respondents either scored higher or stayed the same between the pre- and post-tests. The largest difference was by reviewer # 12 who scored a 15 on the pre test and a 19 on the posttest. A two-tailed t-test was used to calculate the differences between the pre and posttests. Again, Microsoft Excel 97 for Microsoft Windows Me was used. An alpha level of .05 was used to determine the significance of results. Based on the calculations of the pre and posttest results, there was a significant difference ($t = 4.16$, $df = 12$, $p = < .05$) noted with knowledge gain of the instructors.

Table 1

Review Committee Responses

Reviewer	Tech/Content	Pre	Post	Extra Comments
1	X	X	X	X
2	X	X	X	NA
3	X	X	X	NA
4	X	X	X	X
5	NA	NA	NA	NA
6	X	X	X	NA
7	X	X	X	X
8	X	X	X	X
9	X	X	X	X
10	X	X	X	X
11	NA	NA	NA	NA
12	X	X	X	X
13	X	X	X	NA
14	X	X	X	X
15	X	X	X	X

Note: NA = no response returned, X = response returned

In addition to the pre- and post-test score, some evaluators added additional responses regarding the tests. Evaluator #2 questioned what the wording on question #15 (pre-test) was supposed to be. Is it “is very specific” or “should be very specific” was the comment made by this evaluator. Evaluator #4 commented that on question #14 there should be some type of mention as to safety and balance. Evaluator #10 answered question number 6, but commented that he was “not familiar with terms.” There were no other comments made on either the pre- or post-test by any of the other evaluators.

Table 2

Scores form Pre- and Post-tests

<u>Reviewer</u>	<u>Pre</u>	<u>Post</u>
1	19	19
2	18	19
3	18	20
4	19	19
6	17	19
7	19	19
8	19	19
9	19	20
10	16	19
11	15	19
13	17	20
14	18	19
15	17	20

Note: Highest possible score was 20.

Results of Technical/Content Survey

Of the 15 evaluators, 13 people responded to the technical/content survey. Table 3 shows the scores along with the mean and standard deviation for each category. As with all the previous data, these calculations were completed using Microsoft Excel 97

for Microsoft Windows ME. If there was no response noted, it was not included in the individual calculation.

Table 3

Responses for Technical/Content Survey

<u>Item number</u>	<u>Reviewer</u>															<u>Mean</u>	<u>SD</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>		
1	4	3	3	4	\	3	4	4	4	3	\	3	3	3	3	3.38	0.51
2	4	3	2	4	\	3	4	3	3	3	\	3	4	3	3	3.23	0.60
3	4	4	3	4	\	3	3	3	4	4	\	3	3	3	3	3.38	0.51
4	4	4	4	4	\	4	4	3	4	4	\	4	4	4	4	3.92	0.28
5	4	3	3	3	\	4	3	3	3	4	\	3	3	4	3	3.31	0.48
6	4	4	3	4	\	4	4	3	4	3	\	3	4	3	3	3.54	0.52
7	4	3	3	4	\	4	3	3	4	3	\	3	4	4	2	3.38	0.65
8	\	4	3	4	\	4	4	4	4	4	\	4	4	4	3	3.83	0.39
9	\	4	4	4	\	4	4	4	4	3	\	3	4	3	4	3.75	0.45
10	\	4	4	4	\	4	4	3	4	3	\	3	4	4	3	3.67	0.49
11	4	3	3	3	\	4	3	3	4	4	\	4	4	3	2	3.38	0.65
12	4	3	3	3	\	4	4	4	4	3	\	3	4	3	3	3.46	0.52
13	4	4	3	4	\	4	4	3	4	4	\	4	4	3	3	3.69	0.48
14	4	4	3	4	\	4	4	2	4	3	\	3	3	3	3	3.38	0.65
15	4	4	4	4	\	4	4	3	4	3	\	4	3	4	3	3.69	0.48
16	4	4	3	4	\	4	4	4	4	4	\	3	3	3	3	3.62	0.51
17	4	4	4	3	\	4	4	3	4	3	\	3	3	3	3	3.46	0.52
18	3	4	4	3	\	4	4	3	4	3	\	3	3	4	4	3.54	0.52
19	3	4	3	2	\	4	4	3	4	3	\	3	3	4	4	3.38	0.65
20	3	4	4	3	\	4	4	3	4	3	\	4	3	4	3	3.54	0.52
21	4	4	4	3	\	4	4	3	4	3	\	3	3	3	3	3.46	0.52

Note: (\) indicates that no response was given.

The scores ranged from 3.92 (SD = 0.28) to 3.23 (SD =0.60). This was indicative of strong support for the inclusion of the topic area into the manual. Reviewer #1 did not

assign a number to item numbers 8, 9, or 10. For all other items, all respondents completed the entire technical/content survey. Many other comments were added to the technical/content survey. These comments are outlined in Appendix N. A number of reviewers noted some minor grammatical and spelling errors. These errors were changed in the body of the guidebook.

Summary

After the guidebook was written, survey data with a pre- and post-test were sent to 15 martial arts instructors. Of these 15 instructors, 13 returned the information along with added comments and recommendations. Microsoft Excel 97 was used to calculate all the results. The means for the technical/content survey ranged from 3.23 (SD = .60) to 3.92 (SD = .28). A two-tailed t-test was used to determine whether or not there was a significant difference between the pre and posttest scores. The results, which showed a significant difference ($t = 4.16$, $df = 12$, $p = < .05$), support that there was knowledge gained by reading the guidebook.

Chapter Five

Conclusions

A guide for martial arts instructors was developed on how to teach a student who uses a wheelchair. Upon completion of the guide, content was evaluated and knowledge was tested. Mean vales for the technical/content evaluation were calculated. Mean scores for the pre- and post-test were also calculated and significant difference was determined.

Pre- and Post-tests

In the case of the pre and posttest, a two-tailed t-test was used to evaluate significance. This test was used because in the case of the post-test, the scores could have gone up or gone down. An alpha level of 0.05 was used to determine the significance. The researcher hypothesized that there would be no significant difference between pre- and post-test scores. The data however showed otherwise. A significant difference was found ($t = 4.16$, $df = 12$, $p = < 0.05$) between the pre and posttests. Because of this significant difference, the original hypothesis was rejected.

There are many reasons that this data may be skewed. It cannot be determined how well the information was presented and understood simply by the pre- and post-tests results. Certain evaluators may have had more knowledge than others in answering the questions. The experience level of the instructors may have assisted them in understanding the content more or less, depending on how long that they had been teaching martial arts. The wording of the questions may have been misleading or too easy for this specific group of reviewers. Finally, some instructors may have studied the

material more or less depending on their own interest levels and or their own time constraints.

Technical/Content Survey Results

It was hypothesized that the committee would deem all content of “good quality.” Using a 4-point scale did this. The scale read as follows: (1) strongly disagree, (2) some disagreement, (3) some agreement, and (4) strong agreement. A mean of 2.5 was used to determine the cut off point. All items on the technical/content survey were above the mean of 2.5 which lead the author to conclude that the guidebook and all of its individual topic areas were deemed of “good quality.”

There were three separate items on the technical/content survey that got a rating of 2. These ratings were for item #2 by respondent #3, item # 14 by respondent number #8 and item #19 by respondent #19. All of the other items were given a rating of 3 or 4 by all of the other committee members. The highest standard deviations came from three different items. A standard deviation of 0.65 was calculated for item #7, #11, #14 and #19. Evaluator #5 and #11 never returned their surveys or tests. Evaluator #1 failed to answer for item #8, #9, and #10.

General comments were offered by a variety of evaluators. Evaluators #4 and #9 wanted to see more topics such as weapons and equipment added to the guidebook. Many evaluators had grammar and spelling suggestions to make the guidebook more readable. Many reviewers expressed enjoyment in reading the content of the guide.

There were only two comments regarding photographs. One comment was by respondent #4 who simply said “nice photos.” The second was by reviewer #12 who

commented that the illustrations were “great” and “very helpful.” The mean score for this category was 3.83. The scores and the reviewer’s comments lead the researcher to believe that the pictures helped the reader further understand the concepts being presented and that they provided an appropriate perspective of the material.

Recommendations

There were many additional recommendations to the guidebook that would add to its quality. The first recommendation would be to add a new chapter discussing the use of weapons for the wheelchair user. This chapter could include how to defend against and how to use various weapons such as knives, staffs, and sickles. The chapter could also include how to use the wheelchair itself as a viable weapon in a self-defense situation.

Also, somewhere in the introductory chapters, the concept of depression should be addressed. Since depression can be common among wheelchair users, a martial arts instructor would further benefit by learning how to recognize and deal with a student who is showing signs of depression.

Finally, the last recommendation was to further tailor the book to self-defense only and add more techniques and combinations that wheelchair users could use. This would possibly open up the book to a larger audience and eliminate the need to address all types of martial arts.

Summary

The purpose of this project was to develop a guidebook for martial arts instructors on how to teach a student who uses a wheelchair. It was developed with the intent to help instructors be more comfortable and competent on the training floor while keeping a

positive learning environment for the student. A thorough Internet search was first completed to see if there were such guides in existence. A pre- writing survey was sent to martial arts instructors with students who used a wheelchair in order to help to determine the importance of content area.

The guidebook was written and sent out for review. It was sent to martial artists who had a range of training and teaching experience. They were asked to complete pre- and post-tests addressing the book's content and then they were asked to complete a technical/content survey. Based on the data, the book was deemed of "good quality." According to the pre- and post-test scores, knowledge was gained through reading the book.

The author hopes that this book will be an asset to the martial arts community. Martial artists teach many types of people. The guide was written to encourage instructors to accept wheelchair users on their training floors. Even though the main audience of the guidebook was marital arts instructors, wheelchair users will directly benefit by getting better and more positive martial arts training as a result.

The research leaves room for the expansion of content in the guidebook. Many suggestions were made regarding weapons and more techniques. The use of weapons by wheelchair users could be another project by itself. Since there have not been very many studies on the impact of martial arts on wheelchair users, future research should look into the impact that the study of martial arts has on a wheelchair user.

Appendix A

Wheelchair Sport Organizations

- Disabled Sports USA
- Canadian Wheelchair Basketball Association
- National Wheelchair Basketball Association
- International Wheelchair Basketball Federation
- National Wheelchair Pool Players Association
- American Wheelchair Bowling Association
- International Wheelchair Aviators
- Freedom's Wings International
- Universal Wheelchair Football Association
- Association of Disabled American Golfers
- National Amputee Golf Association
- Crank Chair Racing Association
- American Sled Hockey Association
- Casa Colina Wheelchair sports and Outdoor Adventures
- United States Cerebral Palsy Athletic Association Inc.
- World T.E.A.M. Sports
- Power Soccer
- United States Quad Rugby Association
- United States Tennis Association
- International Wheelchair Tennis Federation
- American Competition Opportunities for Riders with Disabilities
- National Handicap Motorcyclist Association
- North American Riding for the Handicapped
- Turning POINT
- Wheelchair Athletics of the United States
- National Wheelchair Shooting Federation
- Access to Sailing
- American Canoe Association
- Aqua Sports Association for the Physically Challenged
- U.S. Rowing Association
- Water Skiers with Disabilities Association
- Handicapped Scuba Association
- United State Wheelchair Weightlifting Federation
- Ski for Light Inc.
- U.S. Disabled Ski Team
- National Wheelchair Softball Association



San José State
UNIVERSITY

**College of Applied
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**Department of Human
Performance**

One Washington Square
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Fax: 408-924-3053

Appendix B

Pre- Writing Survey Cover Letter

Dear Fellow Martial Arts Instructor,

Your opinion is being requested involving a guidebook for martial arts instructors on how to teach a student who uses a wheelchair. Martial arts for people who use wheelchairs are not much different than traditional martial arts; however, there are some special considerations when working with a wheelchair user. No guidebook can be completely comprehensive to either martial arts or wheelchair users, however, the manual will address teaching methods, provide basic wheelchair information and explain basic martial arts from the standpoint of a wheelchair user.

I am requesting input from you and other experts in the field of wheelchair martial arts. Enclosed you will find an outline of the proposed topic areas to be included in the guidebook. Please indicate whether or not you feel the topic should be included and also to what extent. Please feel free to suggest additional topic areas that are not on the outline. Please keep in mind that this guidebook is to be used by martial artists who have teaching experience.

This manual will be used as my thesis project to complete a Master's Degree in Kinesiology at San Jose State University. I would like to have the surveys completed and either in the mail or faxed to me within 3-5 days. If for some reason you are unable to complete this survey within the week, please indicate you do not have the time and return the unanswered survey to me. Your participation in this project is strictly voluntary; you may chose to withdraw at any time. Your refusal to participate or withdraw will not affect any services to which you are entitled.

The results of this study may be published and where appropriate, I would like to cite you as a reference or to acknowledge your contributions to this study. If you are willing to have your name, opinion, and contributions to this manual published or quoted, please fill out and return the enclosed permission form. Should you choose not to return the permission form, your contributions will remain confidential.

Questions about this research may be directed to Jennifer Schachner (408) 978-1974. Complaints about this research may be directed to Dr. Greg Payne (408) 924-3028, Department Chair of Human Performance. Questions or complaints about research, subject's rights or research related injury may be presented to Nabil Ibrahim, Ph.D., Associate V.P for Graduate Studies and Research (408) 924-2480.

Sincerely,

Jennifer Schachner
1724 Hallmark Lane, San Jose, CA 95124 (408) 978-1974
fax (408) 447-6034

Appendix C

Pre Writing Survey--Proposed Topic Areas

Directions: Please indicate to what level you agree or disagree with the inclusion of each topic in the guidebook. Use the four-point scale to rate the topic area (1) strong disagreement (2) some disagreement (3) some agreement (4) strong agreement. Please feel free to include any additional comments on the bottom or on the back of this survey.

