



# Long Term Development Plan 2010

(12-16 Year Olds)



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## Why does Welsh Squash require a Long Term Development Plan (LTDP)?

The need for a comprehensive LTDP comes from the challenge of competing in the rapidly advancing international sporting arena resulting in an increased emphasis on identifying and developing the next generation of internationally successful athletes. One of the major challenges in an athlete's career is the move from junior ranks to elite senior ranks. For example, only 20% of players who have competed for England at a junior international level subsequently compete for England at a senior international level.

The *LTDP* is an important first step towards reaching our goal of having players in the Top 20 World Squash Rankings for senior players, placing Wales among the top squash nations in the world. To achieve that goal we need:

- ▶ Systematic talent identification and development.
- ▶ Systematic coaching development and support at all levels.
- ▶ An athlete development framework from the grassroots to elite levels.
- ▶ Training programs tailored specifically to an athlete's developmental stage.
- ▶ Long-term strategies rather than a short-term focus.

Here are some of the shortcomings and consequences that are typically present in any youth level sport. We must be aware of them and be able to develop strategies which help Welsh Squash overcome these challenges.

**Table 1: Shortcomings and consequences of physical training for sport at a youth level**

Shortcomings	Consequence
Over compete and under train	<p>Winning the next match is the focus, which is fine but not at the cost of your physical, technical, mental and tactical development.</p> <p>We want players who win on the European and World stages for years to come.</p>
Chronological rather than developmental age is used in training and competition planning	<p>Age group sport has always favoured "early developers". By monitoring player's growth and development rates we hope to develop our players at a pace that suits them.</p> <p>We can't afford to miss talent just because a player develops "later" than their peers.</p>
Coaches largely neglect the critical periods of accelerated adaptation to training	<p>Athletic potential is not achieved.</p> <p>There are several opportunities to enhance athletic potential throughout adolescence and we can't afford to miss them, training content will reflect this. (see Figure 3)</p>
In most instances, the competition schedule interferes with athlete development	<p>Poor movement abilities compromise long-term development – the focus being on short term age group success, winning at any cost.</p> <p>We need well rounded individuals who are challenged to be technically, physically and tactically ahead of the competition resulting in greater senior success.</p>

**10 year Rule** Scientific research has suggested that it takes approximately 10 years or 10,000 hours of training for an athlete to reach an international elite level of competitiveness within his/ her sport. This factor is supported by The Path To Excellence, which provides a comprehensive view of the development of U.S. Olympians who competed between 1984 and 1998. Most reported a 12- to 13-year period of talent development from their sport introduction to making an Olympic team.

**Chronological Age** refers to the number of years and days elapsed since birth. Growth, development, and maturation operate in a time framework; that is, the child's chronological age. Children of the same chronological age can differ by several years in their level of biological maturation.

**Developmental Age** This refers to the degree of physical, mental, cognitive and emotional maturity. LTDP requires the identification of early, average and late maturers in order to help design appropriate training and competition programs in relation to optimal trainability and readiness for the individual(s). The beginning of the *growth spurt* and the *peak of the growth spurt* are very significant considerations in training and competition program design. In this respect, developmental age differs from chronological age, which refers to the number of years elapsed since birth.

**Peak Height Velocity (PHV)** is the maximum rate of growth in height during the adolescent growth spurt. The rate of change in height varies through specific stages of growth and allows for 'height cues' or rates of growth changes to be used as potential indicators of appropriate activity programming and evaluation content for developing athletes/players.

