INTRODUCTION TO SPORTS NUTRITION

ATHLETE QUESTIONS

What are the 3 macronutrients?

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?

You have 30 minutes until your training, can you choose a snack you could have & describe why?

Can you identify why fats are an important part of your diet?

What is one area of your nutrition you are going to look to improve over the next few weeks?

What are the 4’R’s of recovery?

Can you name some micronutrients?

After your session, on your way home, what could you get from the shop to help kickstart your recovery?

WHO AM I?


LOUGHBOROUGH COLLEGE
H E Centre

AIMS

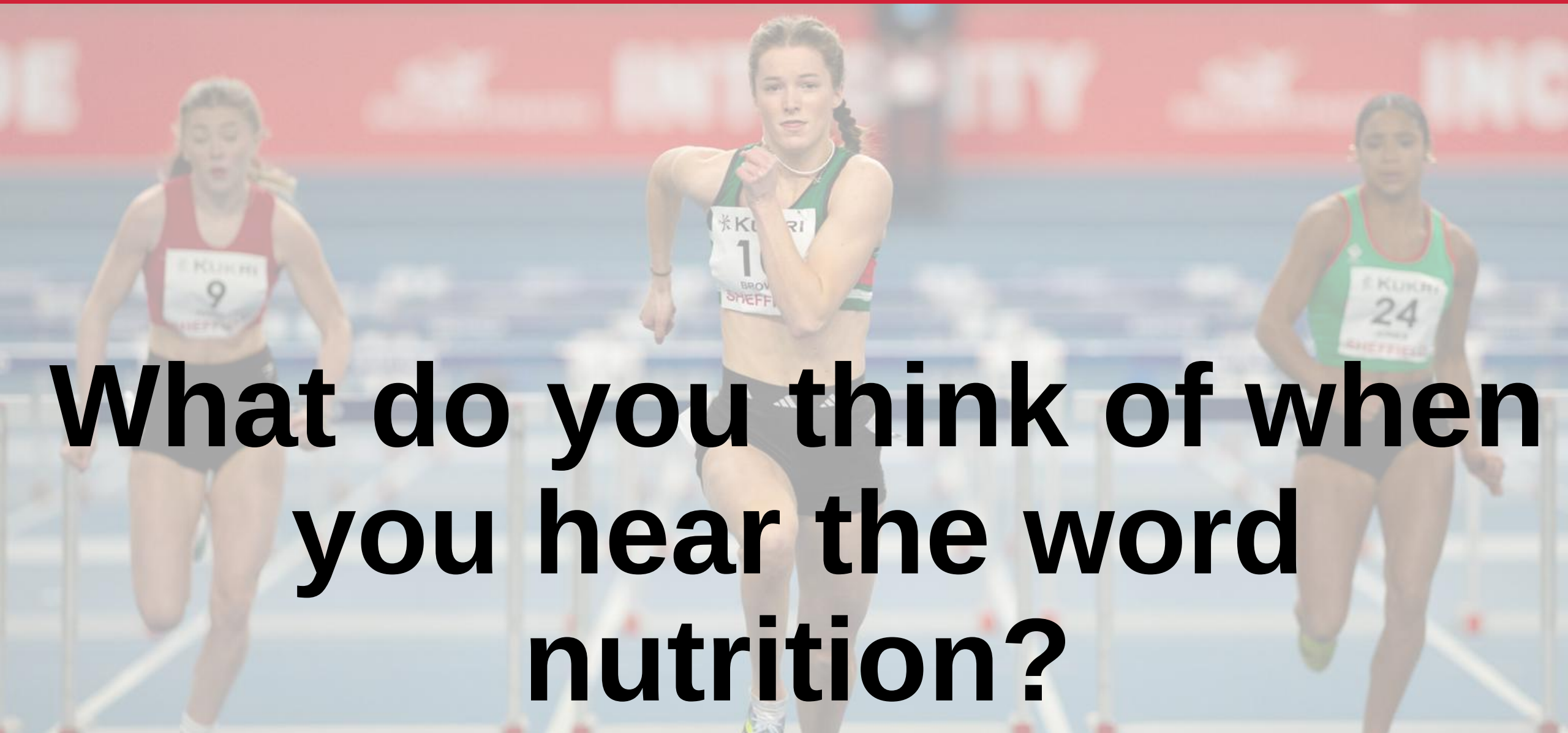
Understand why nutrition is important

Introduce the 3 macronutrients

Fuelling like an athlete

Introduction to the DiSE nutrition module

QUESTION



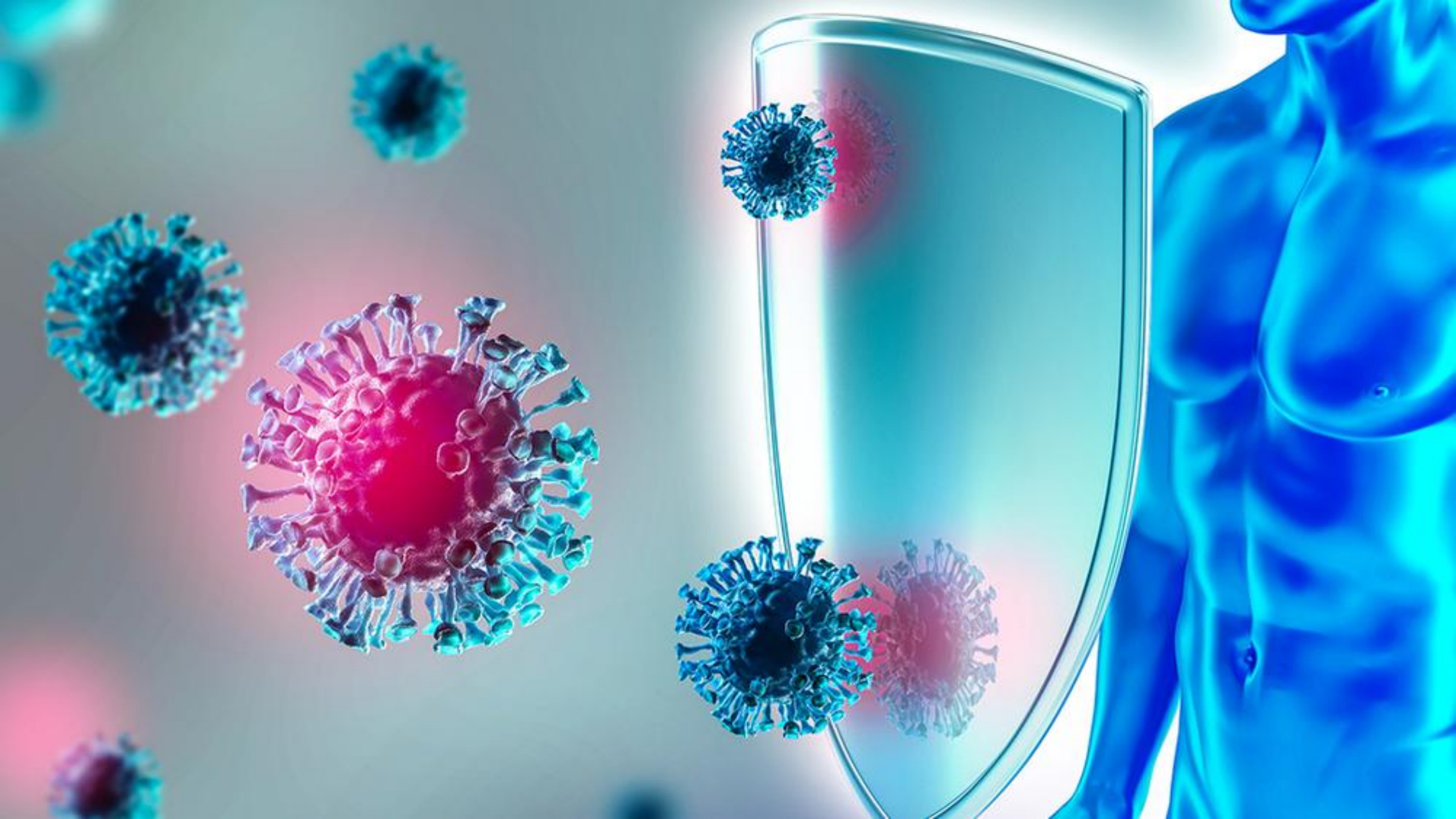
What do you think of when you hear the word nutrition?

