



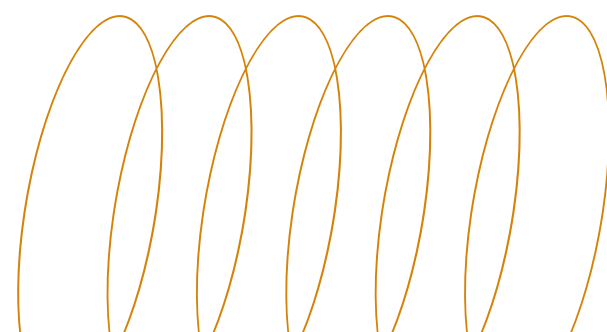
**Sports
Presentation**



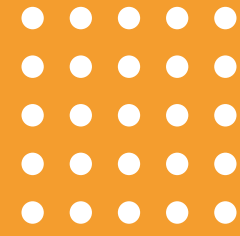
Periodising Nutrition in Female Archery Athletes

Fueling Growth, Performance & Injury Prevention

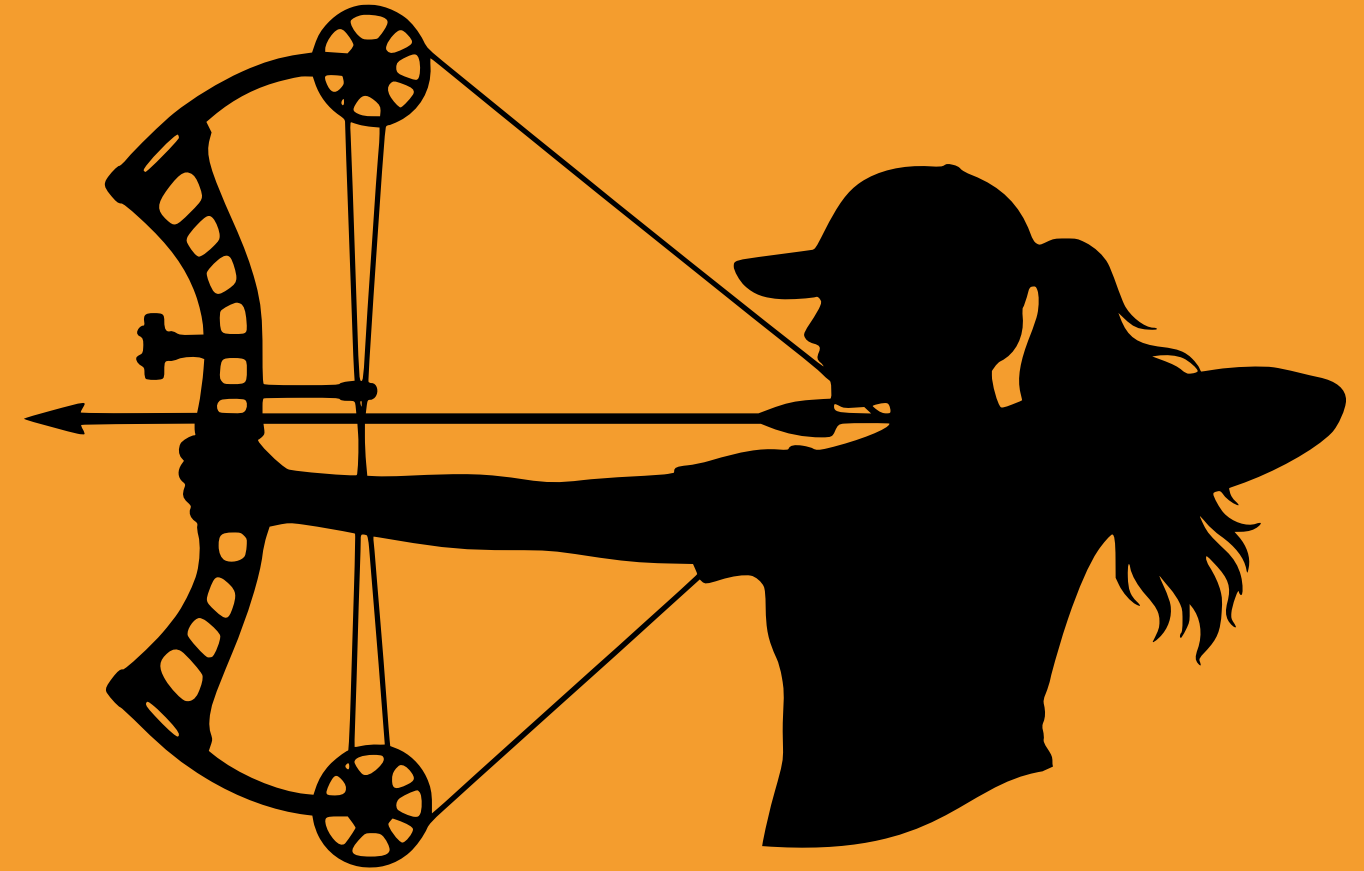
Presented By: **Rebecca Disher**
Advanced Sports Dietitian



Key Takeaways



- ➔ **Education → Action**
- ➔ **Guidelines → Checklists**
- ➔ **Knowledge → Daily Behaviours**
- ➔ **Being Unique → SUPER POWER**



Compliance beats





How balanced is your diet?



I skip
breakfast
more than
twice per
week?

I skip other
meals more
than twice
per week?

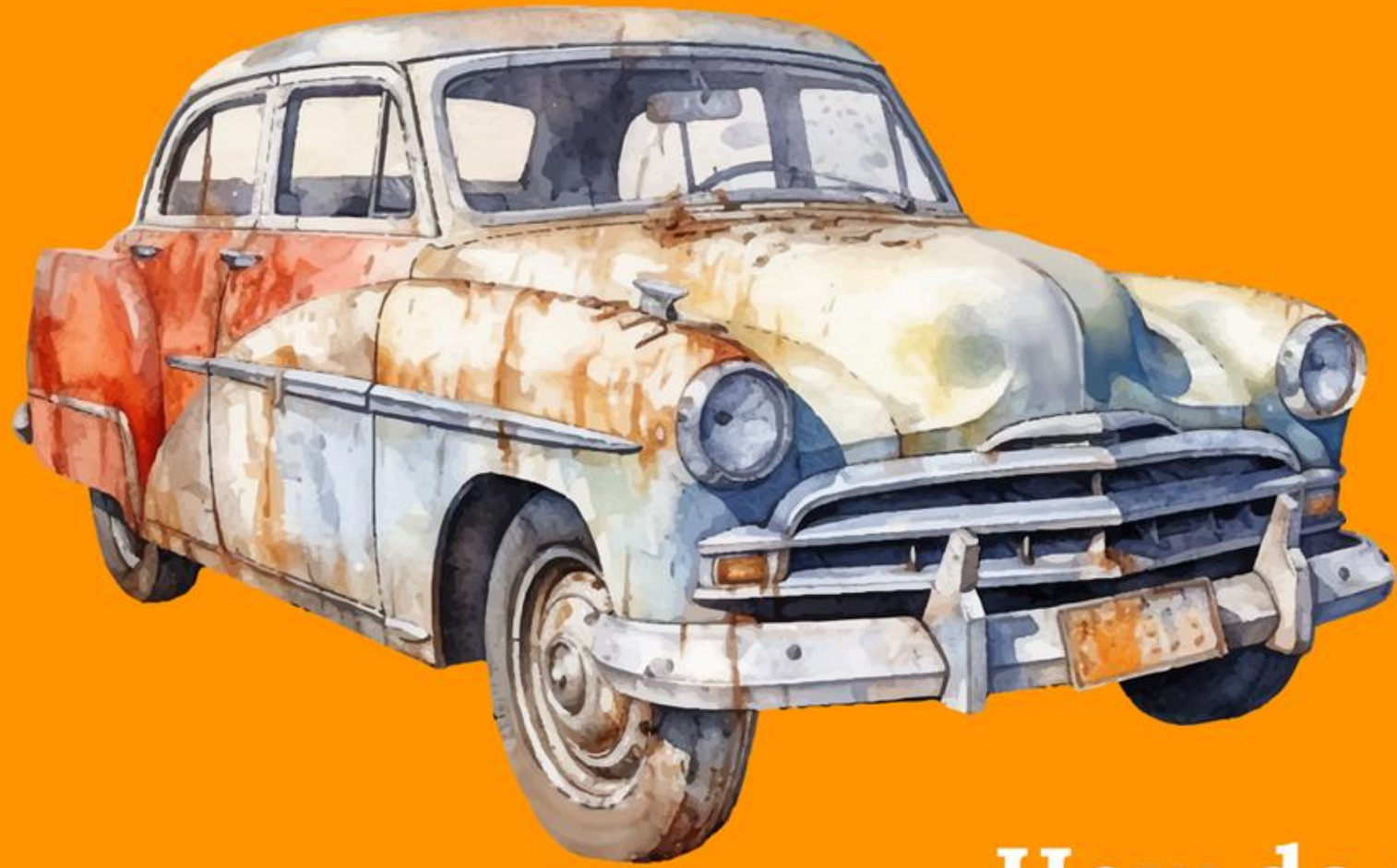
I have extras
such as chips,
biscuits,
pastries or
cakes more
than twice per
week?

I have at least 1-2
calcium sources
everyday i.e.
Milk, cheese,
yoghurt,
almonds, tofu,
soy milk etc

I eat 1 or less
pieces of
fruit per
day?

I have
vegetables or
salad a few
times per week
(or less)?

Fuelling your body



How do we measure energy?

How do we know how much YOUR body needs and that you're meeting it?

