Slide 1

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Creating a nurturing environment for long-term sporting success

AUT SPORTS PERFORMANCE RESEARCH INSTITUTE NEW ZEALAND | St John's College | Wintec | AUT RESEARCH & INNOVATION

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Maturation plays a large role in talent identification and athletic development...

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Adapted from Lloyd & Oliver (2013)

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Other supporting research
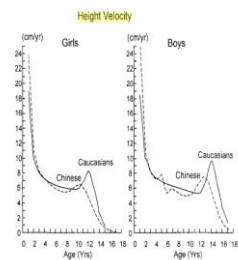
Adapted from Parfitt, 1994 and Leung et al., 1996

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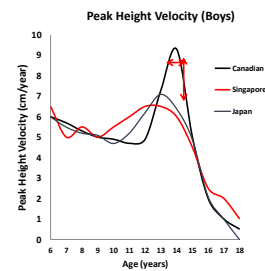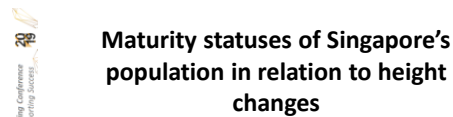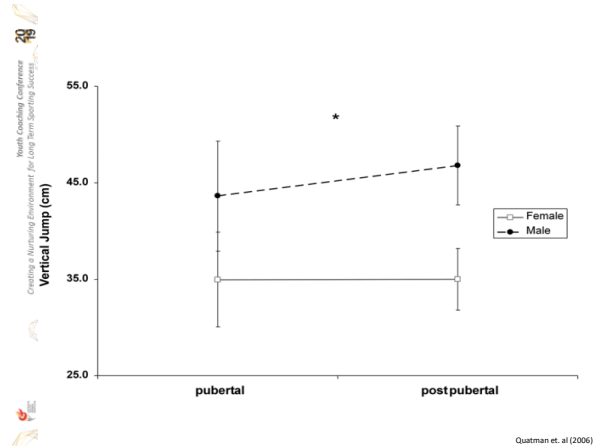**Maturity statuses of Singapore's population in relation to height changes**

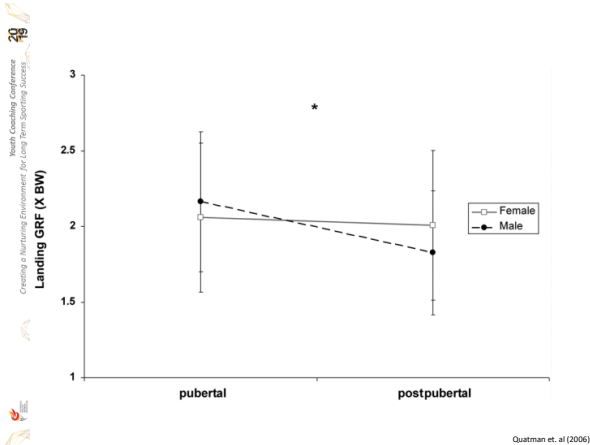Table IV. Timing and peak velocity for general and specific motor tests in soccer players.

Motor tests	Timing	Peak velocity (unit·year^{-1})
FBA	At moment of PHV	2.5 attempts
PLT	At moment of PHV	0.8 s
SAR	12 months after PHV	2.7 cm
SUP	At moment of PHV	2.7 sit-ups
BAH	At moment of PHV with plateau	7.6 s
SLJ	At moment of PHV with plateau	10.5 cm
VTJ	At moment of PHV	5.1 cm
SHR	At moment of PHV	1.6 s
SSPRINT	At moment of PHV	0.9 s
DASH	At moment of PHV with plateau	0.4 s
ESHR	At moment of PHV	1.5 min
STEMPO	At moment of PHV	3.5 s

