

BRITISH JUDO ASSOCIATION

COACHING JUDO TO 5 – 7 YEAR OLDS

INTRODUCTION

When working with young players 5 – 7 years old, it is important that the coach understands what their psychological, physical and nutritional development needs. All children coming along to judo for the first time will vary in their previous experiences in sport, natural ability and body type. Given these differences, the interaction, pace of delivery, exercise choices and judo specific fundamental skills, will often lead the direction the coach takes with each child.

WHAT DOES THE RESEARCH SAY

Balyi and colleagues (1995, 2004 and 2005) have worked with British Judo and other sports to develop 'Long Term Player Development' models (British Judo Association 2008) that promote 'windows of opportunities' to increase speed, strength, power and muscle hypertrophy depending on a young athlete's chronological and/or biological age. These 'windows of opportunity' have been found to lack sound evidence, relying on anecdotal evidence and thus lacking in reliability, although, Peak Height Velocity and Peak Weight Velocity as indicators of potential for increased strength and power development does stand up to scrutiny. Although, from a development point of view the stages of psychology and general physical growth of the child will remain the same but vary in the biological age that it occurs for each individual.

Recently, Lloyd et al. (2012) developed a 'Youth Physical Development Model' which acknowledges that young people grow at different rates physically and biologically and all physical attributes should be trained to varying degrees in pre-pubescent (6 - 9 (female); 6 -10 (male) years), pubescent (10 -11 (female) and 11 - 13 (male) years) and adolescents (12 -18 (female) and 14 - 18 (male) years). This conflicts with Balyi's 'windows of opportunity, which suggests development of physical attributes are achieved at specific stages of growth, after which the opportunity for improvement is lost. The 'Youth Physical Development Model' proposes that throughout the period 5 - 16 years of age, lower body limb growth, muscle growth and metabolic changes during and post PHV results in larger gains in strength and aerobic capacity can be trained through training for the sport. See appendix 1 and 2 for more model detail.

The youth physical development model: A new approach to long-term athlete development. Demonstrates that most physical qualities can be developed from 5 – 16 years of age, however there should be a larger focus on specific areas during this time (bigger font more emphasis). This is due to changes in circulating hormones, enzymes, muscle mass and critical periods for developing muscular neural pathways. Development growth and puberty rates differ between boys and girls and same sex individuals, therefore everyone should be treated as an individual. Boys and girls have the same basic athletic development needs

until the start of puberty where girls generally begin two years ahead of boys. Late and post puberty boys will gain the advantage of more muscle mass and height growth, where girls carry more body fat crucial to oestrogen production and menstruation.

When you compare both male and female development needs models (Appendix 1 and 2) in the ‘Youth Development Model’ you can see that there is a two year difference in where puberty starts (highlighted one year before for both boys and girls to allow for early maturation age not included on this chart (i.e. 11 – 13 male and 9 – 11 female). There can also be a couple of year added for late maturers.

More work is needed to inform current practices as despite the studies mentioned there is still a lack of relevant empirical evidence due to small sample groups or difficulties with ethics around researching young children and adolescents (Lloyd 2010; Lloyd et al. 2013).

TRAINING THE 5– 7 YEAR OLD CHILD

PSYCHOLOGY

Between the ages of 5 and 7 years of age, the young child goes through many changes, below is a list of how they may behave or where the coach can impact on developing their creativity through using their imagination from a cognitive, emotional and social perspective.

COGNITIVE

- Can understand concepts such as above, below and time (yesterday, today etc.)
- Imagination is growing
- Can follow movement and rules of the sport
- Have the ability to indulge in organising games with friends by 6/7 years

EMOTIONAL

- Begin with emotional extremes and contradictions (don’t like losing) at 5 years to gaining more control and dealing with situations by 7 years
- Showing more self-control to sit still for periods of time
- Learning to deal with last minute change by 7 years

SOCIALLY

- Go from being dependent on parents to forming relationships with others outside the family

PHYSICALLY

During pre-pubescent years a combination of body weight and partner resistance exercises focusing mainly on fundamental movements that help develop agility, speed, strength and power ((e.g. jumping, skipping,

pushing, pulling and animal movements/games etc.) and less judo-specific skills (see Appendix 4). Where an individual demonstrates maturity and ability beyond expectation then they move to the next stage earlier. Free weight and Olympic lifts can be introduced at 5 years of age (Kaufman and Schilling 2007; Faignebaum et al. 1999), however, due to ethical issues, lack of evidence and small sample groups, fundamental skill focus and lack of access to expert coaches it would not be considered necessary at this stage.

