



# **INTRODUCTION TO SPORTS NUTRITION FOR PARENTS**

# PARENT / COACH QUESTIONS



Your athlete has 30 minutes until their training session; can you help them choose a snack to have & describe why you have chosen that?

Do you pick your athlete up? Do they have a snack for the journey home to kickstart their recovery?

What areas do you think your athletes need to improve on the most to help to improve their nutrition?

What is the main barrier for them achieving this? Can you help them with this?

What is the main macronutrient involved in the growth and repair of muscles?

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

What are the concerns of under fuelling?

How many calories (roughly) do you think your child needs between the ages of 16-18

What are the 4'R's of recovery?



**WHO AM I?**



LOUGHBOROUGH COLLEGE

H E Centre

Higher Education Centre



Overview of why nutrition is important

Summary of the 3 macronutrients

Nutrition for the 24/7 athlete

Supplements 101





# WHY NUTRITION IS IMPORTANT?



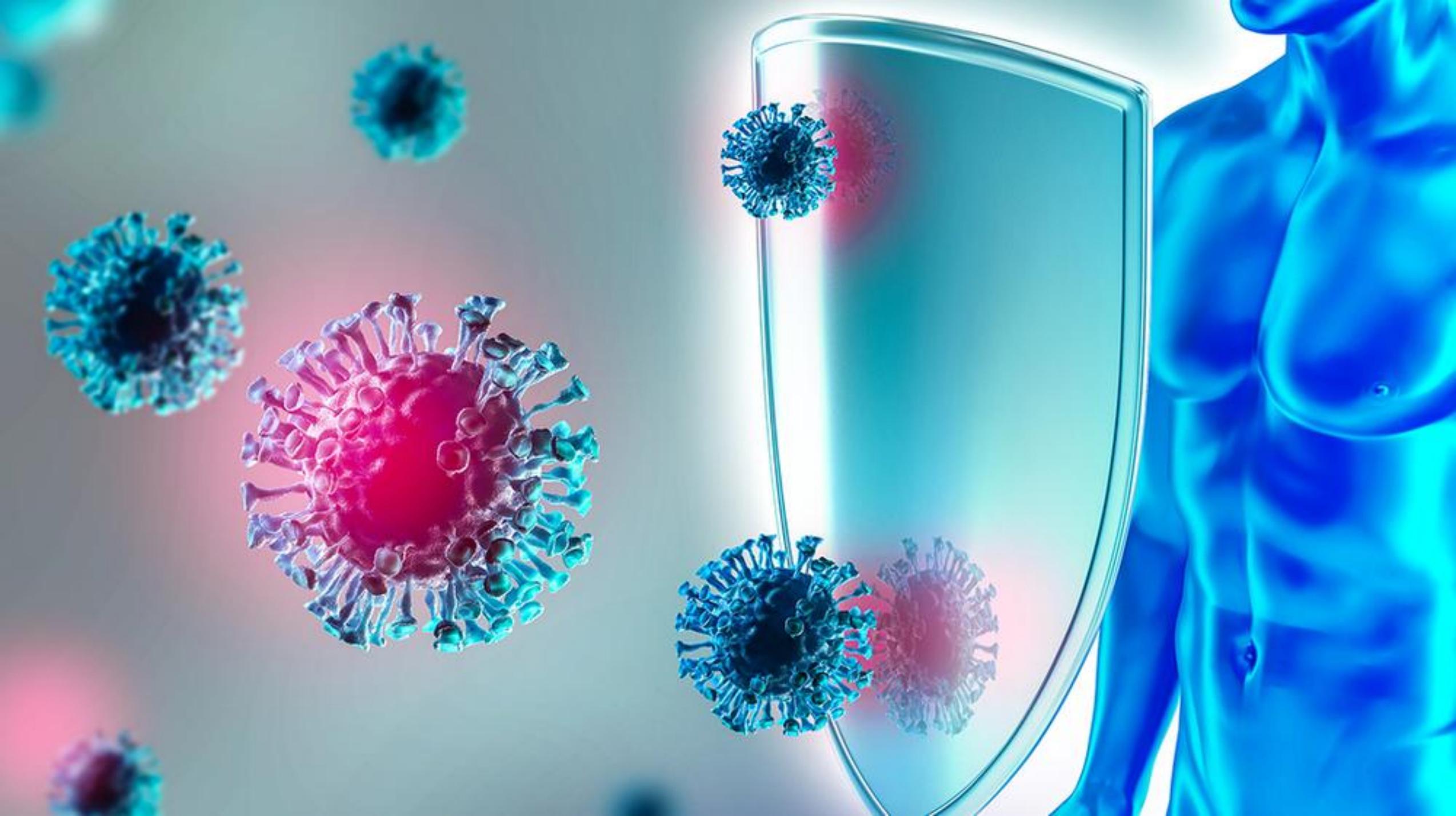
KUKRI  
WILSON  
ENGLAND ATHLETICS

901











GOOD  
FOOD

=

GOOD  
MOOD





# INTRO INTO 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

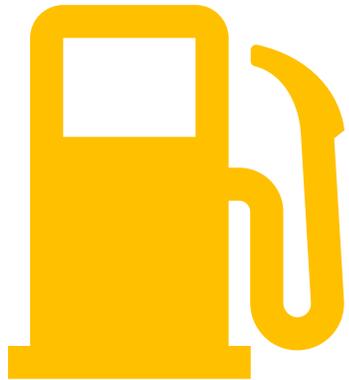
VITAMIN &  
MINERALS

0 KCAL

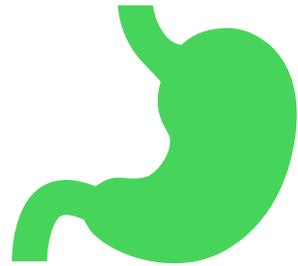
# CARBS



# ROLES OF CARBS



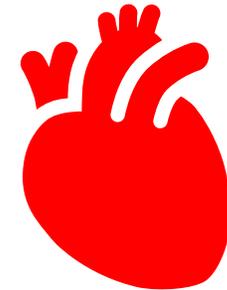
**MUSCLE  
ENERGY  
SOURCE**



**HEALTHY  
DIGESTION**



**PROVIDES  
BRAIN  
ENERGY**



**REGULATE  
BLOOD  
SUGAR**

## SIMPLE SUGARS

Glucose, lactose & fructose

(help to release energy quickly, spikes blood sugar)

## COMPLEX CARBS

Starches & fiber

(help to slow energy & control blood sugar)

# HIGH CARB FOODS





**HOW MANY CARBS  
DO YOU NEED?**

# HOW ARE CARBS STORED?



**~500 g**

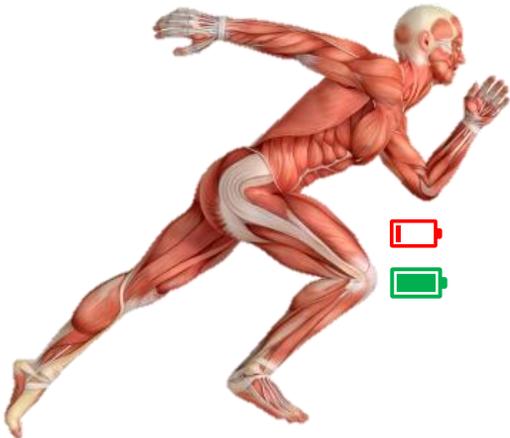
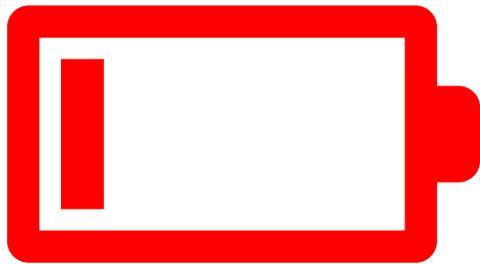


**~100 g**

# CHARGE YOUR MUSCLES



**THINK OF YOUR MUSCLES AS BATTERIES, CARBS  
CHARGE YOUR MUSCLES**



**MORE ACTIVITY = MORE CARBS**

# TYPES OF CARB



SIMPLE



COMPLEX



- Quickly digesting sugars
- Fast energy source
- Typically less nutrient dense

- Slow digesting carbs
- Steady energy, control blood sugar
- Typically more nutrient dense



**HIGHER**  
**LOWER**

A large red arrow pointing downwards, originating from the bottom of the letter 'R' in the word 'LOWER'.