Abbreviations: PHV = peak height velocity; FBA = flamingo balance; PLT = plate tapping; SAR = sit and reach; SLJ = standing long jumps; VTJ = vertical jump; SUP = sit-ups; BAH = bent arm hang; SHR = 10 × 5 m shuttle run; SSPRINT = 5 × 10 m shuttle sprint; DASH = 30 m dash; ESHR = endurance shuttle run; STEMPO = anaerobic capacity as measured by a shuttle run.
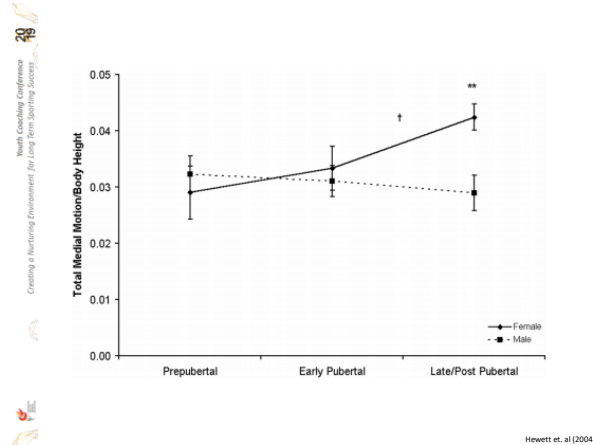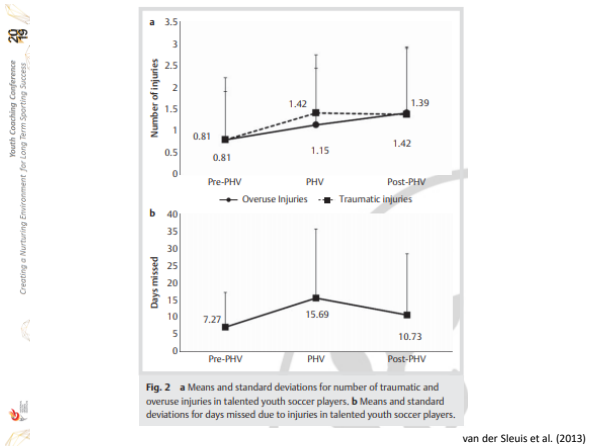
Philippaerts et al. (2006)

Quatman et. al (2006)

Quatman et. al (2006)

Hewett et. al (2004)

Fig. 2 a Means and standard deviations for number of traumatic and overuse injuries in talented youth soccer players. b Means and standard deviations for days missed due to injuries in talented youth soccer players.

van der Sleuis et al. (2013)

INTERESTING PLAYER STATS

CELL C SHARKS U13
HEIGHT 198cm
WEIGHT 102kg

FREE STATE U13
HEIGHT 145cm
WEIGHT 39kg

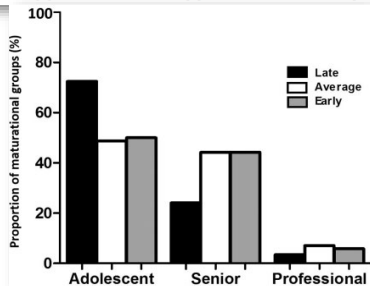#SharksJuniors
#CravenWeek

Lloyd et al. (2014)

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….and, athletes, coaches, and parents typically don't account for these things.
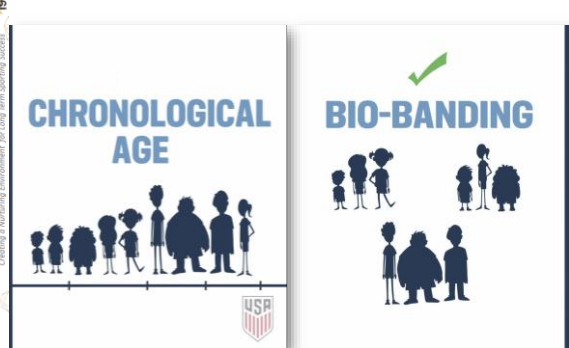

Coaches' perceptions of long-term potential are biased by maturational variation

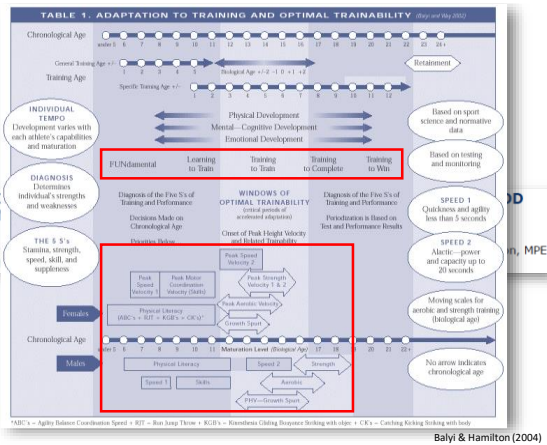Ashley J Cripps[1], Luke S Hopper[2] and Christopher Joyce[1]
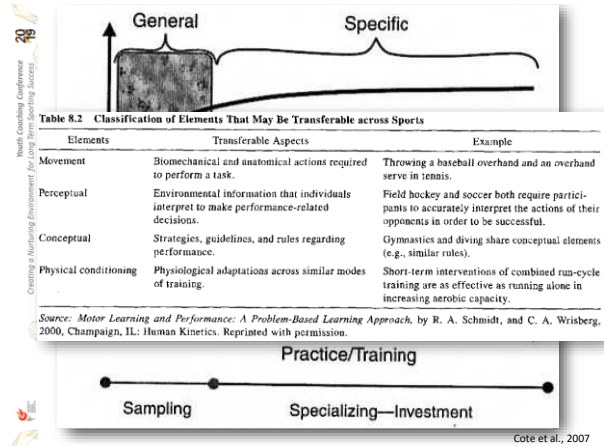