PART 1:

WHY NUTRITION IS IMPORTANT?


KUKRI
434
WILSON
ENGLAND ATHLETICS
901


16.5lb
7.5kg
5kg
11lb



GOOD FOOD = GOOD MOOD

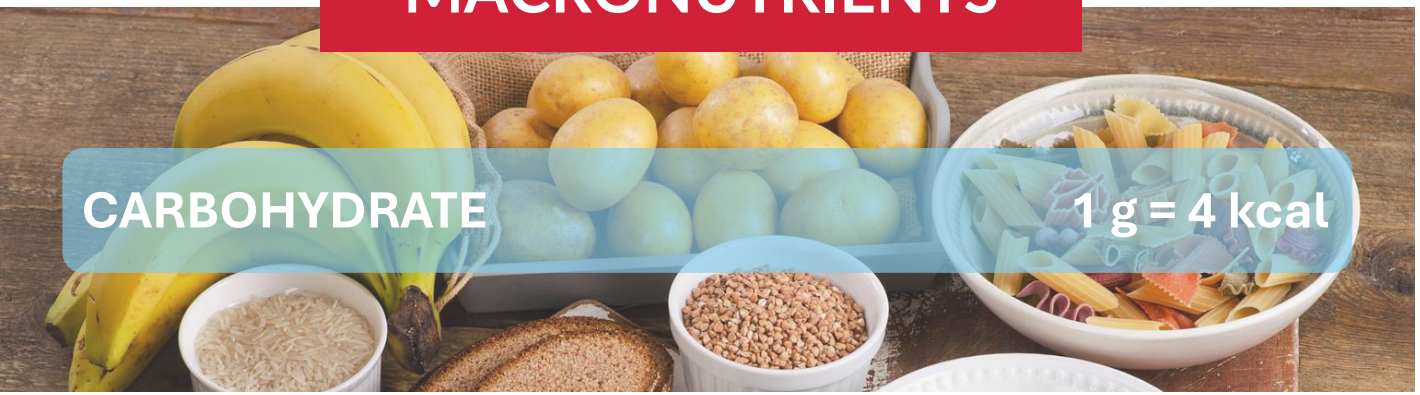
PART 2:

DO YOU KNOW THE 3 MACRONUTRIENTS?

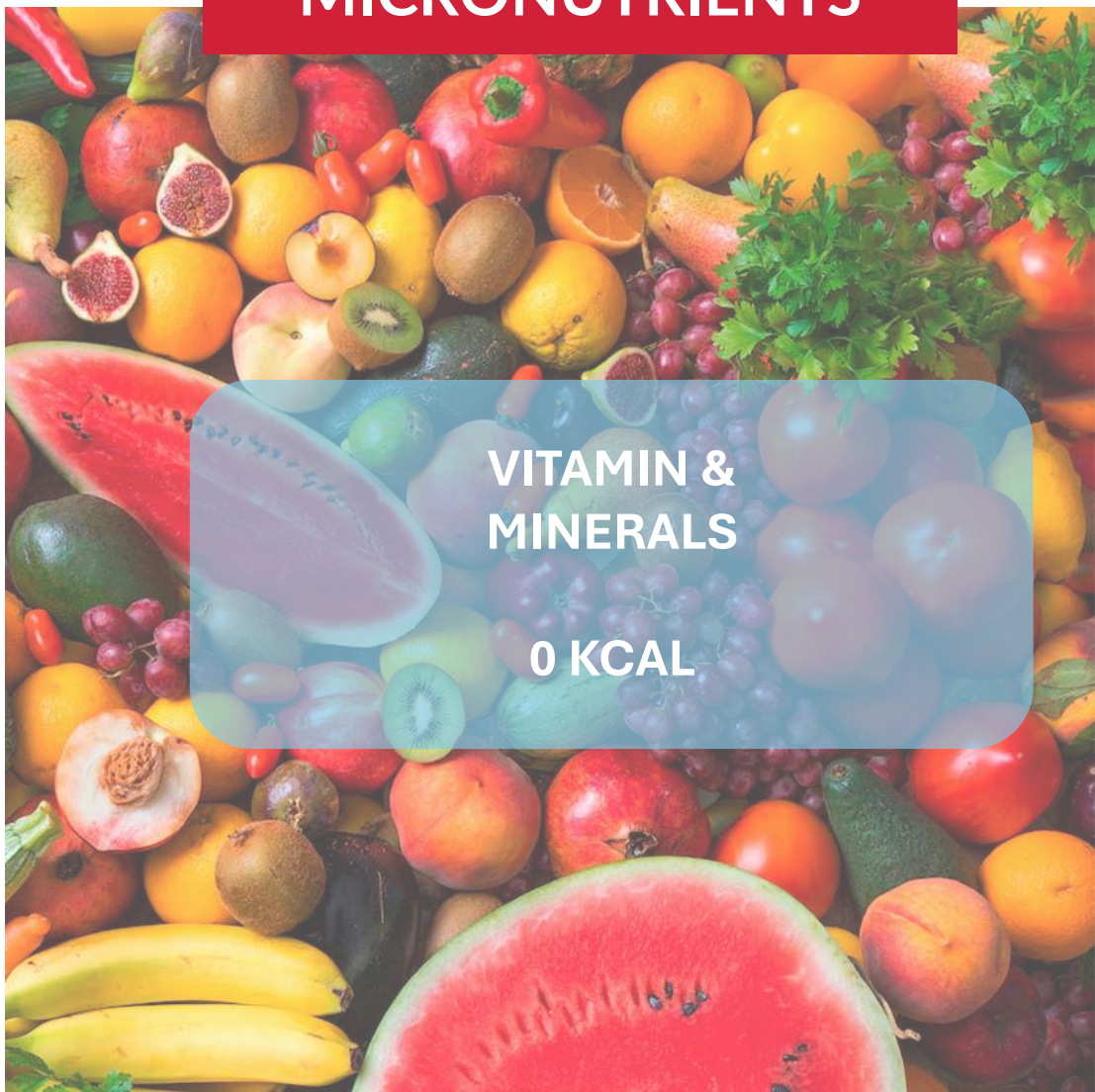
(And what they do?)