# THE RULES



**You are voting for the food that is highest in carbohydrates**

**TOP TIP: Look at the quantity of the foods, is that a normal quantity of that food?**

**TO VOTE:**

**Stand up if the you think the food on the left has more carbohydrates**

**Stay sitting if you think the food on the right has more carbohydrates**

**Once you're out you're out!!!**

# ROUND 1



## 1 chicken breast

(stand up)



0 grams

## 1 wrap

(sit down)



30 grams

# ROUND 2



## 1 wrap

(stand up)



30 grams

## 2 weetabix

(sit down)



26 grams

# ROUND 3



## 1 wrap

(stand up)



30 grams

## 1 wholemeal wrap

(sit down)



27 grams

# ROUND 4



# 1 wholemeal wrap 100 ml lucozade

(stand up)

(sit down)



27 grams

# ROUND 4



1 wholemeal wrap 100 ml lucozade

(stand up)

(sit down)



27 grams

6 grams

# ROUND 5



# 100 ml lucozade

(stand up)



6 grams

# 1 jaffa cake

(sit down)



8 grams

# ROUND 6



## 500 ml lucozade

(stand up)



30 grams

## 1 banana

(sit down)



20 grams

# ROUND 7



# 1 banana

(stand up)



20 grams

# 1 bag of rice

(sit down)



62 grams



# BONUS ROUND

# BONUS ROUND



How many grams of  
carbohydrates in 100  
grams of grapes

# BONUS ROUND



17 grams

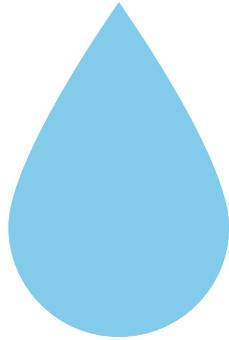


**PROTEIN**

# ROLES OF PROTEIN



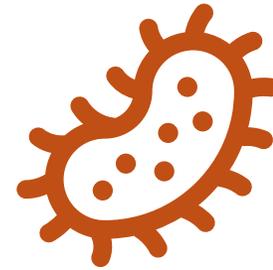
**DEVELOP  
MUSCLES**  
(growth &  
repair)



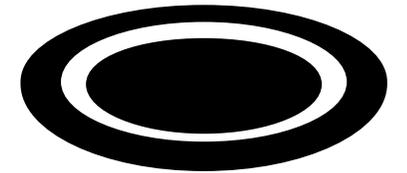
**MAINTAIN  
BODY PH  
LEVELS**



**SUPPORT  
IMMUNE  
FUNCTION**



**METABOLISM**



**MAINTAIN  
SATIETY**

**11 Non-essential amino acids**  
(the body can make these themselves)

**9 essential amino acids**  
(must come from food)



## INCOMPLETE PROTEINS

## COMPLETE PROTEINS



**PLANT BASED SOURCES**  
I.E. legumes, grains, nuts, seeds  
(Mix and match to get all amino acids)

**ANIMAL PRODUCTS**  
I.E. meat, fish, soy products



# **FEMALE SPECIFIC CONSIDERATIONS**



## Menstrual cycle

A small number of studies have suggested that there is a small increase in protein utilization at rest and during exercise during the luteal phase of the menstrual cycle.



## Bone health

Protein plays an important role in optimizing bone health in female athletes [see 'Bone Health' for more information].



## Menopause

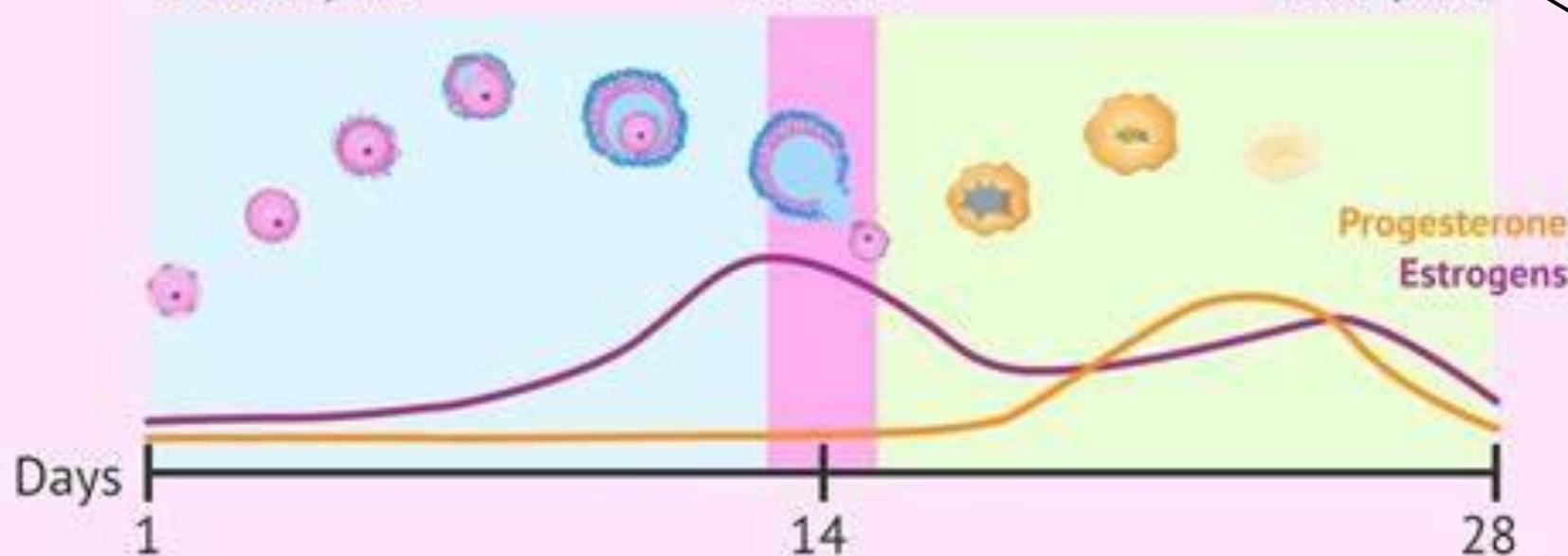
Protein is a key dietary component during peri-menopause and post-menopause in order to help maintain skeletal muscle mass.