The Problem with Comparing Our Kids
Encouraging our children to strive for the better without putting them down
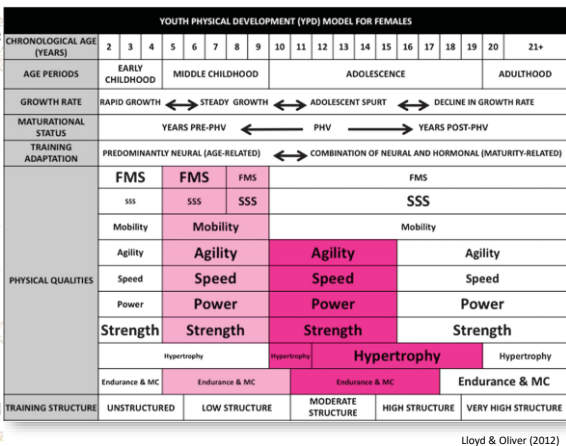By Focus on the Family Singapore
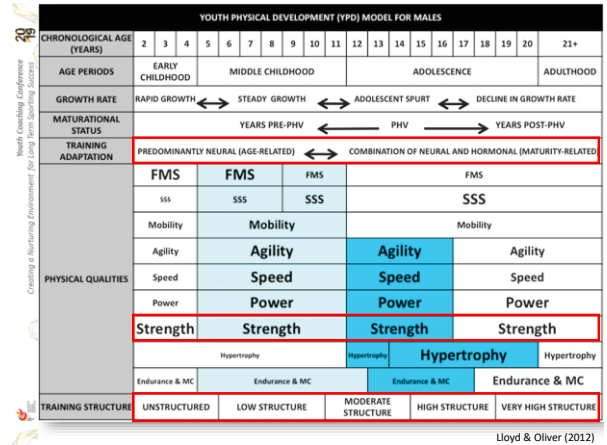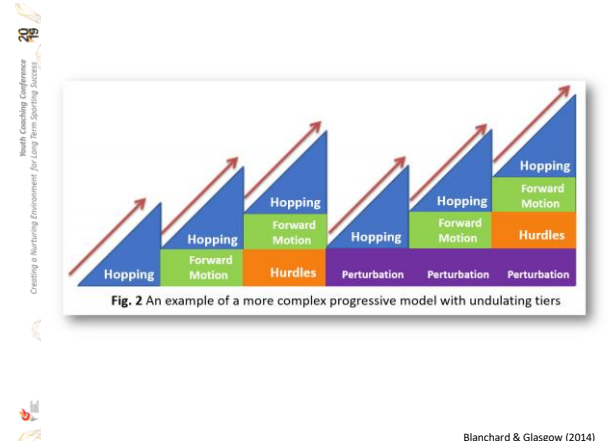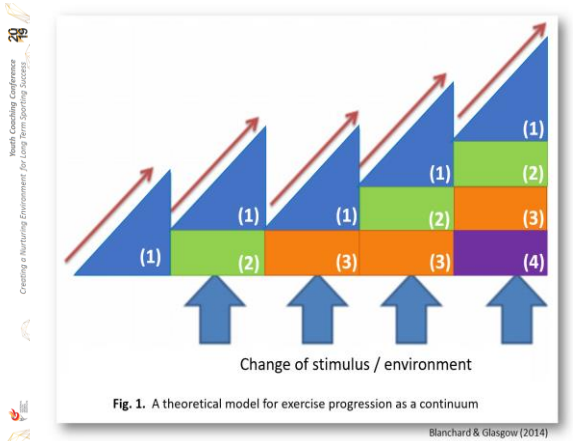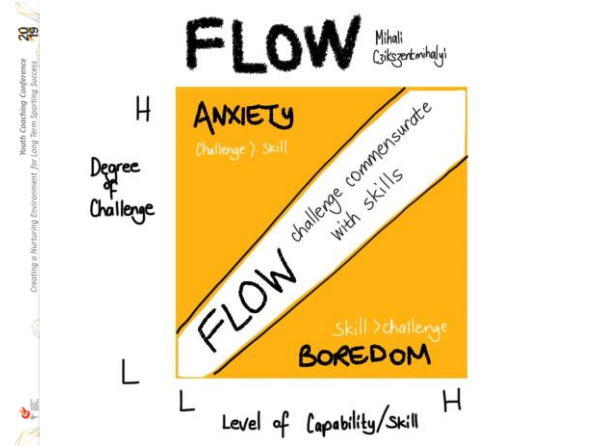