Etiquette

- | | | | | |
|-----------------|---|---|---|---|
| • Terminology | 1 | 2 | 3 | 4 |
| • Communication | 1 | 2 | 3 | 4 |
| • Attitudes | 1 | 2 | 3 | 4 |

Medical Considerations

- | | | | | |
|---------------------------|---|---|---|---|
| • Screening students | 1 | 2 | 3 | 4 |
| • Medical classifications | 1 | 2 | 3 | 4 |
| • Mental capabilities | 1 | 2 | 3 | 4 |

Wheelchairs

- | | | | | |
|--------------|---|---|---|---|
| • Components | 1 | 2 | 3 | 4 |
| • Types | 1 | 2 | 3 | 4 |
| • Concerns | 1 | 2 | 3 | 4 |

Accessibility

- | | | | | |
|-------------------|---|---|---|---|
| • Legality | 1 | 2 | 3 | 4 |
| • Parking | 1 | 2 | 3 | 4 |
| • Changing rooms | 1 | 2 | 3 | 4 |
| • Uniforms | 1 | 2 | 3 | 4 |
| • Restrooms | 1 | 2 | 3 | 4 |
| • Training floor | 1 | 2 | 3 | 4 |
| • In-house events | 1 | 2 | 3 | 4 |

Roles of Instructor

- | | | | | |
|-------------------|---|---|---|---|
| • Professionalism | 1 | 2 | 3 | 4 |
| • Communication | 1 | 2 | 3 | 4 |
| • Terminology | 1 | 2 | 3 | 4 |
| • Audio | 1 | 2 | 3 | 4 |
| • Visual | 1 | 2 | 3 | 4 |
| • Kinesthetic | 1 | 2 | 3 | 4 |
| • Inclusion | 1 | 2 | 3 | 4 |

Warm up/Flexibility

- | | | | | |
|--------------------|---|---|---|---|
| • General Overview | 1 | 2 | 3 | 4 |
| • Chair Specifics | 1 | 2 | 3 | 4 |

Martial Arts Techniques

- | | | | | |
|-------------------------|---|---|---|---|
| • General Modifications | 1 | 2 | 3 | 4 |
| • Specific Techniques | 1 | 2 | 3 | 4 |

Appendix D

Biographical Sketches of Responses to Pre- Writing Survey

- **Russell Contreras--** 20 years of martial arts experience, former owner and operator of Martial Arts America TaeKwonDo school, 15 years teaching experience
- **Will Brooks--** martial arts instructor, author of numerous online articles involving wheelchair martial arts, 1st degree black belt
- **Hunter Elkins--** 3rd degree black belt in TaeKwonDo, 20 years martial arts experience, 10 years teaching experience, Certified Head Instructor in TaeKwonDo, also has various experience in Aikido and Chut Sing. Distinguished Graduate of Front Sight Firearms training graduated from San Jose State University with a Bachelors degree in Advertising.
- **Kim Bright-Fey--** 3rd degree lack belt, Certified American Council on Martial Arts (ACMA) Instructor, licensed physical therapist, author *Teaching Students with Special Needs*
- **Steve Otstot--** 9th degree black belt in TaeKwonDo, 4th degree black belt in Hapkido, Chief Instructor of Martial Arts for the Handicappable
- **Manuel Vega--** Professor in San Francisco, teaches martial arts classes to students who use wheelchairs in the bay area

Appendix E

**A Guidebook on How to Teach Martial Arts to
A Student Who Uses a Wheelchair**

PLEASE SEE ATTACHMENT FOR THIS DOCUMENT



San José State
UNIVERSITY

**College of Applied
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**Department of Human
Performance**

One Washington Square
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Appendix F

Agreement to Participate in Research

Responsible Investigators: Jennifer Schachner

Title of Protocol: Martial Arts for People Who Use Wheelchairs: An Instructor's Manual

1. I have been asked to model for photographs for a manual outlining a martial arts/ self defense program for a student who uses a wheelchair.
2. I will be asked to participate in a beginning martial arts program at West Coast Fong TaeKwonDo in San Jose. The lessons are expected to last approximately 4 months (February 2002-May 2002).
3. A beginning martial arts class contains limited physical contact therefore, the potential for injury is present, but not expected. I will be demonstrating simple techniques for the purpose of photographs.
4. I will benefit by getting free martial arts lessons once per week for a period of 4 months.
5. The results of this study may be published and where appropriate, I would be willing to be cited as a reference or acknowledged for my contributions to this study. I have the right to withdraw this statement at any point during the study. All information regarding my contributions or acknowledgements will be cleared with me prior to their inclusion in the research.
6. Questions about this research may be directed to Jennifer Schachner (408) 978-1974. Complaints about this research may be directed to Dr. Greg Payne (408) 924-3028, Department Chair of Human Performance. Questions or complaints about research, subject's rights or research related injury may be presented to Nabil Ibrahim, Ph.D., Associate V.P for Graduate Studies and Research (408) 924-2480.
7. My participation in this project is strictly voluntary, I may chose to withdraw at any time. My refusal to participate or withdraw will not affect any services to which I am entitled.
8. I have received a signed and dated copy of this consent form.

***Signature of subject on this document indicates agreement to participate in the study.**

**** Signature of researcher on this document indicates agreement to include the above named subject in the research and attestation that the subject has been fully informed of his or her rights.**

Signature

Date

Investigator's Signature

Date



San José State
UNIVERSITY

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Appendix G

Guidebook Cover Letter

Dear Fellow Martial Arts Instructor,

You are being requested to evaluate a guide for martial arts instructors on how to teach a student who uses a wheelchair. Enclosed you will find the following items:

- 1) A copy of the instructor guide.
- 2) A pretest to be taken prior to reading the guide.
- 3) A posttest to be taken after reading the guide.
- 4) A Technical Merit/Content Evaluation Form to be completed after reading the guide.
- 5) A self addressed, stamped return envelope (where applicable).

Both the pretest and the posttest are to be taken as closed book tests. Select the best answer and indicate this by circling the appropriate letter on the answer sheet. The answer sheet is attached to each test. If you don't understand a question or if you feel that a question is unfair or poorly worded, please indicate this on a separate sheet of paper. After completing the tests, return the answer sheets to me in the enclosed envelope.

As you evaluate the guide for technical merit and content, indicate your rating of the guide for each of the aspects listed on the evaluation form by circling the appropriate number. It is important that you be as objective as possible when rating the guide. Also, as you evaluate the guide, please keep in mind that it is intended for use by certified martial arts instructors. If you feel unable to evaluate the guide for any of the aspects listed, please indicate that next to the individual item on the survey. Return the completed surveys to me in the enclosed envelope.

This guide will be used as my thesis project to complete a Master's degree in Kinesiology at San Jose State University. Returning the completed answer sheets and surveys indicates your willingness to participate in this project. I would like to aim for a 1-week turnaround for returning the evaluations. If for some reason you are unable to complete the evaluation in a timely manner, just indicate that you do not have the time and return the evaluation form to me.

In any event, please feel free to keep the guide. If you have any questions or are missing any of the material listed above, please call me at (408) 978-1974.

You should understand that your involvement in this project is voluntary and you may choose to withdraw from this project at any time. Your participation, refusal to participate, or withdrawal will not affect any services you are receiving or will receive at San Jose State University. There are no anticipated risks or benefits to you. All information provided by you will be kept confidential.

Questions about this research may be directed to Jennifer Schachner at (408) 978-1974. Complaints about this research may be presented to Dr. Greg Payne, Department Chair of Human Performance, (408) 924-3028. Questions or complaints about research, subjects' rights, or research-related injury may be presented to Nabil Ibrahim, Ph.D., Associate V.P. for Graduate Studies and Research (408) 924-2480.

Sincerely,

Jennifer A. Schachner
1724 Hallmark Lane
San Jose, CA 95124
(408) 978-1974

Appendix H

Technical/Content Survey

Directions: After reading the instructor guide, please indicate the degree to which you agree with the statements regarding the technical merit and content. Use the 4 point scale to indicate whether you (1) strongly disagree (2) disagree (3) agree, (4) strongly agree. Please feel free to include any comments or suggestions regarding your responses or the guide itself. Please keep in mind that the guide is to be used by certified martial arts instructors.

Technical Information

- | | | | | |
|---|---|---|---|---|
| 1. The language used in the guide is appropriate for the targeted audience. | 1 | 2 | 3 | 4 |
| 2. The language used is clear. | 1 | 2 | 3 | 4 |
| 3. The language used is descriptive. | 1 | 2 | 3 | 4 |
| 4. The guidebook is easy to read. | 1 | 2 | 3 | 4 |
| 5. The guidebook keeps the reader's attention. | 1 | 2 | 3 | 4 |
| 6. The guide is organized and clear. | 1 | 2 | 3 | 4 |
| 7. The guide is visually appealing. | 1 | 2 | 3 | 4 |
| 8. The photographs are clear. | 1 | 2 | 3 | 4 |
| 9. The photographs clarify concepts outlined in the guide. | 1 | 2 | 3 | 4 |
| 10. An adequate number of photographs are included in the guide. | 1 | 2 | 3 | 4 |
- General comments about technical information:

Content Information

- | | | | | |
|--|---|---|---|---|
| 11. The information outlined in the guide is objective. | 1 | 2 | 3 | 4 |
| 12. The information contained in the guide is accurate. | 1 | 2 | 3 | 4 |
| 13. The guide presents enough information for an instructor to have a basic knowledge of wheelchair martial arts in the following areas: | | | | |
| a. Accessibility | 1 | 2 | 3 | 4 |
| b. Medical considerations | 1 | 2 | 3 | 4 |
| c. Wheelchairs | 1 | 2 | 3 | 4 |
| d. Instructor roles | 1 | 2 | 3 | 4 |
| e. Warm-up/flexibility | 1 | 2 | 3 | 4 |
| f. Basic blocks and strikes | 1 | 2 | 3 | 4 |
| e. Combinations | 1 | 2 | 3 | 4 |
| f. Self-defense | 1 | 2 | 3 | 4 |
| 14. Overall the guide presents enough information to safely perform the tasks involved in a wheelchair martial arts program. | 1 | 2 | 3 | 4 |

Comments regarding content survey:

Appendix I

Pre- Test

Please indicate on your answer sheet whether or not each statement is true or false.

1. The Americans with Disabilities Act (1990) does not give equal access to people who have disabilities.
2. If a studio does not have any students with disabilities, then they do not need to worry about accessibility.
3. A quadriplegic is a person whose body is only affected on the complete left or complete right side.
4. A student who has problems feeling sensations may get injured during class and not know it.
5. A student must wear a harness or seatbelt at all times during class.
6. Contractures are small fractures in the ankle.
7. It is not important to understand the differences between wheelchair types.
8. It is not our job to adapt movements to wheelchair participants, we must leave it up to them.
9. Being an advocate means we need to stand up for the rights of others.
10. Stretching is unimportant to a wheelchair user because they do not use their lower body.
11. An individual's disability will influence his/her range of motion about a joint.
12. Window #1 becomes one of the most important windows for a wheelchair user.
13. Wheelchair users are not considered targets of crime.
14. In self-defense, the number one concern is that the student keeps balance.
15. A wheelchair martial arts program is very specific to the individual ability level.
16. Since wheelchair users can get hurt easily, they should never work with partners.
17. Wheelchair users must have separate classes.
18. We do not need to know specific medical concerns of our students who use wheelchairs.
19. Blood pressure, maximum heart rate, and or thermoregulation may be abnormal in a person who uses a wheelchair.
20. People who are quadriplegic never have respiratory problems.

Pre-Test Answer Sheet**Please Circle the correct answer based on the statements from the Pre Test**

1. True False
2. True False
3. True False
4. True False
5. True False
6. True False
7. True False
8. True False
9. True False
10. True False
11. True False
12. True False
13. True False
14. True False
15. True False
16. True False
17. True False
18. True False
19. True False
20. True False

Appendix J

Post-test

Please indicate on your answer sheet whether or not each statement is true or false.

1. A student who has problems feeling sensations may get injured during class and not know it.
2. Since wheelchair users can get hurt easily, they should never work with partners.
3. Contractures are small fractures in the ankle.
4. It is not important to understand the differences between wheelchair types.
5. The Americans with Disabilities Act (1990) does not give equal access to people who have disabilities.
6. Blood pressure, maximum heart rate, and or thermoregulation may be abnormal in a person who uses a wheelchair.
7. People who are quadriplegic never have respiratory problems.
8. It is not our job to adapt movements to wheelchair participants, we must leave it up to them.
9. Being an advocate means we need to stand up for the rights of others.
10. An individual's disability will influence his/her range of motion about a joint.
11. If a studio does not have any students with disabilities, then they do not need to worry about accessibility.
12. Window #1 becomes one of the most important windows for a wheelchair user.
13. Wheelchair users are not considered targets of crime
14. Stretching is unimportant to a wheelchair user because they do not use their lower body.
15. In self-defense, the number one concern is that the student keeps balance.
16. A wheelchair martial arts program is very specific to the individual ability level.
17. A student must wear a harness or seatbelt at all times during class.
18. Wheelchair users must have separate classes.
19. A quadriplegic is a person whose body is only affected on the complete left or complete right side.
20. We do not need to know specific medical concerns of our students who use wheelchairs.

Post-test Answer Sheet

Please Circle the correct answer based on the statements from the Post Test

1. True False
2. True False
3. True False
4. True False
5. True False
6. True False
7. True False
8. True False
9. True False
10. True False
11. True False
12. True False
13. True False
14. True False
15. True False
16. True False
17. True False
18. True False
19. True False
20. True False

Appendix K

Mean Values on Pre- Writing Survey for Content of Adapted Martial Arts Guide

Item Number	Content Area	Item	Mean Score
	Etiquette		
1		Terminology	3.50
2		Communication	3.50
3		Attitudes	3.50
	Medical Considerations		
4		Screening students	3.50
5		Medical classifications	4.00
6		Mental capabilities	3.50
	Wheelchairs		
7		Components	3.80
8		Types	3.80
9		Concerns	4.00
	Accessibility		
10		Legality	3.60
11		Parking	3.60
12		Changing rooms	3.50
13		Uniforms	3.60
14		Restrooms	3.60
15		Training floor	3.80
16		In-house events	3.60
	Roles of Instructor		
17		Professionalism	4.00
18		Communication	4.00
19		Terminology	3.60
20		Audio	3.80
21		Visual	3.80
22		Kinesthetic	3.80
23		Inclusion	3.80
	Warm up/Flexibility		
24		General Overview	3.60
25		Chair Specifics	4.00
	Martial Arts Techniques		
26		General Modifications	4.00
27		Specific Techniques	4.00

Appendix L

Summary of Comments form Pre Writing Survey

- **Professor Manuel Vega, black belt instructor, suggested a discussion of how to handle the mental and physical aspects of adrenal stress. He also suggested that a discussion of martial arts equipment should be included as well as how to use the wheelchair as a weapon.**
- **Will Brooks, martial arts instructor and author of various papers on wheelchair martial arts, suggested pointing out how wheelchair attachments could be used as weapons.**
- **Kim Bright-Fey, physical therapist and 3rd Dan Black Belt instructor, suggested adding the section on etiquette into the section on instructor roles. She also suggested adding in brief differences of various disabilities. She also recommended that the book not try to cover everything all at once, just be clear and offer as much information as possible.**

Appendix M

Biographical Sketches of Review Committee

1. This reviewer holds a 3rd degree black belt in TaeKwonDo. She is a Certified Head Instructor at Kick U.S.A. Martial arts. She has 8 years martial arts experiences and 5 years teaching experience in TaeKwonDo.
2. This reviewer is a certified 4th degree Black Belt in TaeKwonDo with over 20 years of martial arts experience. He currently owns and operates Kicks U.S.A. Martial Arts in Pleasanton, California. Reviewer is an Assistant Master Instructor in TaeKwonDo and has been teaching the art for 15 years. Reviewer also holds a BS degree in biology from U.C. Santa Cruz.
3. Reviewer holds a 4th degree black belt in TaeKwonDo. He has 16 years of training experience and 12 years of teaching experience. Overseas daily operation of West Coast Fong TaeKwonDo.
4. This reviewer is one of the founders of the West Coast Fong system of martial arts. He has over 35 years experience in TaeKwonDo, Eskrima and Kung Fu. Previous director of Fingertip Pressure Point Control and former law enforcement trainer for knife defense, side handle baton and pressure point control.
5. Reviewer is a 3rd degree, Certified Assistant Head Instructor. He has 10 years of martial arts experience with 5 years of teaching experience in TaeKwonDo. Reviewer is also leader of the West Coast Fong TaeKwonDo Demonstration Team.