**Onset of PHV** (Peak Height Velocity) is the beginning of the growth spurt.

Figure 1

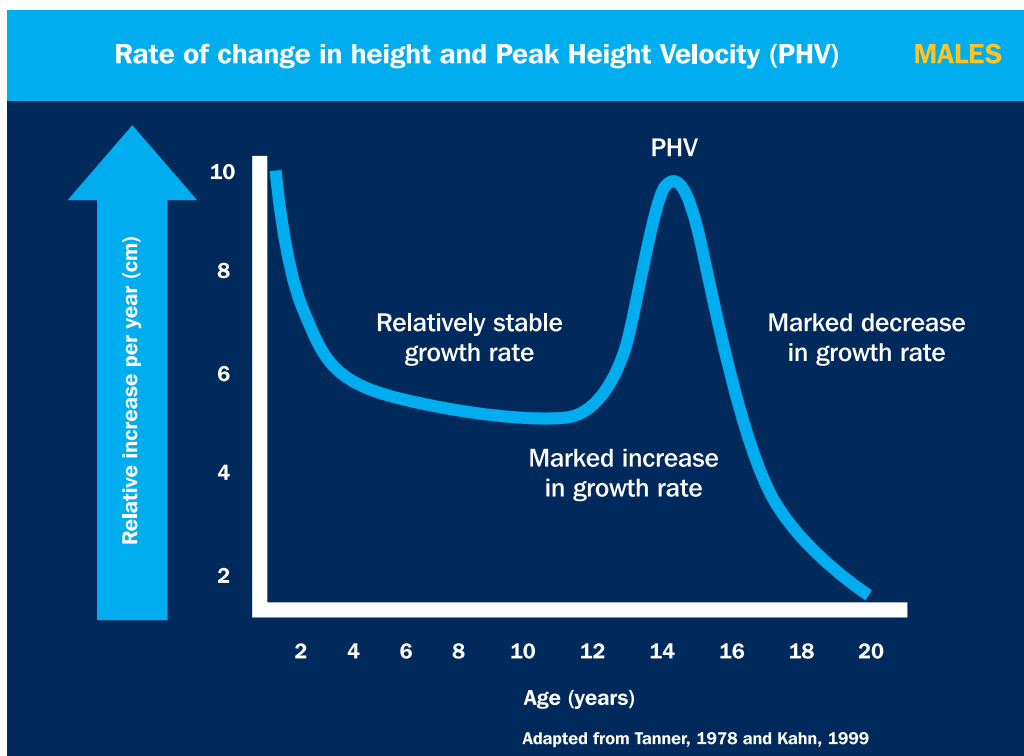
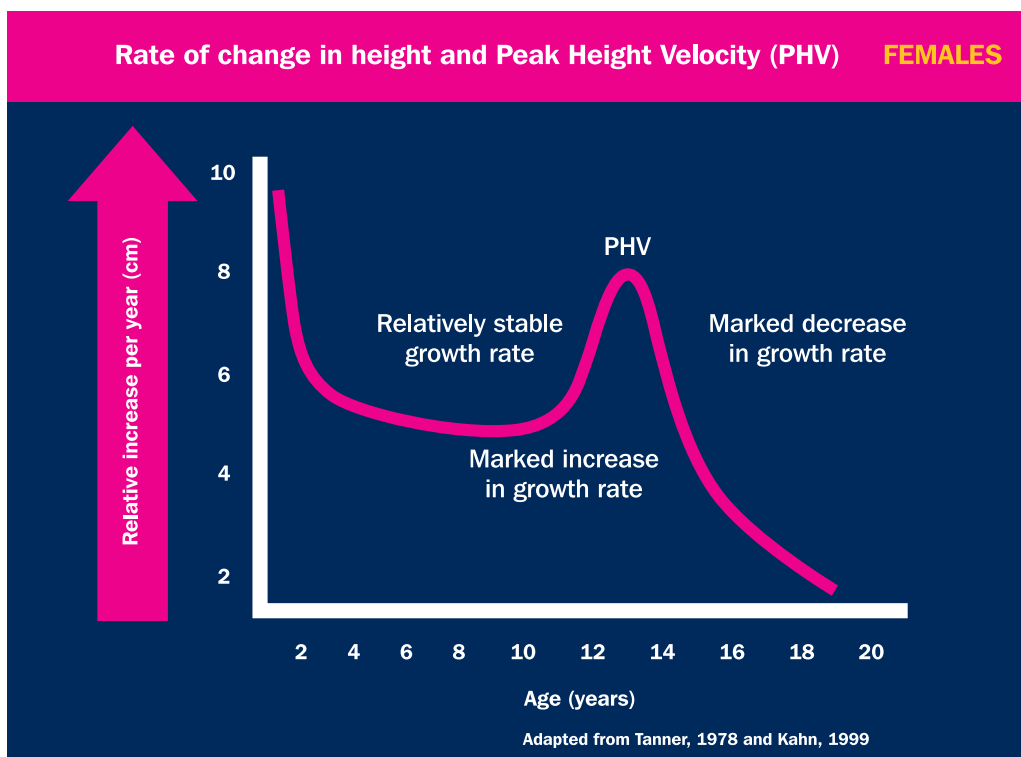