MACRONUTRIENTS

MACRONUTRIENTS



MICRONUTRIENTS



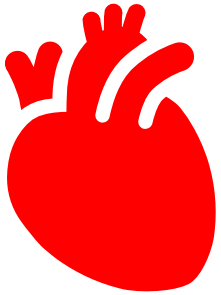
CARBS

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

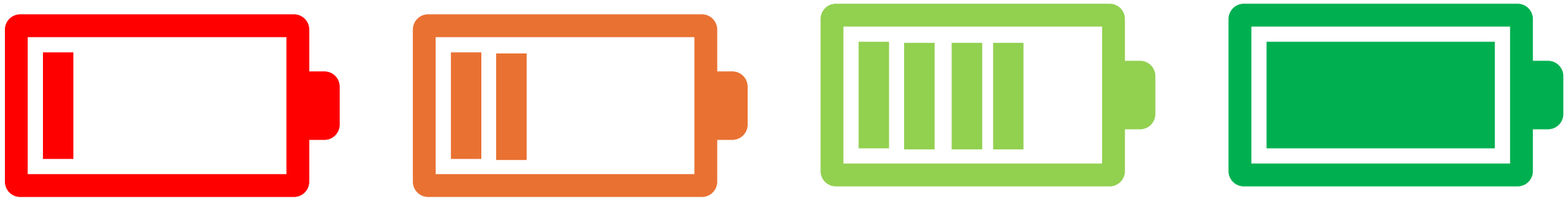
Starches & fiber
(help to slow energy & control blood sugar)

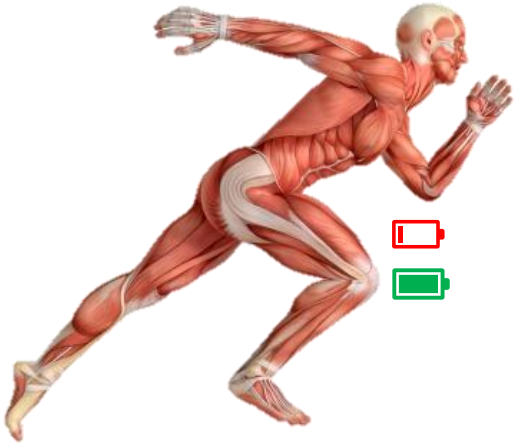
HIGH CARB FOODS

HOW MANY CARBS DO YOU NEED?

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

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

(stand up)

27 grams

100 ml lucozade

(sit down)

ROUND 4

1 wholemeal wrap

(stand up)

27 grams

100 ml lucozade

(sit down)

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 carbhydrates in 100 grams of grapes

BONUS ROUND

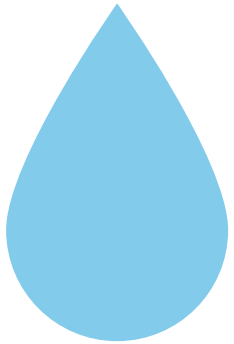
17 grams


PROTEIN

ROLES OF PROTEIN

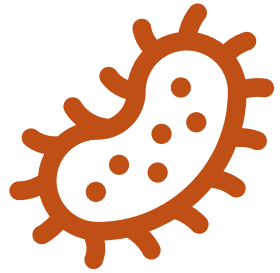
DEVELOP MUSCLES

(growth & repair)

