

## **CHAPTER 5: INSTRUCTING WHEELCHAIR TENNIS PLAYERS**

## **WHEELCHAIR INSTRUCTOR CERTIFICATE COURSE**

The Wheelchair Instructor Certificate Course is a Tennis Canada initiative designed to provide currently certified Instructors and Coaches with the knowledge to teach wheelchair tennis to introductory players.

Participants will learn how to adapt their coaching to systematically develop beginning wheelchair players. They will help players learn the fundamentals of rallying, starting a point with serve & return and playing the game.

### **ARE YOU...**

- Interested in working with wheelchair players?
- Currently instructing wheelchair players?

### **WHO:**

The course is open to everyone; however, only Instructors or Coaches already certified by Tennis Canada are eligible to receive the official certificate upon completion of the course.

### **LEARN ABOUT...**

- Rules
- Injury levels
- Tennis Chairs/equipment
- Differences and similarities for instructing wheelchair players

**TIME:** One day course (6 hours)

**COST:** \$75.00

### **LEARN TO TEACH...**

- Court movement and mobility
- Singles and doubles tactics
- Effective and efficient technique for wheelchair players

### **RECEIVE...**

- Tennis Canada Wheelchair Instructor Certificate

### **INTERESTED?**

Please go to the Tennis Canada website for information or to locate a course in your area.  
<http://www.tenniscanada.ca/wheelchair>

## *Introduction*

### **HISTORY OF WHEELCHAIR TENNIS**

Wheelchair tennis is the most popular and fastest growing sport for people with physical disabilities. One of the top-four Paralympic sports, wheelchair tennis boasts a full international circuit of over 120 tournaments worldwide. There are international rankings in the men's, women's and quad divisions. Teams from various countries compete annually in the World Team Cup. The sport is professionally managed by the International Tennis Federation, which strives to provide opportunities for the top players in the world as well as those who have just started to play.

It all began in 1976 when, in his third year of competitive acrobatic skiing, 18 year-old Brad Parks was injured while taking his first warm-up jump in a local free-style competition. Five months later, Brad tried hitting tennis balls from his wheelchair using two bounces. He then met Jeff Minnenbraker, a rehab therapist, who had also been experimenting with tennis.

Over the next few years Brad and Jeff played extensively, developed tennis chairs and offered camps and exhibitions to promote the sport throughout California. The first tournament took place in 1977 and by 1980 the National Foundation of Wheelchair Tennis was formed.

In 1982, France became the first country in Europe to put a wheelchair tennis program in place. By 1985, over 1,500 players took part in 40 sanctioned tournaments in the U.S alone. An international team competition, the World Team Cup, was also established with six men's teams.

In 1988, the International Wheelchair Tennis Federation was founded at a meeting during the U.S Open in Irvine, California. Membership was accorded to eight countries including Canada. In 1992, Tennis Australia was the first National Governing Body to employ a full-time coordinator for tennis for people with disabilities. In 1997, history was made at the ITF's AGM in Cairo, when their members voted that wheelchair tennis should become a fully integrated part of the ITF, in the same manner as other sectors of the game, such as Juniors and Veterans.

The USTA and Tennis Canada have followed suit and are now the official governing bodies for wheelchair tennis. The sport continues to grow and the World Team Cup now boasts players in the men's, women's, quad and junior divisions from over 30 countries.

## **WHEELCHAIR TENNIS IN CANADA**

Wheelchair tennis was played in Canada in the 70's and 80's and managed by the Canadian Wheelchair Sports Association. In 1998, the sport followed international trends and Tennis Canada became the official governing body. A part-time Wheelchair Tennis Manager was hired to oversee the development of the sport.

Wheelchair tennis is well organized with programs and activities at the national, provincial and community levels. Tennis Canada has developed a solid National Team Program for Canada's top ranked players that includes competing in the World Team Cup, Paralympic Games, international tours, training camps, Sport Canada carding, and the opportunity to work directly with Tennis Canada Touring Coaches.