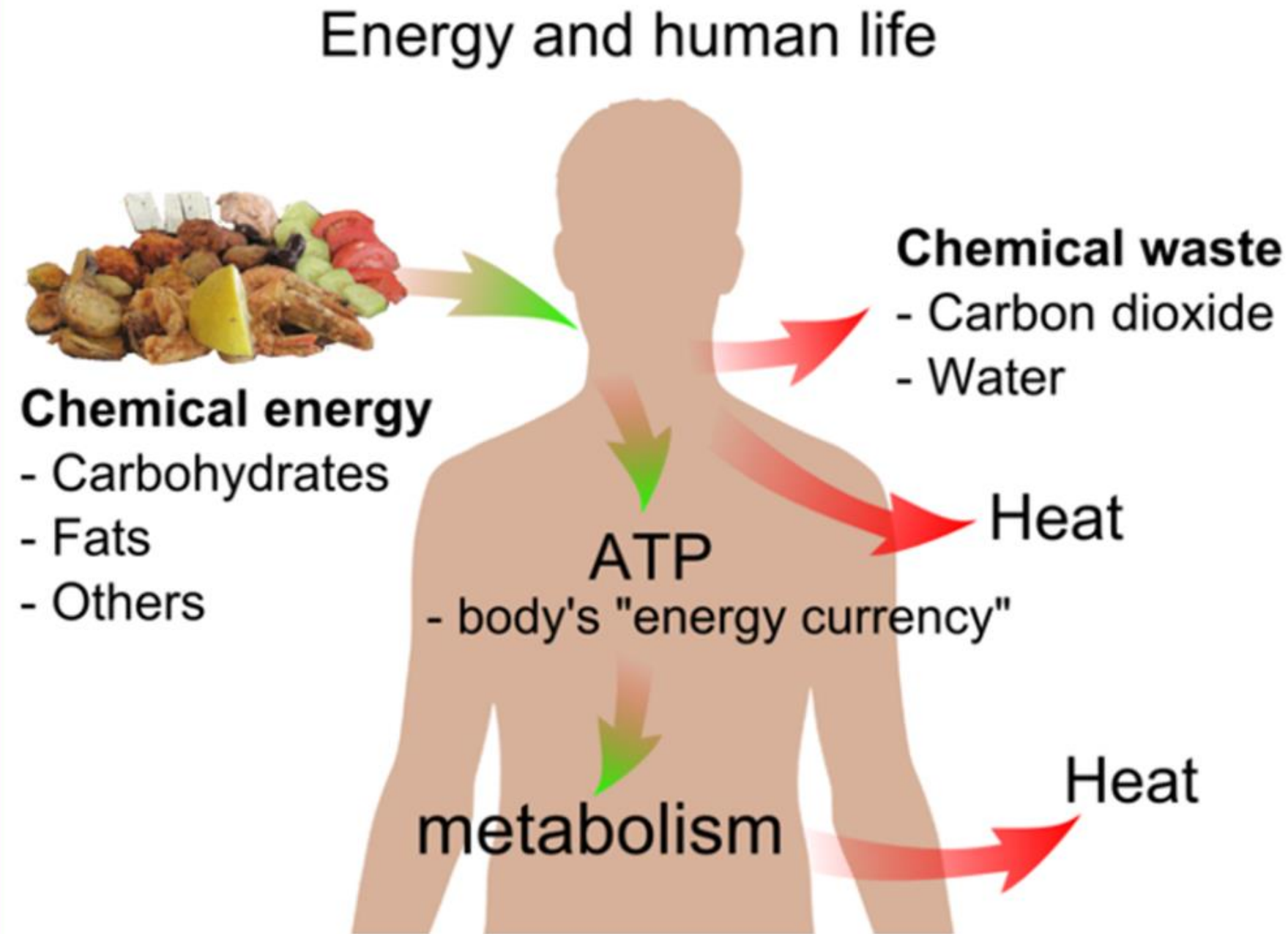
Do your daily energy needs change?

What is energy?

Food provides our bodies with the energy we need to do all activities.

What happens if you don't have enough energy?

- Feel tired
- Lack concentration
- Headache
- Poor performance
- Unable to train as hard or for as long
- Slower recovery time



Why Nutrition Matters

The Unique Physiology of developing males

- Rapid growth velocity (PHV – peak height velocity)
- Increases in lean mass & bone mineral density
- Hormonal shifts (Oestrogen is actually one of the strongest drivers of bone development in girls)
- High neuromuscular adaptation potential
- Increased risk of overuse injuries during growth spurts

FEMALE GROWTH VELOCITY

NUTRITION FUELS GROWTH, HEALTH & PERFORMANCE

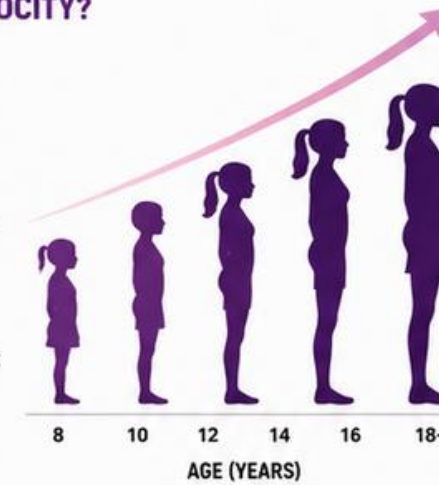
ADOLESCENCE IS A CRITICAL WINDOW OF OPPORTUNITY



WHAT IS GROWTH VELOCITY?

A period of rapid growth and development during puberty.

- ✓ Increase in height
- ✓ Increase in body mass
- ✓ Bone growth & mineralisation
- ✓ Muscle development
- ✓ Hormonal changes
- ✓ Brain & cognitive development



PEAK HEIGHT VELOCITY (PHV)

For girls, peak growth velocity typically occurs around 11–13 years of age, often 6–12 months before menarche (first period).

- Height increase 7–10 cm per year
- Body weight increase 5–10 kg per year
- Bone mineral accrual is at its highest
- Energy requirements increase substantially

Key Message
GROWING IS A TRAINING LOAD.

BUILDING THE ATHLETE – THE 3 PILLARS



THE BUILDERS Protein

Repairs and builds:

- Muscle
- Tendons
- Ligaments
- Bone matrix



THE BRICKS Calcium + Vitamin D

Build strong bones and help achieve peak bone mass.

Approximately 90–95% of peak bone mass is achieved by age 18–20 years.



THE FUEL Carbohydrates

Provides energy for:

- Growth
- Training
- School
- Recovery
- Hormonal development



WHAT HAPPENS IF WE DON'T FUEL GROWTH?



- ✗ Delayed growth
- ✗ Delayed puberty
- ✗ Menstrual dysfunction
- ✗ Increased injury risk
- ✗ Bone stress injuries
- ✗ Reduced bone mineral density
- ✗ Impaired recovery
- ✗ Increased illness

NUTRITION PRIORITIES DURING GROWTH VELOCITY

EAT FREQUENTLY



Aim for 5–6 eating opportunities per day.

- Breakfast
- Morning tea
- Lunch
- Afternoon tea
- Dinner
- Supper

PRIORITISE PROTEIN



Aim for:

- 20–30g protein at main meals
- 10–15g protein at snacks

Examples:

- Milk, Greek yoghurt, eggs, chicken, beef, cheese, protein smoothies

PRIORITISE CALCIUM



Aim for 1300mg/day

Examples:

- 3 cups milk
- Greek yoghurt
- Cheese
- Fortified alternatives

FUEL EVERY TRAINING SESSION



Pre-training = Carbohydrates
Post-training = Carbohydrates + Protein

"Cuddle" every session with nutrition.

THE REALITY FOR A 13-YEAR-OLD FEMALE ATHLETE



SCHOOL



TRAINING



BRAIN DEVELOPMENT



BONE GROWTH



HORMONAL DEVELOPMENT



=



NEEDS ENOUGH FUEL EVERY SINGLE DAY

TAKE-HOME MESSAGE

You don't grow because you train.
You grow because you recover from training and have enough fuel available to build the next version of yourself.



FUEL TODAY. GROW STRONG. SHOOT TOMORROW.



EAT WELL
FUEL GROWTH



HYDRATE
DAILY



SLEEP
RECOVER



TRAIN SMART
SHOOT STRAIGHT



NUTRITION FOR FEMALE ARCHERS

Fuel Your Strength. Support Your Body. Perform at Your Best.



20–40 YEARS | BUILD, PERFORM & THRIVE

YOUR BODY IN THIS STAGE

- Peak performance years
- Training loads are often highest
- Hormones are more stable
- Recovery capacity is strong
- Focus on performance, body composition, injury prevention & long-term health

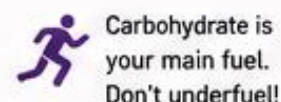


NUTRITION GOALS

- 🎯 Optimise performance
- ⊕ Fuel training & recovery
- 👤 Maintain healthy body composition
- ♀ Support hormonal health
- 🦴 Build strong bones
- 📅 Plan for the future

KEY NUTRITION FOCUS AREAS

FUEL FOR PERFORMANCE



Carbohydrate is your main fuel. Don't underfuel!



Eat enough to match training load.

PROTEIN FOR REPAIR & STRENGTH



1.2–1.6 g/kg body weight/day



Spread protein across 3–4 meals/snacks.

IRON & ENERGY

Iron needs are higher due to menstruation and training.

Include iron-rich foods + vitamin C.



BONE HEALTH



Build & maintain strong bones now for life.

Calcium, vitamin D & strength training.



RECOVERY & HORMONAL HEALTH

Support with adequate energy intake, healthy fats, sleep & stress management.



PRACTICAL TIPS



Eat regularly every 3–4 hours to fuel, focus and recover.



Hydrate consistently throughout the day.



Prioritise sleep 7–9 hours per night.



Monitor energy, mood, periods and recovery.



Strength train 2–3x per week to support muscle & bone health.



COMMON PITFALLS

- Not eating enough to support training
- Skipping meals or under-recovering
- Low iron intake / low energy availability
- Over-restricting to “manage weight”
- Comparing with others



KEY TAKEAWAY

Your 20s & 30s are about building your performance, resilience and future health. Fuel well, train smart and recover to thrive!

You fuel your potential.