Follicular phase

Ovulation

Luteal phase



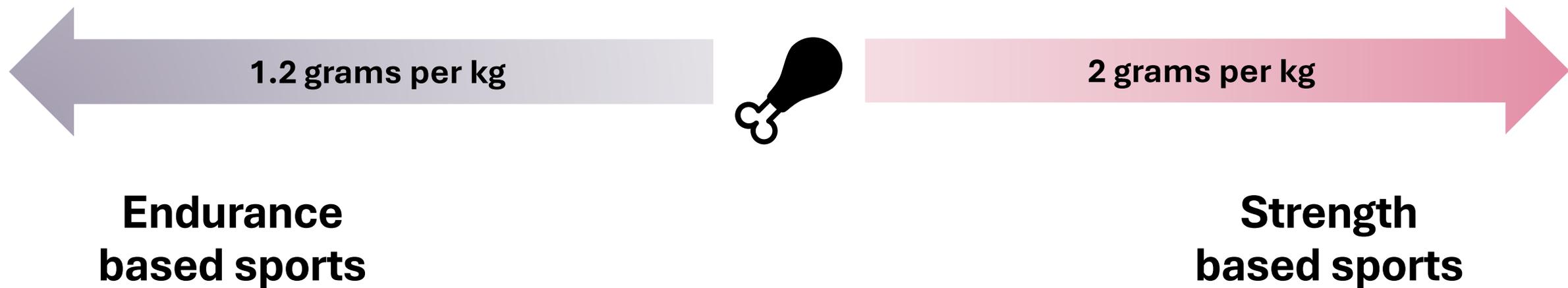
**Higher protein utilisation at rest & during exercise...**



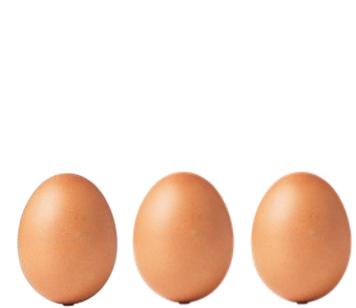
# HOW MUCH PROTEIN DO YOU NEED?



**Athletes require more protein to support adaptation and muscle repair in response to training & exercise. It is recommended that athletes protein targets should be between 1.2 grams /kg BW and 2 grams / kg BW**



# PRACTICAL APPLICATION



3 EGGS

Protein = 25g



1 yoghurt pouch

Protein = 20g



1 tin of tuna

Protein = 27g



1 serving of  
mixed nuts

Protein = 7g



1 chicken breast

Protein = 28g



1 pint of milk

Protein = 20g

BREAKFAST

07:30

MORNING  
SNACK

10:00

LUNCH

12:30

AFTERNOON  
SNACK

10:00

DINNER

18:30

PRE-BED  
SNACK

21:00

**TOTAL: 127 grams of protein**

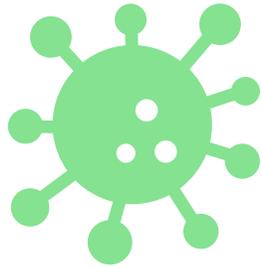
# FATS



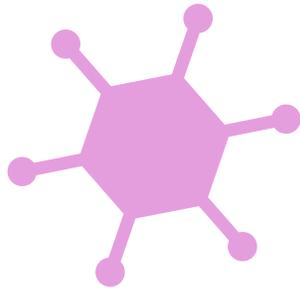
# ROLES OF FATS



**ENERGY  
SOURCE**



**CELLULAR  
STRUCTURE**



**HORMONE  
PRODUCTION**



**VITAMIN  
ABSORPTION**



**PROTECTION**

# TYPES OF FATS



## UNSATURATED FATS

Found in foods like nuts, avocado, olive oil, fatty fish, flaxseeds

Choose these options most often when trying to get your dietary fat, however consider portion sizes to prevent excessive calories

ANTI-INFLAMMATORY

**PRIORITISE**



## SATURATED FATS

Found in animal products such as meat, dairy & eggs

These foods are important in your diet however you should be aware of portion sizes to ensure intake levels are safe

IMPORTANT FOR CELL STRUCTURE

**MODERATION**



## TRANS FATS

Found in takeaways, processed & ultra processed foods, cakes, pastries & fried foods

You should try to avoid / limit the amount of trans fats in your diet due to the effects they have on your overall health including raising cholesterol levels, increased risk of cardiovascular disease & increasing inflammation

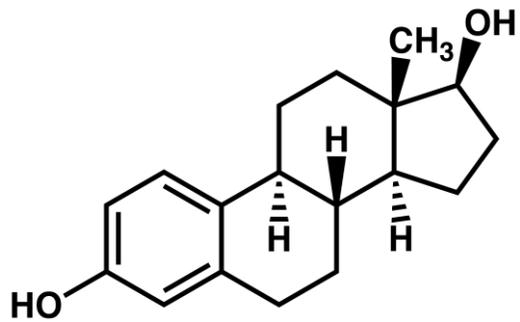
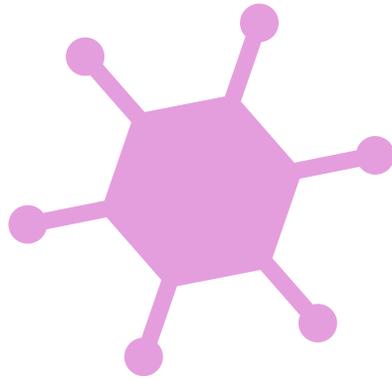
NO HEALTH BENEFITS

**LIMIT / MINIMISE**

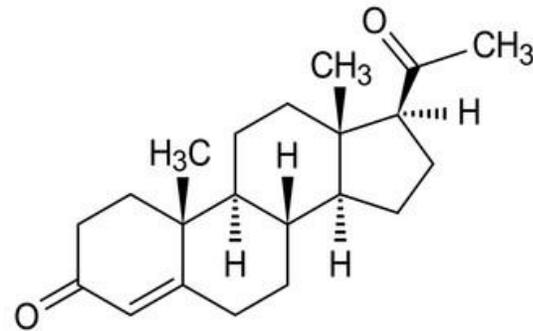


# **FEMALE SPECIFIC CONSIDERATIONS**

# HORMONE PRODUCTION



estrogen



progesterone

Fats play a pivotal role in the production of estrogen and progesterone, two hormones critical to female physiology.

Specialized cells, primarily in the ovaries and adrenal glands, convert fat into these hormones.

These hormones are vital in regulating various aspects of the menstrual cycle, reproductive health, and overall well-being in females, highlighting the essential role of dietary fats in hormonal balance and female physiology

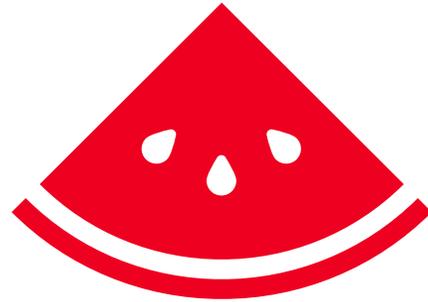


# VITAMINS & MINERALS

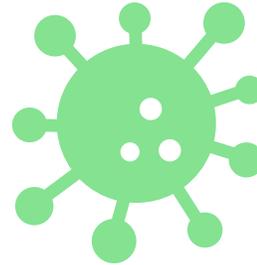
# ROLE OF MICRONUTRIENTS



**INVOLVED IN  
ENERGY  
PRODUCTION**



**SUPPORT  
IMMUNE  
FUNCTION**



**PROTECT  
CELLS**



**KEEP FIT &  
HEALTHY**

Females are at risk of low iron more than males

Calcium is another key micronutrient that is essential to your bone health!