The Canadian Wheelchair Tennis Circuit consists of 18 national, provincial and local tournaments including seven ITF sanctioned events and the National Championships. Canadian rankings are compiled in several divisions and Canada boasts many of the world's top players. Tennis Canada offers a Wheelchair Tennis Instructor Certificate Program to upgrade and solidify the skills of coaches working with wheelchair players. Tennis Canada also liaises with the Provincial Associations in the development of new players and offers a Participation Development Grant program.

Provincial Wheelchair Sport Associations collaborate with Provincial Tennis Associations in the delivery of development programs across each province. Introductory clinics, developmental programs for new players, tournaments and special events are organized in many provinces.

Wheelchair tennis is gaining exposure at the community level and many clubs are becoming wheelchair accessible and offering programs for players. More and more coaches, volunteers, media, and sponsors are becoming aware of the sport and its benefits to people of all ages with physical disabilities.

## **INSTRUCTING WHEELCHAIR TENNIS PLAYERS**

Instructing wheelchair tennis can be fun and challenging. In general, all the elements of the Instructor Course regarding teaching (*Presenting the topic*, *Emphasizing a skill*, *Setting up the drill*, and *Running the drill*) are the same. All the ball controls and basic fundamentals are also applicable.

There are a few general differences an Instructor needs to keep in mind when coaching wheelchair athletes:

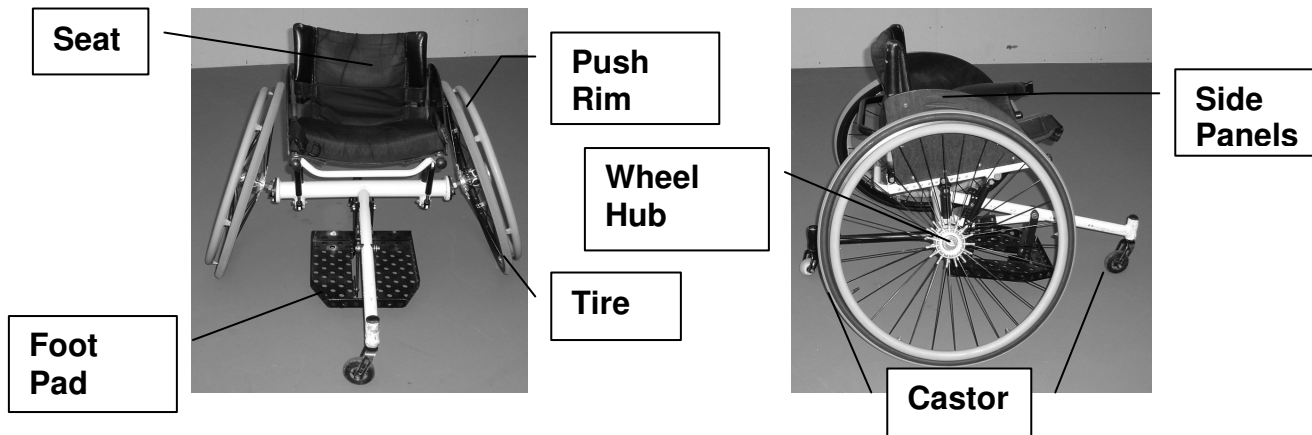
- 1. The Chair**
- 2. Injury Level (Note: Players who are not physically challenged can also play the sport of wheelchair tennis)**
- 3. Wheelchair Coaching Considerations**
- 4. Rules of wheelchair tennis**

## 1. THE CHAIR

In general, **all** wheelchairs can be used. However, use of a rigid frame sport wheelchair is strongly recommended. Sport chairs have either 4 or 5 wheels. The wheels can be in various configurations (the typical 4-wheel chair has a single castor in front and a smaller ‘tip’ castor in back. A 5-wheel chair has 2 castors in front and 1 in back). These chairs dramatically increase the player’s ability to manoeuvre.