40+ YEARS | ADAPT, SUPPORT & STAY STRONG

YOUR BODY IN THIS STAGE

- Hormonal changes (perimenopause & menopause)
- Slower recovery
- Loss of muscle mass (sarcopenia)
- Bone density naturally decreases
- Metabolism may slow slightly
- Greater focus on long-term health, vitality & quality of life



NUTRITION GOALS

- 🎯 Maintain muscle & strength
- 🦴 Support bone density
- 👤 Manage body composition
- ♥ Support heart health
- 🔄 Optimise recovery
- ♀ Nourish hormones & well-being

KEY NUTRITION FOCUS AREAS

PROTEIN IS PROTECTIVE



Higher protein needs to maintain muscle & strength.

Aim for 1.2–1.6 g/kg body weight/day.



BONE HEALTH MATTERS MORE

Prioritise calcium, vitamin D, magnesium & weight-bearing exercise.



HEART HEALTH

Focus on omega-3s, fibre, plants, nuts, seeds & healthy fats.



MANAGE ENERGY & RECOVERY

Recovery takes longer – fuel, hydrate, sleep and manage stress.



HORMONE SUPPORT

Phytoestrogens, healthy fats and adequate energy intake may help with symptoms.



PRACTICAL TIPS



Eat enough protein at each meal (25–35g).



Include strength training 2–3x per week.



Daily movement for bone, mood and metabolism.



Hydrate well – thirst decreases with age.



Prioritise sleep & stress management.



COMMON PITFALLS

- Not enough protein
- Low calcium, vitamin D & magnesium
- Losing muscle & strength
- Chronic dieting / skipping meals
- Poor sleep & high stress



KEY TAKEAWAY

40+ is a powerful time. With the right nutrition, strength training, recovery and self-care, you can stay strong, active and perform at every stage of life.

Strong today. Strong for life.



EAT WELL
Quality food, enough energy, every day.



TRAIN SMART
Balance training with recovery.



RECOVER
Sleep, rest & manage stress.



STAY HYDRATED
Hydration supports focus & performance.



LISTEN TO YOUR BODY
Energy, mood, recovery, menstrual cycle & life stage.

Nutrition is your competitive edge.





SUPPLEMENTS

TIMING OF FOOD
FOR PERFORMANCE

FOOD

GET THE BASICS RIGHT FIRST

SIGNS & SYMPTOMS OF CHRONIC LOW ENERGY AVAILABILITY

Irritability

Depression

Impaired Judgement

Increased Injury risk

Decreased Strength

Reduced Testosterone

Decreased Concentration

Decreased Training response

Decreased Endurance



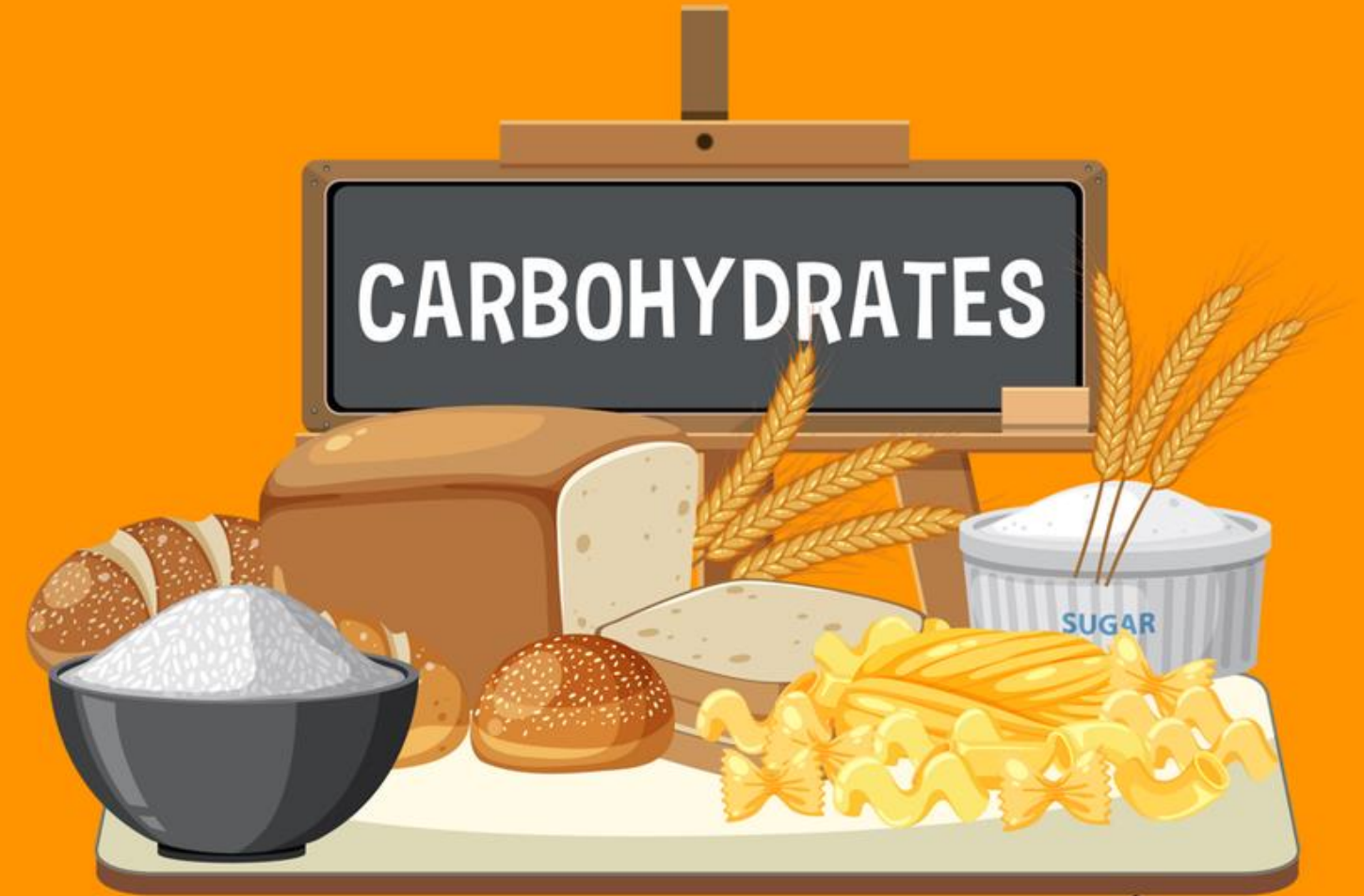
Fuelling Foods = Carbohydrates

The most important energy source!

Our brain cannot function without
carbohydrates

Neither can our muscles!

Only a small amount of carbs can be
stored in our body – in the blood
stream, in our muscles & in our liver





What happens when we do not eat enough fuelling foods?

No energy!

Every day life:

General fatigue/tiredness, have trouble concentrating at school, poor mood, **lack of growth**

Sports and activities:

Poor recovery, heightened injury risk, early fatigue in training (you can't last 60 quality mins), delayed DOMs, headaches and nausea, immune system compromised, potential for CRAMPS!



HOW MANY CARBOHYDRATES DO YOU NEED?

The Bigger the Training Load, the Bigger the Fuel Tank

Step 1: Ask Yourself: How Many Arrows Are You Shooting?

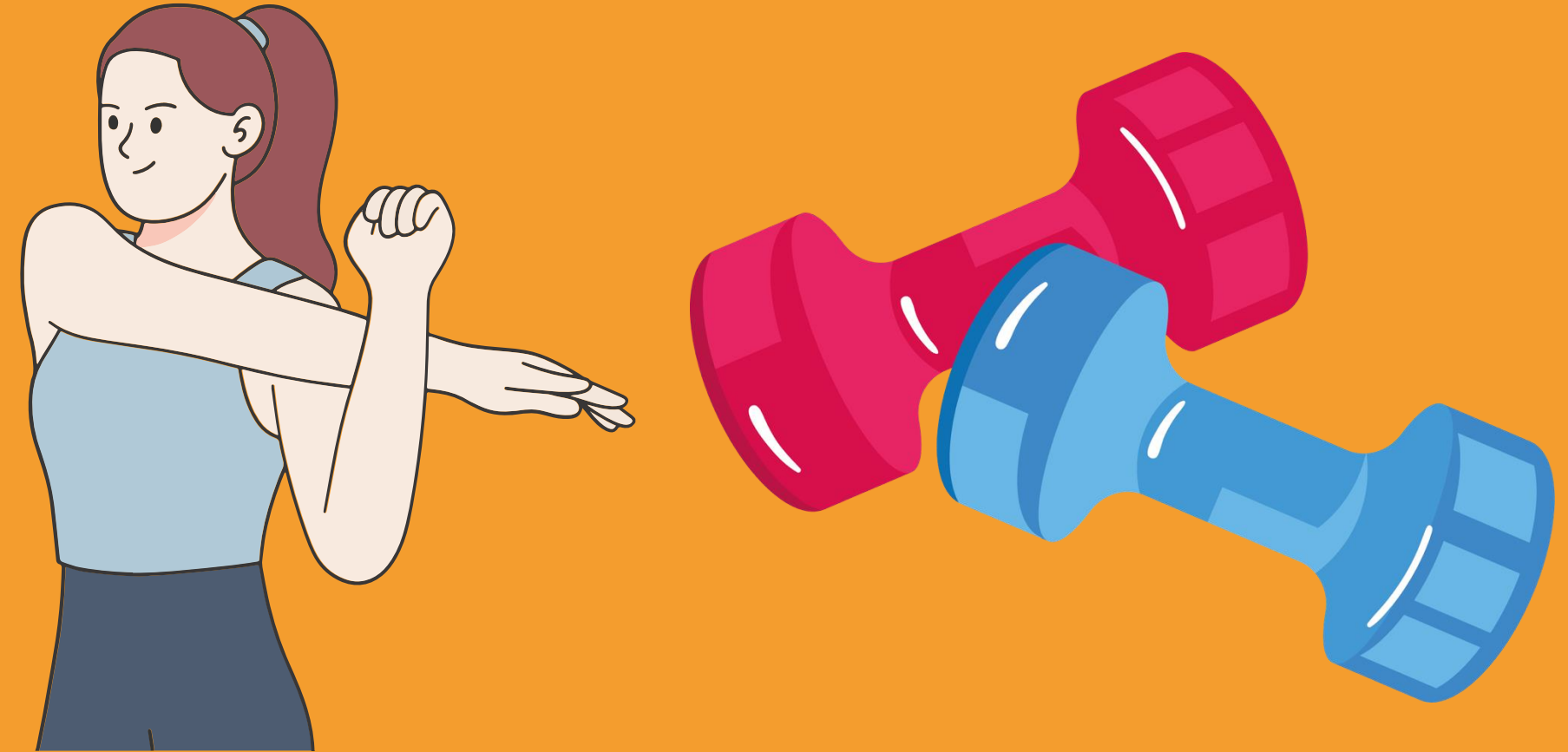
Training Session
<50 arrows
50–100 arrows

Step 2: How long are you training?

