

ATHLETE QUESTIONS



What is one thing you have changed with your nutrition since this time last year?

Can you list some good pre-race / competitions snacks?

Can you list some good post-race / training snacks?

What are you going to look at next to improve with your nutrition

Can you describe the differences between animal and plant-based sources of protein?

At what age does your bone density peak?

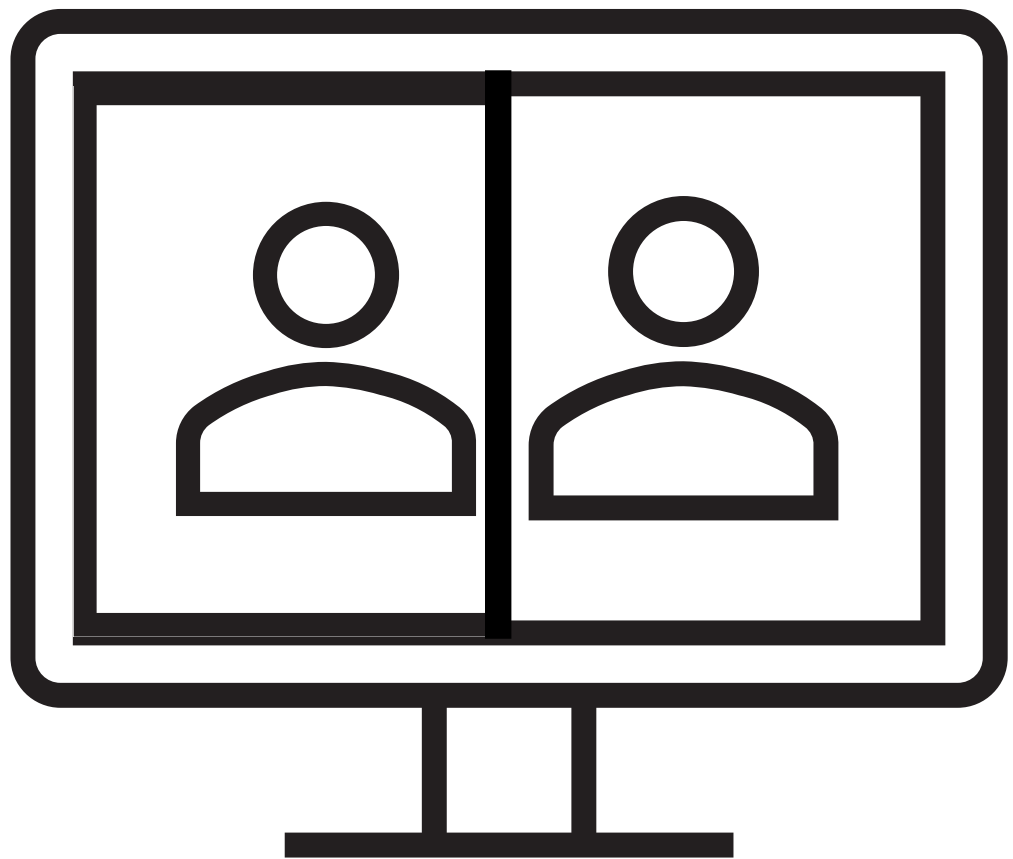
What are the concerns of under fuelling?

How long before a competition should your last main meal be?

When should you start fuelling for their event? i.e. the morning off, the last meal the day before, the whole day before or longer?



YEAR 2 SPORTS NUTRITION





LOUGHBOROUGH COLLEGE

H E Centre

Higher Education Centre



Recap on what we went through last time

Deeper look at micronutrients

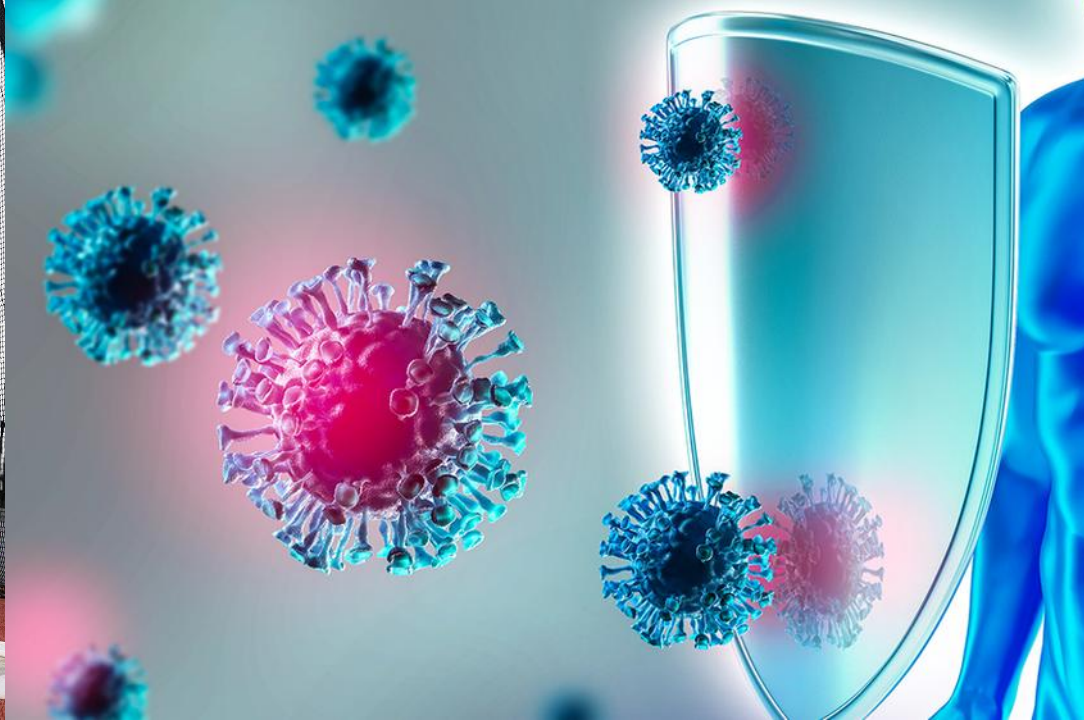
Pre & post training / competition nutrition

Supplements

RECAP:



WHY NUTRITION IS IMPORTANT?