# INTERACTIVE TASK



England athletics quiz parents



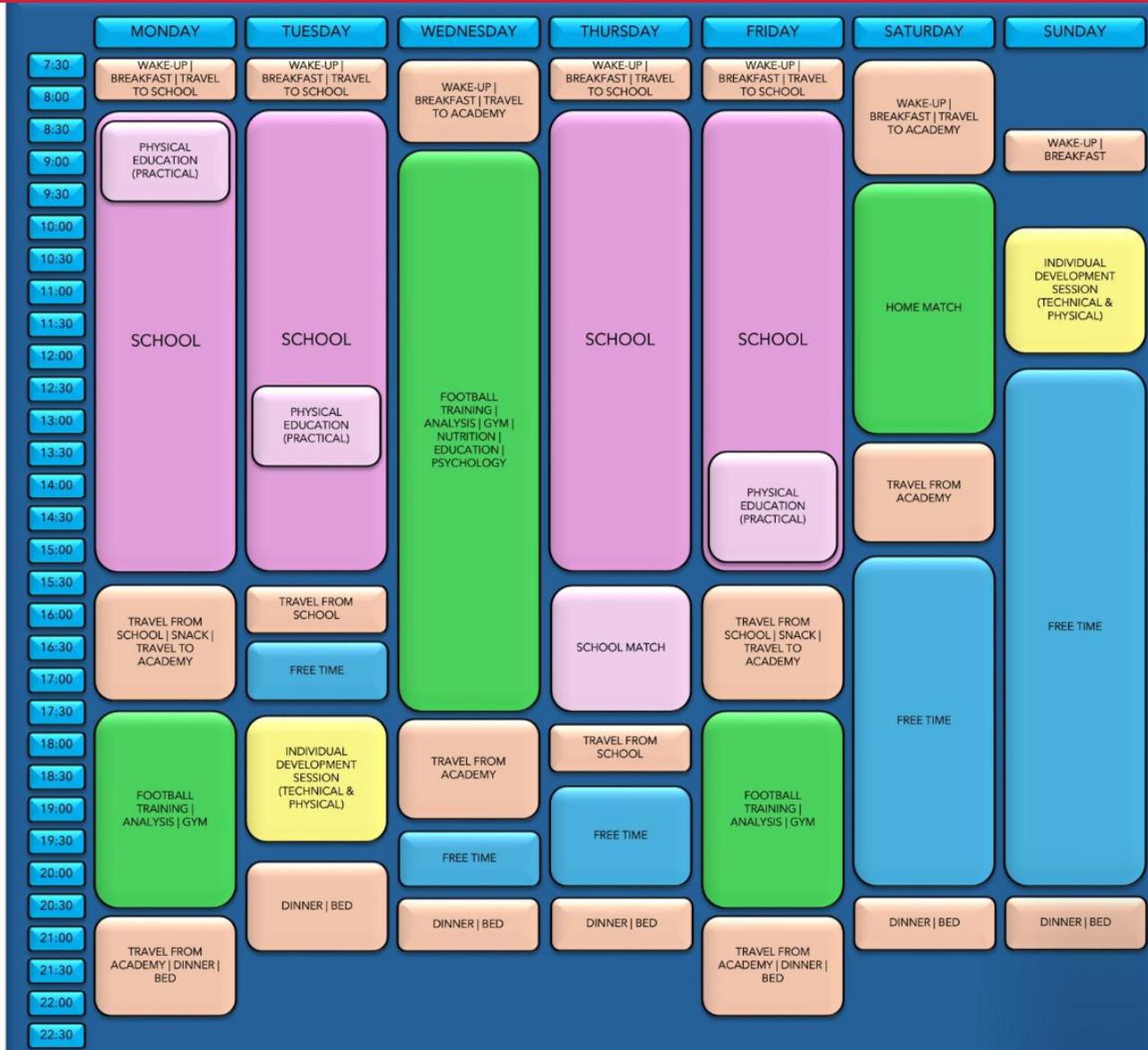
## SUMMARY QUIZ



# NUTRITION FOR 24/7 ATHLETE

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
7:30	WAKE-UP   BREAKFAST   TRAVEL TO SCHOOL	WAKE-UP   BREAKFAST   TRAVEL TO SCHOOL	WAKE-UP   BREAKFAST   TRAVEL TO ACADEMY	WAKE-UP   BREAKFAST   TRAVEL TO SCHOOL	WAKE-UP   BREAKFAST   TRAVEL TO SCHOOL	WAKE-UP   BREAKFAST   TRAVEL TO ACADEMY	
8:00							WAKE-UP   BREAKFAST
8:30	PHYSICAL EDUCATION (PRACTICAL)						
9:00	SCHOOL	SCHOOL	FOOTBALL TRAINING   ANALYSIS   GYM   NUTRITION   EDUCATION   PSYCHOLOGY	SCHOOL	SCHOOL	HOME MATCH	INDIVIDUAL DEVELOPMENT SESSION (TECHNICAL & PHYSICAL)
9:30							
10:00							
10:30							
11:00							
11:30							
12:00							
12:30							
13:00							
13:30							
14:00					PHYSICAL EDUCATION (PRACTICAL)		
14:30						TRAVEL FROM ACADEMY	
15:00							FREE TIME
15:30							
16:00	TRAVEL FROM SCHOOL   SNACK   TRAVEL TO ACADEMY	TRAVEL FROM SCHOOL			TRAVEL FROM SCHOOL   SNACK   TRAVEL TO ACADEMY		
16:30		FREE TIME		SCHOOL MATCH			
17:00							
17:30							
18:00	FOOTBALL TRAINING   ANALYSIS   GYM	INDIVIDUAL DEVELOPMENT SESSION (TECHNICAL & PHYSICAL)	TRAVEL FROM ACADEMY	TRAVEL FROM SCHOOL	FOOTBALL TRAINING   ANALYSIS   GYM	FREE TIME	
18:30							
19:00							
19:30							
20:00			FREE TIME	FREE TIME			
20:30		DINNER   BED		DINNER   BED		DINNER   BED	
21:00			DINNER   BED	DINNER   BED		DINNER   BED	
21:30	TRAVEL FROM ACADEMY   DINNER   BED				TRAVEL FROM ACADEMY   DINNER   BED		
22:00							
22:30							