Session Length
<60 mins
1-2 h

Step 3: Are you doing other exercise?

-  Running
-  Cycling
-  Gym
-  Pilates/Yoga
-  Other Sport



Every extra session increases your
carbohydrate needs.

MATCH YOUR CARBOHYDRATES TO YOUR TRAINING

MORE TRAINING = MORE CARBOHYDRATES

THE CONCEPT

Your quiver represents your training load.

The more arrows you shoot and the longer (and more) you train, the more carbohydrates your body needs to fuel, perform and recover.



*Fuel your focus.
Fuel your future.*

INCREASING TRAINING LOAD

LOW LOAD LIGHT TRAINING



*A few
arrows =
lower fuel
needs*

- <50 arrows
- <60 mins
- 2-3 sessions/week
- No other exercise

MODERATE LOAD MODERATE TRAINING



*More
arrows =
more fuel
needed*

- 50-100 arrows
- 60-120 mins
- 3-4 sessions/week
- Maybe some gym or other activity

HIGH LOAD HARD TRAINING



*Lots of
arrows =
high fuel
needs*

- 100-200 arrows
- 2-3 hours
- 4-6 sessions/week
- Gym and/or other sport

VERY HIGH LOAD HEAVY TRAINING



*Very full
quiver =
very high
fuel needs*

- >200 arrows
- 3+ hours
- 6-7 sessions/week
- Gym and other sport

COMPETITION LOAD TOURNAMENT / MULTI-DAY



*Full quiver
+ long days
+ focus =
maximum
fuel needs*

- 200+ arrows
- Long days
- Competition stress
- Travel / recovery demands

CARBOHYDRATE NEED PER DAY

For most female athletes

3-4 g/kg/day

Lower fuel needs

Examples for 60kg athlete:
180-240g carbs/day

4-5 g/kg/day

Moderate fuel needs

Examples for 60kg athlete:
240-300g carbs/day

5-6 g/kg/day

High fuel needs

Examples for 60kg athlete:
300-360g carbs/day

6-8 g/kg/day

Very high fuel needs

Examples for 60kg athlete:
360-480g carbs/day

6-8+ g/kg/day

Maximum fuel needs

Examples for 60kg athlete:
360-480+g carbs/day

WHAT THIS LOOKS LIKE ON YOUR PLATE (approx.)



3-4 serves at meals
1-2 serves at snacks



4-6 serves at meals
2-3 serves at snacks



5-7 serves at meals
2-3 serves at snacks



6-8 serves at meals
3-4 serves at snacks



7-10+ serves at meals
3-5 serves at snacks

HOW TO WORK OUT YOUR NEEDS



1 How many arrows do you shoot?



2 How long are your training sessions?



3 How many sessions to you do per week?



4 Do you do other exercise? (gym, running, other sport?)

← Add it all up and match your carbohydrates to the work required! →

FUEL TO PERFORM, RECOVER & THRIVE

- ✓ Carbohydrates are your main fuel for training and competition.
- ✓ They support concentration, endurance and recovery.
- ✓ Not enough carbs = fatigue, poor focus, slower recovery, injury risk and low energy.
- ✓ Train smart. Fuel well. Shoot your best.



RED FLAGS YOU MAY NOT BE EATING ENOUGH

- ! Struggling to concentrate
- ! Flat in afternoon sessions
- ! Slow recovery
- ! Constant hunger
- ! Frequent illness
- ! Menstrual cycle changes
- ! Bone stress injuries
- ! Poor sleep



MORE TRAINING LOAD = MORE CARBOHYDRATES = MORE ENERGY + BETTER PERFORMANCE + STRONGER BODY + BETTER RECOVERY



Example ONE:



Junior Archer (Age 14)

 80 arrows

 1 gym session

 Total training = 90 mins

Carbohydrate Need

4–5 g/kg/day

60kg athlete

= 240–300g carbs/day

Example TWO: Competitive Archer



 **150 arrows**

 **Gym**

 **Walking**

 **2.5 hr training day**

Carbohydrate Need

5–6 g/kg/day

70kg athlete

= 350–420g carbs/day

Example THREE: *Tournament Day*



 *200+ arrows*

 *Long day outdoors*

 *High concentration demand*

Carbohydrate Need

6–8 g/kg/day

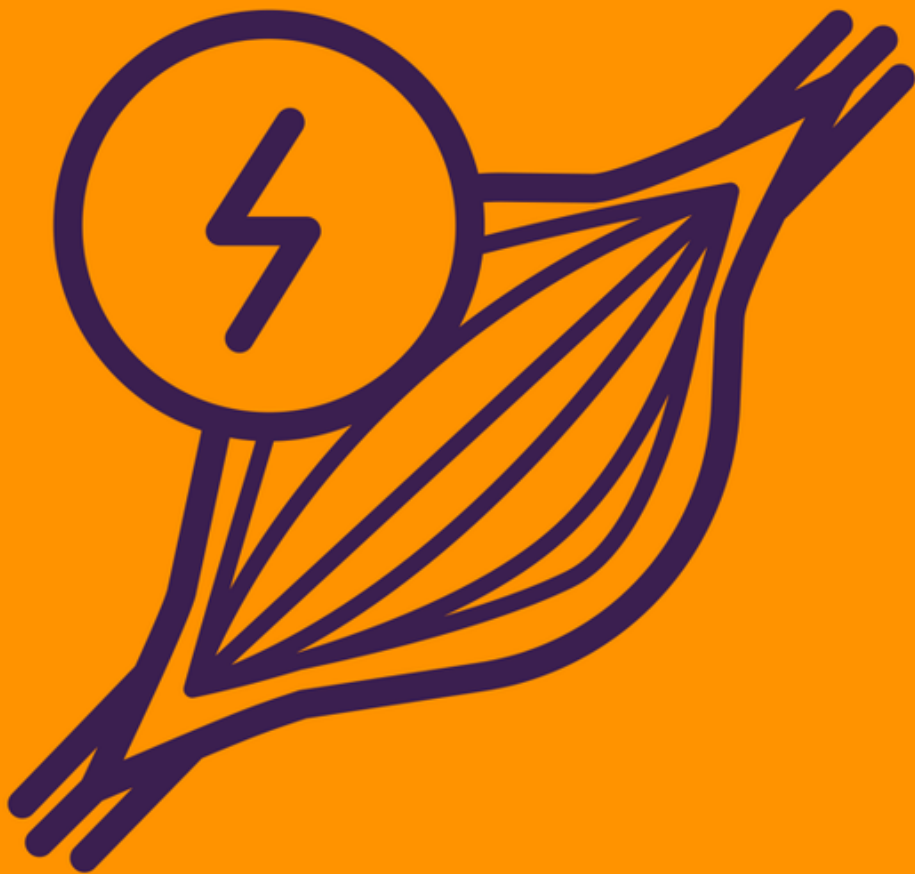
70kg athlete

RED FLAGS YOU MAY NOT BE EATING ENOUGH

- Struggling to concentrate
- Flat in afternoon sessions
- Slow recovery
- Constant hunger
- Frequent illness
- Bone stress injuries
- Menstrual cycle changes
- Poor sleep



When should I eat carbohydrate to maximize my performance?



Timing	Carbohydrate intake
Before exercise (~1-2 hours before). <i>'Pre-trainer'</i>	1-2 serves Low OR medium GI- slow release to help with sustained energy E.g. 1 cup cooked Pasta or rice, 1 sandwich or 2 slices toast, 1 cup fruit salad and yogurt
During Exercise	30-60g/hour of high intensity exercise. High GI- FAST BREAK DOWN E.g. Sports drinks, gels, watermelon, glucose jellybeans etc
After Exercise (first 30 mins) <i>'Post-trainer'</i>	1-2 serves as soon as exercise finishes- IDEALLY WITH A PROTEIN SOURCE Sports drinks + Protein, for example; • Watermelon or ripe banana with High protein yoghurt • Rice cakes/ rice crackers with small can tuna • Energize Up and Go OR Rokeby Farm smoothies • 300-500ml Chocolate milk
After Exercise (within 24 hours after)	• 7-9 serves after moderate exercise • 10-16 serves after heavy exercise Enough to refill your petrol tank!

HOW TO FUEL FOR YOUR SESSIONS

PRE-TRAINING nutrition

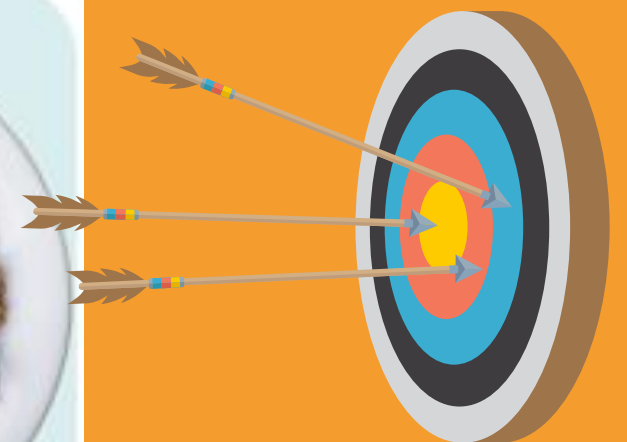


dinner would be your “pre-training meal” for early morning sessions, however, you still need a “pre-training snack” after waking!