DO YOU KNOW THE 3 MACRONUTRIENTS?

(And what they do?)

MACRONUTRIENTS



MACRONUTRIENTS

CARBOHYDRATE

1 g = 4 kcal

PROTEIN

1 g = 4 kcal

FAT

1 g = 9 kcal

MICRONUTRIENTS

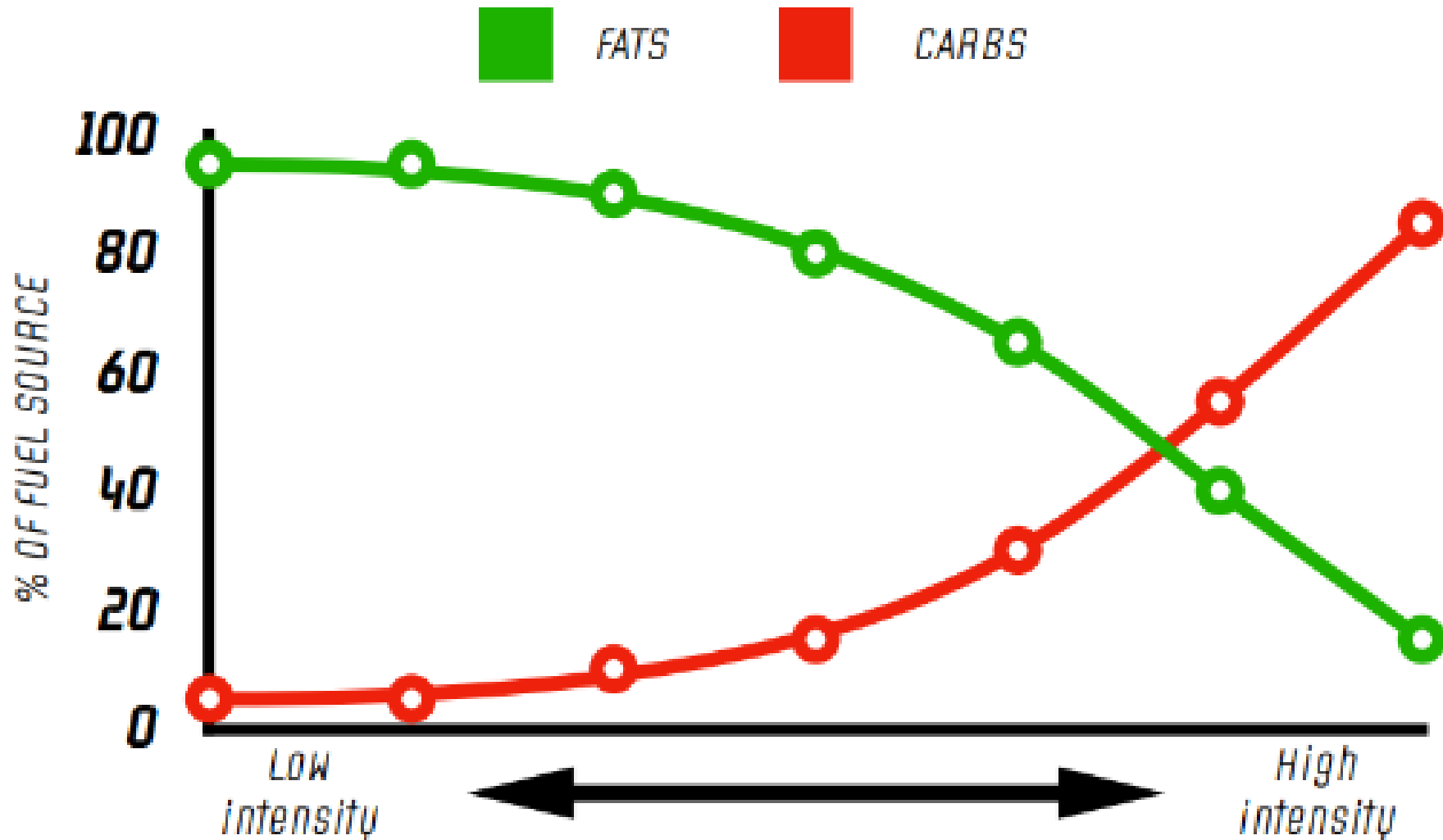
VITAMIN &
MINERALS

0 KCAL



FUELLING LIKE AN ATHLETE

What can you do?



Carbs are the bodies main energy source during high intensity exercise...

EXAMPLE OF AN ATHLETES DIET



**Fuel training with
carbs**

**Consistent protein
throughout the day**

**High nutrient
density**

**Ensures optimal
hydration**

**Uses unsaturated
fats to aid recovery**

**Uses simple sugars
to fuel high intensity**

**Eats the rainbow of
fruit and veg**

Structured



**SOME KEY TIMES
TO THINK ABOUT**

...