6. Reviewer earned teaching credentials from San Jose State University and currently teaches at the high school level. She has over 10 years martial arts experience and has been teaching TaeKwonDo for 6 years
7. 3rd degree black belt in TaeKwonDo, 20 years martial arts experience, 10 years teaching experience, Certified Head Instructor in TaeKwonDo, also has various experience in Aikido and Chut Sing. Distinguished Graduate of Front Sight Firearms training, Graduated from San Jose State University with a Bachelors degree in Advertising, Currently owns and operates an advertising agency in San Jose and guest lecturers at San Jose State University
8. Reviewer has a Masters Degree in Computational Physics, Assistant Instructors in TaeKwonDo, Probationary Black Belt with 4 years training experience and 2 years teaching experience
9. Certified 1st degree Black Belt, Assistant Instructor. She has 5 years martial arts experience. Has 1.5 years of teaching experience in TaeKwonDo. Currently runs own martial arts program in the Almaden area of San Jose
10. Certified 1st degree Black Belt Instructor. Respondent has 8 years of martial arts experience.
11. Certified 2nd degree Black Belt Instructor. Currently has 6 years martial arts training experience and 2 years teaching experience in TaeKwonDo.
12. Certified 1st degree black belt assistant with 5 years training experience and 6 months acting as an instructors assistant in TaeKwonDo. Previous director of

Communications for the San Jose Convention and Visitors Bureau, Masters Degree in Communication from San Jose State University

- 13. Reviewer has a Bachelors degree in Criminal Justice form San Jose State University. He has over 16 years of training and teaching experience. Reviewer is currently the Director of Physical Education at Carden El Encanto School and is the Assistant Master Instructor at West Coast Family Martial Arts Center.**
- 14. Probationary black belt with 4 years training experience, One year teaching experience in TaeKwonDo, Masters Degree in Environmental Studies**
- 15. Certified Assistant Head Instructor though the West Coast Fong system of martial arts. 2nd degree black belt in TaeKwonDo Co-owner and operator of West Coast Family Martial Arts.**

Appendix N

Technical/Content Survey-- General Reviewer Comments

Reviewer #1

- “I would like to know where the strikes are.”
- “Breathing for stretches could be described and encouraged.”
- “Encourage yelling out during self-defense techniques”
- “You are wonderful and inspiration in undertaking this project. This is greatly needed and has been grossly ignored.”

Reviewer #4

- “Would have been nice to add additional tools.”
- “Defense out of the chair would add to guide.”
- “Preface is slightly arrogant.”
- “Great Pictures.”

Reviewer #7

- “Well researched.”
- “Very thorough and well indexed.”

Reviewer #8

- This reviewer would have liked to have seen more personal recommendations on training floor types and discuss more issues involving accessibility and rollability.
- “Illustration on page #7 is not clear”

- This reviewer also had concerns that the section on the advocator was too long compared to the rest of the sections. It also had “too much of a preachy tone.”
- This reviewer also cautioned about the “aspect ratios” of the photographs. Some of the pictures looked “stretched out.”

Reviewer #9

- “The part of the manual that shows stretches and techniques is great.”

Reviewer #10

- “It is easy to read and might even be over simplified.”
- “A little bit more body specific information would be good.”
- “Good accessibility information.”
- “Great use of illustrations--always helpful.”
- “You are on to a very productive/useful manual.”

Reviewer #14

- “Nice guide-- very informational.”
- “What about hand positioning when punching?”

Reviewer #15

- “The term we is used a lot. Remove yourself from the equation”
- “The font used for the title page, Table of Contents and Headers are not readable. You should change this to a more standard font.”
- “You should advocate more communication with the student to determine limitations/abilities.”
- “Some of the information was biased, it was a little emotional and personal.”

- **“Report had valuable information in it and explained some interesting details pertaining to training disabled persons.”**

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***Martial Arts for People
Who Use Wheelchairs:
An Instructor's Manual***

Jennifer Ann Schachner



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Table of Contents

<i>Preface</i>	i
<i>Issues of Accessibility</i>	1
<i>Checklist for Accessibility</i>	10
<i>Medical Considerations</i>	12
<i>Wheelchairs</i>	19
<i>The Roles of the Instructor</i>	27
<i>Warm Up and Flexibility</i>	35
<i>Basic Blocks and Strikes</i>	44
<i>Combinations</i>	56
<i>Self-Defense Techniques</i>	64
<i>Final Comments</i>	78

***P*reface**

Preface

There are many reasons that I chose to write a guidebook for teaching martial arts to a person who uses a wheelchair. I am a martial arts instructor and have been teaching children and adults for many years. In my teaching and my training, I have met many types of people. I have trained with students who are deaf and have watched a man spar who has no arms. All these people were courageous enough to get out on the training floor.

A while ago, I met a woman who enrolled her two children in the TaeKwonDo school where I teach. Before long her husband joined us on the training floor and three of them became my students. She would have joined us, but in her mind she couldn't because she used a wheelchair. I never knew that she wanted to train until one day in passing; she told me that she would love to workout in TaeKwonDo. She ended her sentence with "but, I could never do that." Those last words of hers rang in my ears for days, as I kept asking myself "why not?" I talked to her a bit and tried to convince her that if she wanted to, anything was possible. I don't think that at that point she believed anything I said about getting her out on the floor.

At the time, I was also taking Adapted Physical Activity classes as part of a graduate program in Human Performance and decided that wheelchair martial arts would be my paper topic for the semester. As an instructor I had hoped to learn but as a friend I hoped to convince Ann to be

a bit more open to the idea of her training. It was in trying to research the topic that I realized that there was not very much academic research on the subject. There were psychological reviews about martial arts and self esteem and there were personal accounts of wheelchair participants, but there were only a few articles that would aid me if I wished to be her instructor. I wrote the paper to the best of my ability and upon completion let my friend read it. After she read it, the only words that she said to me were, “When do we begin?” I had never felt so proud and so scared at the same time. She was finally willing to work with me, but as an instructor I had no resources to turn to for help. It was then that I realized that it was up to me to help her succeed, and in doing so, help other martial arts instructors as well.

Professionally, I would never have met Ann if I had not been one of her children’s primary instructors. It was through my professional relationship with her that she became my friend. Quite honestly, I would have never entered into this venture without having met “Ann.” Her encouragement and willingness to help with this project has been the main reason for my hard work and dedication to this subject. My educational background paved the way for me to be friends with this woman. My comfort level with a person who had a disability was further enhanced by my classes at San Jose State University. It was also through my classes that I was introduced to the world of adapted activity. My exposure to this area helped to fuel my interest in adapted martial arts.

Along with this, my own personal experience as a martial artist makes me understand the subject a bit more. I feel I can strongly relate to those who have disabilities and are looked upon as different, especially on the training floor. I may not have been disabled, but I was treated differently and looked upon as inferior by my classmates. I was the only female in a male dominated sport. That one situation made me different from day one. I also had another “strike” against me. At the time, I was extremely overweight and very shy. I was the student who stuck out as the misfit. The other students saw me as the one who was the least likely to succeed as a martial artist. In this situation, I had low self-esteem and self worth. I did not see myself as a very capable martial artist. In the subculture of martial artists, I did not fit in. In society as a whole, those with disabilities have difficulty fitting into the mainstream. Granted, this situation and my own personal experience are not entirely the same, but the feelings involved can be very similar. I know first hand what it feels like to be different and how hard these differences can be to overcome, especially on the martial arts training floor. It is here that my personal bias will affect the way I approach this project.

Because of my personal experiences in martial arts and my combined knowledge base of adapted physical activity, TaeKwonDo, exercise physiology, and self-defense concepts. My goal was to produce a guidebook to educate martial arts instructors about wheelchair martial arts. Within this book, my goal became two-fold. First, I wanted to educate martial arts instructors on how to teach a wheelchair participant and second, I wanted to

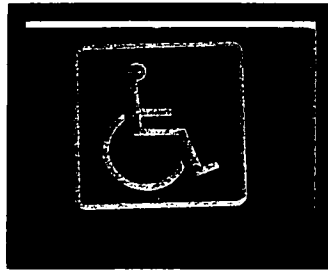
teach them how to do this and maintain a positive and supportive environment in which the student can learn. Martial artists believe that anyone, regardless of age or gender, should be able to participate. I now hope to expand their beliefs and add wheelchair users to their list of participants.

Issues of Accessibility

Accessibility

Before you begin teaching students who use wheelchairs, you must be sure that your facility meets their needs. You cannot train students if they cannot physically access your studio. If students cannot get themselves through your doors, they cannot benefit from the knowledge that you have. In many locations, a lack of accessibility may even be against the law. The Americans with Disabilities Act was enacted in 1990 to ensure that all people with disabilities had equal access to all public facilities. Chances are, if you are not accessible to a wheelchair, you may be breaking the law and infringing on some else's rights.

The following information regarding accessibility is not all-inclusive. You may have students who need very little assistance, depending on their level of disability, or you may have a student who needs lots of help. This information serves as a guide to help you look at your own facility and determine what is best for you and your students. It is not specific information based on building codes or state law. It is a guide to help you become more aware of the needs of someone who uses a wheelchair.



Parking

A student's first impression of your school will be how easily he or she can get to you. In terms of accessibility, our responsibility begins when the students reach our location. The first thing we need to address is the availability of parking. Are there designated parking spots for a person who uses a wheelchair? If so, are there ramp accesses to the curbs? Parking spots also need to be wide enough to accommodate for automatic ramps so that wheelchair users can get in and out of their vehicle. Are the parking lots well lit and free of any hazardous obstructions? How far away is parking for your facility? Are there long walkways to get to your business? Are the walkways wide enough and also free of obstructions? Walkways should be at least 48 inches wide to best accommodate a student who uses a wheelchair. Generally, the closer the parking spots and the easier the accessibility the more chance you will have of keeping your students. This not only applies to a student who uses a wheelchair, but to a non-wheelchair user as well.

There are a few things to consider next. Is your school located on a level other than the ground floor? If so, large and well-lit elevators are needed to accommodate a person who uses a wheelchair. Wheelchairs come in many different sizes and shapes. Some are narrow, while others can be very wide. All your doors, including the ones for your bathrooms, changing rooms, and offices need to meet the requirements of your student's wheelchair. This requirement is best met by keeping all doorways and entryways at least 32 inches wide. The thresholds to these doors and entryways must not exceed a height of ½". If the main entries do not meet these requirements, then an alternate route must be found. This other route must be quick and safe for the student in the wheelchair.

Changing Rooms

The changing room must first be large enough so that the wheelchair can be easily rotated 360 degrees without any obstructions. The storage shelves and hangers must be low enough so that they may be reached. A grab bar should be installed so that, if needed, your student can change with greater ease. If showers are available, the student will need a changing table, a chair for showering, and a detachable showerhead. The changing table must be wide and sturdy enough so that the student will not fall. A shower chair may be purchased at a medical supply store. If one cannot be found, a beach type chair or bench may be used. In this case, talk to your students and find out their preferences. A detachable showerhead may be purchased at your plumbing supply store and installed with relative ease.

In many cases, a wheelchair user may need assistance changing or going to the restroom. You may need to re-evaluate your changing room situation based on whether or not the person providing the assistance is of the same gender as the student. If not, special provisions may need to be made. Temporary private changing rooms may be constructed with partitions or screens to make the assistant, the student, and the other students more comfortable when it is time to change. Be sure to place mirrors and handouts at a level that can be seen by a wheelchair user. It will enable them to feel welcome and help them to fit in.

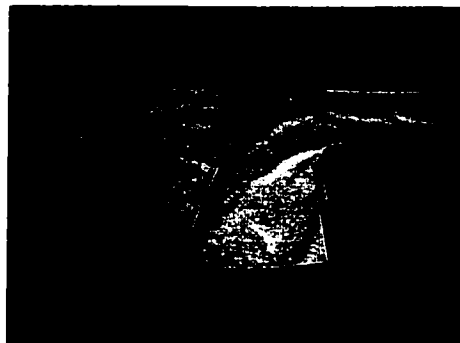
Uniforms

Not all uniforms are right for everyone. Every martial arts style and school has his or her preference of uniform. Some styles have traditional Karate-type uniforms while some schools may have no uniform at all. No matter what uniform code you abide by, keep in mind how easily this uniform can be put on by someone who uses a wheelchair. Someone who uses a wheelchair may have difficulty with open uniforms that tie on the side. They can have trouble getting them around their backs and then reaching the ties on the sides. A pull over, traditional style Karate uniform may work better depending on your students' preferences and needs. As with all aspects of a student's training, you will want to discuss what your student can and cannot work with as far as a uniform is concerned. It is

important that they feel comfortable and dressing is as little of a challenge as possible.



V-Neck Style Uniform



Wrap Around Style Uniform

Restrooms

This is an important area to consider. The level of assistance depends on the level of disability. Some basic things should be provided in any restroom that may be used by the public. This is also important if you have events in your facility or if there is a possibility of anyone being present who uses a wheelchair (parents, friends etc.). First of all, there needs to be a wide enough walkway or passageway to the restroom. This needs to be at least 48" wide. If the person cannot get through the aisle, they cannot get to the restroom. Grab bars are needed and the sink, paper towels, mirrors, etc. must be at a lower level. Restrooms are best left non-gender specific if possible. If the wheelchair user needs assistance by someone of another gender, then there will not be a concern or issue.

Training Floor

The training floor should be at the same level as the rest of the facility. Raised or lowered floors make it extremely difficult for a wheelchair user. The type of floor is also of concern. A wooden floor lets the wheelchair roll with ease, while a carpet may make the chair difficult to maneuver. A matted floor, which is typical of many martial art schools, can be a difficult obstacle to a wheelchair. Some mats do not provide for ramped edges, while others can curl up and be difficult for a wheelchair to overcome. Another concern with flooring is of the mat itself. Most mats are made for use by barefooted participants. Not all mats will be able to handle the demands that the wheels of a wheelchair will place on it. There is no perfect surface for a wheelchair. This is an issue that you and your students should discuss to determine what surface you will be using. Whatever surface you decide to use, there must be enough space to have the wheelchair move around in.

Ramped mat verses square cut mat. (View taken from floor level)

Notice the ramp makes it easier for a wheelchair to roll up on.