✓ pre-training meal ⌚ 3-4+ hours pre-training

Plan your last meal 3-4 hrs before training (or this is dinner the night before a morning session):

- High carbohydrate (covering 1/4-1/2 plate - depending on intensity of session)
- Palm portion of lean protein
- Low to moderate fat & fibre
- +/- supper after dinner for main sets the following morning (i.e., fruit & yoghurt)



pre-training snack ⌚ 1-2 hours pre-training

Plan your pre-training snack 1-2 hrs before training:

- Predominantly carbohydrate (adjust depending on sessions and/or goals)
- Lower in protein
- Minimal fat & fibre
- + glass of water



pre-training primer ⌚ 15-30 min pre-training *before main sessions*

Plan a pre-training "primer" 15-30min before main sessions:

- Small, quick acting carbohydrate rich snack to prime your muscles (~15-30g carbs)
- Minimal to no protein, fat & fibre
- + few sips of water



What are you fuelling for?

PRE-TRAINING CARBS

 3X MEDJOOL DATES	 40G SNACK PACKET OF SULTANAS/DRIED FRUIT	 4X SMOOSHED BALLS
 2X RICE THINS + PEANUT BUTTER + 1 TBSP HONEY	 2X SLICES OF TOAST OR 1X SLICE OF THICK CUT RAISIN TOAST	 1X LARGE BANANA
 1X ENGLISH MUFFIN + SPREAD	 4X BELVITA'S OR 2X NATURE VALLEY CRUNCHY BARS	 SNACK POPCORN + MUESLI BAR
 1 KODA GEL	 3 JELLY SNAKES	 PIECE OF FRUIT + 200ML FRUIT JUICE
 1X SCOOPS	 2X SCOOPS	 2X SCOOPS

PRE-TRAINING CARBS

 APRICOT BITES SNACK PACK + SPC FRUIT PUREE POUCH	 4X PIKELETS + MAPLE SYRUP / JAM	 1X HOT CROSS BUN / FRUIT BUN + JAM
 4X RICE THINS + PEANUT BUTTER + 1 TBSP HONEY	 1X SLICE OF TOAST + 1X BANANA (SLICED) + DRIZZLE OF HONEY	 200ML JUICE + 40G SNACK PACKET OF SULTANAS/DRIED FRUIT
 2X THIN SLICES OF RAISIN TOAST + JAM / HONEY	 1X BAGEL + NUT BUTTER / VEGEMITE	 1X THICK SLICE BANANA BREAD
 2X SIS GELS	 4-5 JELLY SNAKES	 1X LARGE BANANA + 200ML FRUIT JUICE
 1X SCOOPS	 3X SCOOPS	 3X SCOOPS

PRE-TRAINING CARBS

 1 CUP LOW FIBRE CEREAL + LOW FAT MILK	 6X PIKELETS + HONEY / JAM / SYRUP	 1X UNCLE TOBY'S BREAKFAST BAKE + 1X LARGE BANANA
 6X RICE THINS + PEANUT BUTTER + 2TBSP'S HONEY	 2X SLICES OF TOAST + 1X BANANA (SLICED) + DRIZZLE OF HONEY	 1X FRUIT BUN + 3X ARNOTT'S SNACK RIGHT MORNING SLICE
 2X THICK CUT SLICES OF RAISIN TOAST + JAM / HONEY	 1X BAGEL + 1TBSP HONEY / JAM +/- NUT BUTTER OR CREAM CHEESE	 BANANA BREAD + 200ML FRUIT JUICE
 2X KODA GELS	 7-8 JELLY SNAKES	 1X LARGE BANANA + 2-3X ANZAC BISCUITS
 2X SCOOPS	 4X SCOOPS	 4X SCOOPS

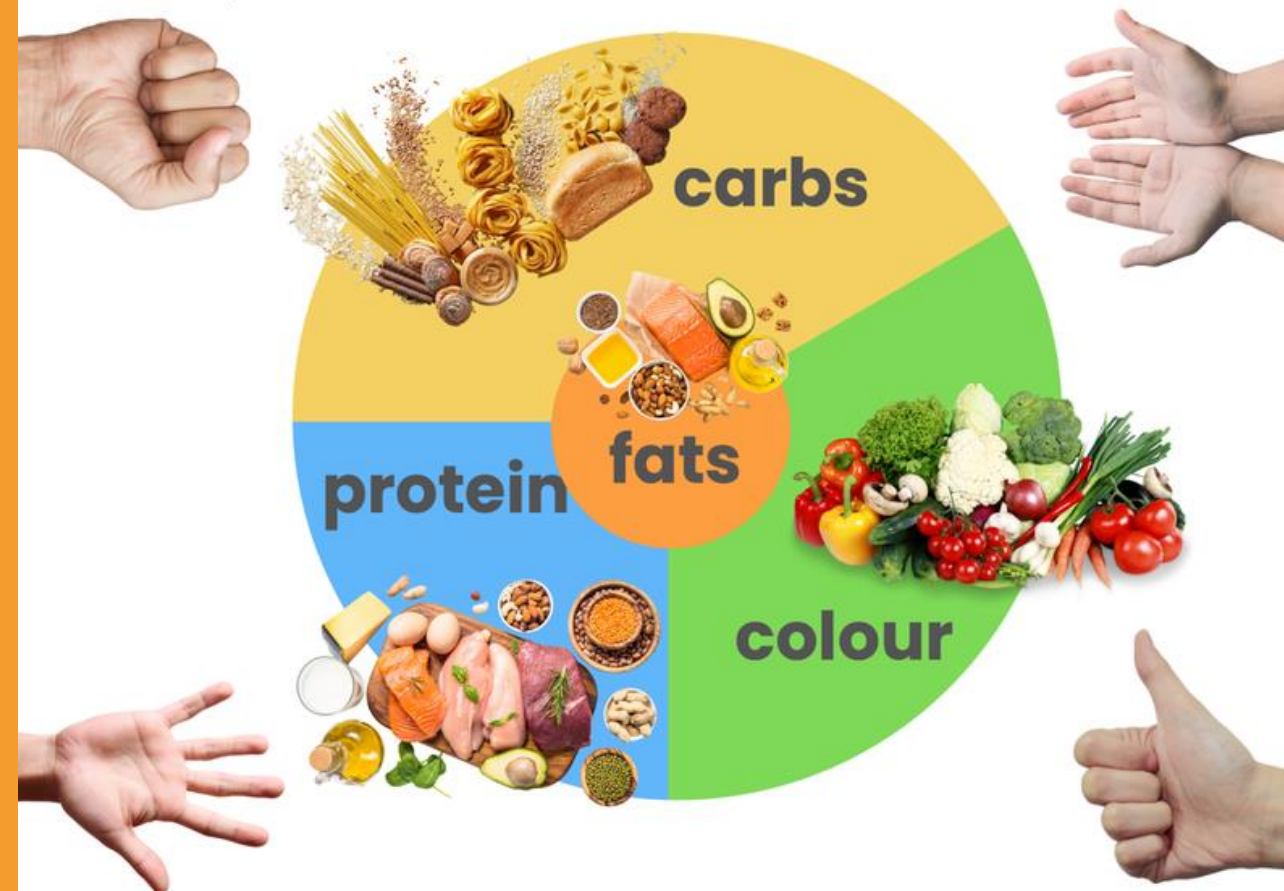
BEGIN WITH A balanced plate

Step 1

Aim to fill 1/4 to 1/2 of your plate with high fibre carbohydrate foods, 1/4 plate is roughly the size of your fist.

Step 2

Fill 1/2 of your plate with colourful, non-starchy veg or salad. Aim for 2 handfuls & eat the RAINBOW!



Step 3

Aim to fill 1/4 of your plate with protein, roughly the size of your palm. Protein is best eaten regularly & spread over the day