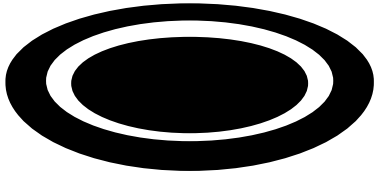


MAINTAIN BODY PH LEVELS

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

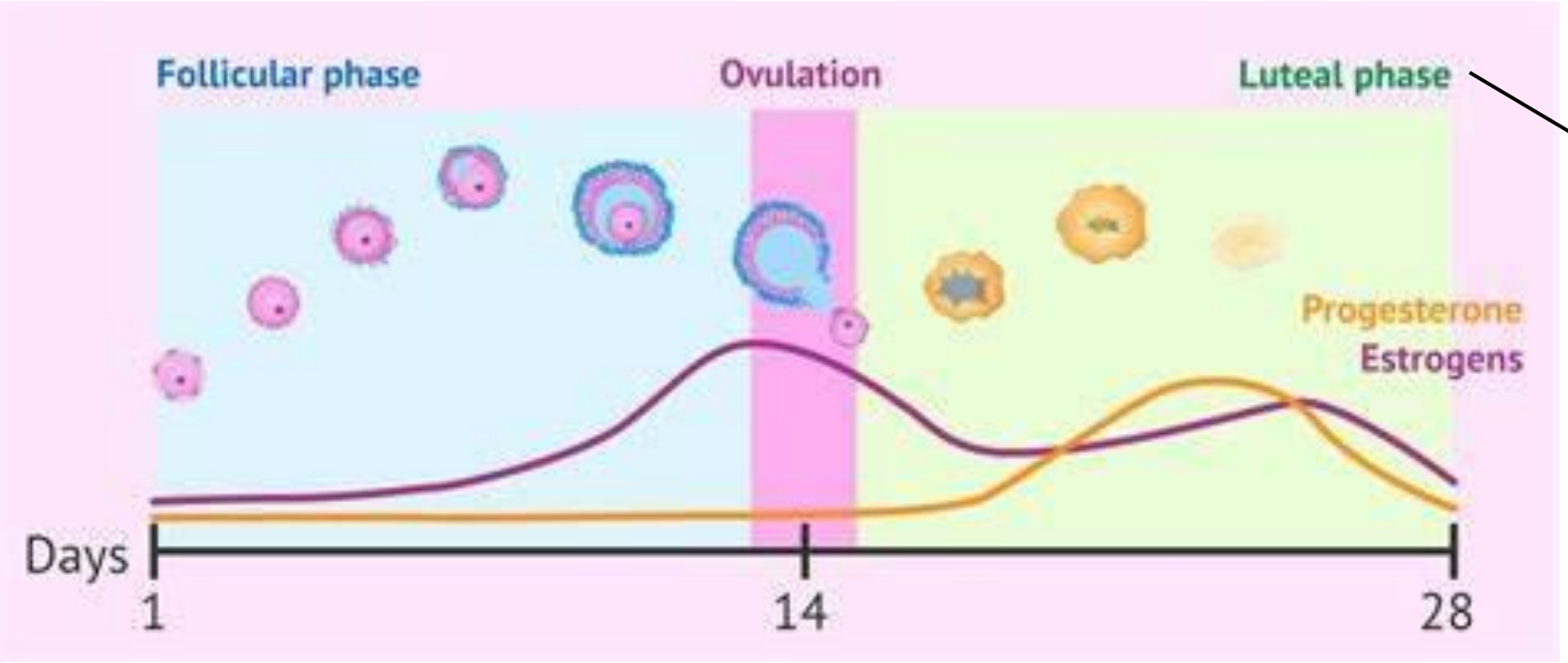
A small number of studies have suggested that there is a small increase in protein utilization at rest and during exercise during the luteal phase of the menstrual cycle.

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.

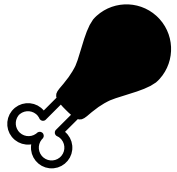


Higher protein utilisation at rest & during exercise...

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

1.2 grams per kg

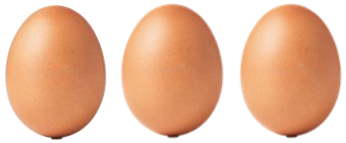


2 grams per kg

Endurance based sports

Strength based sports

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

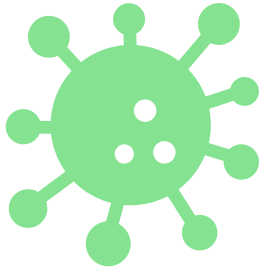
21:00

TOTAL:127 grams of protein

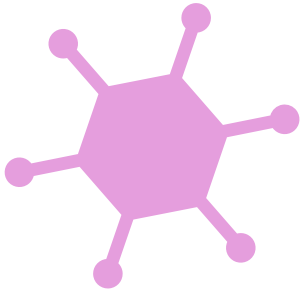
FATS

ROLES OF FATS

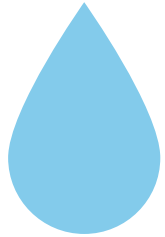
ENERGY SOURCE



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

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

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

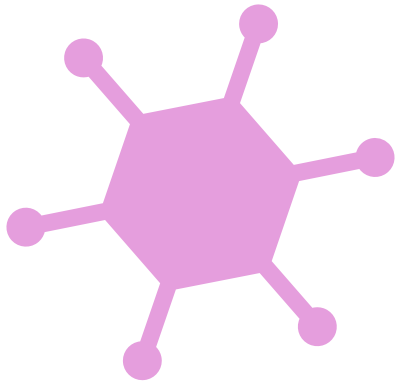
PRIORITISE

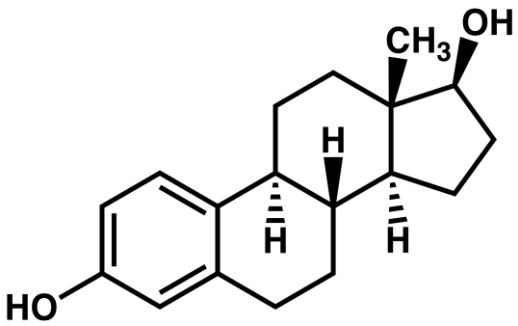
MODERATION

LIMIT / MINIMISE

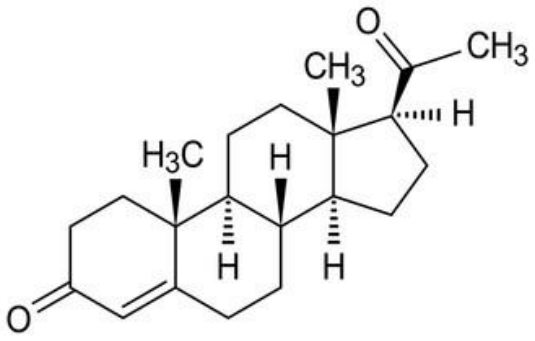
FEMALE SPECIFIC CONSIDERATIONS

HORMONE PRODUCTION





estrogren



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.

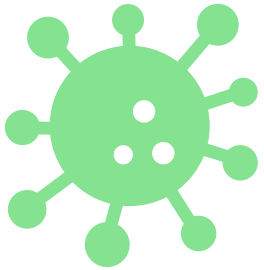
These hormones are vital in regulating various aspects of the menstrual cycle, reproductive health, and overall well-being in females, highlighting the essential role of dietary fats in hormonal balance and female physiology

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

SUMMARY QUIZ

PART 3:

FUELLING LIKE AN ATHLETE

What can you do?