# NUTRITION FOR 24/7 ATHLETE

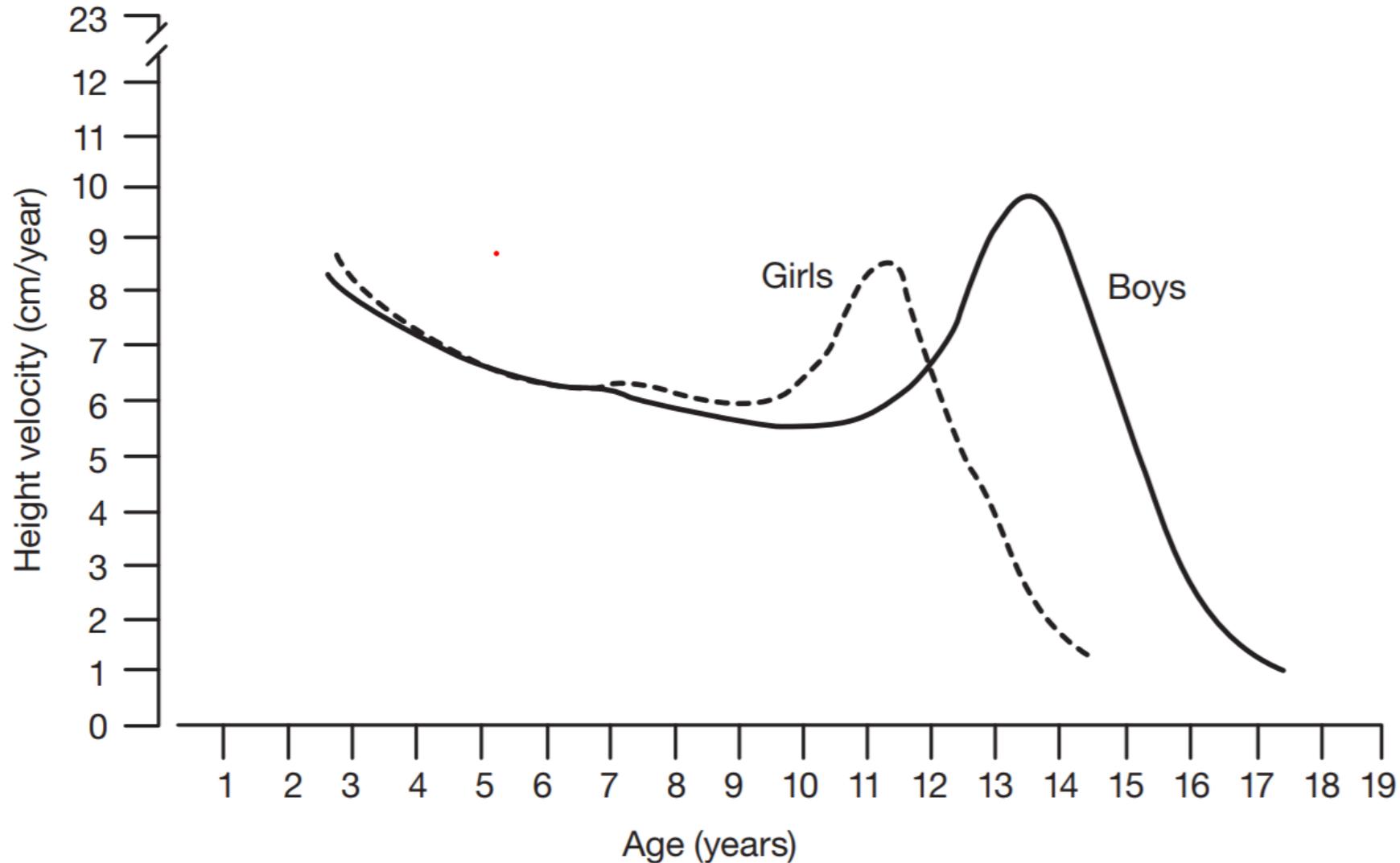


An example time table for student athlete

## Key takeaways

- 1 – How much time do the athletes spend in the cars travelling?
- 2 - The negative impact on nutrition due to the inconvenient eating times
- 3 – The length of day for the athlete

# NUTRITION FOR 24/7 ATHLETE



Your athlete could still be growing using even more energy...



~35000

Females, slightly less at ~30000

# CONCERNS



**Low energy availability (LEA)** Energy availability refers to the amount of energy available for bodily physiological and homeostatic processes to function properly, after accounting for the energy expended through exercise (i.e., exercise energy expenditure). Many athletes expend large amounts of energy on a daily basis through undertaking intense training loads. It is important that athletes consistently meet their energy needs to ensure that their body has sufficient energy available to carry out fundamental physiological processes that are important for health, as well as to support their exercise demands. If an athlete's body consistently does not have enough energy left after exercise to support fundamental physiological functions, this can result in what is known as 'low energy availability' (LEA). LEA is the underlying cause of the conditions known as Relative Energy Deficiency in Sport (REDs) and the Female Athlete Triad.

# SIGNS, RISKS & CONSEQUENCES OF LEA



 <p>Menstrual irregularities or complete loss of menstrual cycle</p>	 <p>Chronic dietary restriction and/or extreme dieting</p>	 <p>History of bone stress injuries</p>
 <p>Low bone mineral density</p>	 <p>Poor recovery between training sessions</p>	 <p>Clinically diagnosed depression and/or anxiety</p>
 <p>Lack of ovulation</p>	 <p>Urinary incontinence</p>	 <p>Gastrointestinal symptoms at rest/during exercise</p>
 <p>Reduced or low resting metabolic rate</p>	 <p>Sleep disturbances</p>	 <p>Increased stress or anxiety</p>
 <p>Exercise dependence/addiction</p>	 <p>Difficulty concentrating</p>	 <p>Perfectionist tendencies</p>
 <p>Frequent injuries</p>	 <p>Training inconsistencies</p>	 <p>Constant fatigue</p>