CHRONOLOGICAL AGE

BIO-BANDING

Slide 1

Practice and Play in the Development of Sport Expertise

JEAN CÔTÉ, JOSEPH BAKER, and BRUCE ABERNETHY

Slide 2

Cote et al., 2007

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Balyi & Hamilton (2004)

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Lloyd & Oliver (2012)

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Lloyd & Oliver (2012)

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Fig. 1. A theoretical model for exercise progression as a continuum

Blanchard & Glasgow (2014)

Fig. 2 An example of a more complex progressive model with undulating tiers

Blanchard & Glasgow (2014)

	Exercise Type	BRONZE	SILVER	GOLD	Volume
Field / Court Emphasis	Plyometric	Countermovement Jump	Depth Jump (low)	Depth Jump (high)	3 sets; 3 reps
		SL Drop (stick)	SL Jump	SL Depth Jump	3 sets; 3 reps/leg
		Low-hurdle Hop (rapid)	High-hurdle Hop (stick)	High-hurdle Hop (rapid)	3 sets; 5 reps/leg
	Speed	30m Sprint (submaximal intensity; maximum speed technique focus)	30m Sprint	30m Sled Sprint	3 reps
		10m Sprint (submaximal intensity; acceleration technique focus)	10m Sprint	10m Sled Sprint	3 reps
		Float-Fly-Float (10-20-10)	Float-Fly-Float (10-20-10)	Float-Fly-Float (10-30-10)	3 reps

Pichardo et al. (2018)

	Exercise Type	BRONZE	SILVER	GOLD	Volume
Weight Room Emphasis	Clean Variation	Hang Clean	Clean from Low Block	Clean	5 sets; 3 reps
	Clean Variation	Clean Pull	Clean Pull (<100% 1RM Clean)	Clean Pull (>100% 1RM Clean)	5 sets; 3 reps
	Squat	Goblet Squat	Box Back Squat	Back Squat	5 sets; 3 reps
	Horizontal Push	Push-up	DB Bench Press	Bench Press	5 sets; 3 reps

Pichardo et al. (2018)

Pichardo et al. (2018)


Pichardo et al. (2018)