<b>WHEELS</b>	<ol style="list-style-type: none"> <li>1. <b>Preferably lightweight and rigid</b></li> <li>2. The more the wheels are ‘cambered’ (angled with the top of the wheel more <i>in</i> towards the player and the bottom more <i>out</i>) the more maneuverable and stable the chair. 12 to 22 degrees is recommended</li> </ol>
<b>TIRES</b>	<ol style="list-style-type: none"> <li>1. <b>Non-marking</b></li> <li>2. <b>High Pressure</b></li> <li>3. Lightweight</li> <li>4. 24 to 26 inches in diameter and one inch wide</li> </ol>
<b>CASTERS</b>	<ol style="list-style-type: none"> <li>1. <b>Approximately 3 to 4 inches in diameter (10 to 12.5 cm).</b> <ul style="list-style-type: none"> <li>• <b>If larger: slows down the ability to turn</b></li> <li>• <b>If smaller: may not roll smoothly and may ‘flutter’.</b></li> </ul> </li> <li>2. Not too thin (may damage the court)</li> </ol>
<b>CHAIR</b>	<p><b>The following adjustments increase speed, mobility, and balance:</b>  <i>*Note: with all adjustments, personal preference and disability should be considered.</i></p> <ol style="list-style-type: none"> <li>1. Slant seat downward for more stability (lower in the back of the seat)</li> <li>2. Adjust seat so elbows are close to wheel for optimal pushing</li> <li>3. Weight Distribution: Find the best balance between maneuverability and stability <ul style="list-style-type: none"> <li>• Adjust weight towards axles for quicker movement. (chair becomes ‘tippy’)</li> <li>• <b>Adjust weight forward to increase stability and a quicker start</b></li> <li>• The feet could be moved more under the body to keep the weight centered</li> </ul> </li> <li>4. Side panel can be added to reduce sideways movement of buttocks</li> </ol>
<b>STRAPS</b>	<p><b>These can enhance balance and improve mobility:</b></p> <ol style="list-style-type: none"> <li>1. Chest &amp; Waist straps: These can improve balance and often confidence, but can hinder reaching and rotation movement, if not properly adjusted.</li> <li>2. Leg straps: A strap around the thighs or just above the knees prevents the legs from spreading and keeps the body moving as a unit. A strap in front of the knees or shins keeps the legs back.</li> <li>3. Foot straps: These will keep the feet securely on the footpad when turning, or during leg spasms.</li> </ol>

There is no single way to set up the player's chair. The process of adjusting for optimal position is an ongoing process. The general rule is to make small adjustments over time to avoid major changes in balance.



## 2. INJURY LEVEL:

(Note: Players who are able bodied<sup>1</sup> can also play the sport of wheelchair tennis)

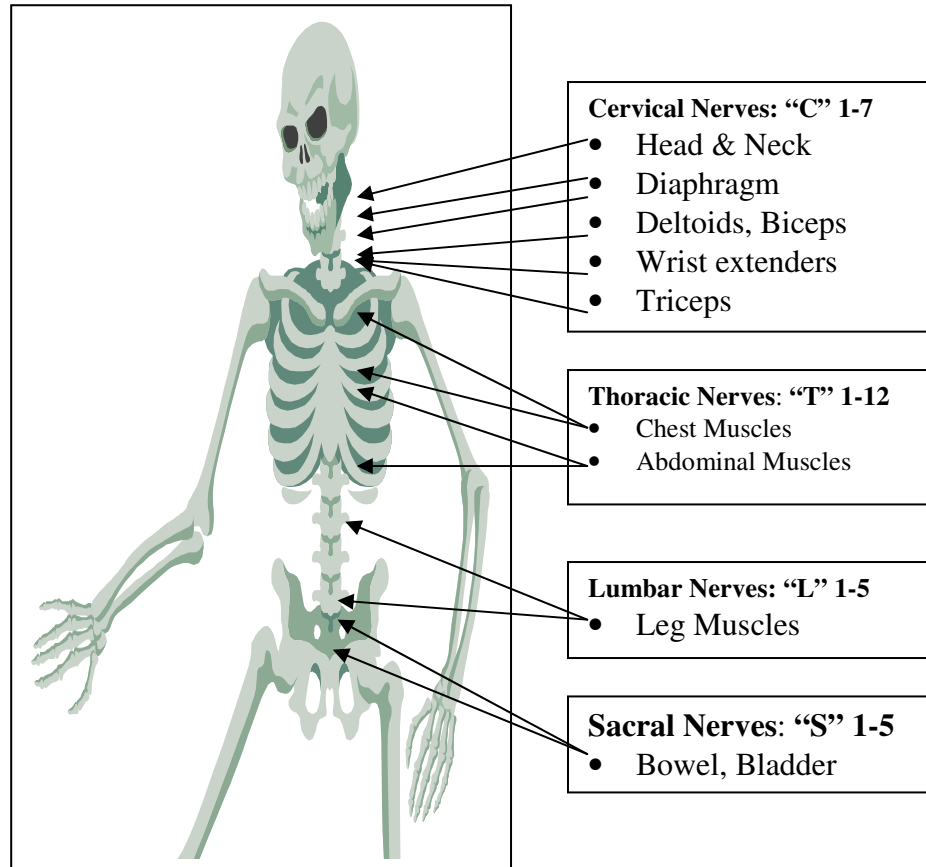
The level and degree of injury in Spinal Cord Injured (SCI) players will affect their balance, available range of motion, and mobility. The more you know about the student's injury level, the better you will be able to adapt techniques and drills. The following SCI classification can help you determine the student's capabilities.