Figure 2



**Trainability:** The five basic S's of Training and Performance are Stamina (Endurance), Strength, Speed, Skill and Suppleness (Flexibility) (Dick, 1985). The terms “adaptation” and “trainability” are often used interchangeably in coaching, however, the difference between them is significant.

*Adaptation* refers to changes in the body as a result of stimulus that induces functional and/or morphological changes in the organism.

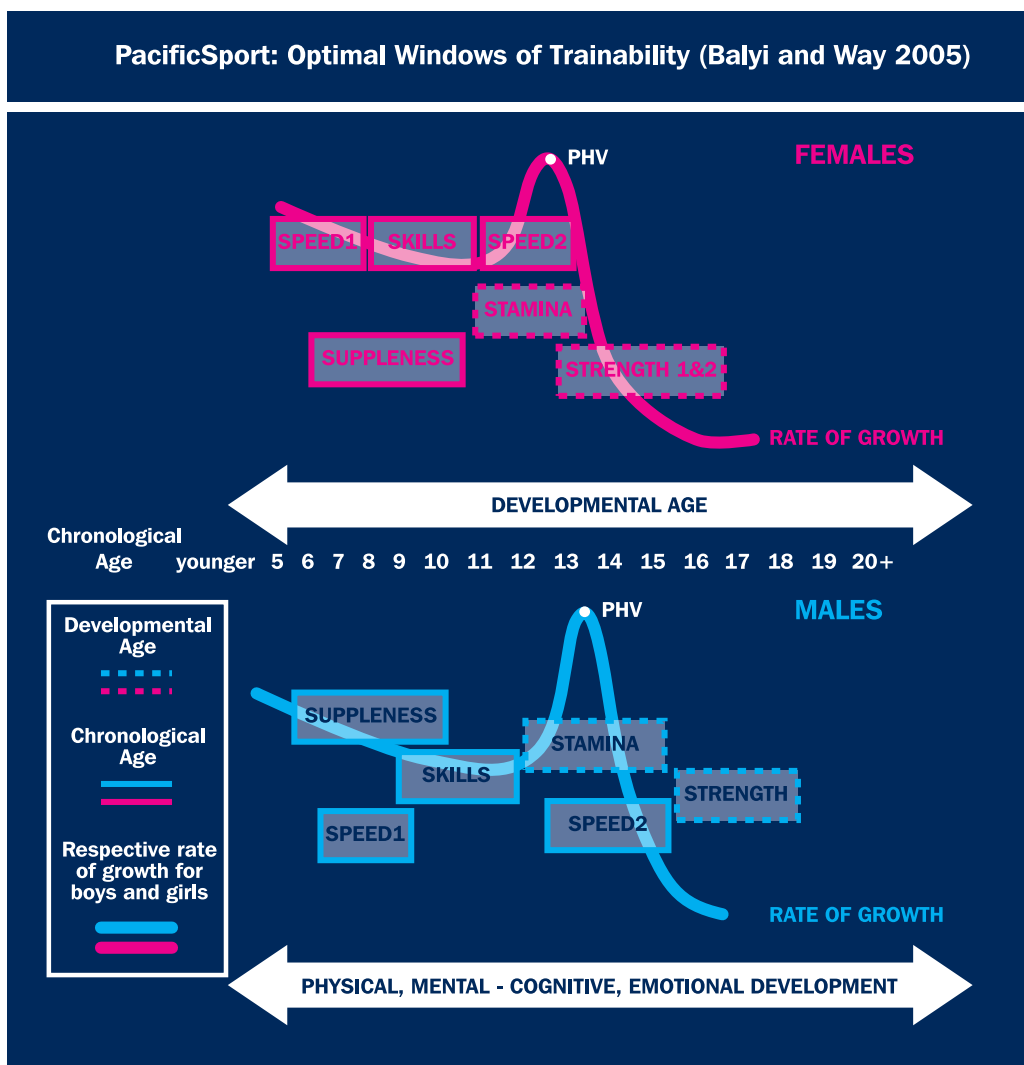
*Trainability* has been defined as the responsiveness of the developing individuals to the training stimulus at different stages of growth and maturation.