PIT STOP SNACK



Grab & go carb snacks pre-training



QUESTION



**WHAT HAS CHANGED
SINCE WE LAST SPOKE?**

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DiSE





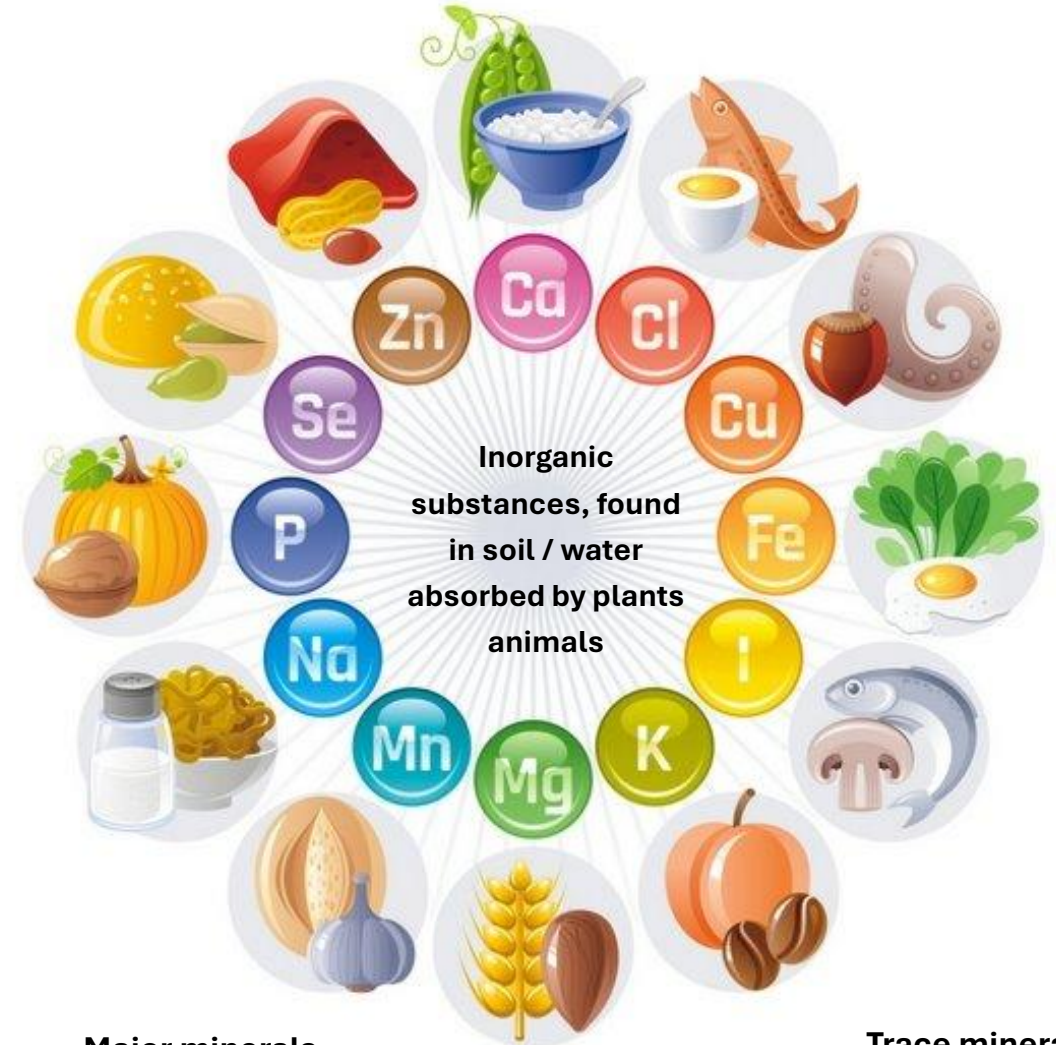
MICRONUTRIENTS IN MORE DETAIL

Vitamins and minerals nutrients needed in relatively small amounts to support your overall health and well being

VITAMINS



MINERALS

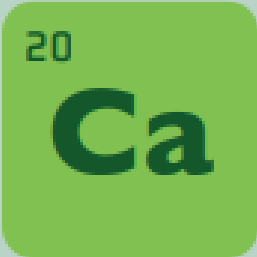






Major minerals
Estimated daily dietary need for them exceeds 100mg

Trace minerals
Estimated daily dietary need for them is below 100mg

Calcium



Micronutrient	Description	Guidance	Examples
 <p>Calcium</p>	<p>Calcium is important for bone health and the prevention of stress fractures, especially for exercising females with reduced circulating calcium levels.</p>	<ul style="list-style-type: none">• For adult women, the RDA for calcium is 1000 mg per day, ideally consuming no more than ~500-600 mg at one time to maximize absorption.• Vitamin D enhances calcium absorption, so athletes should ensure optimal vitamin D intake/exposure.	 <p>Cow's milk</p>  <p>Tofu</p>  <p>Cheese</p>  <p>Plain yogurt</p>