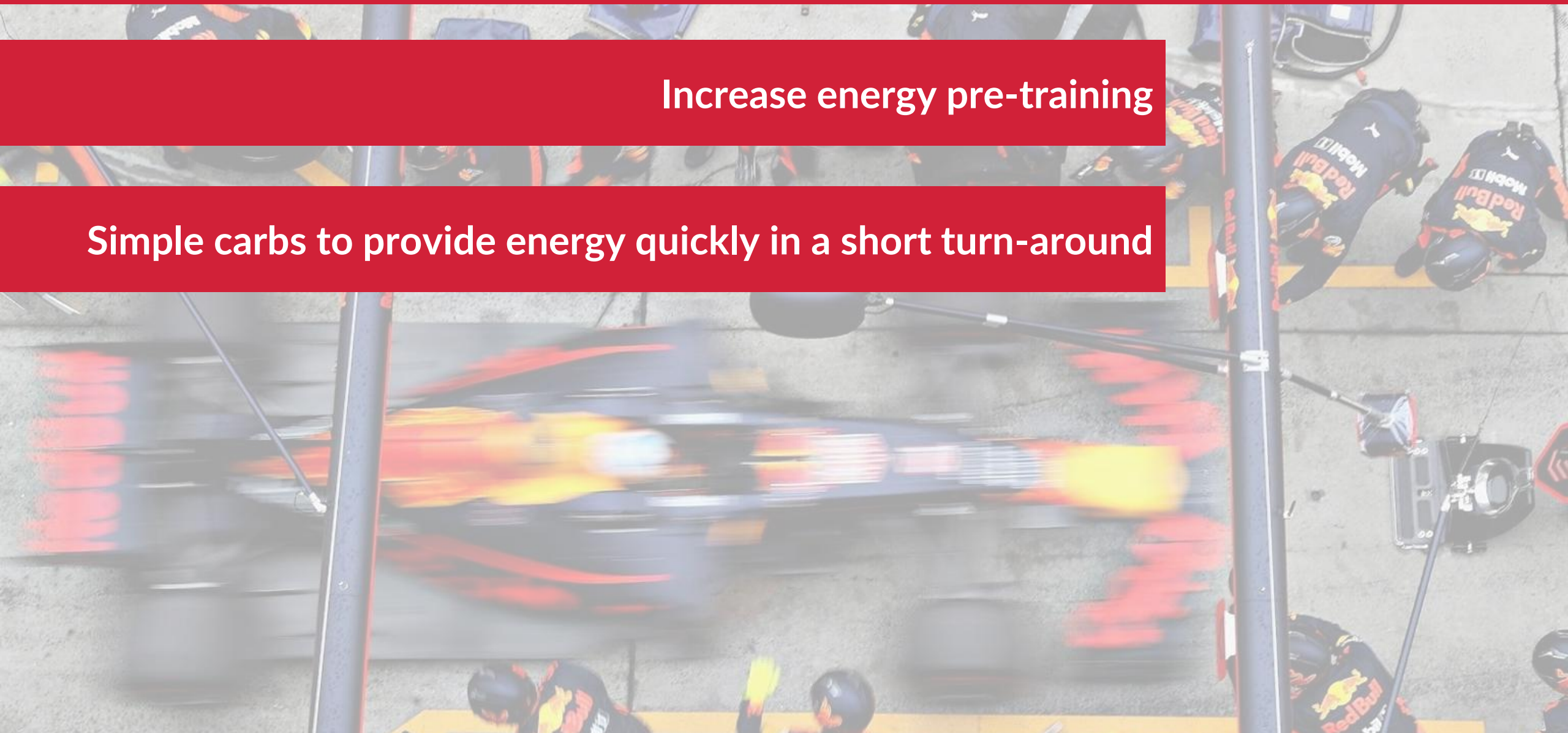
PRACTICAL EXAMPLES…

What can you do?