Step 4

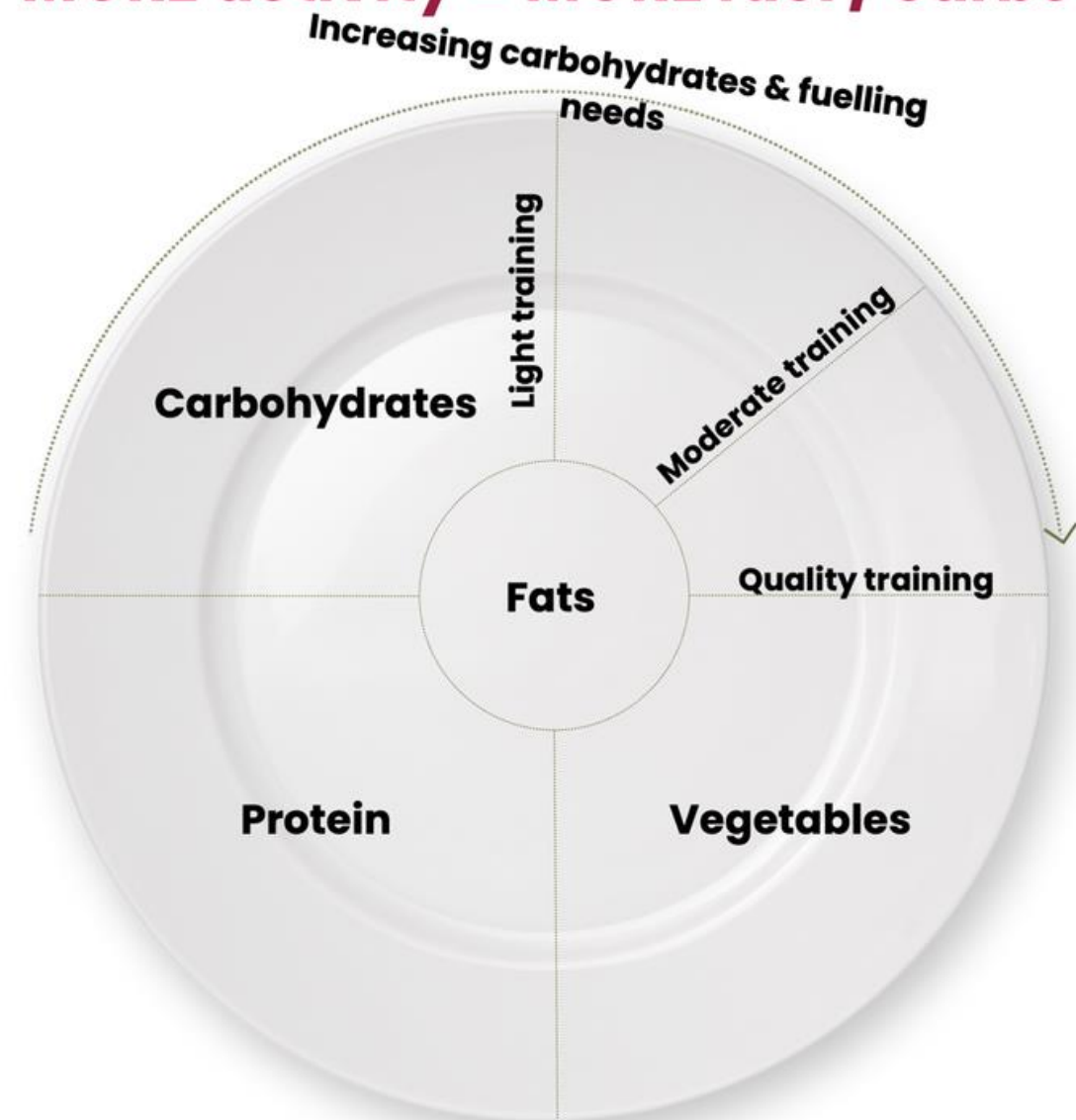
Include a 'thumb' of healthy fats with every meal: extra virgin olive oil, avo, nuts, seeds, cheese, olives, hommus, pesto, tahini, oily fish.

THEN adjust for fuelling



SCALE UP carb intake to match training & activity levels.

MORE activity = MORE fuel / carbs



EXAMPLE
performance plates

build a balanced brekky bowl

protein
High protein yoghurt
Milk
Soy protein crisps

carbs
Oats
Muesli
Granola
Banana or mango
Dried fruit
Gluten free options: quinoa flakes, buckwheat or rice flakes

colour
Fresh, frozen or canned fruit

healthy fats
Chia seeds
Nut butter
Other nuts/ seeds



EXAMPLE
performance plates

build a balanced poke bowl

protein
Grilled chicken breast
Fish
Canned or smoked salmon
Tuna or sardines
Lean beef strips
Tofu or tempeh or TVP
Edamame

carbs
Rice
Quinoa
Buckwheat
Barley
Pasta
Beans/ lentils
Potato/ sweet potato

colour
Leafy greens or salad vegetables
Roasted vegetables
Fermented foods (i.e., kimchi, sauerkraut etc.)

healthy fats
Avocado
Hommus
Nuts/ seeds
Cheese
Satay dressing
Olive oil dressing



build a balanced sanga/wrap

protein
Grilled chicken breast
Canned/ smoked salmon
Tuna or sardines
Lean beef strips
Eggs
Tofu or tempeh

carbs
Choose wholegrain bread, sourdough, wrap, lebanese bread etc.

colour
Leafy greens
Beetroot
Tomato
Cucumber
Grated carrot

healthy fats
Avocado
Hommus
Mayo or aioli
Cheese
Pesto



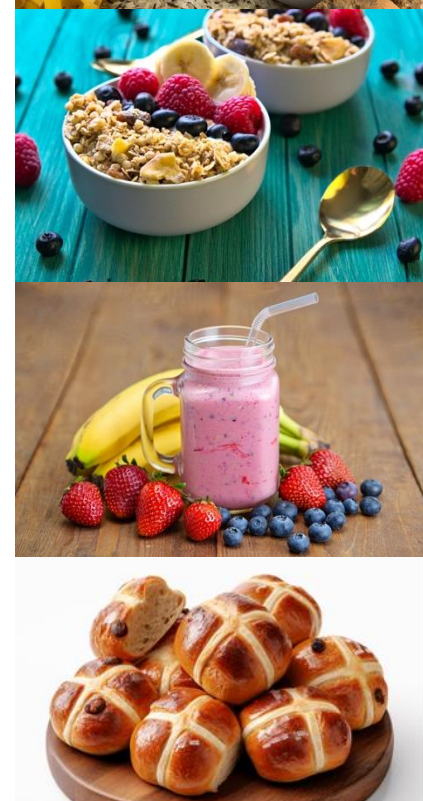
build a balanced pasta bowl

protein
Grilled chicken breast
Fish
Canned/ smoked salmon
Tuna or sardines
Lean beef mince
Tofu or tempeh or TVP
Eggs

carbs
Pasta of choice (i.e., wholewheat, pulse pasta, red lentil pasta)
Beans of choice (i.e., cannellini beans, kidney beans, black beans, chickpeas etc.)
Croutons made from wholegrain bread or sourdough

colour
Roasted vegetables (i.e., eggplant, capsicum, onion, pumpkin, zucchini etc.)
Salad vegetables
Spring onion and herbs

healthy fats
Olives
Avocado
Pesto or sun-dried tomatoes
Nuts/ seeds (i.e., pine nuts, walnuts, slivered almonds etc.)
Feta or Goats cheese
Extra virgin olive oil



Quality fueling foods for training



What are YOUR TOP 3 fueling foods for training?

1.

2.

3.





If you get stomach upsets or nervous before training or games—
LIQUIDS can work just as well as solid foods.



Preparation for training

1

What's your window of opportunity to fuel for the session?

2

How much fluid have you had coming into the session?

3

How long is the session?

4

What TYPE of session is it?

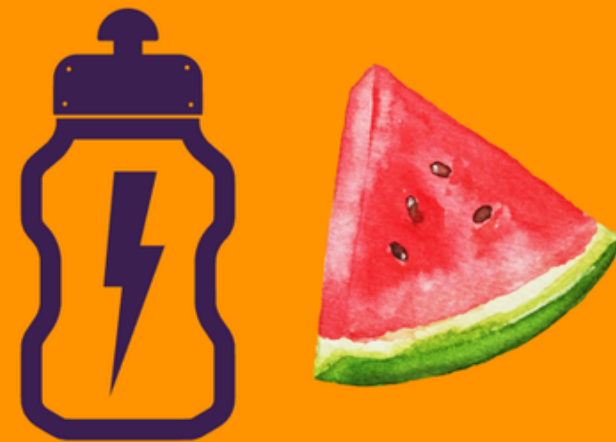
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What do I NEED TO HAVE FOR THIS SESSION?

FUELLING Expectations on arrival to training



WATER BOTTLE-
filled and with cool
water (if possible)



**EATEN BEFORE THE
SESSION STARTS.**

Depending on **TYPE** and **LENGTH** of
training - FUEL: either in the form of
fluid- sports drinks OR food-
fruit/pretzels etc



Check hydration
status. If you can
bring electrolytes
i.e. hydraltye



Recovery
food/fluids for
straight after the
session

PROTEIN

✓ Very important nutrient for your overall well-being

- Every cell in the human body contains protein.
- Hormone function
- Cellular tissue repair and function
- It makes up the enzymes that power many chemical reactions
- Plays a role in crucial bodily functions like blood clotting, immune system response, vision and fluid balance

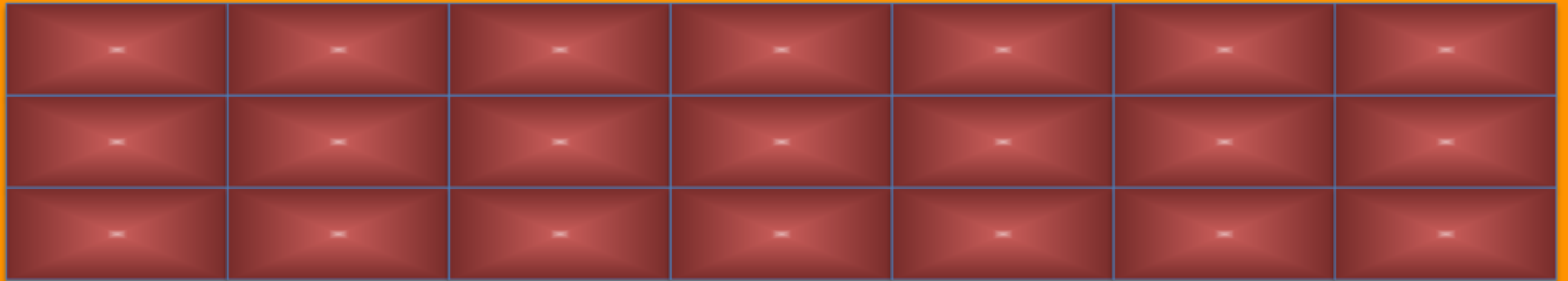
✓ Repairs microtears in muscles to help develop strength, power and size

✓ Can aid in quick recovery of injuries

✓ Athletes require slightly more protein, especially those who are undertaking a strength program