Building your bones

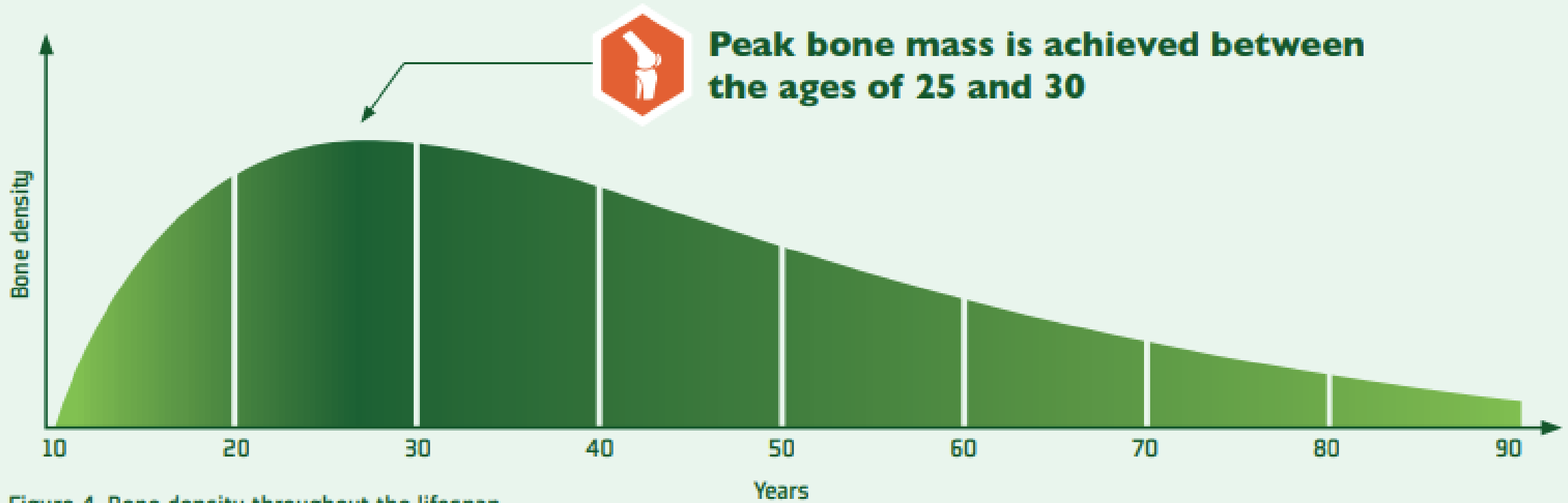


Figure 4: Bone density throughout the lifespan

Potential signs of calcium deficiency



Minor Symptoms



Numbness Or
Tingling Fingers



Muscle Cramps



Poor Appetite



Weak Or Brittle
Fingernails



Difficulty
Swallowing



Fainting
Or Lethargy

Potential signs of calcium deficiency



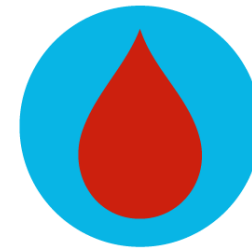
Severe Symptoms



Mental Confusion,
Irritability, Depression,
And Anxiety



Tooth Erosion



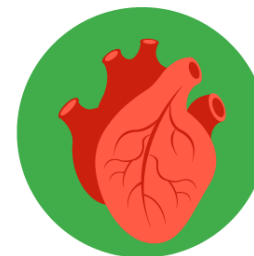
Insufficient
Blood Clotting



Bone Fractures,
Osteopenia,
Or Osteoporosis,



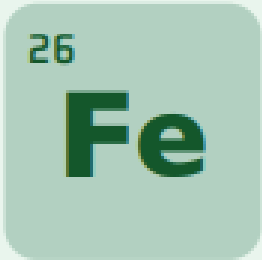




Growth And
Development
Delays In Children



Heart Problems
Involving Blood Pressure
And Heart Rhythms

Iron



Micronutrient	Description	Guidance	Examples
 <p>Iron</p>	<p>Iron has several important roles within the body, including the transport and delivery of oxygen, energy production, cognitive function, immune function, and growth and development.</p>	<ul style="list-style-type: none">• For adult women, the RDA for iron is >18 mg per day. This is increased to 27 mg of iron per day for pregnant women and teenagers.• To maximize iron absorption, iron should be consumed alongside foods containing vitamin C, and away from calcium containing foods and caffeine.	 <p>Red meat</p>  <p>Hazelnuts</p>  <p>Leafy vegetables</p>  <p>Fish</p>