JANSPORT
THE NORTH FACE
FJÄLLRÄVEN KÅNKEN

PIT STOP SNACK

PIT STOP SNACK AIMS



Increase energy pre-training

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

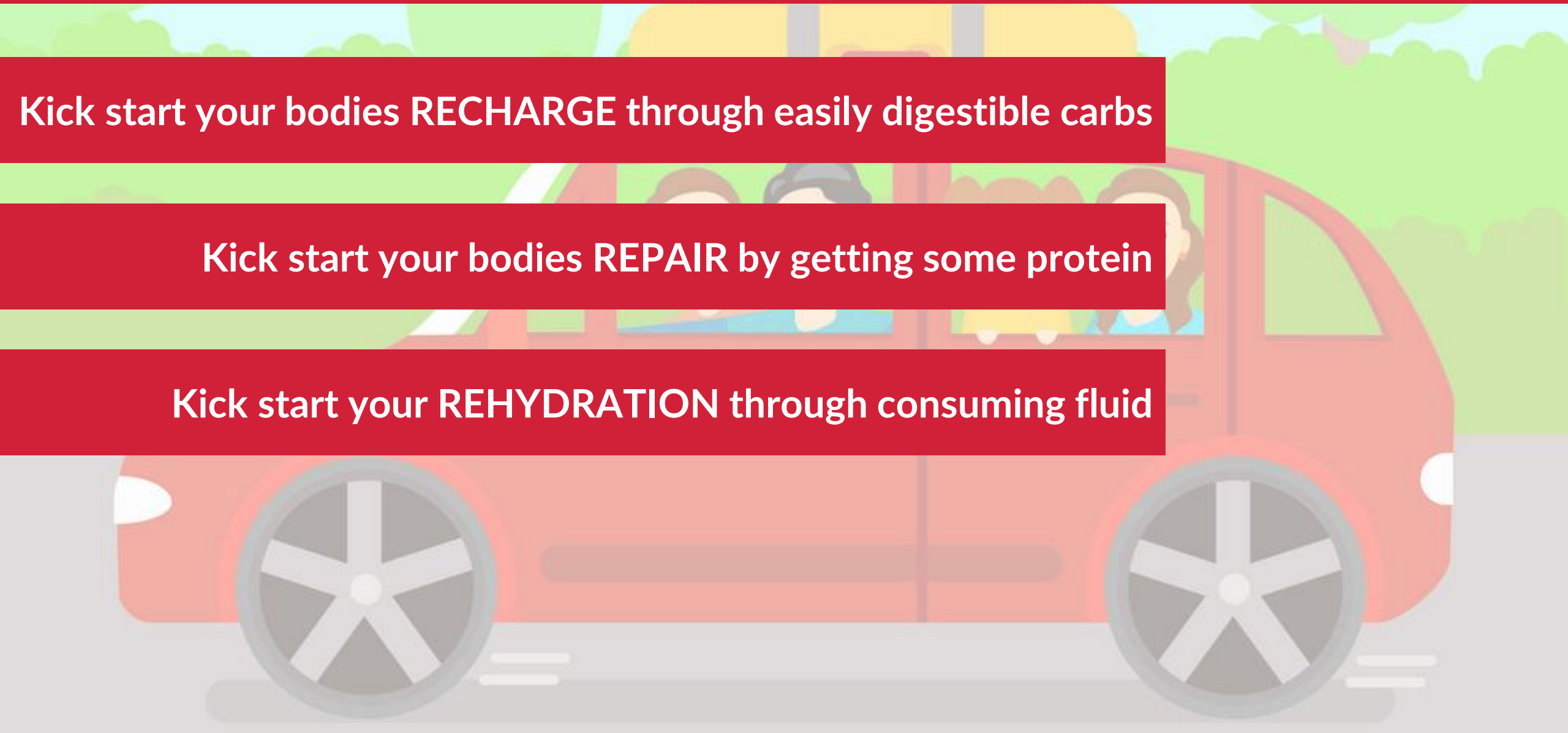
PIT STOP SNACK EXAMPLES

Grab & go carb snacks pre-training


ST ALBANS
ATHLETIC CLUB
microplus
DATA PROCESSING & TIMING
GILL
UK ATHLETICS CHAMPIONSHIPS
MANCHESTER

TRAVEL HOME

TRAVEL HOME AIMS



Kick start your bodies RECHARGE through easily digestible carbs

Kick start your bodies REPAIR by getting some protein

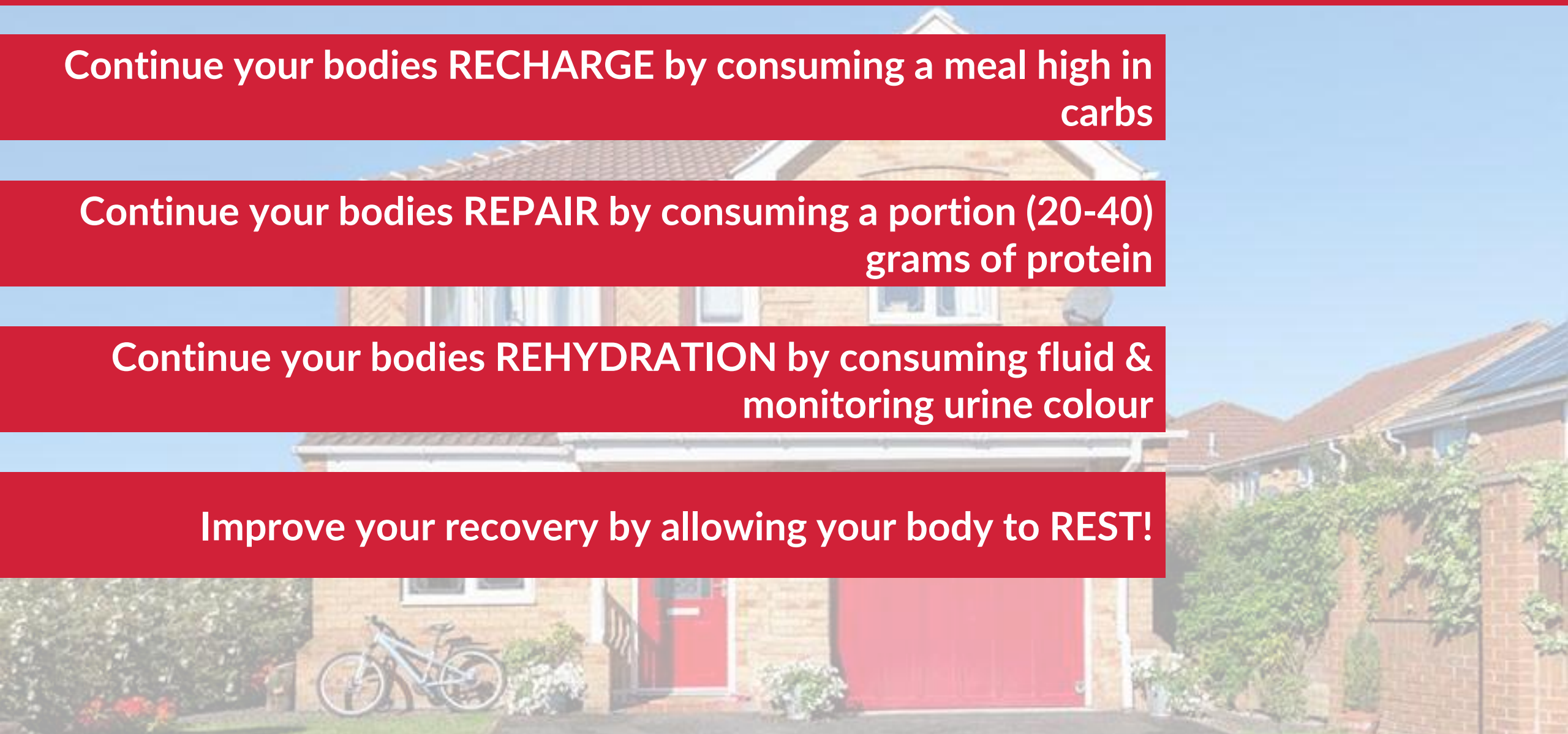
Kick start your REHYDRATION through consuming fluid

TRAVEL HOME EXAMPLES

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

AT HOME

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

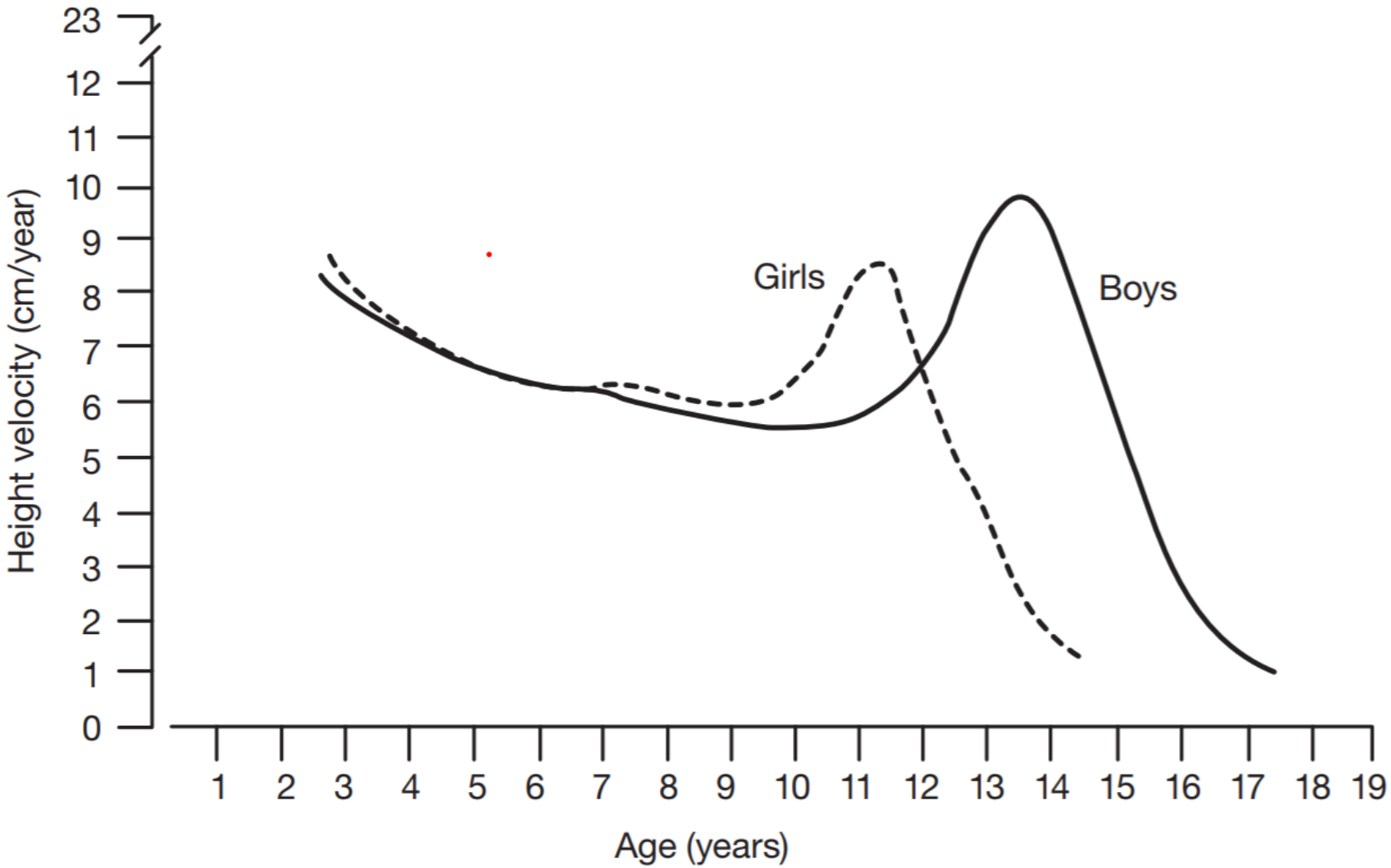
Improve your recovery by allowing your body to REST!

