Practical Applications of Performance Nutrition

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What is the Role of Nutrition Within Performance Training?

Fuel and Recovery

Body composition

Bone Health

Consistency in training

Mood and motivation

Reduced risk of injury and illness

Aims Of A Nutritional Program

Ensure appropriate choices for maximal performance and recovery through nutrient dense choices

Key Objective

Maintaining Glycogen stores throughout the Training week

Outcome

- *Sufficient energy for optimal performance*
- *Prevention of fatigue*
- *Consistent performance*
- *Prevention of stress to immune system*
- *Maintaining endocrine Function*

The Fundamentals: Building Blocks

carbohydrate

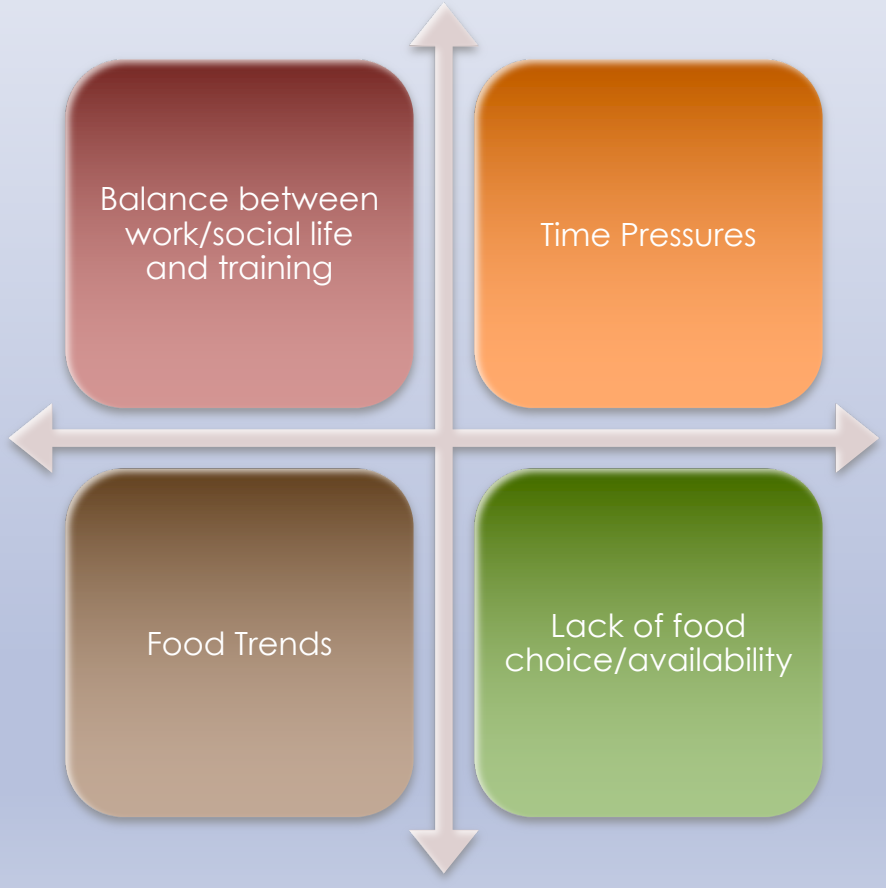
protein

fats

Dairy

Vitamins and minerals

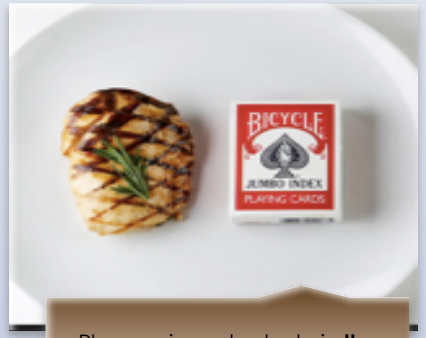
Potential Practical Issues



Importance of Carbohydrate

- Only fuel source suitable for **high intensity** training – performance at a level of 8/10 or more for a minimum of 45 minutes
- Low carbohydrate availability around training specifically in athletes will impact hormonal health
- Insufficient carbohydrate has been related to depressed immune system
- Insufficient carbohydrates can disrupt sleep patterns
- Insufficient carbohydrate can contribute to poor recovery and OTS
- A periodised approach is best practise – that does not mean going LCHF

Protein Requirements



Plays an important role in **the response** to exercise.

New concept of protein pulsing

Recent studies have shown that protein intake is particularly important in the recovery phase.

maximal effects occur with 0.3-0.4g/Kg BW using whole protein foods

Protein shakes and supplements are rarely required and definitely not recommended in under 16 years.