Signs & risks of iron deficiency



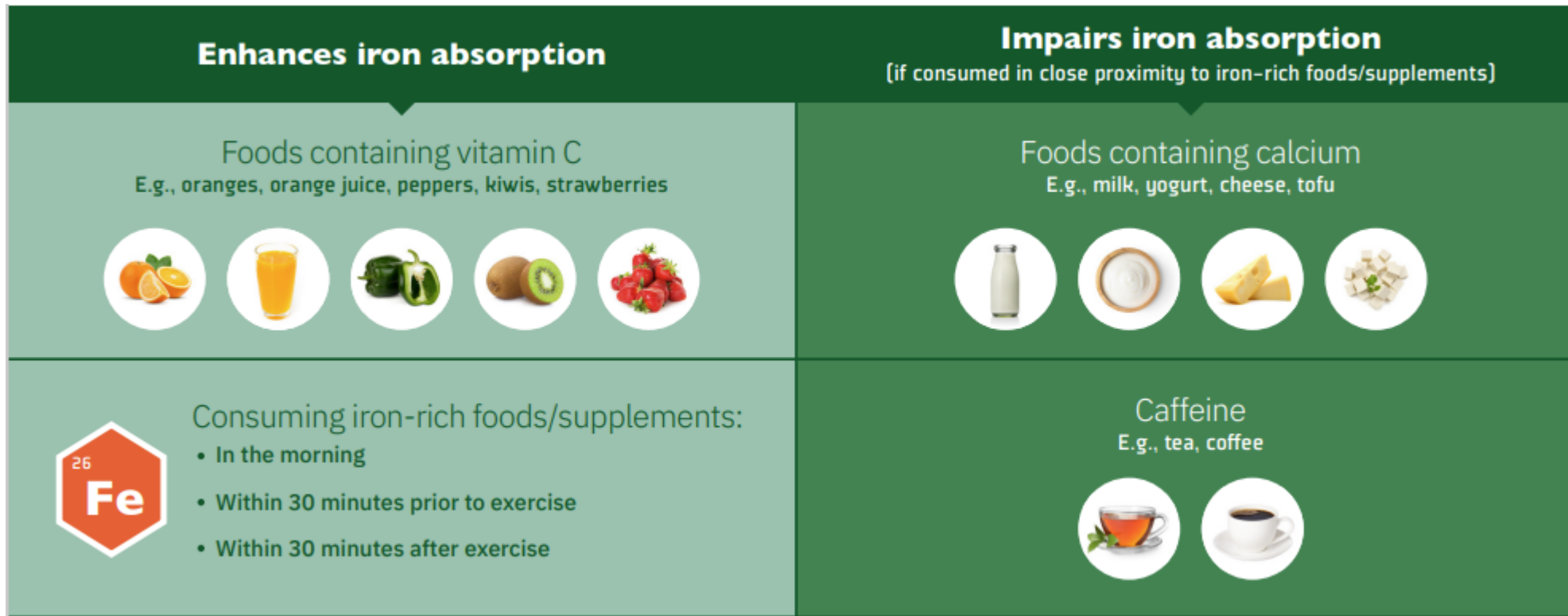
Common signs / side effects of iron deficiency

-  **Heart palpitations**
-  **Tiredness, lethargy, fatigue**
-  **Poor recovery**
-  **Reduction in performance**
-  **Paleness**
-  **Shortness of breath**
-  **Lack of energy**

Factors that could increase the risk of iron deficiency

 Insufficient energy intake	A lower energy intake can increase the likelihood of dietary iron intake being insufficient.
 Menstruation	Regular or heavy menstrual bleeding increases blood losses. Females may also have a lower overall ability to absorb iron in comparison to males, due to the fluctuation in estrogen throughout the menstrual cycle.
 Plant-based diets	Iron from plant-based foods (i.e., non-heme iron) is not absorbed as well by the body in comparison to iron from animal-based foods (i.e., heme iron).
 Exercise-induced iron loss	The mechanisms which contribute to this are sweating, gastrointestinal bleeding, haematuria (blood in urine), and footstrike hemolysis.

Factors influencing iron absorption



Iron absorption rates can also be enhanced or impaired depending on what iron is taken with and at what time of day.


If you athlete is taking iron supplementation, are they taking it in the morning with a glass of orange juice? If not this could be a great way to try to increase the iron absorption



KEY MESSAGE



Eat the Colors of the Rainbow



Helps reduce fatigue
Helps reduce muscle soreness

**Found in... tomatoes, pink grapefruit, strawberries,
raspberries, red peppers**

Helps support immunity
Reduces muscle damage

**Found in... oranges, carrots, sweet potato, pumpkins,
pineapple, apricots, orange peppers**

Supports immunity
Controls inflammation
Helps absorb iron

**Found in... sweetcorn, lemons, yellow peppers,
bananas**

Supports immunity
Controls inflammation

**Found in... garlic, onions, leeks, potatoes,
cauliflowers, mushrooms**

Helps form red blood cells
Supports energy levels

**Found in... spinach, kale, broccoli, asparagus, kiwi
fruit**

Reduces muscle soreness
Support brain function

**Found in.... blueberries, blackberries, plums,
aubergines**



PRE & POST COMP NUTRITION



TYPICAL SPRINT RACE DAY TIMELINE



08:00
Wake up

09:00
Last main
meal

Until
11:30
High
carb
snacks

12:00
Heat 1

High carb snacks

13:00
SF

High carb snacks

14:00
Final

Recovery



TYPICAL ENDURANCE RACE DAY TIMELINE



**Race day
- 1 - fuel**

**08:00
Wake up**

**09:00
Last main
meal**

**Until
11:30
High
carb
snacks**

**12:00
Heat**

**High carb
snacks**

**13:00
FINAL**

Recovery





TYPICAL MULTI-EVENT COMP DAY TIMELINE



Race
day - 1
= fuel

08:00
Wake up

09:00
Last main
meal

Until
11:30
High
carb
snacks

12:00
EVENT 1

High
carb
snacks,
can be
fluids

12:45
EVENT 2

High
carb snacks,
longer break
means can be
bigger

14:15
EVENT 3

High
carb
snacks,
can be
fluids

15:00
EVENT 4

High
carb
snacks,
can be
fluids

15:30
EVENT 5

Recovery
At end of day 1,
carbs + protein



PRACTICAL TASK



CHOOSE ONE

**PRE-COMP
SMOOTHIE**

**POST-COMP
SMOOTHIE**

On the back of your paper, start to plan either your pre or post competition smoothie. Think about what the key aim is, what are some key ingredients!