*(trainability graph over page)*

**The right mental approach:** A major objective of LTDP is a holistic approach to athlete development. In addition to traditional physical, technical and tactical training the mental, cognitive, and emotional development must be considered. This includes emphasis on ethics, fair play and character building.

**Periodisation:** Simply put, periodisation is *time management*. As a planning technique it provides a detailed plan for arranging the different training factors into a logical and scientifically based schedule to bring about improvements in performance. Planning for athletic development becomes increasingly important as experienced athletes look to “peak” for particular events/competitions. Decisions on training content are made specific to the situation, performance priorities and time available to bring about the required training and competition improvement. In the LTDP context, periodisation connects the ‘stage’ the athlete is in to the suggested requirements of that ‘stage’.

Figure 3: Trainability graph



**Continuous Improvement:** Throughout the process of implementing our LTDP we aim ensure we respond and react to new scientific and sport-specific innovations and observations. Periodic updates and changes to the LTDP model will be performed at regular intervals in the future based on feedback from athletes, coaches, parents, officials, administrators, scientists, and other leaders in the sport community.

## Train to Play (12 -16 year olds)

### Objective:

Our aim for this age group is to ensure we produce athletes before squash players. It is important to ensure our players are exposed to as many physical challenges and experiences as possible.

### Key points:

- ▶ Critical phase for skill acquisition and development of physical abilities (see list of physical competencies for details).
- ▶ Emphasis on general physical conditioning and health

### Window of opportunity:

- ▶ Speed
- ▶ Strength development
- ▶ Cardio conditioning.

Note: Must consider growth spurt in programming (decrease in coordination during growth).

### Skills to develop:

- ▶ Begin supervised strength training with free-weights.
- ▶ Performance enhancement skills (pre and post workout nutrition, environmental factors, athletic lifestyle.)
- ▶ Strength and flexibility during growth spurt (+/- onset of PHV.)
- ▶ Fine motor and general co-ordination skills development after PHV.
- ▶ Sport specific warm-up and cool-down routines.
- ▶ Develop game plans and evaluate own performance.
- ▶ Goal setting
- ▶ Assess personal mental skills

### Recommended Activities:

- ▶ Encourage participation in one to two other complementary sports.
- ▶ Ball and stick sports, racquet sports, football, gymnastics, athletics.

### Sport Science input during this phase:

- ▶ Anthropometry (height, limb length, weight), general fitness testing.
- ▶ Introduce the concept of periodisation of training.

**Table 2: List of physical competencies:**

Travelling Skills	Balance Movements
Climbing	Dodging
Hopping	Stopping
Jumping	Landing
Skipping	Twisting
Running	Turning
Skating	Body rolling
Swimming	Stretching
Rowing	Regaining balance
Leaping	

Reference: Gallahue and Cleland Donnelly



## Training

Squash is a high intensity stop start (intermittent) game, which requires that many of the physical competencies listed in Table 2 are not only mastered but done so with speed and accuracy of movement. Combine this with distances of up to 26 metres covered during a rally and up to 5 kilometres during a game (Vuckovic et al 2004) and you can understand the importance that is placed on physical fitness training.