AT HOME 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

NUTRITION FOR 24/7 ATHLETE



Your athlete could still be growing using even more energy…

~3500

Females, slightly less at ~3000

EXAMPLE OF NON-ATHLETE DIET

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

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

BE PREPARED & PRIORITISE YOUR NUTRITION

EXAMPLE DAY

CAMPUS KITCHEN
COLLEGE RESTAURANT

Peri chicken, spicy rice + extra side

08:30

Cost:
Coffee: £4.35
Bacon roll: £4.69

10:00

Cost:
Bar : £1.50

12:30

Cost:
Dinner: £4.50
Drink: £2.00

15:30

Cost:
Bar : £1.65

18:00

Cost:
Dinner: £3.75

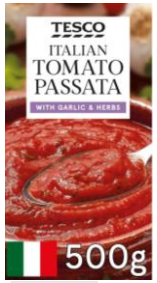
21:30

Cost:
Snack: £1.85

1 year

Total: £5,829.60

ALTERNATIVE EXAMPLE DAY



08:30

Cost:
Porridge : £0.22
Dink: £0.20

10:00

Cost:
Apple : £0.28
Soreen: £0.20

12:30

Cost:
Bagel: £0.16
Chicken: £1.38

15:30

Cost:
Yoghurt : £0.75
Banana: £0.16

18:00

Cost:
Pasta: £0.11
Passata: £0.50
Chicken mince:£0.62

21:30

Cost:
Home made recovery shake
£0.37

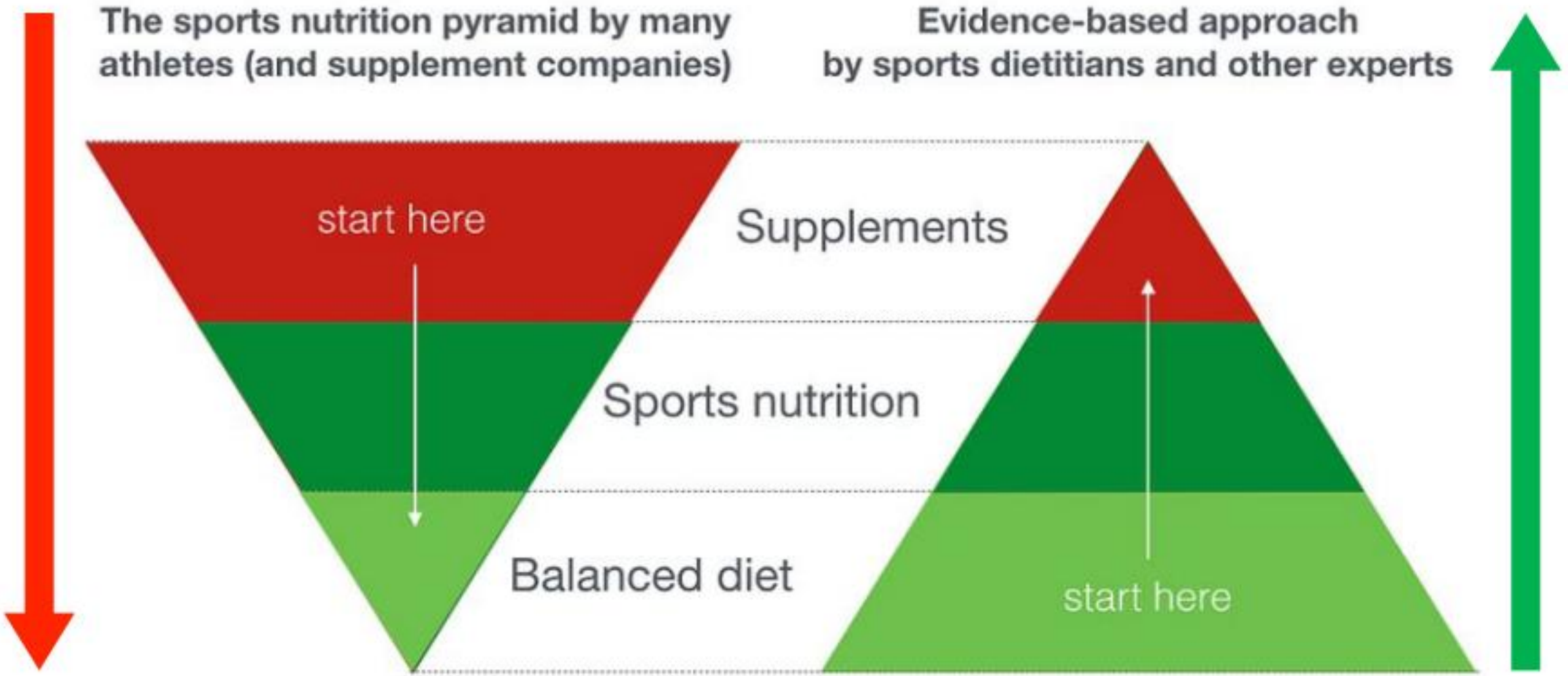
Water bottle, refill throughout day from college water fountains
Cost £0.00