SMOOTHIE BUILDER



1. Choose your base



2. Add your protein



3. Prepare fruit



4. Add your greens



5. Add healthy fats



6. Supercharge with extras



3-4 HOURS PRE-COMP



- 3-4 HOURS

- 60 MIN



+ 0 - 30 MIN

+ 1-4 HOURS

LGI CARBS

AIM TO TOP UP ENERGY STORES
SUBSTANTIAL FOOD CHOICES, HIGH CARBOHYDRATE FOCUS



~60 MINS PRE COMP



- 3-4 HOURS

- 60 MIN

+ 0 - 30 MIN

+ 1-4 HOURS



HGI CARBS

KEEP ENERGY STORES HIGH

QUICKLY DIGESTING FOODS TO PREVENT UNWANTED STOMACH ISSUES



INTRA COMP



- 3-4 HOURS

- 60 MIN



HGI CARBS

+ 0 - 30 MIN

+ 1-4 HOURS

KEEP TOPPING UP ENERGY STORES
QUICKLY DIGESTING FOODS, QUICK BURSTS OF ENERGY



RECOVERY – PHASE 1



- 3-4 HOURS

- 60 MIN



+ 0 - 30 MIN

+ 1-4 HOURS

PHASE 1

KICK START YOUR RECOVERY!
REFUEL | REPAIR | REHYDRATE



RECOVERY – PHASE 2



- 3-4 HOURS

- 60 MIN



+ 0 - 30 MIN

+ 1-4 HOURS

PHASE 2

CONTINUE YOUR YOUR RECOVERY!
REFUEL | REPAIR | REHYDRATE



Recap



1. Keep it simple
2. Don't try anything new on race day
3. Be prepared, what can you take with you

Pre-Race	Post Race
High carbohydrate	High carbohydrate
Lower protein & fibre intake	High protein intake
Fluids to hydrate	Fluids to rehydrate

