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The specific nature of endurance training in tennis

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ABSTRACT

The type of endurance training in tennis will be more or less specific depending on the different biomechanical and motor actions and tactical situations, both, at the time of execution of the stroke and during the different on-court movements. However, the dynamics of the change of direction and rhythm are also fundamental. More often than not, the presence of accelerations and decelerations in sprints and stops will be a differential factor for speed and endurance in tennis. We can, thus, easily infer that a load could be very specific in a certain context and not in another one.

Key words: endurance, specificity, tennis, integrated training.
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INTRODUCTION

Depending on the internal and external relationship with the real game of tennis, the load will be more or less specific. This relationship will occur in some cases more than in others. Nonetheless, the globality and interrelation of the different factors are also elements of the specificity, particularly in complex sports such as tennis (Balagué, Torrents, Pol & Seirul·lo, 2014; Martínez- Gómez, 2015; Palut & Zanone, 2005; Verdugo, 2007). We can divide the loads into four types: general, targeted, specific and competitive (García-Manso et al., 2006).

SPECIFIC ENDURANCE

When the objective is to improve endurance in tennis, it is necessary to reach its most appropriate level in the game, in relation to the rest of the qualities and elements that determine performance. So, for working and recovery times, as well as for all motor manifestations, tennis must be taken as an exclusive reference (Baiget, Iglesias, Vallejo & Rodríguez, 2011; Kovacs, 2004; Nistch & Munzert, 2002).

It is also necessary to achieve a good interrelation and an optimal manifestation in the mental situations in competition. In practice, it is normal not to reach high aerobic and anaerobic indexes in top performance, due to incorrect technical, tactical and psychological preparation (Baiget et al., 2011; Balagué et al, 2014; Verjkoshanski, 2002).

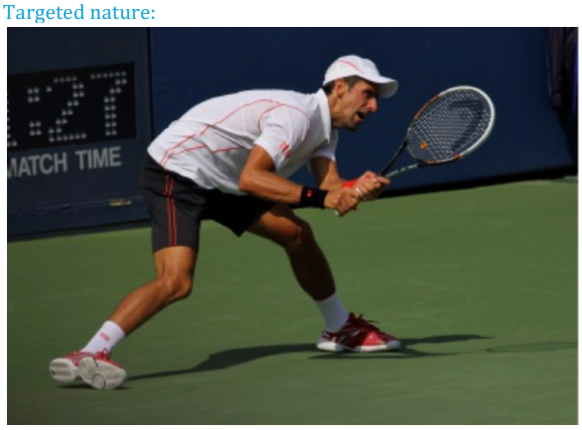
At the time of selecting the nature of the sessions and the training exercises in tennis, considering the conditional, coordination, and cognitive aspects, the following Navarro (2001) classification will be useful:

General:

Basic work to favour more specific and more efficient work. It must be tennis oriented and significant.

•Conditional: aerobic power, anaerobic threshold.
•Coordination: basic situations of the game.
• Cognitive-tactical: mechanical or very simple actions.
•Psychological: it impacts, depending on the subject, on suffering endurance, keeping intensity, attention and confidence. Repeated execution of simple, coordinated actions and decision making will enable positive situations and focused attention.

Targeted nature:



Endurance interrelates with the other performance factors.

• Conditional: different types of endurance in tennis. Intermittent, myoglobinic, alactic and moderate lactic work.
• Coordination: specific and not very complex.
• Cognitive-tactical: simple decision making can be used during the game, or even in recovery, it can be more complex during active rest periods.
• Psychological: it impacts on attention and confidence. There are even simple situations but there is a greater coordination and a decision component that cause more psychological demands. There is a close relationship with decision making in situations of physical and mental fatigue and the capability of dealing with that mental fatigue while keeping intensity (De la Vega, Almeida, Ruiz, Miranda & del Valle (2011).

Specific nature:

The type of work which looks for the maximum game manifestation, sometimes going beyond the real demands of the game. Very often there is competition work (Fernández-Fernández, Méndez- Villanueva & Terrados, 2005): • Conditional: manifestation in all the situations that arise during the tennis match. Action on the endurance of explosive action, increase of myoglobin, and better recovery (Kovacs, 2004a).

•Coordination: complex as in competition.
•Cognitive- tactical: complex as in competition.
•Psychological: complex, in competition situation.

A fourth type could be added, the Competitive nature, with a competitive situation close to the reality of the game (Fernández-Fernández, Sanz-Rivas & Méndez-Villanueva, 2009; Fernández-Fernández, Méndez-Villanueva & Pluim, 2006; Kovacs, 2004b, 2007).

We could focus our attention on different factors within the specific nature of training as a global strategy attracting attention from a teaching methodology perspective (Delgado-Noguera, 2015; Sáenz, 1994):

• Specific endurance with conditional focus: technical and tactical elements are not considered the main objective, but are manifested in very simple situations. High intensity work with changes of direction will be given special attention (Baiget, Fernández-Fernández, Iglesias, & Rodríguez, 2015; Kovacs, 2014; Kovacs, Roetert & Ellenbecker, 2008). The importance of acceleration and deceleration is well known, as well as the limited relationship between lineal speed and changes of direction (Young y cols., 2002).

• Specific endurance with technical focus: attention is mainly centred on the technical factor or the execution. Emphasis is laid on mechanization or fixing a technical action or looking at the technical action under fatigue. Normally, in the case of endurance work with technical action, the focus will be mixed conditional-technical. (Baiget, 2011; Holmberg, 2014; Schönborn, 1999).

• Specific endurance with tactic-decision making focus: mainly centred on the tactical action or actions, on more or less complex decision making situations. It will normally be presented as a conditional-technical-focus. (Carvalho, Iglesias, Araújo, & García-González, 2011; McPherson, 1999; Ruíz-Pérez & Arruza, 2005).

• Specific endurance with psychological focus: centred on actions to keep intensity, manage fatigue, attention, etc. It will normally be mixed with a conditional-technical-tactical-mental focus (Lameiras, de Almeida & Mas, 2015; Lara, 2014; Young, 2015).

The normal progression for cycle or even session planning, consists of laying emphasis on the conditional (1), then the more and more complex technical situations (2), followed by introducing the very simple tactical and mental elements (3) and finally, finishing with some kind of global endurance (4). This dynamic structure can be transferred to long term development, where the trend will be to work focusing on endurance while understanding the complexity of these elements (Balagué & et al., 2014; Fuentes, Del Villar, Ramos & Moreno, 2001; Torres, 2003). Still, we must never forget that there will always be components of all factors, and that it is key to know them and use the opportunity to work globally even at the beginning of the specific work. In top performance phases, predominant work is as follows:

• Specific endurance with global-competitive mixed focus: with manifestation of the different factors in a global and interconnected way, normally in real situations modifying factors like:

- Reducing the court or a certain area
- Enlarging the court or a certain area
- Setting directions or during periods: four cross-court strokes, or two cross courts and one down-the-line, one cross-court and the other player down-the-line, a point after a certain number of times, etc.
- With softer, hard, big or small balls. - With modified scores.

CONCLUSIONS

Specific work is key for training and producing significant results for tennis, and for endurance to make a clear impact on global performance. This optimal manifestation of endurance will be revealed by strengthening the rest of the qualities, such as speed, and mental or technical factors. Finally, everything is interrelated and it is right to think that we have to target training along these lines. Thus, it is very interesting to approach different ways of traning with a specific and complex orientation.

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