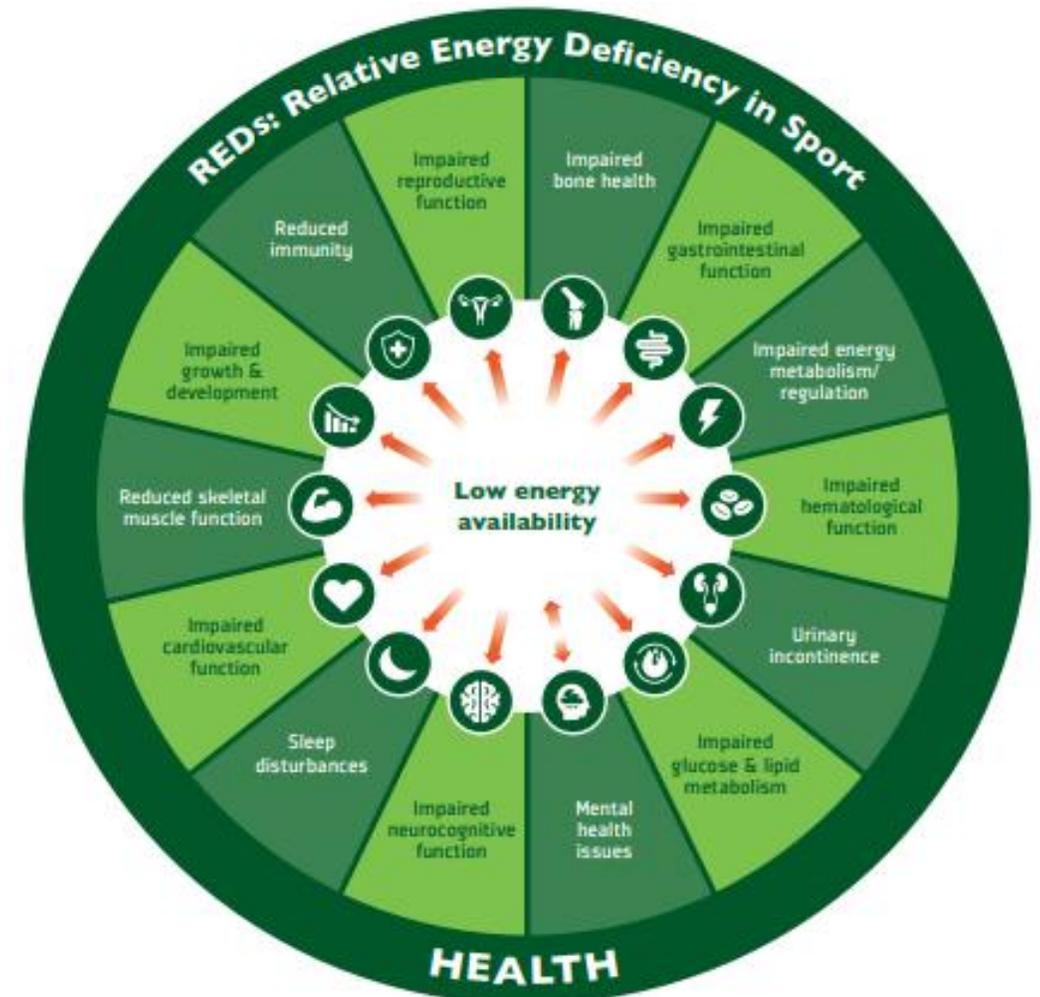
# SIGNS, RISKS & CONSEQUENCES OF LEA



Effects on performance



Effects on health



# THIS IS NOT A DIET FIT FOR AN ATHLETE



Simple carbohydrates

Low protein intake throughout the day

Low fiber foods

Poor hydration practices

High saturated / trans fat intake

Inconsistent meal timings

Lack of fruit & veg

Lacks moderation

# THIS IS



**Fuel training with  
carbs**

**Consistent protein  
throughout the day**

**High nutrient  
density**

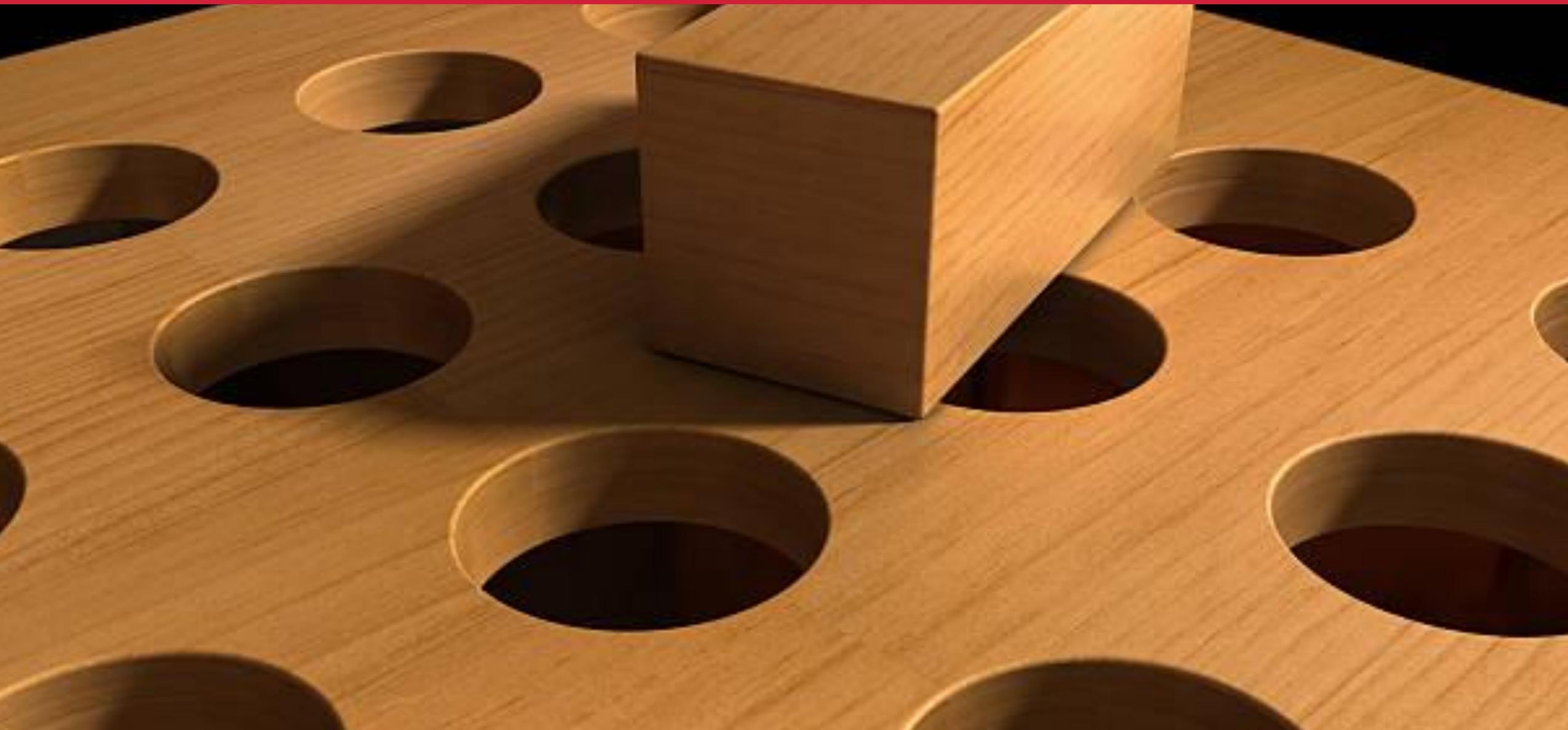
**Ensures optimal  
hydration**

**Uses unsaturated  
fats to aid recovery**

**Uses simple sugars  
to fuel high intensity**

**Eats the rainbow of  
fruit and veg**

**Structured**





# **PRACTICAL EXAMPLES...**

**What can you do?**



# PIT STOP SNACK



# PIT STOP SNACK AIMS



Increase energy pre-training

Simple carbs to provide energy quickly in a short turn-around



# PIT STOP SNACK EXAMPLES



## Grab & go carb snacks pre-training





# PRACTICAL EXAMPLES



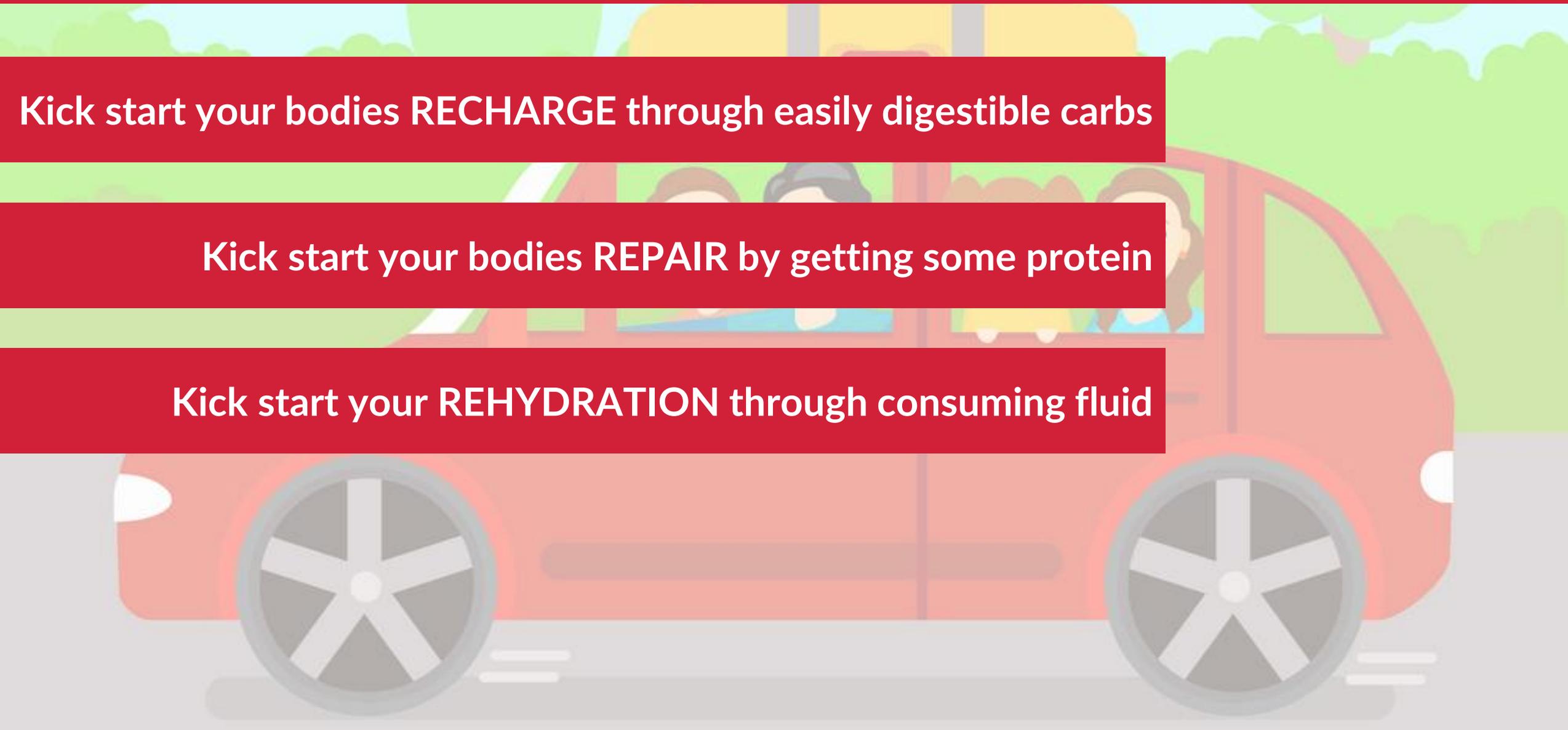