The lowest level on the spinal cord that exhibits intact motor and sensory function classifies spinal cord injuries. For example, a player classified T3 was injured at that vertebra.

*It is also important to note that a player's injury can be complete or incomplete. The latter will allow some function below the level of injury. The diagram shows the level of injury and what muscles might be affected.*

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<sup>1</sup> The term able bodied is used interchangeably with stand-up to refer to non-wheelchair athletes



Please note that this is a general guide. **It is always best to ask the player to show you their specific movement capabilities related to the requirements of wheelchair tennis.**

The following are terms you should be familiar with:

**Paraplegic:** A Paraplegic is a player with an SCI that causes impairment to one or more lower limbs.

**Amputees:** An amputee is a player who has lost part or all of one or both legs. In general, they have all the same capabilities as other wheelchair players. Sometimes, in the case of a player with no legs, they may even have the potential for more manoeuvrability because of less body mass.

**Quadriplegics (Tetraplegic):** A Quadriplegic is a person with a SCI to the cervical or high thoracic part of the spine causing impairment to one or more of upper and lower limbs. Often, Quad players cannot fully grip a racquet for play.

**Quad taping:** For Quad players with an impairment to their racquet hand, the racquet must be taped to their hand. Here are a few recommendations for taping:

- 1) Use athletic tape that is at least 1 ½ inches wide (not hockey tape because it can cut into the skin too easily).
- 2) For a new player tape using an Eastern or Semi-western forehand grip. This is a good starting point but be patient and try different grips to suit the individual. **DO NOT** tape the racquet handle up the wrist for support. If someone needs extra wrist support try a brace from a drugstore or wrap tape around the wrist a few times.
- 3) To affix the racquet to the hand start the tape by wrapping it around the wrist once clockwise (it is more comfortable for the player to wear a sweatband) then tape up across the pinky finger and around the racquet handle and back down around the wrist, repeat this taping motion over all the fingers going around the wrist each time. The racquet should be snug and should not slide, however please be sure circulation has not been hindered.
- 4) Take the roll of tape and wrap around the wrist and hand 2-3 times with the sticky side out (this is to ensure good traction on the push rim). Check periodically to ensure the tape is remaining snug, if it loosens add another layer over the existing tape pulling it tight as you wrap.

### **3. WHEELCHAIR COACHING CONSIDERATIONS**

#### **A) INTEGRATION PHILOSOPHY**

It is highly recommended that you attempt to integrate wheelchair players into your existing stand-up tennis programs. Wheelchair tennis has enough similarities to mix able bodied and wheelchair players as long as they are at compatible levels (see levels chart). Only the introductory levels of wheelchair instruction require specialty ‘wheelchair only’ programs. It is often difficult to find enough wheelchair players at each level to make wheelchair only groups. The result is an inconsistent development path. Integration takes courage and education on the part of the coach, wheelchair player, and able bodied participants, but is well worth it.