In-house Events

If you like to promote events inside your facility such as demonstrations, evaluations, performances, etc., they need to be wheelchair accessible, especially if they are public functions. The main concern with these events is where a wheelchair can be placed and if that placement allows for ample viewing of the event. Reserved spots strictly for wheelchairs are probably the best idea, especially if you know ahead of time the number of people expected to be attending and how many of them will be in a chair. Make sure that these “landings” are out of the way of foot traffic. You do not want to put it in a place where the staff constantly needs to get by. This becomes a hassle to the staff and a major annoyance to the person who is using the chair.

Another consideration during an event is aisle ways. In a packed house, the aisles quickly disappear and at the same time, so does the mobility of a wheelchair user. Your facility has some type of fire code that determines number of people and aisles needed based on your building size. This is where a well-trained staff comes into play. They all need to be aware to constantly keep the aisles open. This makes the experience more comfortable for everyone, not just for someone who uses a wheelchair. Emergency exits also need to be taken into consideration. Your staff needs to know how to handle evacuating a person who uses a wheelchair in case of emergency.

Miscellaneous

Some other concerns that do not fit into distinct categories are things such as low drinking fountains and counters low enough so that your students can get handouts and fliers. Doors in general can cause problems. Other than the issue of width, the ease of opening them may be a concern to watch out for. Finally, how easily can a wheelchair fit into your office? This is important to be able to have conferences with the student and to do business. Can a wheelchair turn around in your office? Are there things that could get knocked into or fall if your desk or office equipment is accidentally bumped?

The points brought up in this chapter are not meant to be intimidating in any way. They are meant for you to consider so that your students may feel as comfortable and as safe as possible. As their instructor, you must make them feel welcomed at all times. By doing so, they will learn to better trust you on the training floor and have greater respect of you as a martial artist. A checklist is provided as a guide to help you in the assessment of your facility.

Checklist for Accessibility

Parking and Walkways:

- Do I have designated wheelchair accessible parking spots?
- Are there ramp accesses to all curbs?
- Are the parking spaces wide?
- Are the walkways at least 48" wide?
- Are the walkways free of hazards and obstructions?

Buildings:

- Are elevators needed? If so, are they in proper working order?
- Are the doorways 32" wide?
- Are the thresholds less than ½ "?
- Are there alternate routes if needed?

Changing Rooms/Showers:

- Can the wheelchair be rotated 180 degrees?
- Are the hangers and storage shelves low enough to be reached?
- Is there a grab bar?
- Is there a chair in the shower?
- Is the showerhead detachable?
- Are the mirrors low enough?

Restrooms:

- Are the doorways at least 32" wide?
- Is the path to the restroom at least 48" wide?
- Are there grab bars?
- Are the paper towels, toilet paper, mirrors, sink etc. reachable for a wheelchair user?
- Is the restroom large enough to rotate a wheelchair 360 degrees?
- Are the restrooms gender specific?

Training Floor:

- Is the floor level?
- What type of floor is being used?
- Do mats have ramped edges?
- Are the mats able to withstand wheelchair use?
- Is there enough floor space for a chair to move with ease?

Events:

- Is there room for a wheelchair in the viewing area?
- Is this area out of the way of foot traffic?
- Did you reserve spot at a special "landing"?
- Are aisles keep free and clear?
- Is there access to emergency exits and are your staffed trained in how to evacuate a person with special needs?

Miscellaneous:

- Are the drinking fountains low enough?
- Are the counters low enough?
- Do the doors open easily?
- Is there enough space in the office to rotate a chair 360 degrees?
- Are things out of the way in the office so not to be bumped over?

Medical Considerations

Medical Considerations

On the training floor, we are directly responsible for the welfare and safety of our students. When teaching a student who uses a wheelchair, the rules and guidelines that we train by can be very different. There are far too many conditions to be outlined in this chapter, but we do need to know some general physical concerns that a student who uses a wheelchair may have.

Terminology is important in discussing the health of our students. By understanding the classifications, we can further understand the conditions that we will be dealing with. We may be presented with chronic problems such as Cerebral Palsy or acute injuries from things such as car or sporting accidents. There are classifications that our student may fall into based on the severity of their disability. In general, one may be quadriplegic, paraplegic, diplegic, triplegic or hemiplegic. The explanations of these conditions are as follows:

Quadriplegic- A person with quadriplegia will have all four of their limbs, the trunk and certain organ systems affected. They may have difficulty with maintaining a consistent blood pressure and reaching a maximal heart rate. They may also have problems in maintaining a “normal” body temperature. Some can also experience a variety of respiratory problems. Keep in mind, that not all quadriplegics experience all

of these problems and the extent to which they are effected vary from individual to individual.

Paraplegic- In the case of someone who has paraplegia, the lower limbs are affected. The trunk and some organ systems may also be involved. When the organ systems become involved, then the same problems occur that occur with someone who has quadriplegia. Blood pressure regulation, maximal heart rate, thermoregulation and respiration may be abnormal. The muscles in the lower body may be completely paralyzed or only be weakened. Again, the severity of the paraplegia will depend on the individual.

Diplegia- Diplegia refers to having only one limb affected by either weakness or paralysis.

Triplegia- Triplegia refers to having three limbs affected by weakness or paralysis.

Hemiplegia- Hemiplegia refers to having affected limbs on only one side of the body. For example, a person may have weakness or paralysis in the right arm and leg or left arm and leg only. It only affects half of the body.

In all the previous categories, you could also be dealing with cases of amputations or cases where more than one physical problem is affecting the student simultaneously. For example, wheelchair users can also be affected by conditions such as osteoporosis and diabetes. So we must be aware and

take steps to educate ourselves on the various conditions. As an instructor, we must understand these terms and what can potentially be involved with the different classifications.

Issues, such as blood pressure regulation and thermoregulation, are extremely important on the training floor. This may mean altering our normal class routines. If the internal temperature of the school begins to get too warm, we may have to give more rest and water breaks to the students who have thermoregulation problems. We may not be able to achieve high levels of cardiorespiratory exercise for someone who has a breathing problem. We must ask questions to the individual students and monitor them very closely. As the instructor, we must keep our students safe. Speak to your students' physicians if necessary. For your own liability issues, it is a good idea to obtain a physician's clearance for the student prior to any physical work on the training floor. As with any type of physical activity (wheelchair user or not), accidents do happen.

Along with understanding the classifications, we must be aware of other potential health concerns. Keep in mind that this is not all-inclusive and that not all persons who use wheelchairs have all of these conditions. These other considerations can be broken down into three basic categories. These categories are skin, bones and muscles, and organ systems.

Skin: Many people with quadriplegia and paraplegia experience a lack of sensation in their limbs as part of their individual condition. This not

only causes problems for them in terms of touching and manipulating their bodies, but in the case of injury, the severity can be very difficult to assess. When we bump or bruise ourselves, the amount of pain we feel tells us the severity of our injury. When students injure themselves and have no sensation, it makes it difficult for them to tell their degree of injury. This is why we must keep control over our classes and our students. When working in pairs or in groups we need to be sure that ALL of our students know how much control is appropriate and acceptable. For students with sensation problems, even the slightest bump can be a real dilemma.

Small cuts and bruise may not heal as well or as quickly in a person who uses a wheelchair. This can be due to circulation problems or poor health overall. Other problems that a person who uses a wheelchair might encounter is posture sores, ulcer or skin breakdown. The primary reason for this is the lack of body movement or rubbing of the skin on the chair. We need to always be conscious of our students so that we don't hurt them any further.

Bones and Muscles: In some cases, the techniques that we teach may put our students slightly off balance. In a controlled and careful environment, this is all right. We want to avoid any situation that may place the students in positions where they may fall out of their chairs. Most sport and everyday chairs come equipped with a seat belt or harness. Encourage your students to be strapped in while performing on the training floor. Even a small fall could cause a sprain, bruise, or worse yet, a broken bone.

Caution is extremely important because many times a wheelchair user has osteoporosis as well. Perhaps worse than the physical pain is the emotional pain and embarrassment that the student may feel when returning to the training floor.

Contractures are muscle shortenings that occur from being in a seated position most of the time. The most common contractures occur in the hips. For a student who has hip contractures, care must be taken to properly stretch and strengthen this area. Contractures not only limit range of motion, but they can also be painful.

A muscle may atrophy or waste away from lack of use. If a student is suffering from muscle atrophy, stretching and strengthening is extremely important (when possible). If the student has control over the atrophied limb, then you can definitely help as the instructor. If the atrophied limb is unusable by the student, then a trained physical therapist or doctor will be responsible for the muscle maintenance. If this is the case, find out from the doctor or physical therapist the best exercise and stretches for the limb, and utilize these exercises on the training floor.

Your student may experience muscle spasms. You may have to help stretch or massage the affected muscle. Be sure to ask if your students are prone to muscle spasms so that you may assist if one occurs on the training floor. Ask if there are movements that can trigger these spasms so that you do not put them in painful situations.

Organ Systems: In some people, the injury or illness prevents them from “feeling” the urge to empty their bladder or bowels. Some people use bags that attach to their chair because they cannot use the restroom in the usual way. These bags collect the waste products as they are produced. You should not have to deal with the maintenance of these bags. They are the student’s responsibility. We do need to be aware that they are present so that we do not hit or bump the bags during practice. Some students may be very embarrassed by these bags, therefore sensitivity is very important when discussing them. You will want to encourage the students to empty their bags before class if possible. This lessens the possibility of having to deal with the bags during class.

Lastly, ask about your student’s medications. Ask about side effects and be clear as to why the students are taking the medication. If you have not heard of the drug or the students are not sure of the side effects, have them bring in the paperwork that comes in the package. Have the students call their doctors if you cannot find the information.

To someone who has never dealt with any of these issues, this may seem overwhelming. Keep in mind that not all people suffer from all of these issues. Some wheelchair users may have none of the problems that we previously discussed, while some may have many. Do not let these issues affect the quality of your teaching or the positive learning environment that you are trying to build.

Wheelchairs

Basic Components

As an instructor of martial arts, it is important for us to understand the complex movements of the human body. We must understand the principles of joint movements and how the body is manipulated through the environment. The same goes for people who use a wheelchairs. We must, as their instructor, understand how they move through their environment while using a chair. Because of this, an understanding of the chair itself and its components becomes an essential part of our teaching.

When discussing individual wheelchairs, it is important to know and understand some of the basic parts of the chair. When people need to purchase a chair they look at many different components. They take into consideration the frame, the upholstery, the wheels, the brakes, the seating system, the foot and arm rests, the batteries and the controls (if any). As an instructor, we do not really need to know about the specific mechanical aspects of the chair (i.e. how the motor works), but we do need to know about its basic parts. The major components that we should familiarize ourselves with are the frame, the arm and footrests, and the controls.

Frame: Depending on the main function, the frame can come in many types of weights and styles. A power chair will have a heavier frame to compensate for the weight of the motor and battery. It will also be sturdier since it is designed to be used daily. A sport chair, on the other hand, is

lighter so that it does not hinder an athlete's sport participation. A manual chair is generally on the lighter side to make it easier to transport.

Controls: Manual chairs have no controls other than the wheels themselves. They are propelled by either the wheelchair user or by someone aiding from behind. Motorized chair controls depend on the individual disability levels and can be hand or mouth controlled. When adapting your movements, be sure to take into consideration how your students use this control. If they need to move the chair and execute a technique simultaneously you must help them develop the coordination to do this smoothly and practically. When thinking in terms of self-defense, you must also be sure that the students practice "covering" their controls. If they cannot access their controls they are essentially "stuck." Be sure that the students do not accidentally hit their controls during practice. This could lead to injury to themselves or other students in the class.

Arm Rests and Foot Rests: These come in many styles and vary by chair and individual preference. They are pointed out here because they can sometimes get in the way when a student is practicing. A student may decide to remove them for class or have them moved while executing certain techniques. It is a good idea to learn how to manipulate the arm and foot rests so that you may aid your students on the training floor.

Wheelchair Types

There are many types of chairs. Their styles, their functions and their abilities differ from chair to chair. Knowing the differences in these chairs can help you to know the limitations and advantages that a wheelchair user may have.

Manual Chairs: A manual chair is any type of chair that is propelled by the users own arm strength or by someone pushing from behind. Within the category of manual chairs, there are also other variations. The basic wheelchair is the type of chair that one might envision in a hospital or clinic. These institutional chairs are generally not for long-term usage. They are good if a person has a temporary problem such as a broken leg or a sprained ankle. The institutional chairs can weigh as much as 45 pounds, which makes them difficult for transportation. This brings us to another category of manual chairs.

Institutional
Style Chair

There are many
different brand
names and
types.



Lightweight Chair: Lightweight chairs are also what we may know as a sport chair. They generally weigh 25 pounds or less and are much easier to manipulate. Their weight makes them much easier to use in sporting situations where speed and agility are important. A 45-pound institutional chair is much too heavy and much too uncomfortable to use in sporting situations. Some sports that use specific “sport” chairs are Quad Rugby, Wheelchair Basketball and Wheelchair Tennis. To date, no chairs have been made specifically for martial arts practice.

Lightweight Wheelchair
Or Sport Chair



Power Chairs: Power chairs are for people who have little or no upper body strength. A power chair usually weighs much more than any other type of chair. The added weight is due to the stronger frame and the weight of the motor and battery pack. A joystick is the most common type of controller. When your student uses a joystick controller, it is important that they try to use it with both hands equally. Generally, the controller is placed on one side or the other of the chair, so using both hands may be difficult. Encourage the student to practice reaching across their body and

manipulating the chair using the joystick. This will help them with coordination and will be beneficial if their “favored” arm is ever injured.

Each chair can be quite different. For example, a student had been working with one type of power chair for most of her training. When she got a new chair, the timing and the sensitivity of the control were completely different. She needed to “break in” her new chair for a few weeks before she became as proficient with her new chair as she was with her old one.



Power Wheelchair

Wheelchair Pros & Cons (Manual vs. Power Chairs)

Maneuverability: The manual chair can only be moved by using the arm that is on that side of the wheel. For example to manipulate the left wheel, you must use the left arm. Forward and backward movement requires that both hands manipulate the wheels. This needs to be taken into consideration while executing techniques that involve movement, especially one that involves moving and executing the techniques simultaneously. Either the right or the left hand can control the power chair when necessary, although crossing over the body is not very comfortable for the wheelchair user. The motor and stability systems lead to somewhat smoother movements although stopping can be a bit “jerky.”

Speed: The user controls the speed of the manual chair. Upper body strength plays a major role in how fast the user can manipulate the chair. The more upper body strength a person has, the faster the chair manipulation will be. The weight of the chair also plays into how fast the chair can be moved. The lighter the chair, the easier it will be to move through space.

In the power chair, the speed setting and the control of the joystick determine the speed. Some of these power chairs can reach speeds as fast as 30 miles per hour. On the training floor we will not need to go quite so

quickly, but the power chair definitely has the advantage over a manual chair in speed based movements.

Timing: The user more directly controls the timing on the manual chair. They have direct control of when to stop and start movements. With the power chairs, this is not always the case. There is a delay on the controls of some power chairs, therefore if the student stops the chair it may continue to move for a few seconds. Timing will have to be worked with the individual chairs.