As already stated, the focus during this stage of development is on physical attributes, therefore, it is recommended from 'Long Term Player Development' that this should be 4 to 5 session per week; this includes school activity (see Appendix 5).

JUDO

There is evidence to show that brain maturation peaks in pre-pubescent youngsters (Rabinowickz et al. 1986), therefore, fundamental movements followed by sports specific movement patterns are developed at this point. It is not to say, that judo specific technique is not taught (e.g. Osoto-otoshi, kesa-gatame etc.), however, the emphasis should be on developing the movement patterns that will impact later in the child's judo career. In deed given that at this time the child is more susceptible to learning from a maturation point of view, learning these patterns is crucial, although can be developed later. Please see Appendix 4 for the basic Under 8's development scheme that is supported by other development activities, to help the coach produce session plans that will develop fundamental and some sport specific skills.

So how often should the young child 5 – 7 years practice judo, it is recommended from 'Long Term Player Development' that this should be 1to 2 sessions per week, this includes school activity (see Appendix 5).

NUTRITION - BENEFITS OF GOOD NUTRITION

Encouraging young children to maintain a healthy well balanced diet where there are adequate nutrients from all food groups and energy intake is crucial when participating in sport.

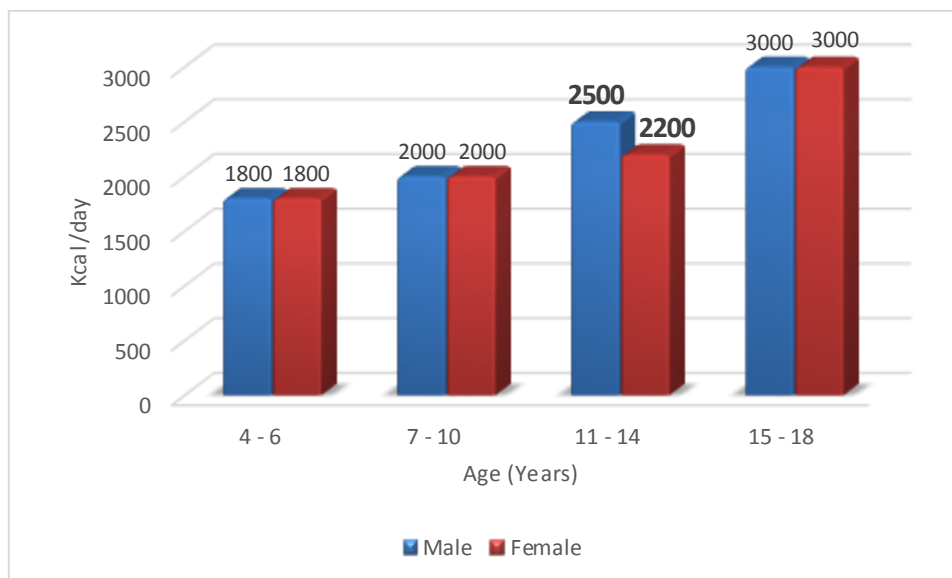
The benefits are:

- General growth, health, education and energy
- Reduces fatigue and aids faster recovery
- Reduces illness and potential injury

In contrast to the benefits athletes may experience negative effects due to high volume of training and not enough energy intake or poor nutritional choices – cause short stature, delayed puberty, menstrual dysfunction loss of muscle mass and increased susceptibility for fatigue, injury or illness (Dieticians of Canada (2000) and Meyer, O'Connor and Sheriffs (2007).

Daily energy requirements are similar for boys and girls before puberty (see Appendix 6). For adolescents and pubescents this will be more variable due to age, activity level, growth rate and stage of physical maturity. Extra calories will be required for energy used during training and will start to differ between boys and girls after 10 years (approx.)

However, excess of calorie intake can and does often lead to obesity (American Academy of Paediatrics, Committee on Nutrition, 2011), this has become a problem in Western society. Sports like judo provide an avenue to help educate young children in the benefits of a healthy well balance diet, supported by physical activity.



During the pre-pubescent years there is lower glycolytic enzyme activity and less lactate produced during high intensity exercise. For the young person this means they are less able to use Carbohydrate during high-intensity exercise may be less well developed in terms of their ability to perform this type of exercise as efficiently as a pubescent or adolescent judo player.

FLUID INTAKE

Care with recommendations should be taken as factors such as body weight, height, hydration status, heat and illness may change fluid requirements. Fluids is responsible for thermal regulation especially in hot environments (young people more at risk). Dehydration can result in performance reductions, heat stroke or exhaustion (Purcell, 2013).

