

Periodisation in Top Level Men's Tennis

Jofre Porta

Coach of Carlos Moyá

In this article we introduce the concept of periodisation in top level tennis. In highlighting the different models we also present a model that, in our opinion, adapts best to the characteristics of the professional tennis circuit. It is a model used by one of the authors, Jofre Porta, with top Spanish professional, Carlos Moyá.

INTRODUCTION

Periodisation is the systematic process of structuring training by distributing workloads to best reflect and enhance player adaptation. Ultimately the goal of periodisation becomes to assist players achieve, and to some extent, plan maximum performance.

Periodisation allows us to plan ahead and to anticipate possible contingencies that may surface during training and competition. In the elite game, it is largely governed by medium and short term goals related to the competitions in which the player participates. The nature of the tours, where some uncertainty (injuries, illnesses, physical or mental form of the player, competition results, match times and durations, etc) is commonplace (Porta, 2004) makes it necessary to continuously review and adapt the training and competition plan. Similar flexibility is also important in handling the varied physiological demands of competition, where different surfaces, opponents, and formats (3-5 sets) can all affect the intensity and duration of physical effort.

Periodisation's adaptability to the goals set and the individual characteristics of the player make it an excellent tool to facilitate the control of training. Thus, the improvement or deterioration of a player's form can be attributed to the work performed and changes can be made accordingly. "Periodisation drives the modification of training using well established criteria based on the continuous evaluation of training progress" (Navarro, 2003).

According to Serrano (2004) considerations in establishing the periodisation plan should include:

- Previous conditions to the plan (i.e. injury or medical history, content of previous plans).
- Set the season goals.
- Set the training conditions, contents and goals.
- Set the competition schedule.
- Define the contents in the different phases of the season.
- Define the season's testing protocols and training controls.
- Follow the plan.
- Ongoing evaluation of the plan.
- Implement the necessary changes to the plan.



- Follow the plan.
- Final evaluation of the plan's efficiency.

PERIODISATION MODELS

The different periodisation models adapt to the needs of the athletes and the sports. Their organisation is very similar but there are fundamental differences in their distribution of load. The two models that can most commonly be differentiated are:

- **Traditional models** are based on the periodisation theory of Matveyev (1965, 1991). They use a simple wave-like programming of regular loads, and training periods are typically structured as:
 - Preparatory periods (accumulation of motor and coordinative capacities)
 - General
 - Specific
 - Competition periods (include the most important competitions)
 - Transition periods (recovery of the player's ability to adapt)
- **Contemporary models** are characterised by the use of concentrated loads, proposed by Issurin and Kaverin (1985), Verchosanshy (1990), Navarro (1994), among others. Training volume and intensity are defined as function of load over a short period of time. Certain capacities and/or goals are pursued in specialised, consecutive training blocks. Mesocycles, which last 14 to 28 days, are labelled:
 - Accumulation (A) is geared towards enhancing the motor potential of the player and to create a reserve of basic qualities.
 - Transformation (T) sees the gains made in the (A) period transferred to more specifically reflect the demands of the game.
 - Realisation (R) focuses on the achievement of results where performance peaks should coincide with the most important competitions.

Contemporary models are those which, from our perspective, best suit the nuances of top level tennis. The "typical" work characteristics for each one of Accumulation, Transformation and Realisation mesocycles in tennis are outlined in Table 1 (Sanz and Ávila, 2005).

MESOCYCLES	GUIDELINES
ACCUMULATION	<ul style="list-style-type: none"> • Coordination training together with strength and aerobic endurance training. • Structural strength performed at speed and with medium loads. • Extensive interval and fartlek work.
TRANSFORMATION	<ul style="list-style-type: none"> • Free or machine weight work that simulates tennis movements (speed-strength work). • Resisted speed drills (low load). • Drills focussed on stroke production (execution rhythm). • Aerobic-anaerobic endurance drills with some technical and tactical load (high intensity interval training with metabolic acidosis).
REALISATION	<ul style="list-style-type: none"> • State of no fatigue to polish technique. • Anaerobic-a lactic drills devoid of neural fatigue (high intensity interval training with complete recovery). • Prioritise tactical goals over technical goals. • Proprioceptive training (preventative work).

Table 1. Work completed in ATR mesocycles.

For top level tennis, advantages of contemporary models of periodisation over their more traditional counterparts include:

- The possibility of achieving more selective, immediate and accumulative training effects.
- Periodisation that is more flexible and accommodating of the contingencies of competition. Adjustments can be completed without greatly affecting the general plan so as to maintain control over the mesocycles.

EXAMPLE OF A MODEL FOR TOP LEVEL TENNIS

In Table 2 a model adapted from the ATR model (Porta, 2004) of Carlos Moya is depicted. In this model, the Transformation period is divided into two mesocycles: general and specific. Here, of note is that the training cycles (ATTR) will vary in length and content depending on the stage of the season in which the players find themselves.

	CHARACTERISTICS	TECHNICAL GOALS	PHYSICAL GOALS
ACUMULATION (A)	Low intensity and high volume	Basic and stationary strokes Footwork with no displacement	Accumulation Endurance
GENERAL TRANSFORMATION (T)	Volume decreases and intensity increases	Footwork with displacement Special strokes Commence tactical work Situations of attack-defence Matches	Progressively more neuromuscular orientation
SPECIFIC TRANSFORMATION (T)	Tries to achieve the best form	Tactical work Patterns High number of matches	Avoid accumulation of fatigue at the end of the training period
REALISATION (R)	Competition	Refinement of strokes Tactical adjustments Match preparation	Recovery Neural work

Table 2. Adaptation to tennis of the ATR model (Porta, 2004).

CONCLUSION

We would like to conclude this article by highlighting that, in our opinion, irrespective of the preferred periodisation model, contemporary or traditional, these approaches to organising training are indispensable for optimising performance and then quantifying its link to the work performed.

REFERENCES

- Issurin, V.B. and Kaverin, V.F. (1985). *Planirovaina i postroenie godovogo cikla podgotovki grebcov*. Moscú, Grebnoj sport.
- Matveyev, L. (1965). *Periodización del entrenamiento deportivo*. Moscú, Madruga.
- Matveyev, L. (1991). "El entrenamiento y su organización". *Revista de Entrenamiento Deportivo*, V (I), 17-23.
- Navarro, F. (1994). "Modelos avanzados de la planificación del entrenamiento". *I Congreso Internacional de Entrenamiento Deportivo de Castilla y León*, Junta de Castilla y León.
- Navarro, F. (2003). Bases del Entrenamiento y su planificación. Módulo 2.1. del *Máster en Alto Rendimiento Deportivo*. Madrid: COE.
- Serrano, D. (2005). La planificación del entrenamiento en bádminton y en tenis. Torres, G and Carasco, L. (coord.). *Investigación en deportes de raqueta: Tenis y Badminton*. Murcia, Quaderna editorial.
- Porta, J. (2004). *La planificación en el entrenamiento del Tenis*. *I Jornadas de actualización para Técnicos*. (Documento inédito). RFET: Valencia.
- Sanz, D. and Ávila, Fco. (2005). *La planificación del Entrenamiento en el Tenis de Competición*. *Apuntes curso Entrenador Nacional de Tenis*. (Documento inédito). Madrid: RFET.



Verchosanshy, J. (1990). *Entrenamiento Deportivo. Planificación y programación*. Barcelona, Martínez Roca.