- 3-4 HOURS

LGI CARBS

- 60 MIN

HGI CARBS



HGI CARBS

+ 0 - 30 MIN

PHASE 1

+ 1-4 HOURS

PHASE 2

Examples



PRE-RACE & IN-BETWEEN RACES

Breakfast / last main meal options



POST RACE



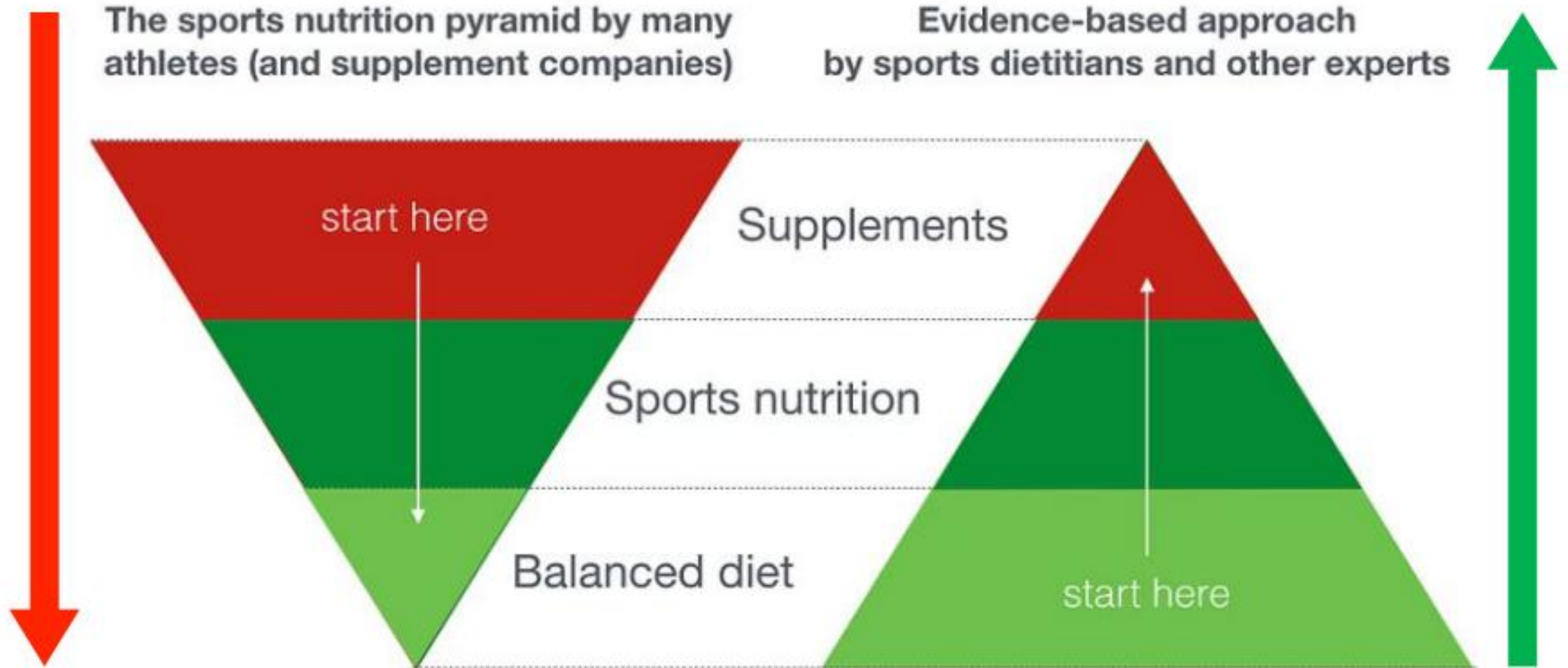
High carb snacks





SUPPLEMENTS

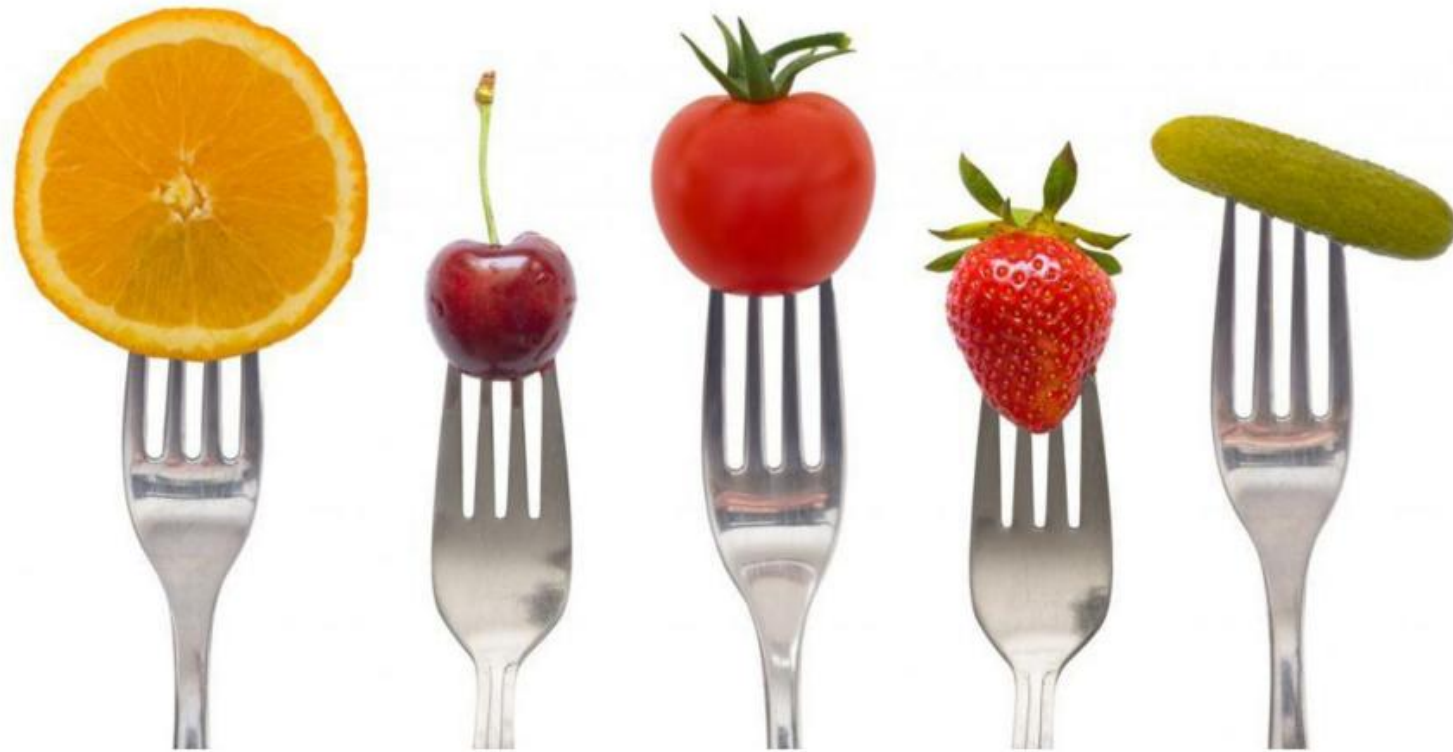
DO YOU NEED SUPPLEMENTS



DO YOU NEED SUPPLEMENTS



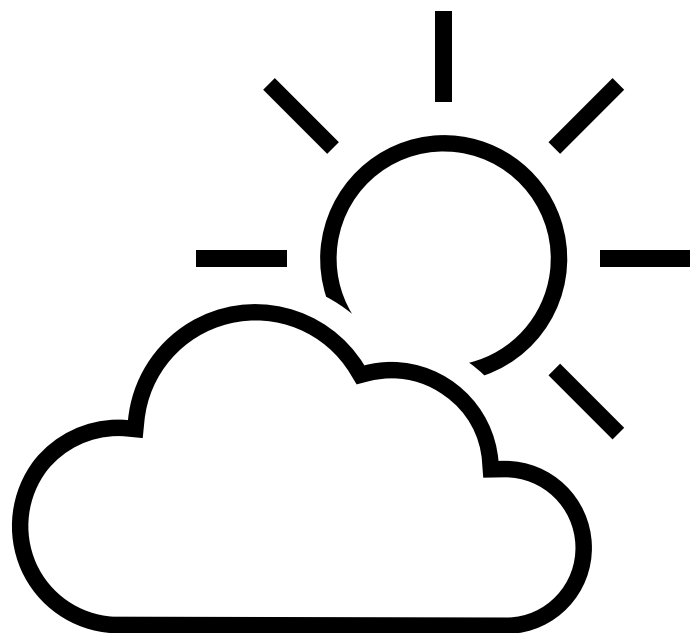
DO YOU NEED SUPPLEMENTS



“What you find at the end of your fork is more powerful than anything you’ll find at the bottom of a pill bottle.”

~Mark Hyman, MD

ANY EXCEPTIONS?