In this section, we will explain how we have organised your training schedule for the year. How to use the training guide and materials we have given you and help you put together your training routines. The Welsh Squash Year Planner 2010 (see Table 3) breaks down the calendar year into several chunks which we call phases allowing us to focus on different aspects of your preparation.

**Table 3: Welsh Squash Year Planner for 2010 (12-16 year olds)**

Dates	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept
<b>Phase</b>	<b>Competition Phase</b>				<b>Regeneration</b>	<b>Specific Preparation</b>	<b>Competition Phase</b>		<b>General Preparation</b>			
<b>Aims</b>	Execution of technique during competition. Maintain conditioning.				Recovery and Regeneration Period.	Focus on technical and Tactical skills.	Execution of technique during competition. Maintain conditioning.		Physical development and consolidation of basic technical squash skills.			
<b>Training to match ratio (T: M)</b>	T: M 5:1				T: M 15-10:1	T: M 8:1	T: M 5:1		T: M 15:1			
<b>Percentage Age Training load</b>												
<b>Balance</b>	10	10	10	10	5	5	10	10	5	5	5	5
<b>Flexibility</b>	15	15	15	15	15	15	15	15	15	15	15	15
<b>Core stability</b>	15	15	15	15	15	15	15	15	10	10	10	10
<b>Strength and Power</b>	20	20	20	20	15	15	20	20	15	15	15	15
<b>Stamina</b>	30	30	30	30	45	40	30	30	50	50	50	50
<b>Speed</b>	10	10	10	10	5	10	10	10	5	5	5	5
<b>Development of skills</b>												
<b>Nutrition</b>					Pre and post squash nutrition							
<b>Mental skills</b>												
<b>Recovery</b>							Sleep - rest - relaxation					
<b>Pre and post workout routines</b>	Warm up for squash and individual stretch routines											

**Phase:** This describes the training phase which may cover several months, so for example the first *Competition Phase* covers October 2010 to January 2011 in which several key competitions takes place.

**Training (T) to Match (M) ratio (T:M):** This provides a guide to how many times you should be training versus playing match's. Earlier, we talked about creating well rounded Squash players and we believe that if all you do is play squash match's you will not achieve your full athletic potential. So, to help we have come up with the T:M ratio which takes into consideration how many competitions you have each month and how much you need to concentrate on your training.

*Calculating your (T:M) ratio:* If you play 10 squash match's in October and train 30 times then your T:M ratio

$$\begin{aligned} \text{T:M ratio} &= 30/10 \\ &= 3:1 \end{aligned}$$

**%-Age Training Load:** To allow us to give you training sessions which are varied in content and have a purpose we have listed the physical training skills which we think are important (see Table 3). Each of the physical training skills has been given an allocated amount of training time each week, for example 10% of your time in the week should be used to train and improve your speed.

We have given you this information so that you can see how training sessions are put together and why a mixture of training is so important to create a well - rounded and versatile athlete. So, although you might enjoy going for a run or just playing squash you can see we need to ensure your training covers all aspects of fitness.

The training sessions you will be given reflect the %-age split in Table 4.

**Table 4: The suggested amount of time allocated to each physical training skills within the training week**

Physical training skill	(%) time allocated
Balance	10
Flexibility	15
Core stability	15
Strength and Power	20
Stamina	30
Speed	10

Note: 10% of your training time spent training to go quicker may not seem an awful lot of time when speed is such an important physical attribute but it's worth remembering when training to go quick it is important your not tired or the training session is not a long one because speed is best trained when your fresh and ready to go quickly.

**Development of Skills:** This section is for your information only and highlights lifestyle and performance skills which we will feel are important in your development. During the year practical and educational lectures and workshops will be provided covering the topics highlighted in the year planner. For example, the first topic to be covered looks at how to warm up and warm down properly. Each year different topics will be covered and your say in topics which interest you will reflect the content of those sessions.