Recovery Food

RECOVERY

Training

High Intensity Session

- Recover within 30 min of finishing session if over 2 hours until next meal or planning on further session in pm = ideal easily digestible carbohydrate and protein in liquid form: MILK
- If not training again for 24 hours or more, recover within 2 hours of finishing session with balanced meal of nutrient dense carbohydrates and protein: EGGS ON TOASTED BAGEL

Low Intensity session

- If further high intensity session later that day recover with carbohydrate and protein within 30 mins of session: PORRIDGE MADE WITH MILK, BANANA AND NUT BUTTER
- If only session for day and next session 24 hours of further away, recover at next meal with a predominantly protein based meal: FRITATTA

Why Milk?

	Unsweetened almond milk	Unsweetened soya milk	Skimmed cow's milk
Energy/Kcals	26	44	66
Carbohydrate/g	0.2	0.2	10
Protein/g	0.8	4	7
Fat/g	2.2	2.4	0.2

ABLE 1.3 Nutritional content of milks (per 200ml/7fl oz)

Example Menu: High Intenisty Day

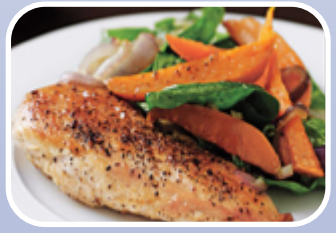
Ensure easily digestible choice early morning and then follow up with portable breakfast such as overnight oats

Mid –morning try topping up with carbs and protein

Another good mix of wholegrain carbs and protein for sustained energy

Top up with carb based snack prior to training

As
After high intensity session, recover within 30 min

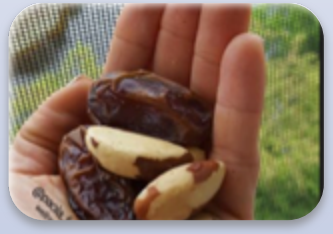


Ensure a good mix of carbs and protein for recovery but remember to tailor to your training needs

Followed by Greek Yoghurt, fruit, honey and toasted nuts

Studies show that having milk before bed can help sleep and maximise muscle adaptation. Also ensure you meet 1300mg calcium a day needed for good bone health

Suitable Snacks For Higher Intensity and Competition Days



Dried fruit and nuts

Fruit cereal and yoghurt

Cheese and fruit plus 2 oatckaes

Malt loaf

Toast

Oatcakes with peanut butter

Milkshakes and smoothies

Cereal bars

Suitable Snacks For Lower Intensity and Rest Days

2 oatcakes with topping e.g cream cheese/houmous or nut butter

150g Greek yoghurt with berries and 1 tablespoon honey

3 dates and 5 brazil nuts

milk based drink such as latte or small carton flavoured milk with

matchbox size portion of cheese and apple

60g houmous or mackeral pate with vegetables

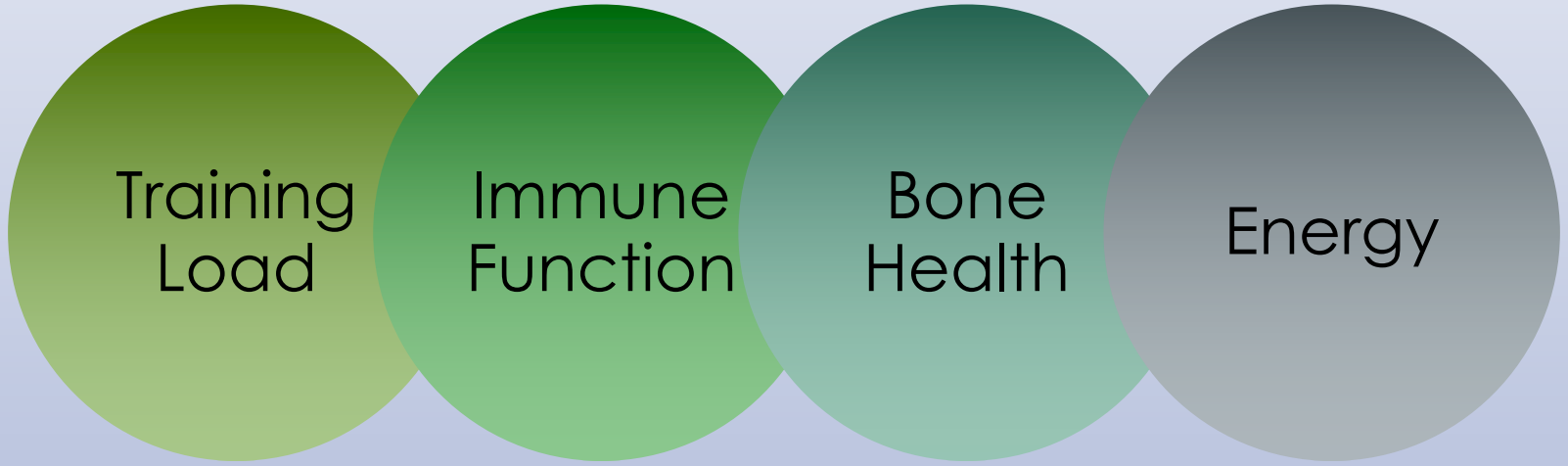
Race Day Considerations

- How many days?
- How many heats?
- What is the environment?
- Control the controllables
- Contigency planning
- Training the Gut

Growth and Development

- Key time to ensure sufficient energy availability for biological functions, growth and training load
- In females red flag if menstruation delayed beyond 16 years or become erratic and stop
- Bone health – land training; sufficient calcium intake; hormonal regulation

Monitoring Biomarkers



Reduce injury risk

Keep your season or race preparation on-track by measuring markers which indicate your body's susceptibility to injury.