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Body Weight (kg)	Fluid during Exercise ml/h	Fluid After Exercise ml/h
25	325	100
30	390	120
35	455	140
40	520	160
45	585	180
50	650	200
55	715	220
60	780	240

Recommended minimal replacement based on **13 ml/kg during** and **4 mL/kg after** exercise. Adapted from ROWLAND, T (2011).

REFERENCES

- AMERICAN ACADEMY of PEDIATRICS, COMMITTEE ON NUTRITION AND THE COUNCIL OF SPORTS MEDICINE AND FITNESS (2011). Sports drinks and energy drinks for children and adolescents: Are they appropriate? *Pediatrics*, **127** (6), 1182-1189.
- BALYI, Istvan and WAY, Richard (1995). Long-term planning for athlete development: Training to train phase. *B C Coaching (Canada)*. Fall, 2-10
- BALYI, Istvan and HAMILTON, Ann (2004). Long-term athlete Development: Trainability in children and adolescents. *Windows of Opportunity. Optimal trainability*. Victoria, BC: National Coaching Institute British Columbia & Advanced Training and Performance Ltd.
- BALYI, Istvan and WILLIAMS, Craig (2009). *Coaching the young developing performer: Tracking growth and development to inform coaching programmes*. Leeds: Coachwise UK.
- DIETICIANS OF CANADA, THE AMERICAN DIETETIC ASSOCIATION, AND THE AMERICAN COLLEGE OF SPORTS MEDICINE (2000). Joint position statement: Nutrition and athletic performance. *Canadian Journal of Diet Practice Research*, **61** (14), 176-192.
- BRITISH JUDO ASSOCIATION (2008). *Long term player development*, 30-31.
- FAIGENBAUM, Avery D., WESTCOTT, Wayne L., LAROUSSA, Rita and LONG, Cindy (1999). The effects of different resistance training protocols on muscular strength and endurance development in children. *Pediatrics*, **5**, 104.
- KAUFMAN Linda B. and SHILLING Denise L. (2007). Implementation of a strength training program for a 5-year old child with poor body awareness and development coordination disorder. *Physical Therapy*, **87**, 455-467.
- LLOYD, Rhodri S. and OLIVER, Jon L. (2012). The youth physical development model: A new approach to long-term athlete development. *Strength and Conditioning Journal*, **34**, 37-43.
- LLOYD, Rhodri S., FAIGENBAUM, Avery D., STONE, Michael H., OLIVER, Jon L., JEFFERYS, Ian, MOODY, Jeremy A., BREWER, Clive, PIERCE, Kyle C., MCCAMBRIDGE, Teri, M., HOWARD, Richard, HERRINGTON, Lee, HAINLINE, Brian, MICHELI, Lyle, J., JAQUES, Rod, KRAEMER, Williams, J., MCBRIDE, Michael G., BEST, Thomas M., CHU, Donald A, ALVAR, Brent A. and MYER, Gregory D. (2013). Position statement on youth resistance training: the 2014 International Consensus. *British Journal of Sports Medicine*, **0**, 1-12.
- MEYER, F, O'CONNOR, H and SHIRREFFS S M. (2007). International Association of Athletics Federations. Nutrition for the young athlete. *Journal of Sports Science*, **25** (1), S73-S82
- PURCELL, L. K. (2013). Sport nutrition for young athletes. *Canadian Paediatric Society*, **18** (4), 200-202.
- RABINOWICKZ, T. (1986). The differentiated maturation of the cerebral cortex. In: *Human Growth: A Comprehensive Treatise, Postnatal Growth: Neurobiology*. Falkner F and Tanner J, Vol. 2 New York, NY , Plenum.
- ROWLAND, T. (2011). Fluid replacement requirements for child athletes. *Sports Medicine*, **41** (4), 279-288.