Power: In a manual chair, power is related to how much upper body power the student has. In the case of the power chairs, power is directly generated from the motor of the chairs. This is very beneficial to a student who has limited strength in the upper body. By using the chair's power, the user can compensate for his or her lack of upper body strength.

Chairs can be very different depending on many different variables. When you get new students who use wheelchairs, spend the first few classes exploring the benefits and possible problems that their chairs may have. It will make it easier for you as the instructor to adapt the different movements that your art uses.

The Roles of the Instructor

The Roles of the Instructor

As martial arts instructors, we take on many different roles for our students. We essentially change our “hats” on a moment’s notice. On the training floor, we may be the educator and the motivator, while off the floor we may become the counselor and the confidant. We change these roles based on the ages of the students and the individual relationships that we have with them. With a student who uses a wheelchair, we must not only be the educator, motivator, counselor and friend, but we must also take on the role as an advocate for equal opportunity for all. One role does not take precedence over another. The important thing that we must understand as instructors is when and how to wear our different “hats.”

The Educator

This is the role that we most typically take on while we are teaching our classes. It is important that while we play this role, our communication skills are at their best. We want our instructions to be simple and to the point, yet thorough enough to fully relay our lesson. People learn in one of three ways or they may learn by a combination of the three. Students learn by listening (audio), they learn by watching (visual) or they learn by doing (kinesthetic). Students may learn by one modality, or learn by a combination of these three. It may also depend on the situation. Therefore, it is the combination of these three learning modalities that makes our instruction most effective. When working with a student who uses a chair,

(or any student for that matter), it is best to experiment in order to find out which learning modality works best for the individual. When working with a group class, it is best to teach using all three modalities to accommodate all of your students. With students who use wheelchairs, we need to evaluate each of these three modalities. Are there other medical considerations that make one learning modality better?

Unless the instructor also uses a wheelchair, he/she may not know what the student is going through both physically and emotionally. Therefore, teach and practice from the position of the student. Invest in a wheelchair and practice side by side with your student. This helps to better evaluate what you are teaching and how it should feel to those whom you are teaching. Sometimes a movement may seem to work from a wheelchair, but when actually done from the position of the chair, it may not work at all. Be sure to practice your lesson plan before you teach the class. It is in this practice that the modifications can be made to the individual techniques.

By investing in the extra time, we will be sure that our modified techniques will be successful. We will be able to be confident on the training floor and in turn build greater respect and confidence from our students. In order to be successful as the educator we must have the trust and respect of our students. We gain this through confidence and sincerity on the training floor.

In a way, your students also take on the role of an educator. We need to obtain feedback from our students. If a punch or block becomes difficult or uncomfortable, we need to know. Maybe our student cannot turn the upper body or rotate enough to get the proper position. We need to find out

what works for them individually. The only way to do this is to keep the lines of communication open. Ask questions and solicit information from your class. Through this process, both student and instructor wear the hats of the educator.

The Motivator

The role of motivator takes on many components. We must be encouraging, yet somehow make corrections to our students' attitudes and techniques. Encouragement through positive reinforcement is one of the most effective tools for a martial arts instructor to master. We are dealing with a population that tends to have lower self-esteem and self-concept, simply because society looks upon them as different. Our job is to help them improve their self-esteem and self-concept along with teaching them the different components of martial arts.

We must have patience. Physically, our students who use wheelchairs may not be able to perform at the specific levels we are used to. We must understand their limitations and work around them. It is important that we teach our classes so that we never put our students in a position where they will feel embarrassed and ridiculed. Yes, we will be teaching things that our students will find difficult, but if presented with a positive mindset, they will master these challenges over time. Keep in mind, our students can be their own worst enemy if we let them. If we are frustrated, then chances are, our students are feeling much worse.

As a motivator, we must be motivating. It may sound very simple, but it can be challenging for some. While we may have personal issues outside the training floor, we must never bring our problems on to the training floor. If we are having a bad day, we must try not to let it affect our students. If we are tired, we cannot let it show on the floor. We are there to teach and motivate.

It is best to give yourself 5-10 minutes of mental preparation before you go to teach a class. Bring your own mental focus to the upcoming class and you will be more prepared to handle whatever challenges emerge during your class. By keeping an air of professionalism, we also help to build that all-important relationship between student and instructor. The best instructors find the most effective ways to positively motivate their students. A student in a wheelchair may even give us more challenges to work with based on their individual confidence level and disability level. The key is to be patient, flexible and positive at all times.

Counselor

It is almost inevitable that through the process of instructing, we become friends with our students off the training floor. This is important to their well-being whether they are training or not. If your student is having a difficult time at home or at work, you will begin to see signs of it during your lessons. The key is to be aware of what is going on in your students' lives. It will help you to better motivate and encourage them if needed. It is

during these times, that we become the counselors. When the respect and trust has been built between instructor and student, and the lines of communication are open, the instructor is now a trusted companion. Issues and problems may be brought into your offices that have no relationship to martial arts whatsoever. Many times you may not even know what to say or do. The trick is to be open-minded and an active listener. Sometimes a student may just want to “get something off their chest”. By actively listening, you may be helping by not saying anything at all. Do not try to “fix” other peoples problems. Just try to be a good listener. Only offer advice that you are sure of. If you do not know how to help, be honest and tell them. Honesty and sincerity will help to strengthen the trust and respect that you have for one another. When all else fails, just practice some TLC and the rest will fall into place.

The Advocate

Being an advocate can mean many things to many people. The most common actions that most of us recognize in advocates are things like rallying in front of government buildings and boycotting companies that are not supportive of our cause. These are not the only ways in which we can be advocates. By reading this guidebook and familiarizing yourself with wheelchair martial arts, you are beginning to be an advocate. Being an advocate means that we are aware that there should be equal opportunity for all and we are taking steps to help ourselves be better equipped to handle the

vast differences in populations. By teaching a student who uses a wheelchair, you are an advocate. By talking about your wheelchair program to others, you are an advocate. By educating yourself on wheelchair martial arts, you are an advocate.

Simple things, such as having a wheelchair martial arts program, makes you an advocate for equal opportunity. You give your surrounding community an example of the things that can be done in life, no matter who a person is. I am not saying we need to go out and actively change policies and push our wheelchair programs on others. We simply need to make it known that wheelchair martial arts programs exist and they are viable means of sport, recreation and fun for someone who uses a wheelchair.

Within our schools, we are advocates for our students' progress, just like the attitudes we take towards our students who do not use wheelchairs. We must be on their side in times of challenge and crisis, both on and off the floor. By helping them take action in certain situations, we help build their confidence and set an example for others in our community.

As an example, before class one-day, I noticed that someone was parked in the only van accessible disabled parking spot near our school. I knew one of my students would be arriving soon and since she had a lift on her van, she needed to access this spot to get out of her car. The car that was parked there was not displaying any type of disabled parking plates or sign. By the looks of the girl in the car, she was parked there not because she had any physical problems, but out of convenience for herself. My student arrived and was forced to park very far away and cross our parking lot (which was very dangerous).

When my student arrived, I encouraged her to say something to the woman. At first she was hesitant to stand up for herself, but I encouraged her to be an advocate for herself. The young girl refused to move her illegally parked car and I became an advocator when I went inside to call the police. The driver of the illegally parked car realized that I was calling authorities and moved her vehicle allowing my student to move her car and park safely. In this case, I was an advocate for my student. I encouraged her to be an advocate for herself and I became an advocate when I called the police. As you can see, being an advocate is often times very simple yet can be very important for our lives and the self-confidence of our students.

Remember that these roles are not completely separate from one another and may be played simultaneously throughout one class. What we do need to realize is when and how we are playing these roles and that we are taking them on at the appropriate times. Depending on your school and your students, you may even find yourself taking on additional roles that were not discussed in this chapter. After your classes, take a few minutes and reflect on what roles you played and if you were playing them correctly. By being conscious of how we teach, not just what we teach, we build a positive, fun learning environment for our students.

Warm-up & Flexibility

Warm Up and Flexibility

The warm up and the stretch must be the beginning to any class. This component is important requirement for all students, not just for students who use wheelchairs. The warm up is necessary to produce specific physiological and (to some extent) psychological changes. These changes aid the body in preparing for the upcoming activity. Blood flow throughout the body increases, which causes an increase in body temperature. Heart rate is slowly increased.

These changes are of particular importance to someone who has a spinal cord injury. Different types and severity of spinal cord injuries can lead to impairment of a person's thermoregulation. You must discuss individual thermoregulation with your students in order to discover if this will be an issue to work with. If so, you will aid your students most effectively by educating yourself. You may want to talk to their doctors about specific problems and limitations. By actively seeking out information, you will further gain trust from your students and more confidence in yourself.

Once we have completed a warm up appropriate to our students' needs, we can then move into flexibility exercises. Keep in mind that a student who uses a wheelchair could have a wide range of illnesses or injuries. Prior to the first class, we must first assess their limitations and determine what muscle groups can be used. Evaluate each student's range

of motion. This gives us an idea of what activities can and cannot be done. We want to make sure that we are not aggravating a current injury, or telling them to do things that they physically cannot do.

There are many reasons why we should stretch. According to the book *Stretching*, by Bob Anderson, these are the most important ones:

- Reduces muscle tension; relaxes body
- Aids in coordination
- Increases range of motion
- Helps to prevent injury
- Makes aerobics easier
- Develops body awareness
- Helps with a mind-body connection
- Promotes circulation
- It feels good

Many factors can influence an individual's flexibility. Some of the influences are age, gender, body type, warm up, muscle soreness or injury. It is important to continually ask your students how the movement feels and whether or not the students feel any pain. The following information will serve as a guideline for a pre exercise routine:

- Begin with 3-5 minutes of cardiovascular exercise that consist of large muscle rhythmic movements.
- Stretch every muscle systematically. The most common way to get all you muscles is to start at the top and work your way down.
- Work to the point of "mild discomfort," NOT pain. You can tear muscles by stretching them too far. Gradually increase the stretch, as you feel comfortable. Most stretches need to be held for at least 30 seconds before they are effective.
- Take it slowly. Flexibility can be affected by many factors. Learn to know and trust your students. Try not to push them too far.

Work all the muscle groups that your student can. Your student may already be on a flexibility routine through a doctor or physical therapist. Find out what these exercises are and incorporate them into your routine. This way you can be sure that your exercises will be safe and effective for your student. If you are uncertain about specific stretches, be sure to have the student ask their doctor BEFORE you begin using the stretches as part of their routine. If you are conducting a group class, be sure that each student knows what exercises they should and should not perform based on their ability level. If you are still not sure about an exercise routine, talk to a doctor or physical therapist about some alternative exercises.

The following are some suggested flexibility exercises:

Head and Neck Rotation



#1



#2



#3



#4

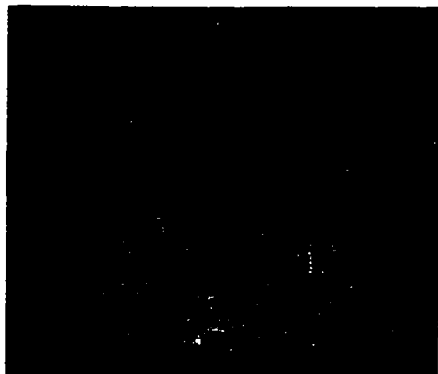


#5



#6

Upper Body Rotation



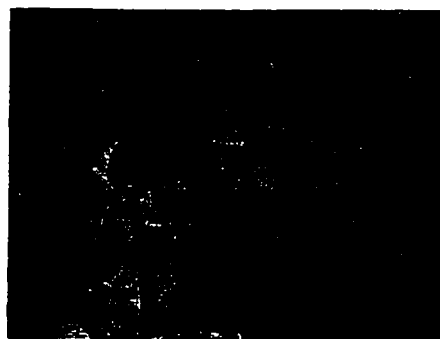
#1

Arms are up in front of face with elbows parallel to the floor.



#2

Back and shoulders are rotated to a comfortable position. The chair type may affect how well the student can execute this technique.

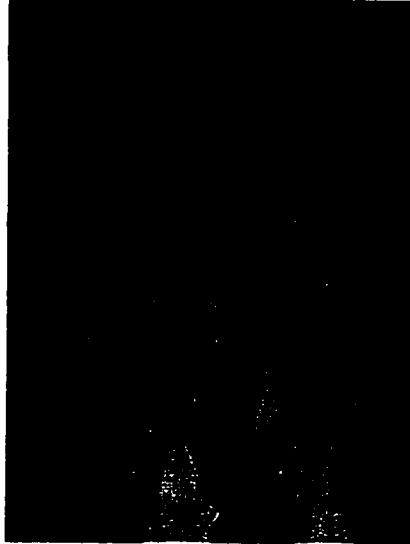


#3

Arm is extended to facilitate the stretch further.

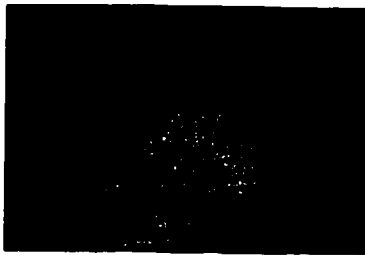
Repeat steps 1-3 on both sides.

Side Bending



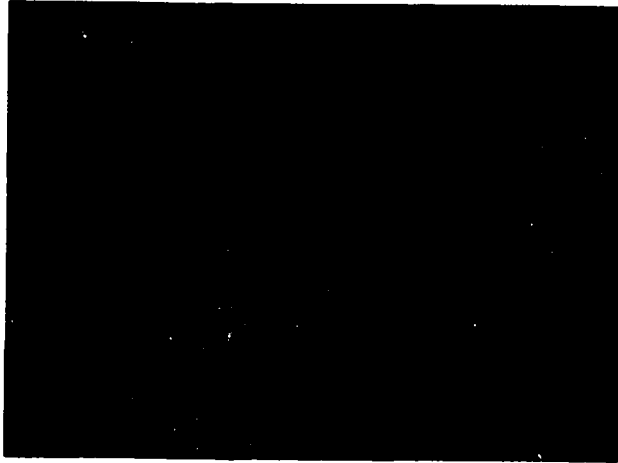
Student raises one arm over the head, keeping the elbow over the ear and the back as straight as possible. This will stretch the oblique muscles (side of the trunk). Exercise should be repeated on both sides.

Shoulder Rolls

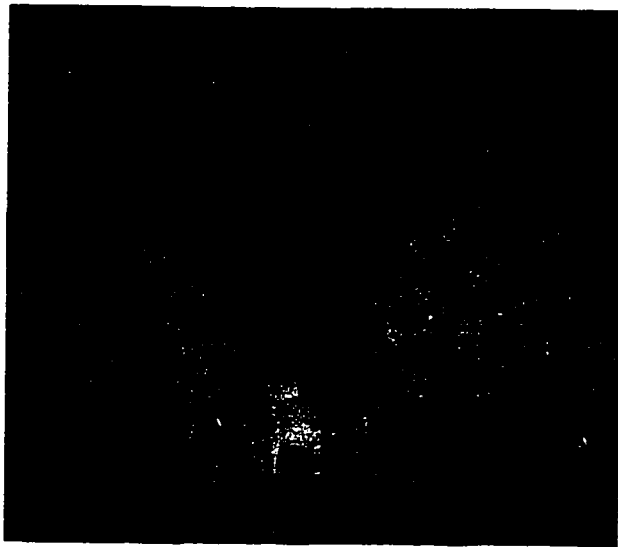


Care should be taken to fully stretch the shoulders. This is especially important for someone who uses their upper body to move their chair. An injury to the upper body is not only painful, but if severe enough, can limit the mobility of a person who uses a non-power chair.

