	FOUNDATION	DEVELOPMENT	PERFORMANCE
CHRONOLOGICAL AGE	8-12 years	13-15 years	16-19 years
TRAINING AGE	0-2 years	2-4 years	4+ years
STRUCTURE	Low Structure | High Gamification | Lesson Plan	Mod. Structure | Mod. Gamification | Programmed	High Structure | Low Gamification | Periodization
MATURATION STATUS	← Pre-PHV →	← Circa-PHV →	← Post-PHV →
	← Pre-PWV →	← Circa-PWV →	← Post-PWV →
ADAPTATION	← PREDOMINANTLY NEURAL (AGE-RELATED) →	← COMBINED NEURAL & HORMONAL (MATURITY-RELATED) →	
FMS*	**Foundation Movement Skills**	**Foundation Movement Skills**	Foundation Movement Skills
SSS*	Sport Specific Skills	**Sport Specific Skills**	**Sport Specific Skills**
STRENGTH	Enhance strength using foundation movement skills, bodyweight exercises, low load resistance training (eg, wooden dowels, sandbags, medicine balls, technique bars).	Develop confidence and competence in resistance training environment with progression of external load (eg, dumbbells and barbells) and bodyweight exercises. Ensure that balanced, whole body relative strength is achieved by rounded programming.	Optimise strength development utilising more advanced training systems and progressive, periodised programming. Manipulate strength-based training to achieve specific adaptations (eg, hypertrophy, strength endurance, maximum strength).
POWER	Develop explosive skills using (gamified) jumping, landing, and medicine ball throws. Plyometric ability developed indirectly using low intensity (gamified) jumps, skips, hops, bounds. Gradually building complexity and eccentric load.	Continue to refine jumping, landing and throwing technique. Continue development of plyometric ability using low to moderate intensity jumps, skips, hops, bounds. Gradually build complexity and eccentric load. Allow time for the participant to adapt to performing plyometrics with increased body mass and stature. Introduce resistance techniques with velocity based objectives.	Maximise explosive skill development utilising a range of methods that span the force-velocity curve: weightlifting derivatives, loaded jumps, throws, basic jumping and landing. Maximise plyometric ability using a full spectrum of low to high intensity jumps. Establish jump volume using low to moderate plyometrics early in the season, to lay the foundation for high intensity plyometrics later in the training year.
SPEED	Provide frequent opportunities for participants to sprint fast using games, relays and chasing activities that allow the development of acceleration and maximal velocity sprinting.	Continue to sprint frequently using a variety of speed games (eg, racing and chasing), technical drills and appropriately sequenced sprint training methods for developing acceleration and maximal velocity sprinting. Refine and recalibrate sprinting technique in response to PHV and PWV.	Optimise sprinting technique now growth has stabilised and the required underpinning strength and power is developing. Maximise speed using a short to long periodised programme that enhances the skill of sprinting and speed through appropriately sequenced sprint training methods.
AGILITY	Allow for COD and agility development through evasion and chase games. Provide context by linking movements to specific sports and recreating game scenarios during agility training components.	Continue to progress COD and agility movements using a combination of evasion and chase games along with specific deceleration, COD and re-acceleration drills to refine and recalibrate technique in response to PHV and PWV.	Develop sport-specific agility according to the needs analysis. Re-visit technical competency in COD and agility movements based on frequent re-evaluation of the individual needs of the participant.
ENERGY SYSTEMS TRAINING	Develop energy systems fitness through playing sport and being physically active. Specific energy systems training and assessment is a low priority in this phase.	Continue to develop energy systems fitness through playing sport and being physically active. Introduce occasional assessments of energy systems fitness to identify potential limiting factors to health and performance.	Identify energy systems demands for the specific sport and/or position. Ensure those demands can be met by the participant using structured energy systems training.
FLEXIBILITY & MOBILITY	Challenge full ranges of movement through movement challenges, playing games and foundation movement skill competency.	Increase focus on flexibility and mobility, addressing growth related limitations in range of movement and emphasis on technical quality through full ranges of movement in strength-based training.	Utilise as required for the participant's individual needs. Developmental objectives of warm ups and cool downs should address these needs.