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APPENDIX 1

Youth Physical Development (YPD) For Females																					
CHRONOLOGICAL AGE (YEARS)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21+	
AGE PERIODS	EARLY CHILDHOOD			MIDDLE CHILDHOOD					ADOLESCENCE								ADULTHOOD				
GROWTH RATE	RAPID GROWTH			↔ STEADY GROWTH					↔ ADOLESCENT SPURT				↔ DECLINE IN GROWTH RATE								
MATURATIONAL RATES	← YEARS PRE - PHV						← PHV		→ YEARS POST - PHV												
TRAINING ADAPTATION	PREDOMINANTLY NEURAL (AGERELATED)								↔ COMBINATION OF NEURAL AND HORMONAL (MATURITY - RELATED)												
PHYSICAL QUALITIES	FMS			FMS			FMS			FMS											
	SSS			SSS			SSS			SSS											
	Mobility			Mobility						Mobility											
	Agility			Agility			Agility						Agility								
	Speed			Speed			Speed						Speed								
	Power			Power			Power						Power								
	Strength			Strength			Strength						Strength								
	Hypertrophy			Hypertrophy						Hypertrophy						Hypertrophy					
	Endurance & MC			Endurance & MC						Endurance & MC						Endurance & MC					
TRAINING STRUCTURE	UNSTRUCTURED			LOWER STRUCTURED					MODERATE STRUCTURE				HIGH STRUCTURE				VERY HIGH STRUCTURE				
Adapted YPD model for females (Llyod and Oliver,2012): Font size (and bold) refers to importance; light pink boxes refer to preadolescent periods of adaptation, dark pink boxes refer to adolescents periods of adaptation. FMS = fundamental movement skills; MC = metabolic conditioning; PHV = peak height velocity; SSS = sport-specific skills; YPD = youth physical development.																					

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APPENDIX 2

Youth Physical Development (YPD) For Males																					
CHRONOLOGICAL AGE (YEARS)	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21+	
AGE PERIODS	EARLY CHILDHOOD			MIDDLE CHILDHOOD							ADOLESCENCE							ADULTHOOD			
GROWTH RATE	RAPID GROWTH			↔ STEADY GROWTH				↔ ADOLESCENT SPURT				↔ DECLINE IN GROWTH RATE									
MATURATIONAL RATES	YEARS PRE - PHV							← PHV				→ YEARS POST - PHV									
TRAINING ADAPTATION	PREDOMINANTLY NEURAL (AGERELATED)										↔ COMBINATION OF NEURAL AND HORMONAL (MATURITY - RELATED)										
PHYSICAL QUALITIES	FMS			FMS				FMS			FMS										
	SSS			SSS				SSS			SSS										
	Mobility			Mobility							Mobility										
	Agility			Agility				Agility				Agility									
	Speed			Speed				Speed				Speed									
	Power			Power				Power				Power									
	Strength			Strength				Strength				Strength									
	Endurance & MC			Hypertrophy							Hypertrophy			Hyphertrophy							Hypertrophy
	Endurance & MC			Endurance & MC							Endurance & MC			Endurance & MC							
TRAINING STRUCTURE	UNSTRUCTURED			LOWER STRUCTURED				MODERATE STRUCTURE			HIGH STRUCTURE			VERY HIGH STRUCTURE							
Adapted YPD model for males (Llyod and Oliver,2012): Font size (and bold) refers to importance; light blue boxes refer to preadolescent periods of adaptation, dark blue boxes refer to adolescents periods of adaptation. FMS = fundamental movement skills; MC = metabolic conditioning; PHV = peak height velocity; SSS = sport-specific skills; YPD = youth physical development.																					

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APPENDIX 3

EXAMPLE JUDO SESSION FOR 5 – 7 YEAR OLDS

Weekly Sessions: 1 -2 sessions Time: 45 - 60 min

General Phase	
10 min	General Warm-up (Fun : emphasis on speed of movement, strength, power, gymnastic(spatial awareness), flexibility, balance & co-ordination (games orientated))
5 min	Judo Specific Warm-up (emphasis on speed of movement (not at expense of good form), strength, power breakfall skills, gymnastic (spacial awareness), flexibility, balance & co-ordination)
5min	Basic Shadow Uchikomi (emphasis on developing good movement patterns)
10 min	Technique (simple): General single, simple combinations, escapes & Multidirectional Techniques
~10 min	Randori 5 x 2 min Techiwaza or 5 x 2 min Newaza
10 min	Game(emphasis on speed)/Cool-down (flexibility)
50 min	

Note:

- 1 Although you can use training principles to compile session plans, caution should be taken as each individual has:-
 - (i) a different genetic make-up and possibly requires a focus on a particular energy system
 - (ii) a different trained state
 - (iii) judo experience (tech/skill level)
- 2 If 2 sessions per week, alternate between tachiwaza & newaza sessions, as well as varying intensity of training days & weeks.