Vitamin D supplement (October – March, 1,000 – 2000 IU)



Advice from a medical professional as a result of blood tests i.e. calcium / iron etc



Salt stains on kit, suffer with cramp during exercise potential for electrolyte use



Informed sport supplements
Nutrition X, Elite healthspan

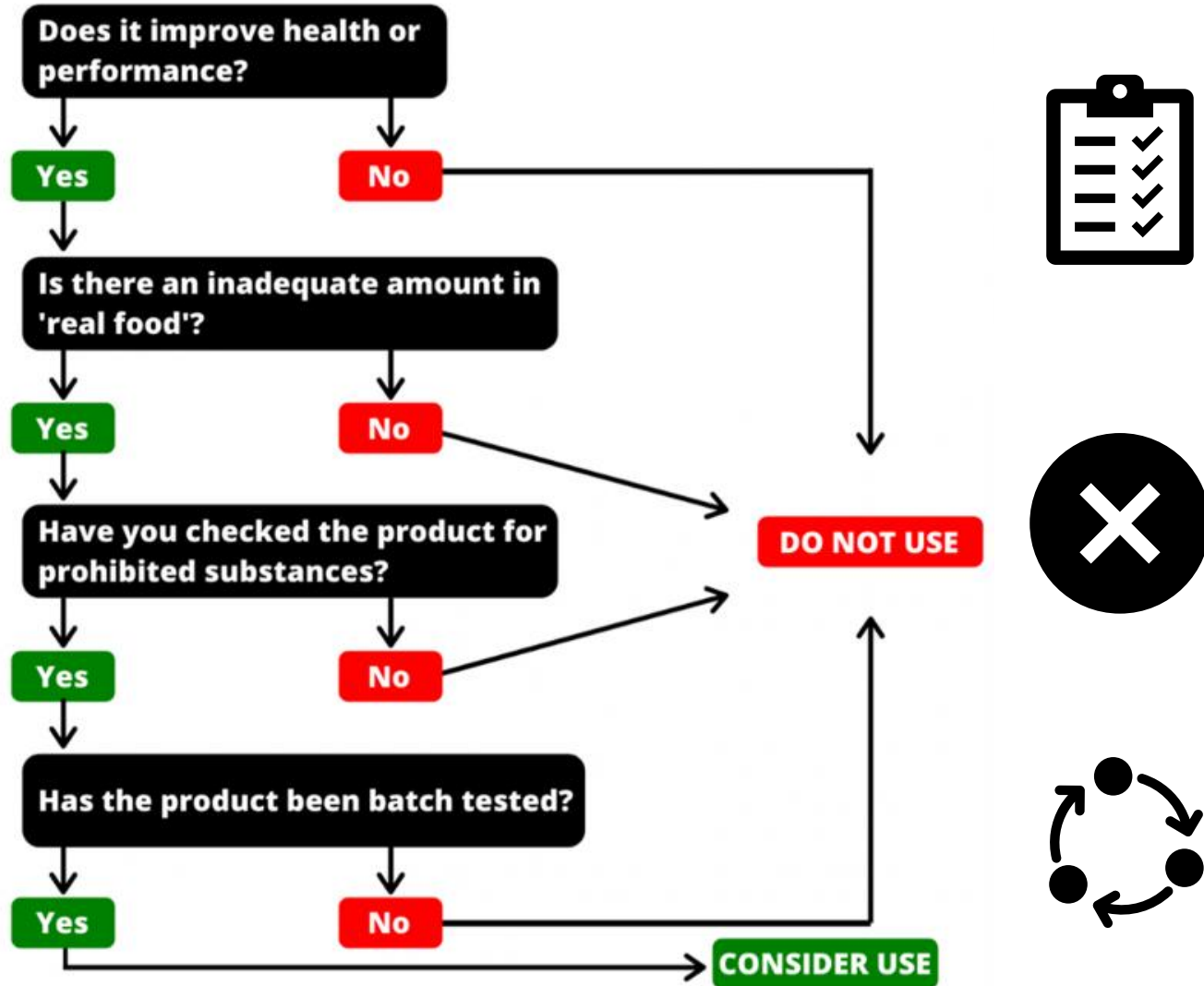


Informed sport supplements:
Elite healthspan



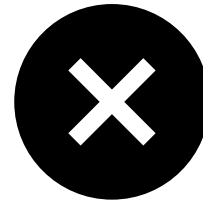
Informed sport supplements:
Nutrition X, SIS, Elite healthspan, precision hydration

DO YOU NEED SUPPLEMENTS



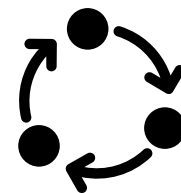
ASSESS THE NEED

Consider if you can consume the supplement from food sources. If not seek advice from a qualified medical or nutrition profession



ASSESS THE RISKS

If you chose to use a supplement product, only use informed-sport batch tested supplement products to minimise your risk of contamination.



ASSESS THE CONSEQUENCES

If you provide a sample with a prohibited substance identified it could result in large consequences

Figure 3: SENr supplement decision making tree.

SUPPLEMENT GREY AREAS



Some companies have enhanced the nutritional content of food products with the addition of specific ingredients, causing a 'grey area' for athletes. These items are readily available in supermarkets and can be a problem due to the risks of contamination and inadvertent anti-doping. Be very wary of these foods and/or check ingredient lists, as this area of the market is rapidly growing and evolving. Here are just a few examples where high risk ingredients have been added e.g. non-batch tested whey protein, soya protein krispies, pea protein:

High risk foods to avoid



Safe to consume



FEEDBACK



England athletics athlete feedback



**Session feedback,
please scan the
code & leave some
feedback**

ANY
QUESTIONS?



Thank you