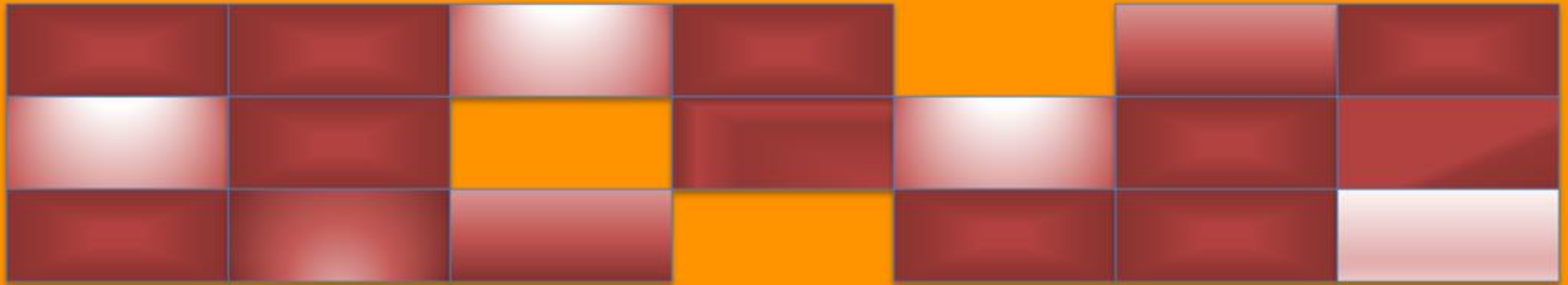


Step 1: Your Muscle



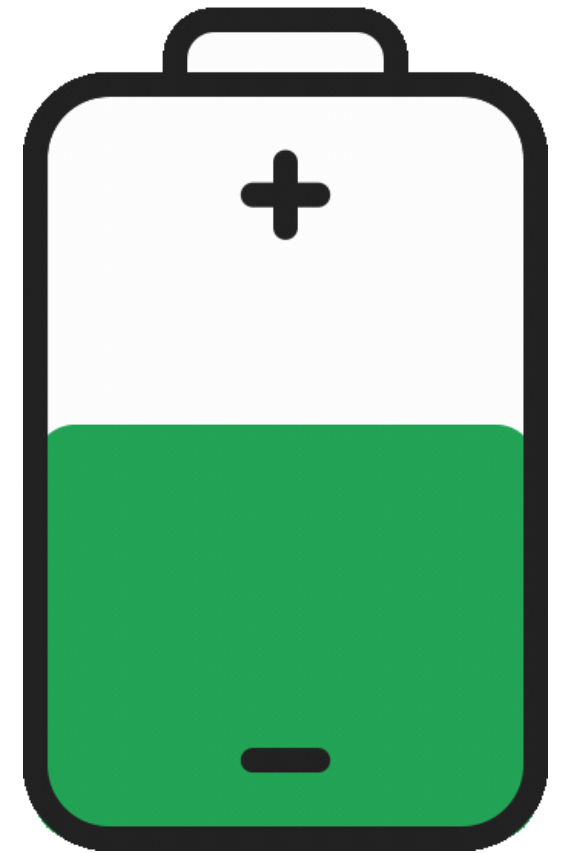
Think of your muscles like a brick wall.

Step 2: Training Stress



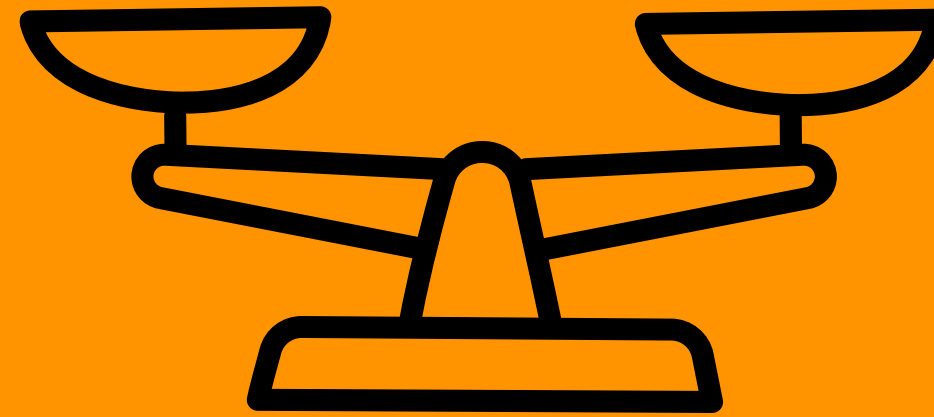
Hard training creates tiny damage
to individual bricks.

Step 3: Recovery



Protein + Energy act like builders
repairing the bricks

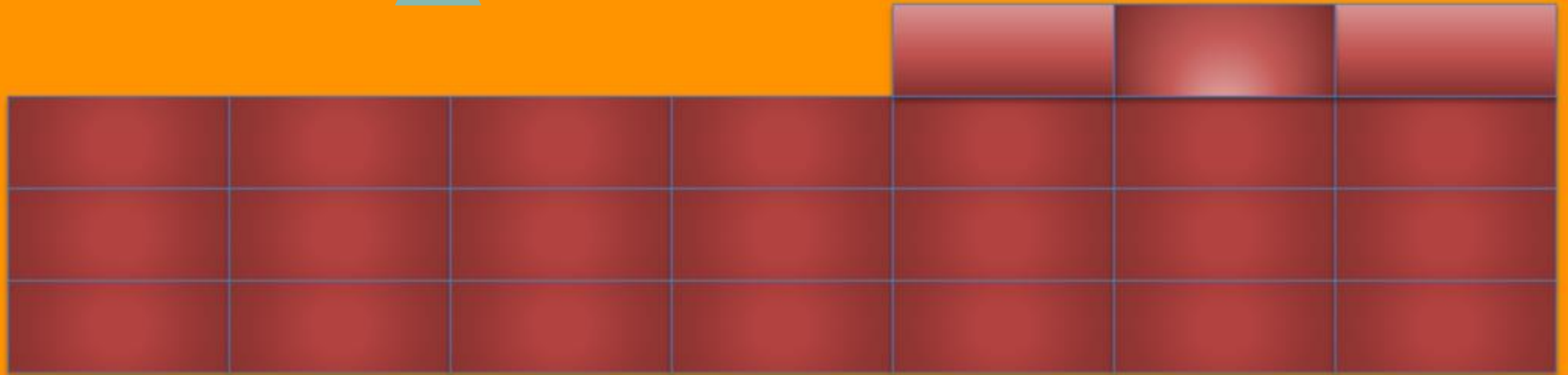
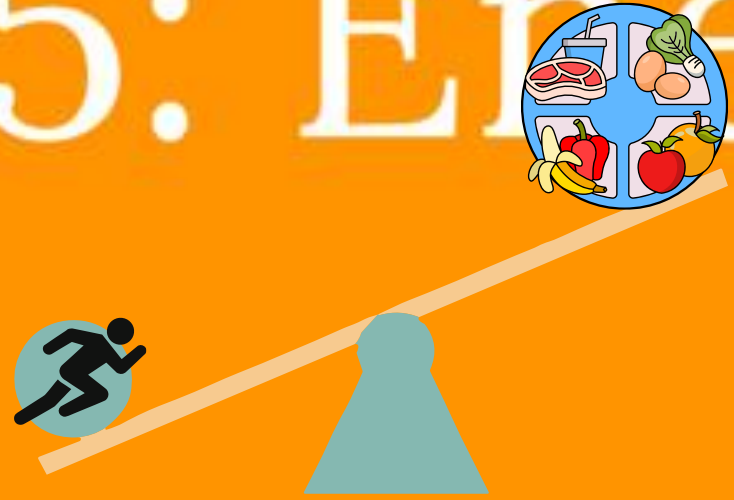
Step 4: Adaptation



						+

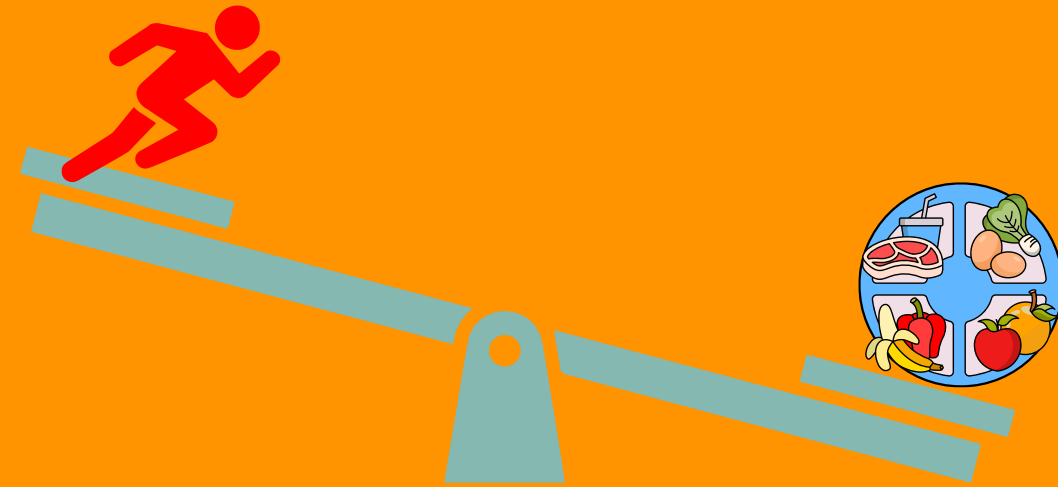
With enough fuel and recovery,
the wall becomes stronger.

Step 5: Energy Availability



Your body needs enough **total energy** to train, recover, grow, and concentrate

If You Don't Eat Enough



If energy intake is too low, your body can't repair muscle properly.

Where Your Energy Goes Each Day

Your daily energy isn't just for sport.

Energy is used for:

- Training and competition
- Muscle recovery
- Bone development
- Growth and hormones
- Brain function and school
- Basic body functions (breathing, heart, organs)

Training

Recovery

Growth

Bones

Brain

Body

Young athletes must fuel ALL of these.



How much Protein do you need?

MINIMUM 4 serves per day

BUT

You must take into account
the amount of exercise and
its intensity.

