

Tuia Ki Tawhiti July 8th 2024

Topic: Sports Nutrition Can Help to Grow an Athlete: **Handout**

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Key Themes:

- A small window of opportunity exists to grow our children
- 'Do no harm' ...yet there are many distractions that may impede children's safety
- Building sustainable energy is key to growth, movement, intellect, enjoyment of life
- How do athletes prefer to learn?
- How sports nutrition can help you to build team culture

'Being healthy'- is not just about diet and exercise

It's about : Hauroa: physical, mental/emotional, social and spiritual well-being. Ie feeling valued; belonging, loved, having family & friends; a job, learning new things etc.

Kids just want to have fun! - Active NZ Survey 2018

Pressure points today- Sporting culture; school; fad diets/ body weight issues; supplement industry; marketing; social; family; health; lack of child research today.

Getting a good start- Pre-conceptual (Pre-event nutrition). The need for iron/vitD up to doctor; Folate; Iodine; No alcohol, smoking, drugs; Breast feeding; Baby led weaning

Movement is mostly fuelled by food...

The Level of exercise recommended by MOH

Sleep: 5-13yrs 9-11hrs; 14-17yrs 8-10hrs + consistent wake/sleep cycle

Accumulation of at least 1 hr/d mod-vigorous activity (incorporating vigorous activities that strengthen muscle and bone at least 3 days/ week)

No more than 2 hours/d of recreational screen time

Sit less move more and participate in structured and unstructured light physical activity

Reality is....

Children are training longer at a younger age..7-10yr old involved in 4 or more activities per week

Younger children are involved at a higher level 10-14yr regional and nationally same as 15-18yrs

More 15-18yr olds are dropping out of sport, girls more so than boys.

Children are not 'mini' adults

Skin: > surface area: body mass so risk heat gain, loss & stress

Bones & Muscles: grow fast but slow to ossify; risk repetitive strain & to growth plates

Heart, lungs, muscles & steps: are smaller, risk fatigue, but recovery faster

Hormones: 95% growth occurs in sleep

Brain: Body matures faster than the brain, lack of judgment > risk taking & accidents

Peak Growth: Girls 11-12yrs, Menarche/LEA/ED's; Boys 13-14yrs risks strength pursuits

Low energy availability (LEA): causes a cascade of physiological change known now as RED-S (relative energy deficiency in sport)

Compromised metabolic/immune function; amenorrhea, < muscle protein synthesis, impaired cardiac health, cognition and mental health...**Don't wear yourself out!**

Protect your growth: We are remodelling our bones 10% per year. The first 20yrs of life are essential to the accumulation of Peak Bone Mass. Important to later life when bone mass declines from 45-75yrs. Eating well reduces injuries. Energy, protein, carbohydrate, calcium and Vitamin D aids growth. Alcohol, salt, excess protein and phosphoric acid in cola's speed bone loss. Resistance exercise strengthens bone, take care not to overdo it.

The Type of fat affects our health: Fat aids nerve & brain health but the type matters.

Saturated fat can impair learning acquisition and memory; Unsaturated fats improve attention and problem solving. Choose reduced-fat spreads and dairy products; mind meat quantities; takeaways; fried foods; coconut, cream and butter. Raised blood cholesterol is not just an issue for adults and can be familial. Athletes wanting to gain weight should check with their doctor first.

Gut health: relies on fluids and fibre. Pre & probiotics can be found in food. Be guided by your doctor. Learn more about Faecal bulking (see ref)⁸ Nutritional assessment can help.

Mental health: Just like a computer *The Hardware*..e.g the skull, cerebral matter, neurons depend on genetics and **what we inherit**

The Software that runs the brain; nutrients & chemical, food supply & adequacy, energy, timing, plus drugs, alcohol, stimulants, stress and environment **we can control**

Smart nutrition: Key nutrients found in iron, zinc, folate, polyunsaturated fat, water are found in fish, polyunsaturated margarine, oils, lean meat, green vegetables, berries, banana and potato..to name just a few.

Energy: Foods release energy at different rates of time depending on their level of processing. Carbohydrate foods releases glucose within ½-2 hrs depending on their glycaemic index, protein is digested within 3-4 hrs and fat within 5hrs. Spreading protein evenly in 3 main meals across the day aids feelings of fullness, add in the carbohydrate and fat to reduce cravings and fatigue will build sustainable energy

Sports Nutrition: Pre-event if exercise within 30mins of eating pick Hi GI eg .banana , crumpet or white toast. If 2-3hrs choose low GI cereal, fruit and yoghurt. During exercise high GI if only 1-1.5hrs. Post exercise 30mins-2hrs after exercise choose high GI then low GI + protein. E.g. Banana milkshake followed by dinner.

Tournaments, regattas and carnivals: Plan the day, think food safety take portable food in a chilly bin. Plan breakfast, lunch and power snacks with a food first focus. Practice your food and fluids plans before the event

Hydration: Aids saliva production providing enzymes essential to protein and carbohydrate breakdown; Aids digestion, temperature control; fights fatigue.

Sports drinks: Only needed if exercise is continuous for >1 hr or to rehydrate after strenuous, prolonged exercise. Ideal SD: Carbohydrate 6-7%, Sodium 500-700mg/l, Non-carbonated, not too cold. **Juice, SSB, Energy drinks** 8-12% not suitable sports drinks. **Alcohol** is not recommended for children. **Coffee** reduces the feelings of effort. As caffeine is metabolised differently from adults, it is easier for them to overdose. Children <18yrs it is recommended they limit caffeine to <2.5mg/kg/day. **Water and milk** preferred sports drink. Best milk is fat- reduced, highest in protein and calcium

Supplements: Are not necessary unless prescribed by your GP to correct deficiencies. Avoid internet sales of dietary supplements as this can lead to unintentional doping through the consumption of contaminated substances. Third party auditing and batch testing systems (Hasta & Global DRO) are approved by Drug free Sport NZ & Aust.

Preferred learning styles of athletes: ¹⁻⁴ VARK...Visual, Auditory, Read/write, Kinesthetic
Athletes prefer real life examples, hands on, facilitator who is credible & knows sport; wants help to set personal goals & behaviour change, some repetition is good.⁵

Assessment of prior knowledge is useful ⁶⁻⁷

Team Building: Respect contributors and backup. Sports nutrition exercises could include seminars for parents, supermarket tours, label reading & shopping apps, cooking, hydration, sweat loss testing etc. Support the work of Home Econ/ Food & Nutrition teachers. For specific team building exercises see How to Grow an Athlete-(audible & ebook coming soon) Available from Nationwide bookstores or email:lea@leastening.com (postage free in NZ) \$45

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