# TRAVEL HOME AIMS



Kick start your bodies RECHARGE through easily digestible carbs

Kick start your bodies REPAIR by getting some protein

Kick start your REHYDRATION through consuming fluid



# PRACTICAL EXAMPLES



## TO HAVE ON THE WAY HOME — snack items to kick start recovery



# PRACTICAL EXAMPLES



# AT HOME AIMS

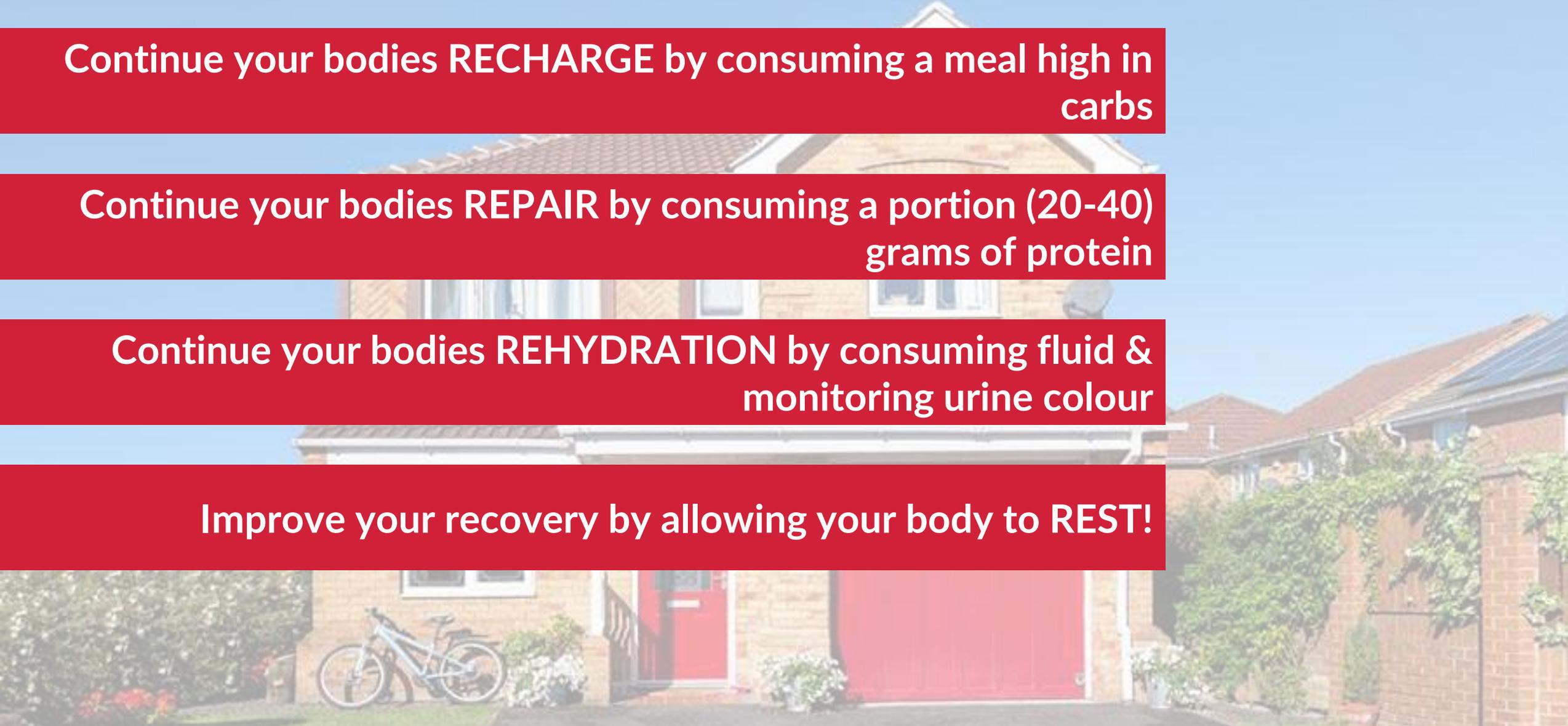


Continue your bodies RECHARGE by consuming a meal high in carbs

Continue your bodies REPAIR by consuming a portion (20-40) grams of protein

Continue your bodies REHYDRATION by consuming fluid & monitoring urine colour

Improve your recovery by allowing your body to REST!



# PRACTICAL EXAMPLES



**MAIN MEAL AT HOME**— More substantial meals to facilitate optimal recovery



**THERES NO RIGHT OR WRONG, SOMETHING THAT CONTAINS CARBS & PROTEIN. CONTINUE WITH REHYDRATION ASPECT OF RECOVERY TOO**

# PRACTICAL EXAMPLES



## TIPS TO HELP PREPARE FOOD AT HOME



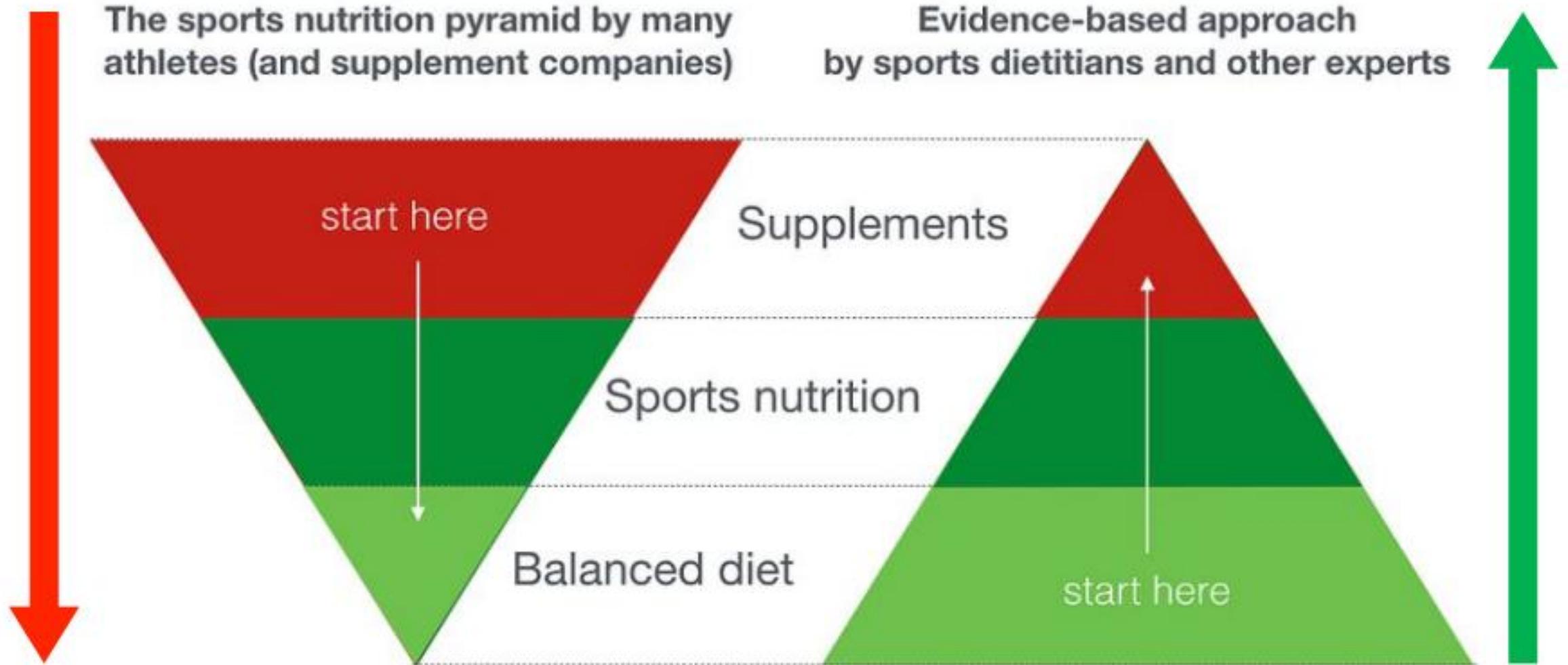
[How to use your freezer better - BBC Food](#)