Upper Arm Stretching



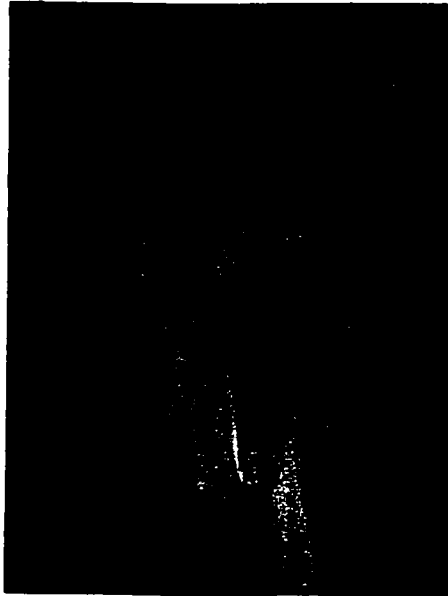
Student brings one arm straight across the body. With the other arm, the student applies slight pressure toward them. This helps to facilitate a stretch in the shoulder and upper arm. This exercise should be completed on both sides of the body. Red circle outlines general area where the stretch should be felt.



Student brings arm up and over the back of the head. The other arm can be brought up to aid in the stretch. If the student's shoulders are not very flexible, the other arm may not reach. If this is the case, the stretch can be done using only one arm. Again, the red circle outlines the general area where the stretch should be felt.

Hip Stretch

Some students may have lower body movement. If so, you must find out what they can do. This will vary from individual to individual. A basic lower body stretch for someone with limited range of motion and movement may be like this. Again, it depends on the ability of your student.



Student brings knee up as far as possible toward chest. If needed, the upper body can help to further facilitate this action. One or both arms may be used to further the stretch. If balance is an issue, one arm may help in the stretch, while the other arm aids in supporting the student in his or her chair. Stretch should mostly be felt in the area of the red line.

Basic Blocks & Strikes

Basic Techniques

Not all martial arts are the same or focus on the same concepts. Yet many of the basic moves are similar in angle of application or purpose. This chapter covers basic blocks and strikes that can be performed by someone who uses a wheelchair. They are provided to give martial arts instructors a “starting point” when working with a wheelchair user. The basic blocks provided aim to cover a large majority of the upper body, while the strikes cover many different angles of attack.

Your students’ individual ability levels will affect how successful these basic techniques will be on the training floor. Adjustments should be made so that the student is physically comfortable and so that the technique does not lose its effectiveness. In this area, it is important that the instructor has an extensive knowledge of the art which he or she practices. Adaptations need to be practical and tailored to the student’s needs. The main purpose of this chapter is to provide an outline of basic techniques and to provide ideas to instructors on where to begin with their students.

Defensive Positions



Angled Defensive Position

Angled Defensive Position

In this position, the student places the chair at a 45-degree angle to their target or attacker. By turning at this angle, the chest area becomes less of a target to someone else's attack.

With a motorized chair, it is important that the joystick be in a position where the student can protect it. This also helps to keep it out of the way if an attacker were to try and "take over" the chair.

Basic Defensive Position

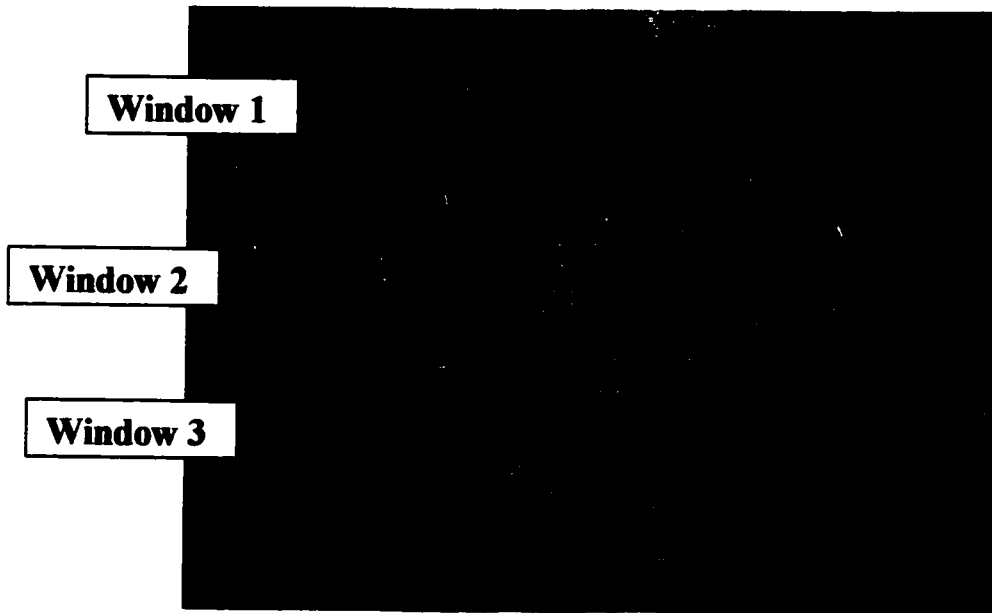
This position makes it very easy for your students to mirror your movements. This is the best position in which to begin because it involves no movement of the wheelchair. In the beginning, moving the chair may be challenging to the student. It also makes it easy for you to see the entire movement while the student performs it.



Basic Defensive Position

Blocks

Our basic blocks aim to cover as much of the upper body and vital organs as possible. The areas in which the blocks cover can be looked at as three different “windows.”

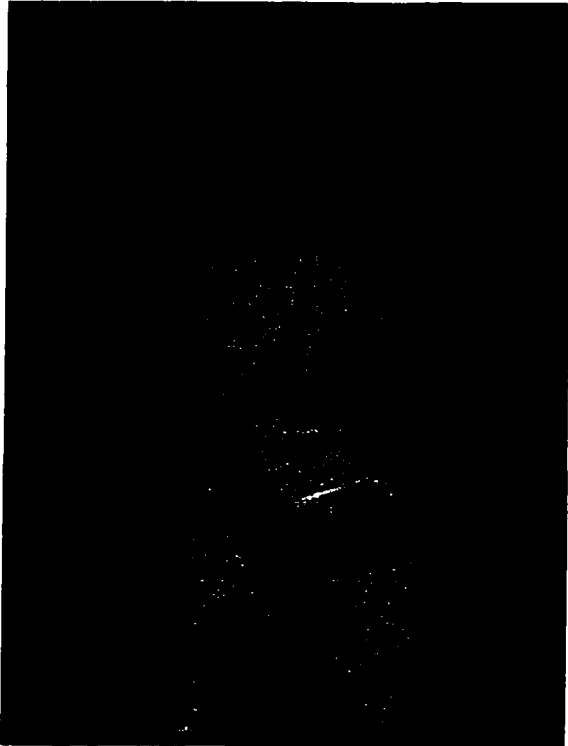


Window 1: This is the top window. Due to the height of most wheelchairs, it is the most important one. Since the chair is lower than the height at which people stand, this area becomes a prime target when a non-wheelchair user attacks a wheelchair user. The high block is used to protect oneself from strikes entering this window. The strikes would be aimed at the head or face area.

Window 2: The attacks that enter this window will primarily be aimed at the chest, the stomach, or the throat. Notice that Window 1 and Window 2 slightly overlap each other so that the throat can be protected by blocks that take place in Window 1 or Window 2.

Window 3: Any attacks aiming for the legs or lower half of the seated body are considered Window 3 attacks. This is a difficult window for most wheelchair users because their own legs may get in the way of an effective block. An individual's range of motion may alter the block when attacked in this window.

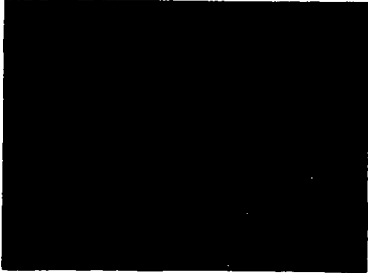
High Block
(Window 1)



Proper mastery of this technique is important because the majority of attacks on a person who is in a wheelchair come from the high position. The arm **MUST** cover the head in order for the high block to be an effective technique. The arm is angled so that an attack may “slide off” the blocking arm. This angle should be as close to 45-degrees as physically possible.



High block- front view



High Block- side view

Outside & Inside Block (Window 2)

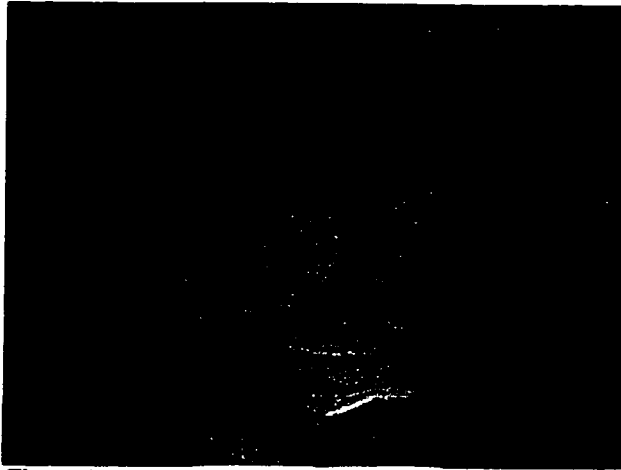


Figure 1

The outside and the inside block are virtually the same in the final position. By looking at the above photograph, one can not tell which block was being thrown. The differences in this Window 2 blocks are in the direction in which the arm begins the motion.

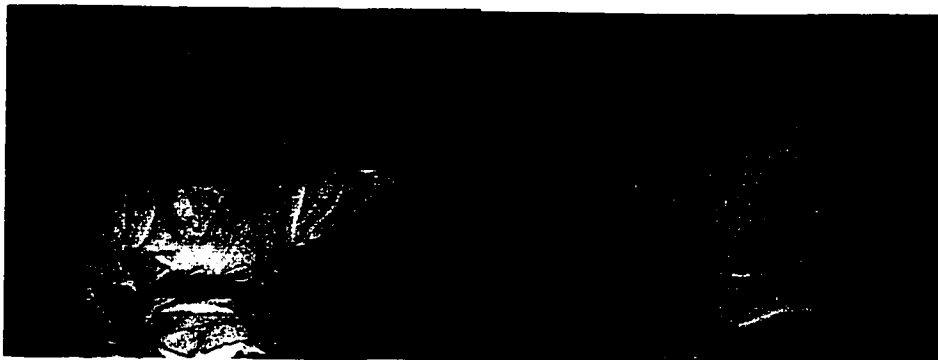


Figure 2

Figure 3

In figure 2, we have the set up for the inside block. The arm comes up parallel to the floor and sweeps across the body towards the inside. Figure 3 is the set up for the outside block. The arm begins at the side and sweeps towards the outside of the body. Figure 3 is the final position for both the outside and inside blocks.

Down Block

(Window 3)

A basic down defense is used for Window 3 attacks. The arm begins at the side of the head with the palm facing inwards towards the face. The arm then sweeps at a 45-degree angle across and down the front of the body. In the final position, the arm is at a 45-degree angle away from the body with the hand approximately 3 inches above the knee.



**Down Block
Initial Position**



**Down Block
Final Position**



**Down Block Final
Position**

Side View

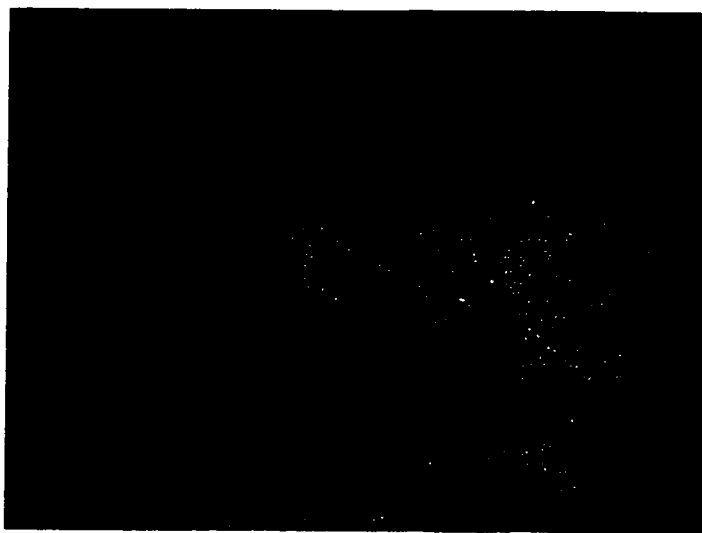
Note that hand is
approximately 3 inches
above knee

Strikes

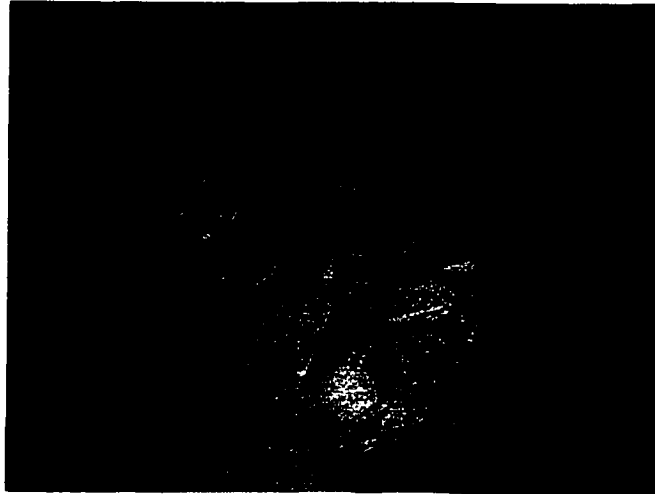
Lead Hand Jab



A lead hand jab comes from the hand closest to the target or attacker. It is a basic style jab. Targets can be anywhere, but are most commonly the solar plexus or upper lip. Depending on your students' physical abilities, you may have to wrap the wrists to support them during impact. If the arms are severely affected, you may even consider not impacting anything with the jab and rely on other strikes for self-defense purposes.



