



Wheelchair Tennis in 2010.

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ABSTRACT

The ITF was the first international federation to include the disability element of the sport and this has allowed it to go from strength to strength. The growth and evolution of wheelchair tennis has been remarkable. For a wheelchair sport that is just coming up to its 35th birthday the developments have been significant. The most important factor was the early recognition by the International Tennis Federation that wheelchair tennis should be part of the tennis family.

Key words: Wheelchair, Disability, NEC tour.

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INTRODUCTION

Wheelchair tennis is well established in the Paralympic Games since the first medal event in Barcelona, Spain in 1992. In 2010 there will be 157 tournaments in 41 countries on the NEC Wheelchair Tennis Tour. There are sanctioned events in all four Grand Slams and the year end number one woman and man are honoured as ITF Wheelchair Tennis World Champions.

To play wheelchair tennis players must have a mobility related physical disability. Players have a wide range of disabilities; spinal cord injury, single amputees, double amputees, spina bifida and so on. There are three divisions in wheelchair tennis; men, women and quads (players who have a disability in their upper limbs as well).



The NEC Wheelchair Tennis Tour ranking system is based on the principles used in able bodied professional tennis. The ranking is based on the top 9 results for the men, top 7 results for the women and top 6 results for the quads. The highest ranked players at the end of the year compete for the prestigious NEC Singles Masters and the Camozzi Doubles Masters titles.

The Invacare World Team Cup is the flagship international team competition, the equivalent of the Davis and Fed Cups by BNP Paribas. In 2009 the event celebrated its 25th anniversary. The event has been hosted by fourteen different nations. The 2010 event will be held in Turkey and in 2011 Africa will play host for the first time with South Africa organising the tournament.

Wheelchair tennis has been successful commercially. Currently the ITF wheelchair tennis sponsors are NEC, BNP Paribas Invacare and Camozzi. The ITF wheelchair tennis department also receives significant support from the Cruyff Foundation for its junior and development programmes. The Silver Fund is a development programme introduced in 2001 to celebrate the 25th Anniversary of wheelchair tennis. It has now supported programmes in close to thirty countries. Recently the ITF has worked with the International Paralympic Committee (IPC) and the International Wheelchair Basketball Federation (IWBF) to develop a low cost sports wheelchair for low income countries. In 2009 almost 200 low cost tennis wheelchairs were delivered to developing countries.

In tandem with these developments the playing standards and professionalism of the players as developed. The design of the tennis wheelchair has evolved and improved and coaches and players have developed techniques, tactics, movement patterns and training methods over time.

In that sense, the research about wheelchair tennis is growing up given us more information about how we can improve our job as coaches. We have not so much scientific information about our sport and we have to establish a comparison with able-bodied tennis in order to have some references to focus after in wheelchair tennis particularities. Concerning this matter we have some researches about what happens in a real tennis match about pattern activity (O'Donoghue & Ingram, 2001; Mendez-Villanueva et al., 2007; Fernandez-Fernandez et al., 2007), and some researches from this point of view of

wheelchair tennis (Bullock & Pluim, 2003; Sanz, 2005; Sanz et al. 2005; Sanz 2006; Sanz, 2007; Roy et al, 2006; Filipčič, T. & Filipčič A. 2006; Filipčič, T. et al 2007), show us that the rally time is around 4-10 seconds, with ratios work/rest from 1:1 till 1:4, and with the number of strokes per rally about 4-6, with a length rally of 5 seconds per point (about 70%) as mean, and with a lower intensity of able competitive tennis. On the other hand, we have to take into account the second bounce, because sometimes we have the same number of strokes per rally, related able-bodied tennis, but the length of the point could be slightly different.

These studies could give us some useful information in order to be more accurate designing training systems according the demands of competitive wheelchair tennis.



We are studying at the moment the evolution of the pattern game in wheelchair tennis, and we have detected an increasing intensity of the game, from Paralympics in 2004 to Paralympics in 2008 (Sanz et al, 2009). We have analyzed the semifinal and final in both events, with a total of 150 rallies and 336 points. The results show us that the number of strokes per rally, the number of strokes with the second bounce and the play time are lower at the moment from the 2004, so it seems reasonable to think that the wheelchair tennis game is becoming faster and more intense, like able-bodied tennis, but we need much more research to dig deeper in this matter.



Other topics of research are concerning the changes in the stroke production from a biomechanical point of view, and also the injury prevention in wheelchair tennis (Reid et al. 2007). In that sense, we are studying the generation of new strokes, build from the own practical game situation to solve the problems that some kind of situations can provide to the players. For instance, the pronated backhand appeared from the quad wheelchair tennis as a way to be able to have an impact point higher and closer to the body, but nowadays is a classic stroke in wheelchair tennis for all kind of players and allow to the players to be more offensive in some situations that previously, with the classic backhand and on the chair, was impossible to be.



Another topic of research is concerning the external and internal load of playing wheelchair tennis (physiological responses and speed, pattern wheelchair mobility, distances recovered in a match,...) that will increase the knowledge about our sport in order to design specific training systems for the players.

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