Increase energy levels

By measuring and tracking key biomarkers you can take action to boost your energy and avoid fatigue.

Avoid over-training

Stay healthy

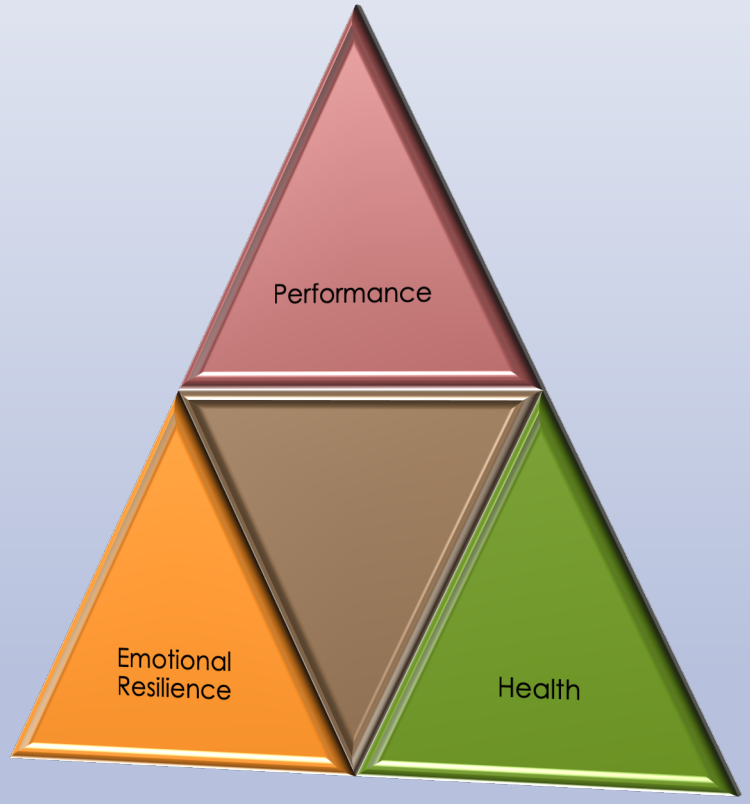
Iron

- HB, Ferritin, Transferrin saturation
- Identify deficiency which has negative impact on appetite, energy levels and overall performance
- Important to look at all three values for full picture

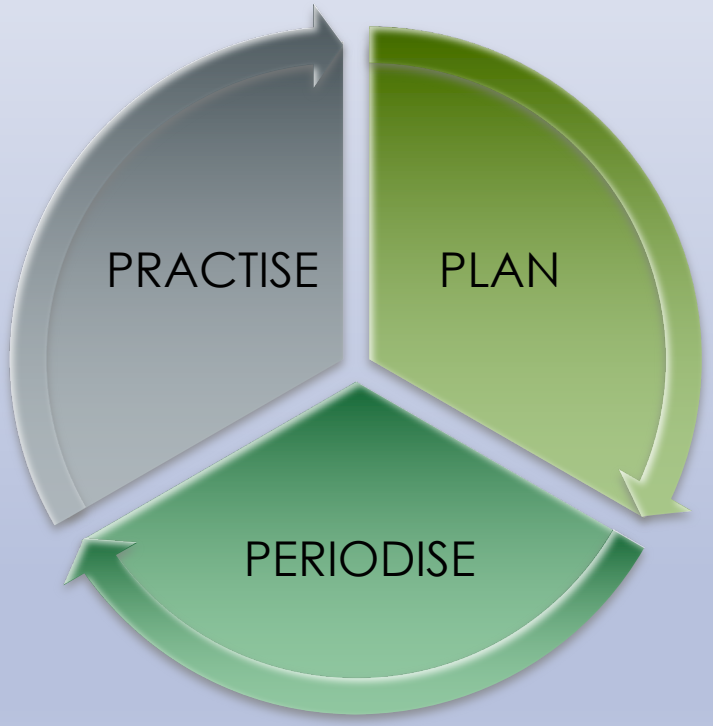
Vitamin D

- Low levels very common in UK
- Deficiency associatated with poor recovery, increased muscle soreness, fatigue, low mood and depressed immunity
- Very important role in bone health

Importance of The Triangle



Summary



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