Reverse Punch

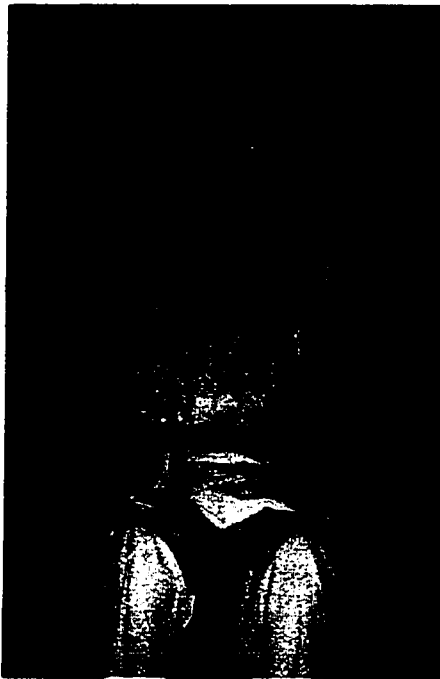


Reverse Punch Front View (top) and Side View (bottom)



A reverse punch comes from the hand that is furthest away from the attacker or target. Power from this punch is generated from the hip rotation. A wheelchair user may not be able to effectively gain maximum power in this position. Depending on your style of punch, modifications may need to be made.

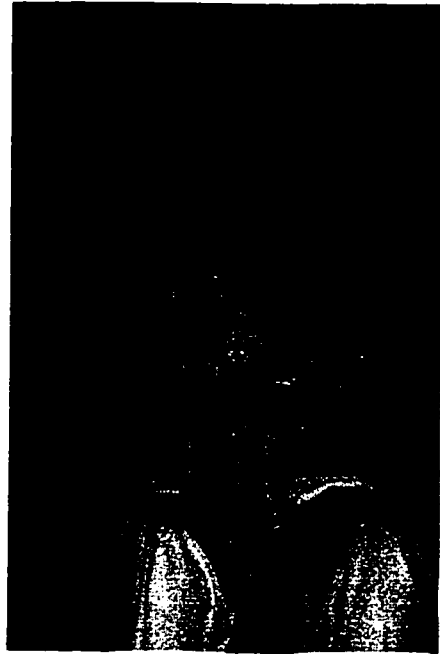
Forearm Strikes



Downward forearm strike - Start

Downward Forearm Strike

In this position, the hand is raised high above the head (left). The target area is outlined. The strike comes downward towards the lap (right). This is a good strike to use in a self-defense situation.



Downward Forearm Strike-Final



Inside Forearm Strike -Start

Inside Forearm Strike

Striking
Area



Inside Forearm Strike-Final

The inside forearm strike utilizes the same motion as the inside block, but its intent is to strike a target or opponent, not block. The striking area is outlined in the above picture. It can be executed to the head, neck, and chest, or anywhere there is an open target.

Knee Strike

A knee strike may or may not be possible for all of your students. Level of disability needs to be taken into consideration. Some of your students may only be able to do it on one side of their bodies, some just a little, some not at all.

A basic knee strike has the same principles of a standing knee strike. Lift the knee towards the target and thrust your power into it. It is a good option for self-defense if an attacker is thrown off balance into the students' lap. They can then strike as the opponent is falling towards them.



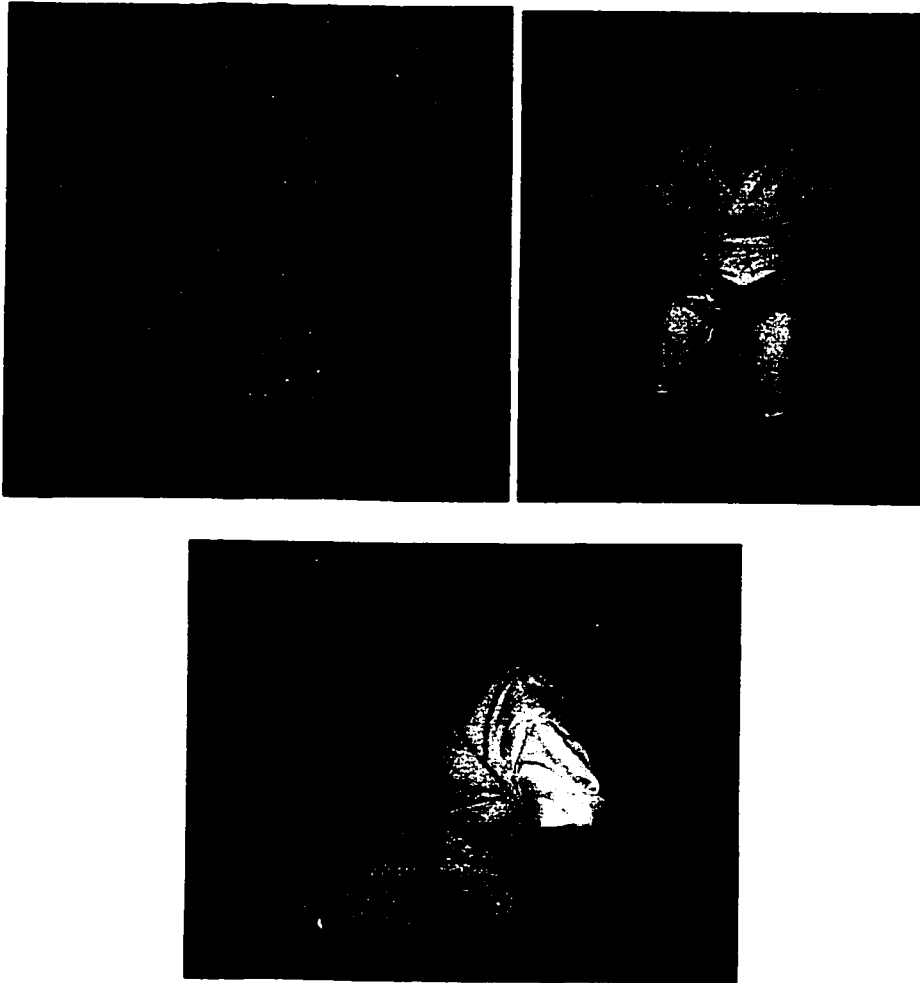
Knee strike in Angled Defense Position



Knee strike while using chair for support.

Bracing

A wheelchair user must be aware of how to stay in the chair while practicing. Many chairs have seatbelts or harnesses, but sometimes they are too limiting. If your students would like to be more balanced and gain more power, they may choose different positions. It is usually only an issue while performing lower body techniques. Here are some options for chair bracing.



These three pictures represent the same hold. The one to the right is the full view of a student bracing herself in her chair. The picture on the right is a closer view of her hand positions. The picture at the bottom is the side view of the same hold. All of these holds can be done using one or two hands.

Combinations

Combinations

In this chapter, several combinations will be introduced. This chapter is designed to give you a few ideas when beginning to work with combinations. By exploring these combinations, you can help your students combine the upper body, lower body, and chair movements into something that works for them. It is very important that the students feel comfortable moving their chairs while they execute techniques. They must learn how to coordinate their movements with the timing of their chairs. If your students use electric chairs, you may only want to practice certain combination on one side of the body due to the fact that one arm needs to be available to manipulate the joystick. Other combinations can be generated that incorporate the using of the joystick into the series. It is something that you and your students may want to discuss.

The combinations being presented assume that your student has limited lower body movement. This will not be the case for all your students, you must then decide what can and cannot be done. Your students may not have much upper body movement either. This is why constant communication between yourself and your students is extremely important. We want them to learn in positive, comfortable working conditions. If we ask them to do something which they cannot, they may feel uncomfortable and may lose trust in your teaching.

In practicing these combinations, it is best to start in a stationary position. Make sure your students can comfortably execute the individual techniques before going on to the moving combinations. It will be easier and less frustrating for them to learn in this 2-step process. These combinations can also be done one at a time, or the students may execute the techniques simultaneously. Just remember to teach these combinations in a progression. Start with the basics and work your way up.

Combination #1

Knee/Punch



The above 2 photographs illustrate the basic knee-punch combination. In the top photographs the techniques are executed separately. In the bottom photograph, the combination is executed simultaneously.



Combination #2

Knee/Elbow



In the above photograph, the student is executing a basic knee strike. Any type of elbow strike will then follow the knee. The strike being demonstrated in the bottom photograph is an upward elbow strike.



Combination #3

Knee/Forearm



Knee strike from basic position.

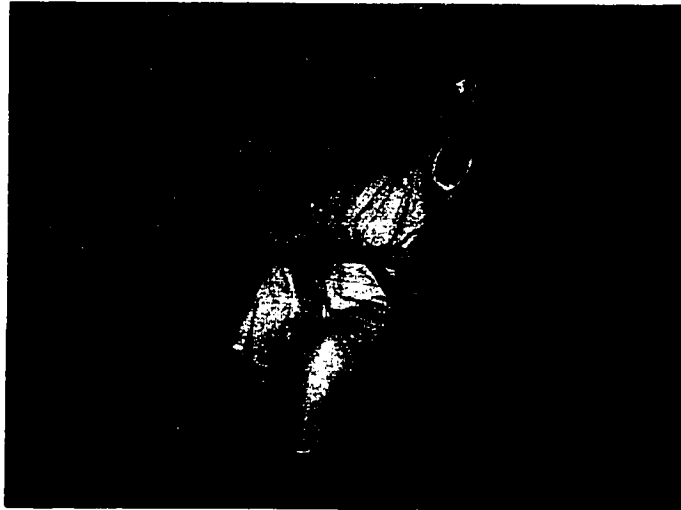


Followed by a forearm strike.
Pictured here is the high
chamber for a forearm strike.

In this final photograph, the student
demonstrates the knee/ forearm
combination simultaneously.



Combination #4
High Forearm/Punch



In this technique, the strikes are done with the same hand. It is performed this way due to the use of the wheelchair joystick. She needs the other hand to be free in order to facilitate possible movement using the chair.



Combination #5

Kneel Forearm Strike Kneel Punch

#1



#2



#3



#4



Self-Defense Techniques

Self-Defense

Self-defense becomes a major concern for most people who use wheelchairs. They are “easy targets” for crime because society does not look at people who use a wheelchair and see people who can successfully defend themselves. When we are building confidence in our students, teaching effective self-defense movements is very important. We want our students to feel like strong members of society and by teaching them basic movements, we give them the ability to feel safe when outside our studio walls.

There are an unlimited number of grabs and releases that can be performed when the victim is using a wheelchair. The specific martial arts style that you are using will determine what techniques you place more focus on. Keep in mind also, that the wheelchair can be used as both a weapon and a shield. Finding ways to ram an attacker’s shins or run over their feet can aid in the escape process. The style of chair will also have its own benefits, depending on the make and model. An electric chair will give the victim tremendous speed and power. Ramming at high-speed is a good distraction technique. When you are developing techniques, be sure that these techniques will keep the student from falling out of the chair. That is your primary goal. Once the student has gotten out of the grab, the next goal is to get away and get help. If the student gets knocked out of the chair they lose the ability to flee. **KEEPING THE STUDENTS IN THEIR CHAIRS IS OUR #1 CONCERN.**

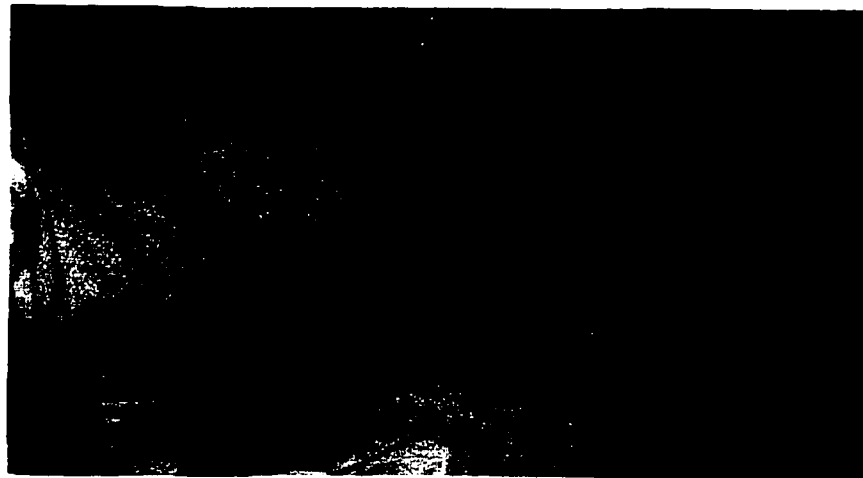
The following four grabs can serve as a base in which to begin a self defense program for a student who uses a wheelchair. These pictures show the use of a power chair, but modifications may be made for a manual chair. Your student's individual ability level will play a major role here.

Straight Across Grab



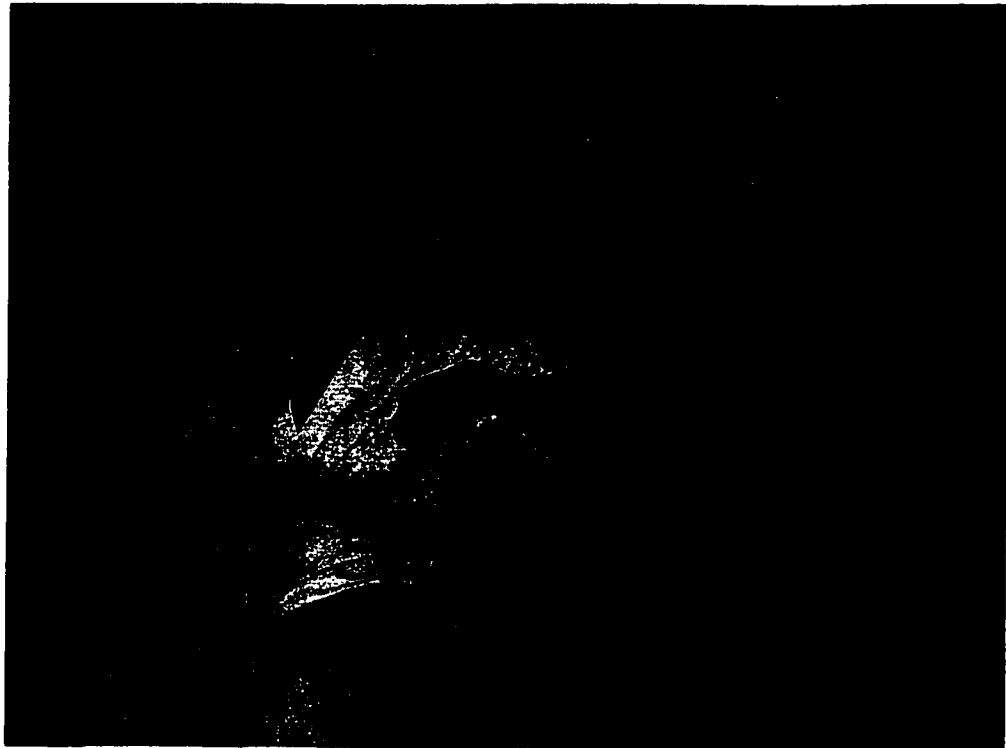
#1

#1 Attacker grabs defender's wrist. If attacker grabs with left hand, they will be grabbing the defender's right wrist and visa versa. It is called a straight grab because it goes straight out in front.