#### **B) COMMUNICATION PHILOSOPHY**

Working with wheelchair players may be intimidating and unfamiliar for some Instructors at first. It can also be intimidating for the wheelchair player as playing a sport can emphasize their challenges. It may also be embarrassing being grouped with other students who may be more skilled (wheelchair or able bodied). Here are a few recommendations:

- Treat wheelchair players as tennis players (rather than ‘special needs’ people)



- When working with persons with disabilities, building self-esteem is an important factor. Positive reinforcement is especially important.
- Tennis is a technically difficult game requiring strength, dexterity, hand-eye coordination, and other elements that persons with spinal cord injuries may be limited by. Thus, patience and flexibility are important traits for the instructor.

### C) FACILITY REQUIREMENTS

To conduct wheelchair lessons or competitions, the facility must be “Accessible”. There are three key areas that are included for a facility to be fully accessible:

- **Court Accessibility:** Players must be able to get on and off the courts unassisted. There should not be any steps, steep inclines, or unpaved ground hindering the entrance. Doorways and gates must be wide enough to accommodate a wheelchair. The minimum requirement is 34 inches (which accommodates an ‘everyday’ chair). Preferably, the entrance can be wide enough to allow a cambered tennis chair as well (47 inches).
- **Court Surfaces:** Wheelchair tennis is played on all court surfaces with the exception of natural grass. “Softer” surfaces such as clay or synthetic grass may require more effort to manoeuvre. Due to the use of the second bounce wheelchair tennis is often played beyond typical court boundaries, therefore ensure that there is ample back and side court spacing available for players to manoeuvre.
- **Washroom Accessibility:** Washrooms should also be accessible with the same ‘everyday’ chair entrance requirements. This includes the size of the bathroom stalls. A support bar in the stall is a good idea as well.
- **Shower Accessibility:** Showers should have a chair inside and faucets should be low enough to reach from a seated position.

## 4. The rules of wheelchair tennis

### **Playing Divisions**

There are three playing divisions in wheelchair tennis including Men’s, Women’s and Quad.

### **Rules of play**

Wheelchair tennis follows the same ITF rules as able bodied tennis, except that the wheelchair tennis player is allowed two bounces of the ball. The player must return the ball before it hits the ground a third time. The wheelchair is part of the body and all applicable ITF rules that apply to a player’s body shall apply to the wheelchair.

### **The competitive wheelchair tennis player**

In order to be eligible to compete in sanctioned ITF wheelchair tennis tournaments and the Paralympic Games, a player must have a medically diagnosed permanent mobility-related physical disability. This permanent physical disability must result in a substantial loss of function in one or both lower extremities.

A quad player must meet the criteria for permanent physical disability as defined above. In addition, the player must have a permanent physical disability that results in a substantial loss of function in one or both upper extremities. For more details on the definitions please refer to the ITF Wheelchair Tennis Handbook.

### **The service**

- i. The served ball may, after hitting the ground in the service court, hit the ground once again within the bounds of the court, or it may hit the ground outside the court boundaries before the receiver returns it.
- ii. The service shall be delivered in the following manner. Immediately before commencing to serve, the server shall be in a stationary position. The server shall then be allowed one push before striking the ball.
- iii. The server shall throughout the delivery of the service not touch with any wheel, any area other than that behind the baseline within the imaginary extension of the centre mark and sideline.
- iv. If conventional methods for the service are physically impossible for a quadriplegic player, then the player or an individual may drop the ball for such a player. However, the same method of serving must be used each time.

### **The ball in play**

The ball is in play until the point is decided. The ball must be returned into the opponent's court prior to it touching the ground a third time. The second bounce can be either in or out of the court boundaries.

### **Player loses point**

A player loses a point if:

- i. He fails to return the ball before it has touched the ground three times.
- ii. He uses any part of his feet or lower extremities as brakes or as stabilizers while delivering service, stroking a ball, turning or stopping against the ground or against any wheel while the ball is in play.
- iii. He fails to keep one buttock in contact with his wheelchair seat when contacting the ball.