1 year

Total: £1,188

SUPPLEMENTS

DO YOU NEED SUPPLEMENTS



DO YOU NEED SUPPLEMENTS

PART 4:

DiSE

INTRO TO THE NUTRITION UNIT

Aim and Purpose of the Unit:

- Develop your nutritional knowledge
- Provide you with the skills to implement a training and competition day nutrition plan to help improve performance
- 2 one to one reviews with your nutritionist

THE REVIEWS

Review 1

- Discuss and explore the your new nutritional knowledge and nutritional practice
- Assess strengths and areas of development
- Develop goals aimed at improving your nutritional intake

Review 2

- Monitor development
- Review and modify goals
- Look at how you can embed your nutritional strategies to help fuel / improve training and performance

EXTRA SUPPORT

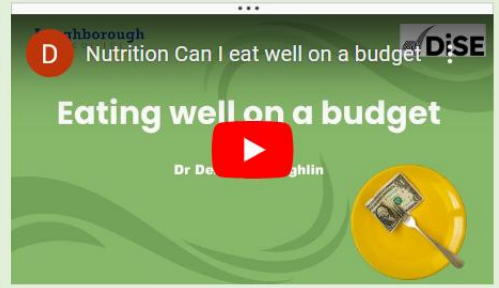
The videos below cover a range of topics to enable you to develop your understanding of Nutrition for sport. The knowledge gained from watching these videos will help you to work with a specialist to create and agree an individual nutritional strategy specifically for your sport.
Watch each video before you attend a session with your specialist.

Supplements: Do I need supplements?

Watch the short video below where Dr Deborah Coughlin explains what a supplement is and discusses whether you need supplements in your every day diet.

Eating well on a budget

Watch the short video below where Dr Deborah Coughlin explains how you can eat well on a budget.



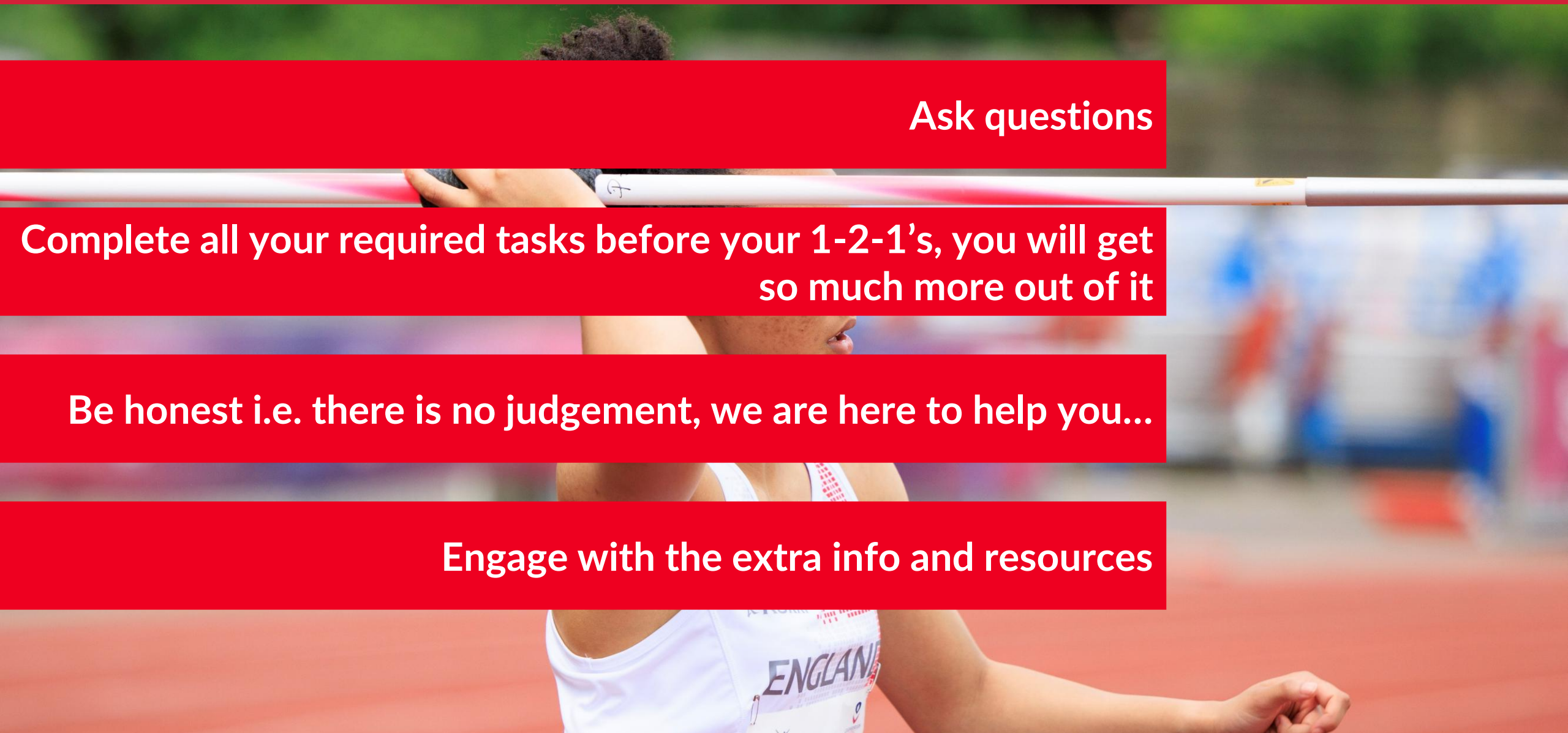
Hydration: The effect this can have on athlete performance

Just 2% dehydration can have negative effects on our performance, both mentally and physically. In this video Dr Deborah Coughlin talks about what to drink and why it matters.

Macronutrients: The Big Three

Watch the short video below where Dr Deborah Coughlin explains the three big macronutrients. You will learn about what they do and why athletes need them.

GETTING THE MOST OUT OF THE NUTRITION UNIT



Ask questions

Complete all your required tasks before your 1-2-1's, you will get so much more out of it

Be honest i.e. there is no judgement, we are here to help you...

Engage with the extra info and resources

TAKEAWAY TASK

Think about how you prepare for training and competitions

COULD THIS BE IMPROVED

DO YOU EVER SUFFER WITH ENERGY LEVELS?

WHAT ARE YOUR PERSONAL NUTRITIONAL GOALS?

FEEDBACK

England athletics athlete feedback

Session feedback, please scan the code & leave some feedback

ANY QUESTIONS?

ENGLAND ATHLETICS

Thank you