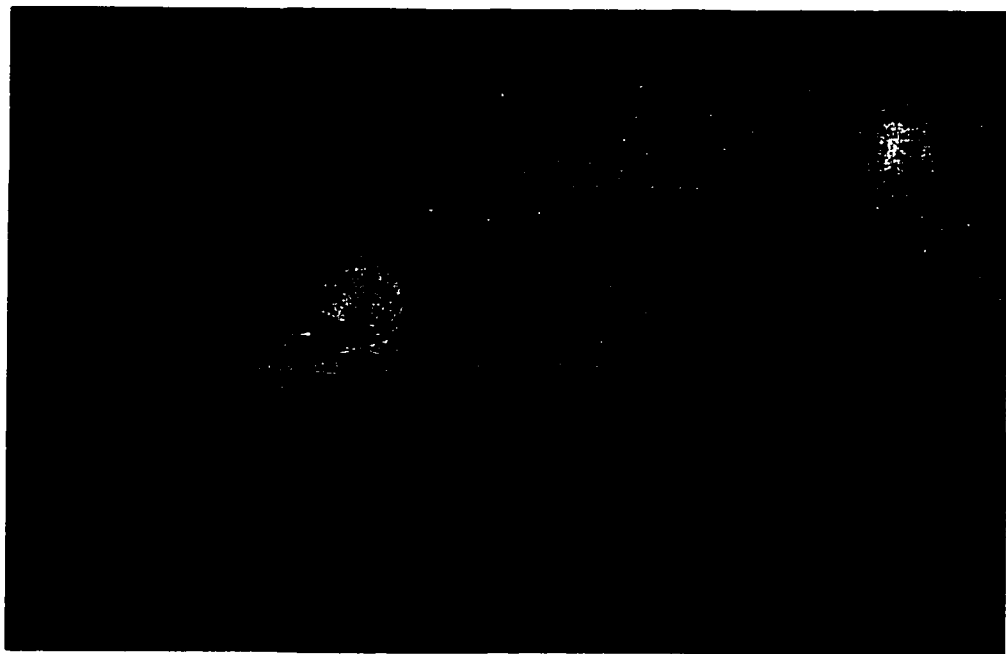


#2

#2 and #3 Defender will bring grabbed hand toward the chest as they spin the wheelchair away from the attacker. For example, if the left hand is being grabbed, then the left hand is brought toward the chest, and the chair is being turned toward the right.



#3



#4

#4 Defender flees situation.

Cross Grab



#1

#1 In this grab, the attacker grabs the defenders same wrist. (Ex: right to right)
This causes the attacker to bring their hand across the body, which gives its name.



#2

#2 and #3 Defender performs a half moon on the attacker and at the same time turns the chair towards the attacker. For example, if left hand is being grabbed, chair is being turned toward the left. A ram action can be done here.

Note: Keep in mind that during any of these techniques, any ramming or striking actions may be executed. Keep wheel placement in mind so not to injure anyone during practice, but be sure to point out when ramming can occur.



#3



#4

#4 Defender flees situation

Shoulder Grab



#1 Attacker grabs straight across to the defenders shoulder.



#2 Defender executes an outside block while the attacker brings the wheelchair backwards.



#3

#3 As the chair is brought backwards, the attacker is thrown forward and off balance.

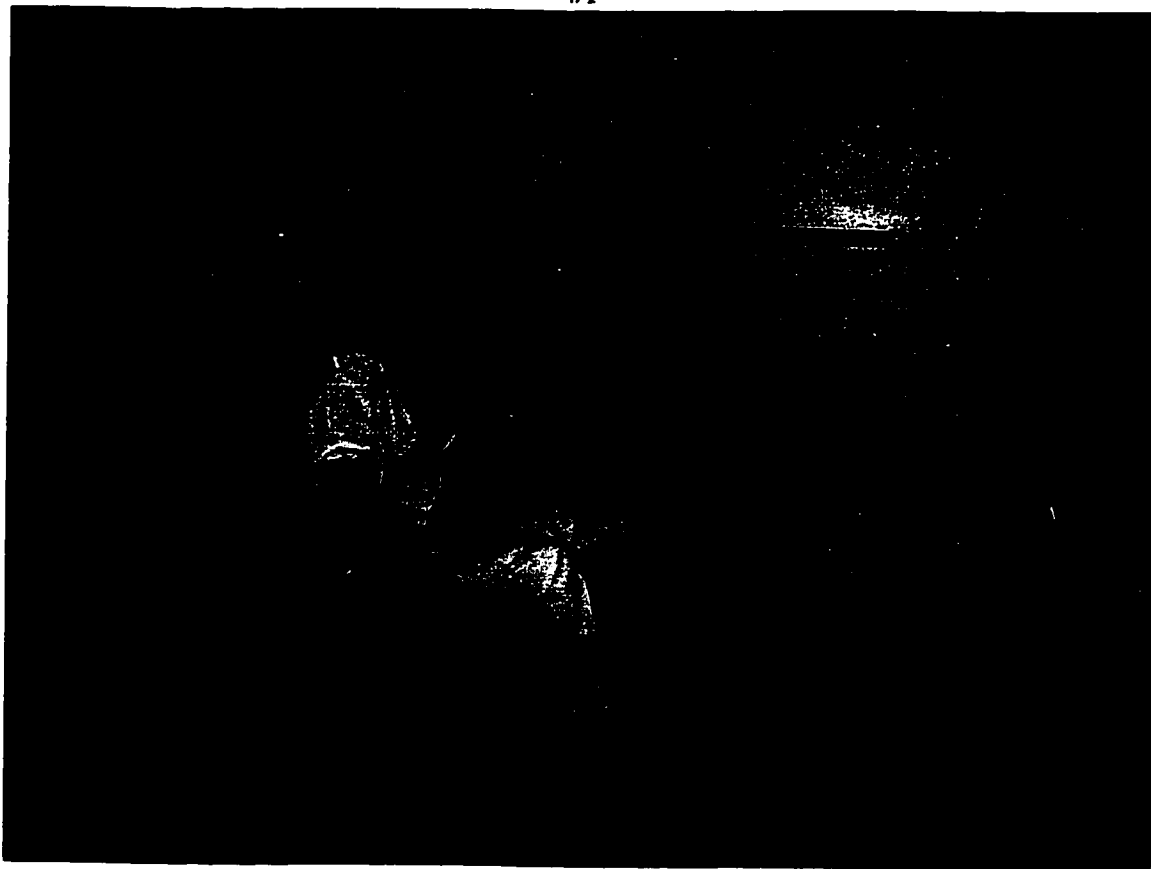


4

#4 As the attacker comes forward, the defender may execute a number of different strikes. In this photograph, the knee strike is being demonstrated.

Choke Grab

#1



#1 With a choke grab, the attacker has both hands around the defender's neck.

#2



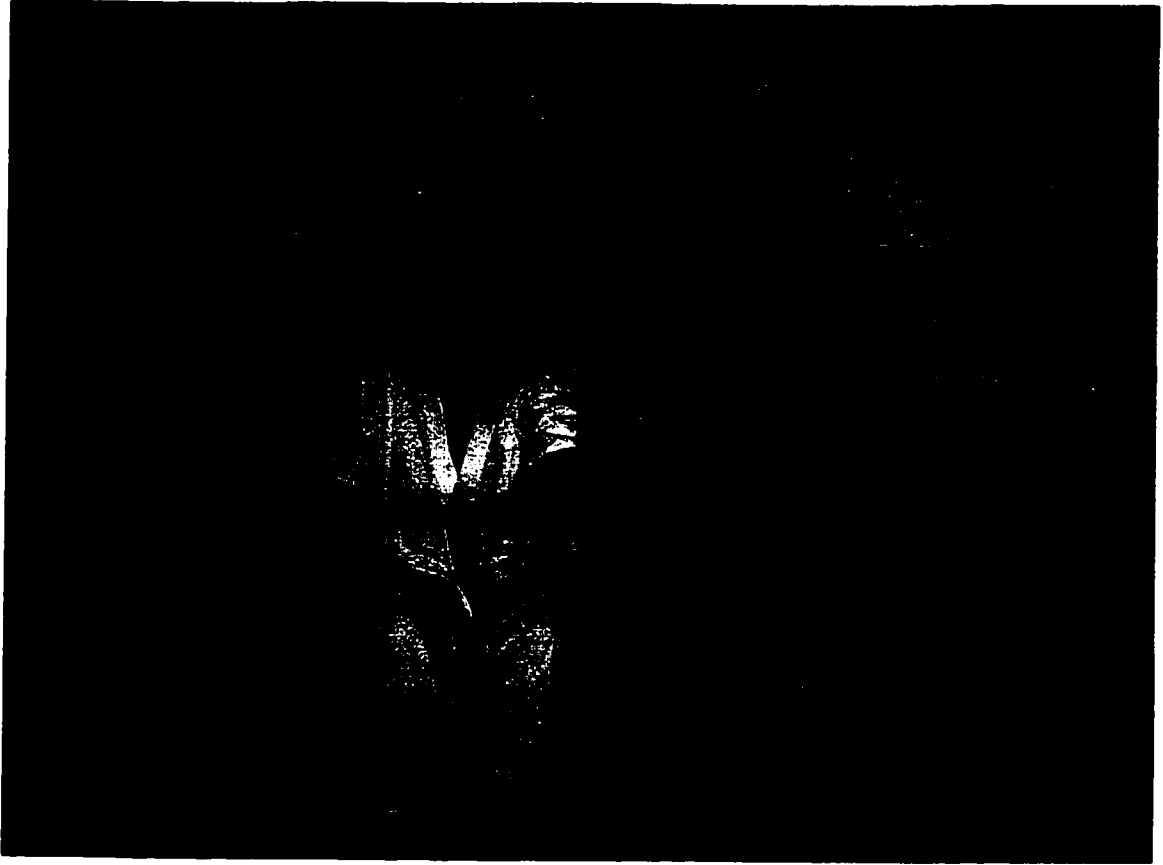
#2 The defender will raise one arm straight up in the air. This will trap the defender's hand between the neck and the shoulder. If your defender is in a manual chair, then he/she must decide which hand they feel most comfortable raising. In a power chair, the defender must raise the hand that DOES NOT control the chair.

#3 The defender rotates the chair toward the opposite side. For example, if the defender is bringing their right hand up, then they rotate the chair to the left side. This throws the attacker off balance and gives the defender more control of the situation.

#3

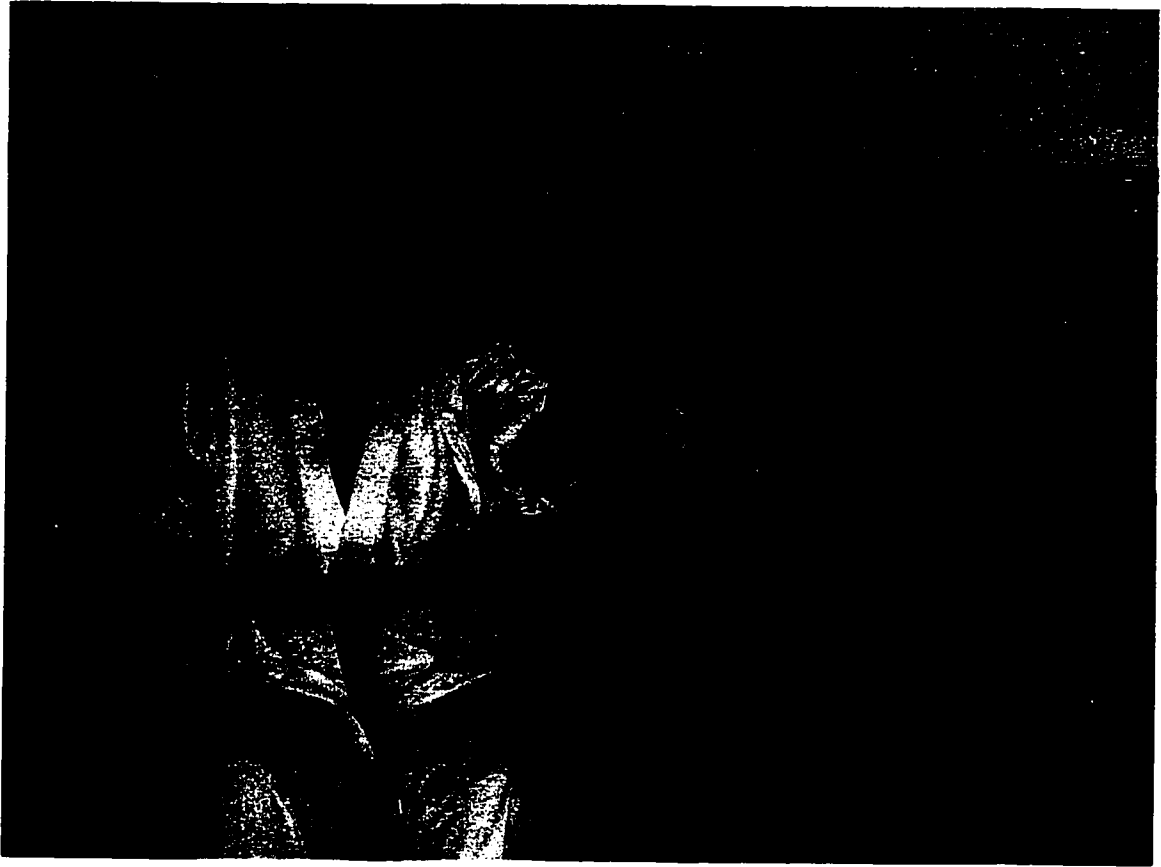


#4



#4 By positioning the chair in the sideways position, the attacker's grab is loosened. This helps the defender to take the arm and strike the attackers hands of by bringing the arm downward.

#5



In the final position, the attacker's hands are knocked free from the defender's neck. A variety of strikes can be performed here. In picture #5 the backfist is being demonstrated. Another option would be the knee strike since the attacker's momentum is already going downwards. The next step from here would be to flee from the situation.

Final
Comments

Final Comments



This guidebook has touched on many different topics involved with training a student who uses a wheelchair. One guidebook cannot cover all martial arts techniques or all wheelchair users so the information presented here was not meant to be all-inclusive or comprehensive. The goal of this book was to help martial arts instructors create a positive and comfortable learning environment for someone who uses a wheelchair. The individual style that you may teach and the ability levels of the student whom you will be teaching, greatly affects the specific techniques that you work with.

The information on accessibility, instructor roles, medical considerations and wheelchairs was presented to educate an instructor on the type of things to expect when working with a student on the training floor. Again, the individual student's mental and physical ability will affect the curriculum. My hope was to make you, the instructor, more comfortable when beginning a program. The techniques and concepts listed were presented as a type of "jump start" to a possible wheelchair program.

You may have noticed that a lot of what I presented here does not differ that much from the way we would teach a student who does not use a wheelchair. That is the case. We find that we may have a few other things to consider and some curriculum changes, but a wheelchair user is no different than our other students. They have the same concerns, the same fears, and many of the same challenges that our mainstream students have. It is our job however to make sure that they feel like everyone else by making their learning environment fun, safe, practical, encouraging, and positive.