### **Wheelchair/Able Bodied Tennis**

Where a wheelchair player is playing with or against an able-bodied player in singles or in doubles, the rules of wheelchair tennis shall apply for the wheelchair player while the rules of able bodied tennis shall apply for the able bodied player. In this instance, the wheelchair player is allowed two bounces while the able bodied player is allowed only one bounce.

*Note: The definition of lower extremities is the lower limb, including the buttocks, hip, thigh, leg, ankle and foot.*

### **Wheelchair Tennis Canada Instructor course**

To learn more about teaching tennis to beginning wheelchair players Tennis Canada offers the Wheelchair Instructor Certificate Course. The six-hour courses focuses on teaching mobility, tactics and proper technique.

## Playing Levels

Play Tennis Level	ITF ITN #	Groundstrokes	Serve	Return	Net Play
<b>.1</b>	<b>10.3</b>	This is a category for wheelchair players only. This player has a debilitating or degenerative disease that severely inhibits motor function			
<b>.5</b>	<b>10.2</b>	This category is for wheelchair players only. This player is a 'typical' wheelchair player who has very little or no previous tennis experience.			
<b>1.0</b>	<b>10.1</b>	A beginning wheelchair player with good athletic ability, with a high injury can start at the same level as a beginner stand-up player.			
<b>1.5</b>	<b>10</b>	This player has been introduced to the game but has difficulty playing due to lack of consistency in rallying and serving			
<b>2.0</b>	<b>9</b>	Can get to the ball but lacks control, resulting in inconsistent rallies. Often chooses to hit forehands instead of backhands.	Incomplete service motion. Toss is inconsistent. Double faults are common.	Tends to position to protect weakness. Inconsistent returns.	In singles, reluctant to come to net. In doubles, understands basic positioning; comfortable only with the forehand volley; avoids backhand volley & overhead.
<b>2.5</b>	<b>8</b>	Can rally consistently 10 balls in a row, over the net at moderate speed, with an arced trajectory, especially on the forehand.	Attempting a full service motion on 1 <sup>st</sup> serve. Still inconsistent (less than 50%). Uses incomplete motion to ensure consistent 2 <sup>nd</sup> serve.	In singles, consistent when returning to the middle of the court. In doubles, difficulty starting the point with a crosscourt return.	Becoming at ease at net in practice but uncomfortable in a game situation.
<b>3.0</b>	<b>7</b>	Can rally 10 balls in a row consistently using forehands & backhands. Able to maintain a moderate paced rally when receiving high, short, or wide balls.	Full motion on both serves. Able to achieve more than 50% success on 1 <sup>st</sup> serve. 2 <sup>nd</sup> serve much slower than 1 <sup>st</sup> .	Can control the direction of the ball when receiving moderate paced serves.	Very consistent on moderate paced balls to forehand volley. Inconsistent on backhand. Overall difficulty with low and wide balls. Can smash easy lobs.
<b>3.5</b>	<b>6</b>	Able to move the opponent around the court or hit harder when receiving easier balls. Can perform approach shots with over 50% consistency.	Can vary speed or direction of 1 <sup>st</sup> serve. Can direct 2 <sup>nd</sup> serve to opponent's weakness without double-faulting regularly.	Can return fast or well placed serves defensively. Can return an easier serve with pace or placement. Can approach the net in doubles.	Becoming consistent on volleys and overheads requiring moderate movement. Can direct FH volley. General difficulty putting volleys away.
<b>4.0</b>	<b>5</b>	Able to develop points consistently by using a combination of shots. Erratic when attempting a quality shot from a fast or well placed ball or when attempting a passing shot.	Can vary the speed and direction of the 1 <sup>st</sup> serve. Can use spin.	Has difficulty returning very fast or spin serves. Can hit a good shot or exploit an opponent's weakness on moderate paced serves	Can follow an approach shot to net. In doubles can receive a variety of balls and volley offensively. Can poach on weak returns and put away easy overheads.