**FUELHUB**





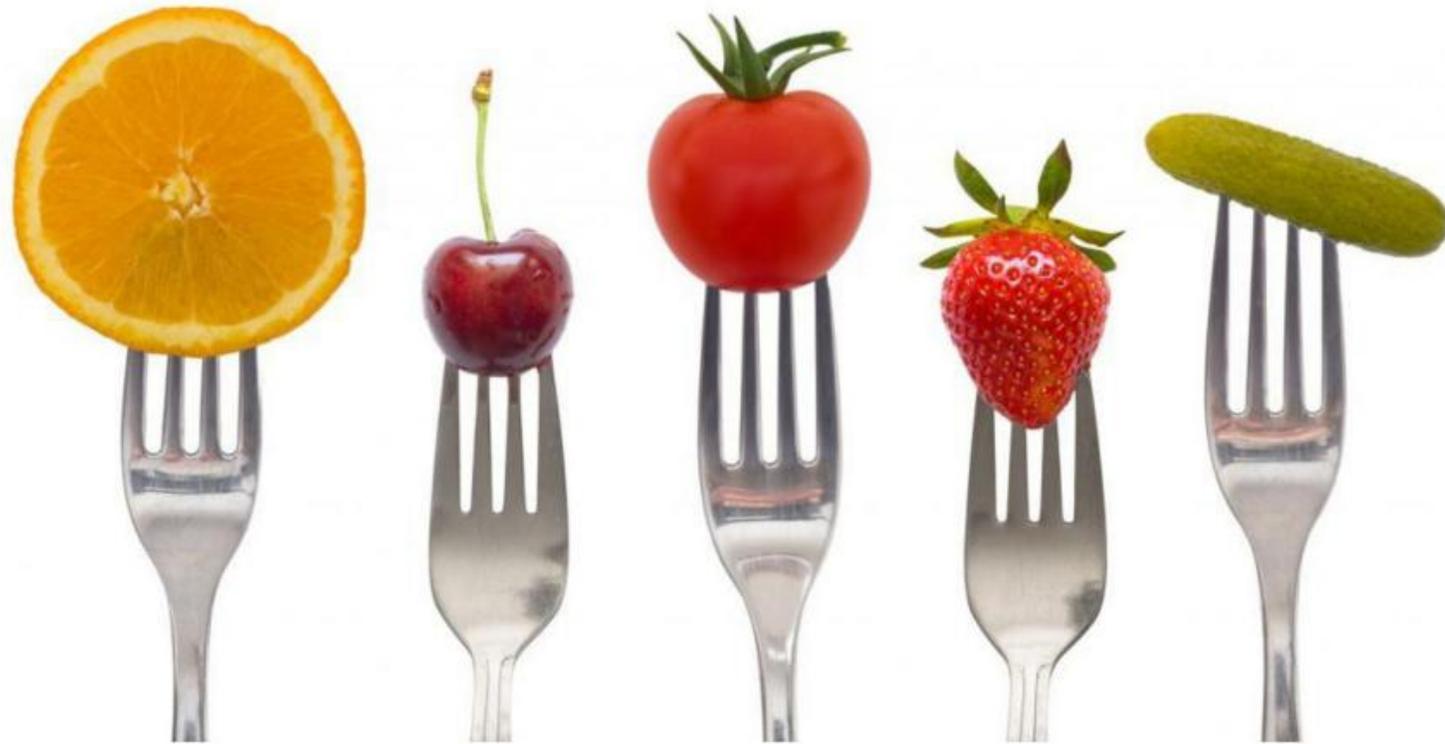
# DO YOU NEED SUPPLEMENTS



# DO YOU NEED SUPPLEMENTS



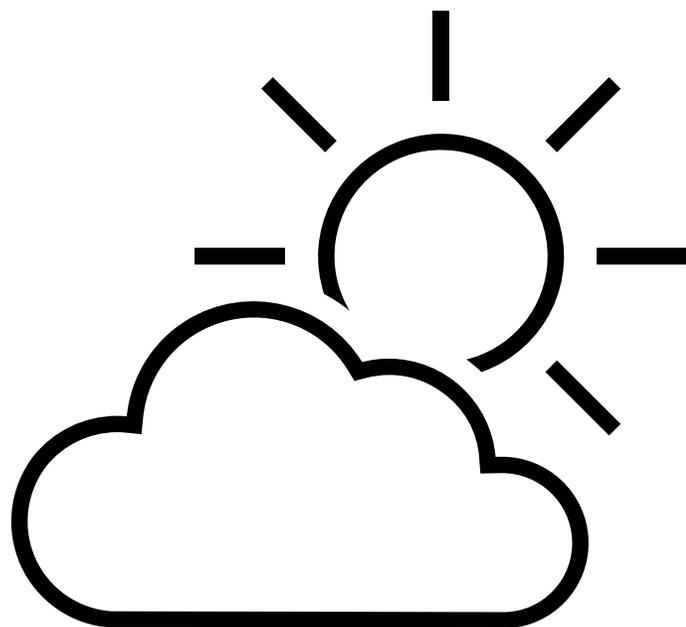
# DO YOU NEED SUPPLEMENTS



“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

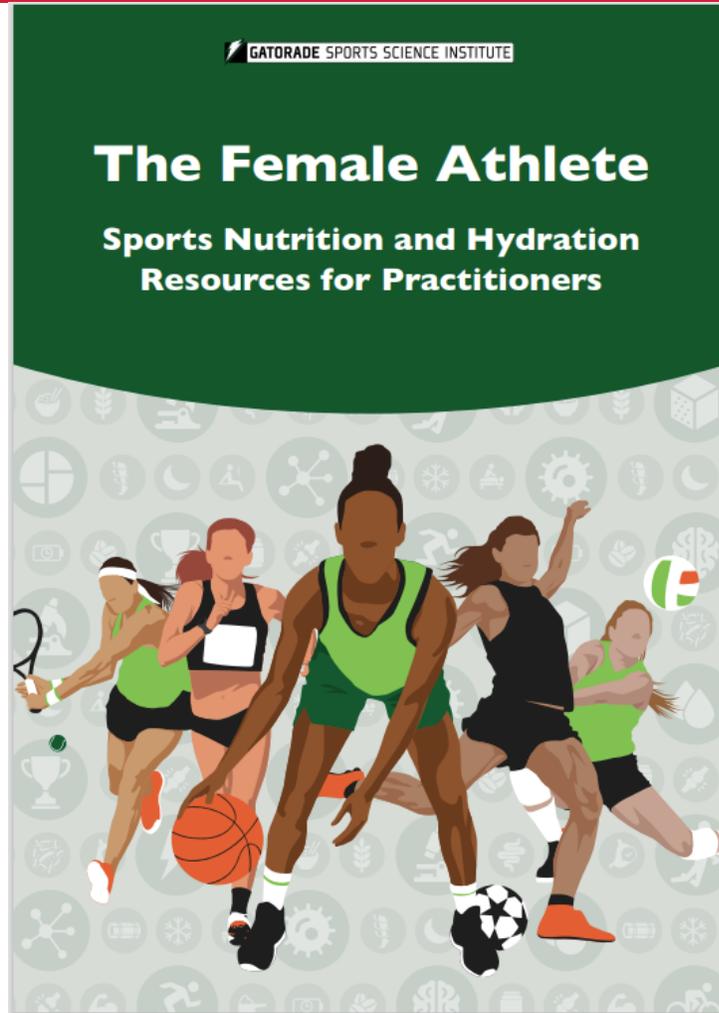


Informed sport supplements:  
Elite healthspan



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

# EXTRA RESOURCES



This resource has a lot of nutrition information that we have covered in this talk and much more. Whilst it says for the female athlete, it is applicable for all athletes with clear female considerations made in each section.

[sports-nutrition-hydration-female-athletes-full-book.pdf](#)

# SESSION FEEDBACK



England athletics parents feedback



Please scan the  
code and leave  
some feedback

ANY  
QUESTIONS?



Thank you