Pichardo et al. (2018)
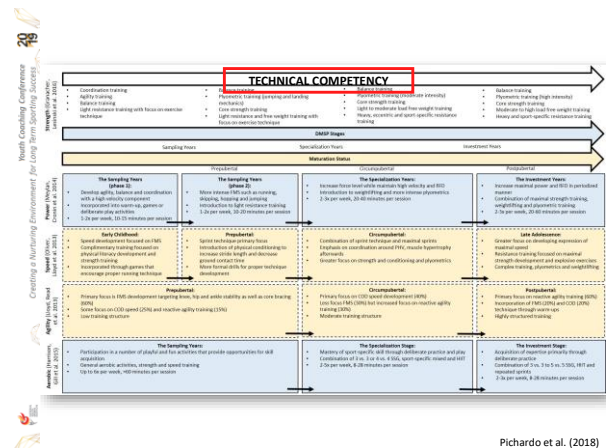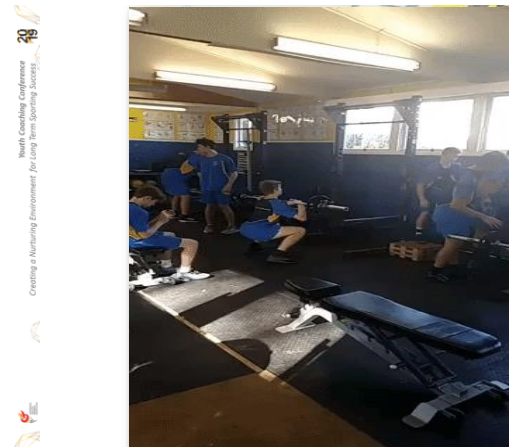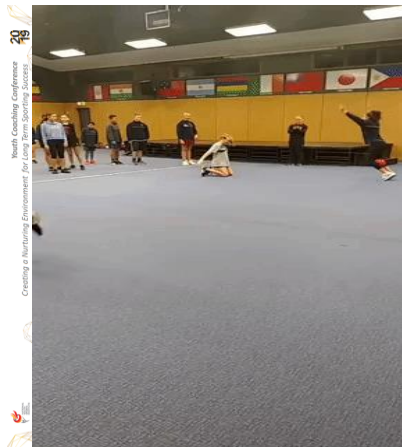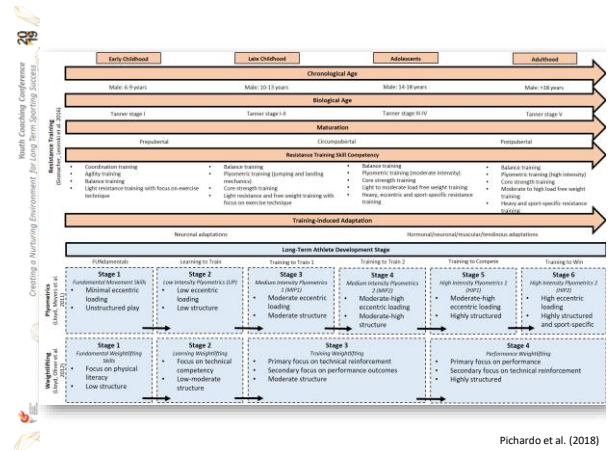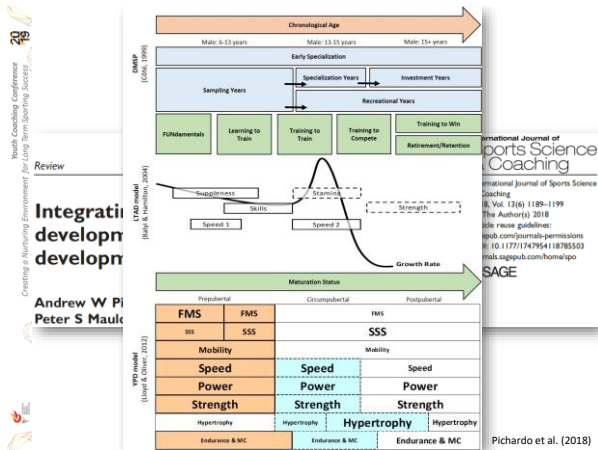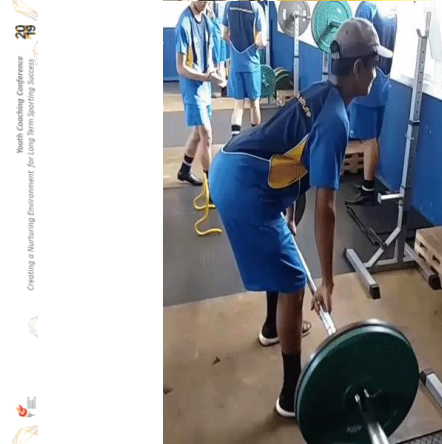
Go to **www.menti.com** and use the code **60 05 52**

What fitness component is most important to develop, starting early and often?

- Fundamental Movement Skills
- Sports Specific Skills
- Mobility
- Agility
- Speed
- Power
- Strength
- Hypertrophy
- Endurance and Metabolic conditions

Go to **www.menti.com** and use the code **60 05 52**

What should resistance training exercise progression be based on?

- Chronological Age
- Peak Height Velocity
- Technical Competency
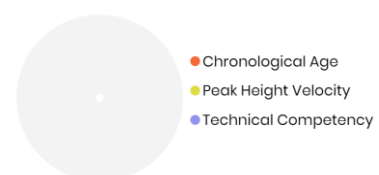
Go to **www.menti.com** and use the code **60 05 52**

When is the most vulnerable time for injury in youth?

● Pre-Peak Height Velocity
● Peak Height Velocity
● Post-Peak Height Velocity