## Train to Play (12-16)

During the Train to Play stage of development (12 – 16 year olds) it is important that participation in other sports and activities is not completely forgotten or sacrificed for Squash. Many sporting actions and skills are transferable from one sport to another and help broaden an athlete’s experiences and skill base. With this in mind we have provided you with a training diary which records the number and type of training sessions completed each week.

Here are the recommendations for the number and type of physical training sessions to be completed each week.

1. 2-3 general sessions per week (PE, football, Netball etc)
2. 4-5 Squash specific sessions per week
3. 2-4 fitness sessions per week

**Table 5: Example of a training week for guidance purposes only.**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Training description		AM: PE  PM: Squash Training	PM: Squash Training & Fitness Training	AM: PE  PM: Squash Match	PM: Squash Training	Squash Training & Fitness Training	Rest
Totals							
• Squash = 5	*		*	*	*	*	
• General = 2		*		*			
• Fitness = 3		*	*			*	
• Match = 1				*			
• Training: Match (T:M) ratio <b>10:1</b>							

As you can see Fitness and Squash sessions can be combined but not to make one long session that lasts for 2 hours!! Instead complete your squash skill drills (30 minutes) for example and then complete one of the fitness sessions (30 minutes) outlined in your diary.

The training diary is how we are going to communicate between coaches and players. For Welsh Squash to be successful we need to know how much training your doing, what type of training your doing, how hard you found it and if it is the right type of training for you. We need your help to do this.

Here's how you can help:

## How to fill in your training diary

Your training diary is in an excel format, there are 4 sections to fill in each week.

- ▶ Week commencing: put a new date in each week e.g. **05.12.10** (5th Dec 2010).
- ▶ Session description: put a 1in each of the type of training you did that day e.g. if you had P.E that day then mark 1 next to the general heading.
- ▶ Session details: here put in a quick description e.g. you ran **3 miles** P.E in cross country session which took **25 minutes** to complete.
- ▶ How Hard was the session: here mark how hard you found the session, 1 being very easy and 5 being very hard. In this example we have put down 2 which would be a fairly easy session
- ▶ Graphs: you don't need to enter any information into the graphs.

**Table 6. Training diary example in Excel format**

<b>Week Commencing</b>	Insert date here e.g.(05.12.10)	
<b>Day</b>	Monday	
	Planned workout	
<b>Session description</b>	Squash Training	0
	General	1
	Fitness	0
	Squash Match	0
<b>Session details</b>	Distance	3miles
	Time	25
<b>How hard was the session?</b>		1 to 5
<b>1- easy, 5 - flat out</b>	Monday	2

**Table 7: An example Physical Training Menu**

Type of session	Strength and Power Training A	Stamina Training B	Stamina Training C	Free Choice D
Option 1	DVD 1	30 minutes run with 3 min rest in between efforts	3 x 7 minutes run	
Option 2	DVD 2	30 minutes row/skip/ride	10 x 1 minute Ghosting session	

Note: Session D is a free option, you can choose any type of fitness session you like from your favourite type of fitness session to a fitness session you want to try or a set of court drills your coach has given you.

The idea of the training menu is to provide you with a variety of training sessions making sure you don't just do one type of session that you like or think is the best type of training for you.

## How does it work?

Earlier, we suggested you complete between 2-4 fitness sessions per week and to make sure they are different you should choose a training session from each of the different types of sessions available (A – D).

So, if for example you have the time to complete 3 fitness training sessions that week using Table 5 from earlier we now choose 3 different sessions from our menu.

**Table 8: An example training week with training session's chosen from the training menu**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Training description		AM: PE  PM: Squash Training		AM: PE  PM: Squash Match		Squash Training & Fitness Training	Rest
Totals							
• Squash = 5	*		*	*	*	*	
• General = 2		*		*			
• Fitness = 3		Session A1	Session B2			Session D (Free choice)	
• Match = 1				*			

## What happens next?

We will change the training menu every 3 month's or so to make sure your training is always different and provides you a new physical challenge. And at some point we will also sit down with you and decide how often we should receive your training diary and how best to work this new system.

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