LTAD NETWORK

LTAD Network Youth Physical Development Model for Males. Baker, J. LTAD Network. Available at https://education.ltadnetwork.com/course/free-resources

* Larger font size indicates increased level of emphasis on FMS / SSS at different stages of the participant's developmental journey

	FOUNDATION	DEVELOPMENT	PERFORMANCE
CHRONOLOGICAL AGE	8-11 years	12-14 years	15-19 years
TRAINING AGE	0-2 years	2-4 years	4+ years
STRUCTURE	Low Structure | High Gamification | Lesson Plan	Mod. Structure | Mod. Gamification | Programmed	High Structure | Low Gamification | Periodization
MATURATION STATUS	Pre-PHV	Circa-PHV	Post-PHV
	Pre-PWV	Circa-PWV	Post-PWV
MENARCHE	MENARCHE		
ADAPTATION	PREDOMINANTLY NEURAL (AGE-RELATED)	COMBINED NEURAL & HORMONAL (MATURITY-RELATED)	
FMS*	**Foundation Movement Skills**	**Foundation Movement Skills**	Foundation Movement Skills
SSS*	Sport Specific Skills	**Sport Specific Skills**	**Sport Specific Skills**
STRENGTH	Enhance strength using foundation movement skills, bodyweight exercises, low load resistance training (eg, wooden dowels, sandbags, medicine balls, technique bars).	Develop confidence and competence in resistance training environment with progression of external load (eg, dumbbells and barbells) and bodyweight exercises. Ensure single leg strength and stability is emphasised to mitigate ACL-injury risk. Raise awareness that increased fat mass may effect relative strength levels.	Optimise strength development utilising more advanced training systems and progressive, periodised programming. Giving consideration to the individual's menstrual cycle. Manipulate strength-based training to achieve specific adaptations (eg, hypertrophy, strength endurance, maximum strength).
POWER	Develop explosive skills using (gamified) jumping, landing, and medicine ball throws. Plyometric ability developed indirectly using low intensity (gamified) jumps, skips, hops, bounds. Gradually building complexity and eccentric load.	Increase focus on appropriate jumping & landing mechanics to mitigate ACL-injury risk. Raise awareness that natural increases in fat mass at PWV may attenuate improvements in explosive skills. Continue development of plyometric ability using low to moderate intensity jumps, skips, hops, bounds. Gradually build complexity and eccentric load, allowing time for the participant to adapt to increases in stature and body mass. Introduce resistance techniques with velocity based objectives.	Maximise explosive skill development utilising a range of methods that span the force-velocity curve: weightlifting derivatives, loaded jumps, throws, basic jumping and landing. Maximise plyometric ability using a full spectrum of low to high intensity jumps. Establishing jump volume using low to moderate plyometrics early in the season, to lay the foundation for high intensity plyometrics later in the training year.
SPEED	Provide frequent opportunities for participants to sprint fast using games, relays and chasing activities that allow the development of acceleration and maximal velocity sprinting.	Continue to sprint frequently using a variety of speed games (eg, racing and chasing), technical drills and appropriately sequenced sprint training methods for developing acceleration and maximal velocity sprinting. Refine and recalibrate sprinting technique in response to PHV and PWV.	Optimise sprinting technique now growth has stabilised and the required underpinning strength and power is developing. Maximise speed using a short to long periodised programme that enhances the skill of sprinting and speed through appropriately sequenced sprint training methods.
AGILITY	Allow for COD and agility development through evasion and chase games. Provide context by linking movements to specific sports and recreating game scenarios during agility training components.	Continue to progress COD and agility movements using a combination of evasion and chase games along with specific deceleration, COD and re-acceleration drills to refine and recalibrate technique in response to PHV and PWV.	Develop sport-specific agility according to the needs analysis. Re-visit technical competency in COD and agility movements based on frequent re-evaluation of the individual needs of the participant.
ENERGY SYSTEMS TRAINING	Develop energy systems fitness through playing sport and being physically active. Specific energy systems training and assessment is a low priority in this phase.	Continue to develop energy systems fitness through playing sport and being physically active. Introduce occasional assessments of energy systems fitness to identify potential limiting factors to health and performance.	Identify energy systems demands for the specific sport and/or position. Ensure those demands can be met by the participant using structured energy systems training.
FLEXIBILITY & MOBILITY	Challenge full ranges of movement through movement challenges, playing games and foundation movement skill competency.	Increase focus on flexibility and mobility, addressing growth related limitations in range of movement and emphasis on technical quality through full ranges of movement in strength-based training.	Utilise as required for the participant's individual needs. Developmental objectives of warm ups and cool downs should address these needs.

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LTAD Network Youth Physical Development Model for Females. Baker, J. LTAD Network. Available at https://education.ltadnetwork.com/course/free-resources

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