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APPENDIX 4



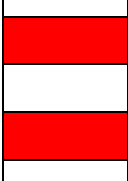
AWARD CRITERIA FOR UNDER 8 DEVELOPMENT SCHEME

Belt	Award	Physical	Technical
Maximum 3 awards per year.			
	1 st Shō Belt: White & Red Bunny Badge	Forward double footed Jumps – 5 m Backward double footed jumps – 5 m Bunny Jumps forward (hands) – 10 m Bunny Jumps backward (hands) – 10 m	Assisted Ushiro-ukemi (partner) Unassisted Ushiro-ukemi
Theory: rei; matte; ha-jime; hygiene and safety			
	2 nd Shō Belt: White and Yellow Bear Badge	Balance on one leg – 5 sec (right and left) Bear crawl forward – 10 m Bear crawl backward – 10 m	Assisted Yoko-ukemi (partner) Unassisted Yoko-ukemi
Theory: ippon; judogi; zoris; respect			
	3 rd Shō Belt: White and Orange Spider Badge	Side double footed jumps – 5 rep (right & left) Forward, row-the-boat – 10 m Backward, row-the-boat – 10 m	O-soto-otoshi and Kesa-gatame Hug rolls Kesa-gatame position – 5 rep (right & left) Kesa-gatame position – catch leg to escape (5 right & left)
Theory: Technique names; fair play			
	4 th Shō Belt White & Green Monkey Badge	Shadow reaction side steps – 15 sec Monkey crawl side (left & right) – 10 m Bunny hops – side over bench or partner (5 right & left)	Assisted Mae-yoko-ukemi (Partner) Arm-roll Mae-yoko-ukemi (Partner) Ushiro-ukemi with backward roll
Theory: Shido (fair play (punching etc.); not gripping; dropping; leg grab); Waza-ari			
	5 th Shō Belt: White and Blue Flamingo Badge	Cross hops (various directions) – 1 x right & left Frog hop with high hold – 5 rep	Ankle touches backward/forward – De-ashi-barai position (5 right & left) Bridge and turn (5 right and left)
Theory: Yuko; toketa; osaekomi			
	6 th Shō Belt: White and Purple Shrimp Badge	Forward shrimp – 10 m Backward shrimp – 10 m Wall walk handstand - 5 rep	De-ashi-bari and Mune-gatame Mune-gatame position – bridge and roll to escape (5 right & left) Mune-gatame position – stay with partner 20 sec
Theory: Technique names			



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Belt	Award	Physical	Technical
	7 th Shō Belt: White & Brown Crocodile Badge	T-drills – Run and down-ups Crouched rollover partners back – 5 rep (right and left) Spin around partners back – 5 rep (right and left)	Mae-mawari-ukemi Double Lapel Roll – side Step-turn-across (stepping pattern)
Theory: Technique names			
	8 th Shō Belt: White and Black Ox Badge	Press-ups (knees allowed) – 5rep Belt-pull (on back pulling self) – 10 m Abdominal – 10 rep Roll and sit through x 5 (right and left)	Forward and backward T-shape fencing travel – 5 rep (right & left) Side T-shape fencing travel – 5 rep (right & left) Partner Push-pulls – 5 rep
Theory: Previous Technique Recap – coaches choice			
	9 th Shō Belt: White and Red Stripe Lion Badge	Squat – 10 rep Plank – 20 sec Seated spin x 5 (right and left)	Uki-gosh Kuzure-kesa-gatame Kuzure-kesa-gatame escape Uki-goshi avoidance (partner) – 5 (right and left) Uki-goshi hip block (partner) – 5 (right and left)
Theory: Technique names			



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APPENDIX 5: EXAMPLE SESSION PLAN TAKEN FROM LONG TERM PLAYER DEVELOPMENT

Sample: Training Week for Long Term Player Development **FUNDamental** Stage (6 – 10 years male; 6 – 8/9 years female)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Session 1 (Morning)	Conditioning Focus on Speed, Quickness and Agility (SQA) (motor skill development)	Conditioning School sport (i.e. Netball, Football, Trampoline, Gymnastics, Athletics, Swimming etc.)		Conditioning Focus on Speed, Quickness and Agility (SQA) (motor skill development) or School Sport	Other Sport	School Sport event or Judo Fun matches	DAY OFF
Session 2 (Afternoon)							DAY OFF
Session 3 (Evening)	Judo Technique and Randori		Judo Technique and Randori				DAY OFF

Recommended weekly training sessions

Judo Sessions: 1 – 2 per week (45 – 60 min)

Fitness Sessions: 4 – 5 per week (it is important to gain experiences in various sports – depending on ability equipment can be used)

APPENDIX 6

BASIC NUTRITIONAL REQUIREMENTS FOR 6 – 16 YEAR OLD YOUNG PEOPLE

	Age related nutritional recommendations of total daily intake (Years)										
	6	7	8	9	10	11	12	13	14	15	16
Carbohydrate	45 - 65 % of energy										
Protein	10 - 30 % of energy										
Fat	25 - 35 % of energy										
Calcium	1000 mg			1300 mg							
Iron	8 mg								11 mg (m)/13 mg (f)		
Vitamin D	600 IU										