One serve is equal to:

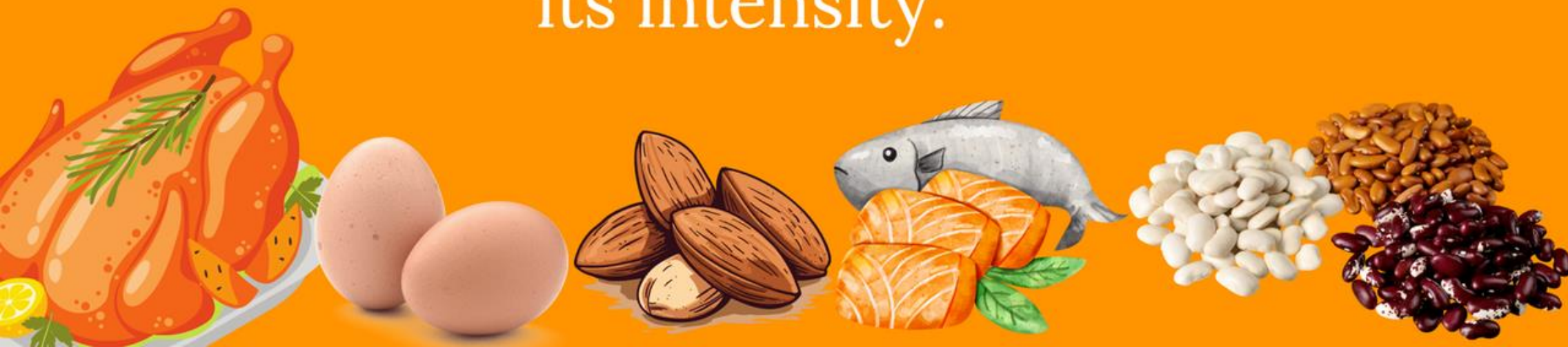
80-100g cooked meat or chicken

100-140g cooked fish

2-3 eggs

1/2 cup cooked beans, lentils
or chick peas

1/3 cup almonds





WHEN should I eat protein to maximise my performance?

During the day	Spread your protein intake throughout the day rather than 1 just 1-2 meals to allow greater absorption of amino acids.	• Avoid protein breakdown by topping up on protein at regular meals/snacks. • To prevent muscle breakdown during training • Aim 20-30g per main meal and ~10g at snack times
After Training (within 30mins of finishing)	Important to consume MIN 20g protein after exercise to enhance muscle repair, strength and performance due to faster recovery.	• To increase protein rebuilding • Help with recovery • Increase muscle growth
Before BED on training days	Protein provides the essential amino acids needed for muscle tissue repair and growth, which naturally occurs during sleep	• To increase overnight protein synthesis rate • Helps with recovery • Improves regulation of hunger hormones • Aim ~10-15g protein before bed (glass of milk)

RECOVERY nutrition

5R'S TO RECOVERY NUTRITION:

- ☒ **REBUILD** – repair muscle tissue through protein
- ☒ **REFUEL** – replenish glycogen stores through carbs
- ☒ **REHYDRATE** – using fluid & electrolytes
- ☒ **RENOURISH** – through colourful fruit & veg
- ☒ **REDUCE** inflammation – through healthy fats

Protein



RECOVERY SNACK:

protein + carbs + fluids



RECOVERY MEAL:

protein + carbs + fluids +
colour + healthy fats



Carbohydrate

RECOVERY snacks

When to include a recovery snack...

1 Post training, if you **CAN'T** eat your "recovery meal" **within ~30-45min** of finishing training.

2 **Between Court & gym sessions.**

Recovery snacks should include the following:

- ☒ **REBUILD with protein**
- ☒ **REFUEL with carbs**
- ☒ **REHYDRATE with fluids**

always check to ensure your supplements are batch tested!



Recovery snack ideas:



Make the most out of your 'WINDOW'

Snacks containing 10-20g Protein + Carbohydrate

High Protein yoghurt + piece of fruit

1/2 cup hummus and 10-15 wholegrain rice crackers

High protein muesli bar + small yougurt tub

2 eggs on toast/bread

High protein wicked sister pudding
OR Pauls high protein custard

Greek yohurt with granola

MILK-BASED: Up & Go, Rokeby Farm breakfast smoothie, Nedd's Choccy milk, Zimil chocolate milk, Good Sport milk, Sustagen Sport etc

1 small can of tuna with wholegrain crackers/vitawheats OR tuna bowl 'quick meal'

Sandwich with meat and cheese OR peanut butter filling

1 cup milk with a big handful of mixed nuts

Cereal and milk

50g Beef Jerky

PROTEIN



CARBOHYDRATE



IMPROVED
PERFORMANCE



RECOVERY MEAL



- Protein after training- how much do you need?
- Meal within 2 hours
 - No appetite = smoothie, toast, sandwich, cereal
- **Meal = carbs + protein + veg/salad (or fruit)**

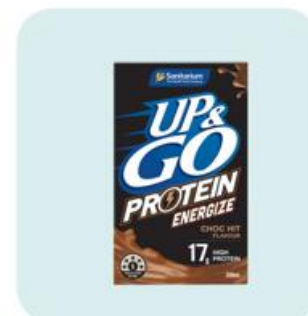


Questions about your recovery meal:

- Are you travelling?
- Do you have emergency snacks in your bag?
- How long until you have the time to eat the above meal?
- Do you need to do a warm down/stretching/other commitments after training or game?



EVERYDAY snacks



Every snack = builders for your muscles.

🔍 Whole Food Protein Snacks

- 2 boiled eggs (12 g)
- Egg muffin / mini frittata (10–15 g)
- Cheese + wholegrain crackers (10–15 g)
- Chicken wrap half (15–20 g)

🥪 Sandwich / Bread Options

- Peanut butter sandwich (12–15 g)
- Ham & cheese sandwich (15–20 g)
- Egg sandwich (12–15 g)
- Tuna & crackers (15–20 g)

🥜 Quick Grab Snacks

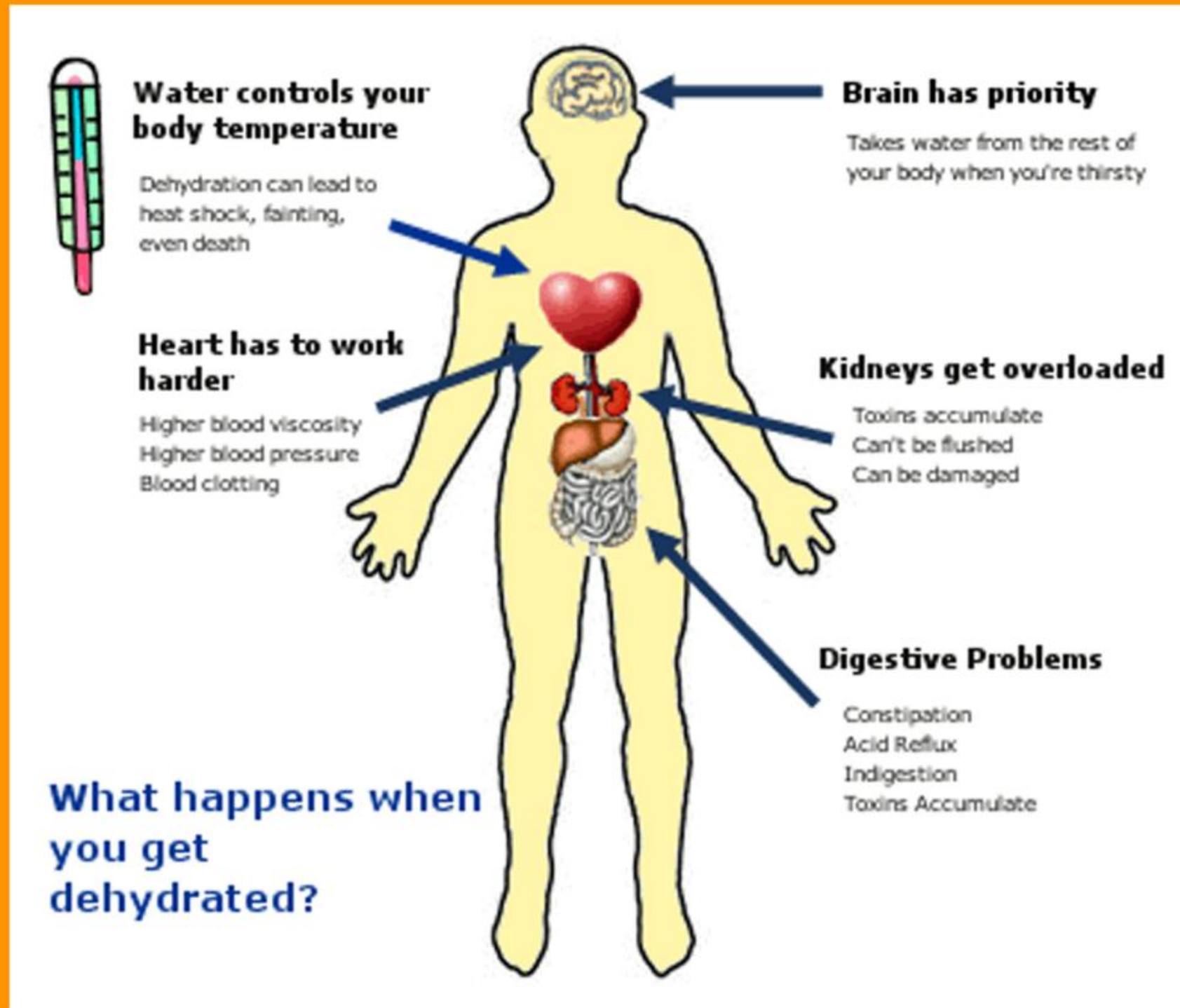
- Trail mix + yogurt pouch (12–15 g)
- Roasted chickpeas + cheese stick (10–15 g)
- Protein bar (school friendly) (10–20 g)

Why is hydration important?

Dehydration can result in:

1. Poor concentration and decision making
2. Decreased skill performance
3. Slow reaction times
4. Fatigue, feeling tired
5. Headaches
6. Overheating
7. Cramps, twitchy muscles

= REDUCED PERFORMANCE



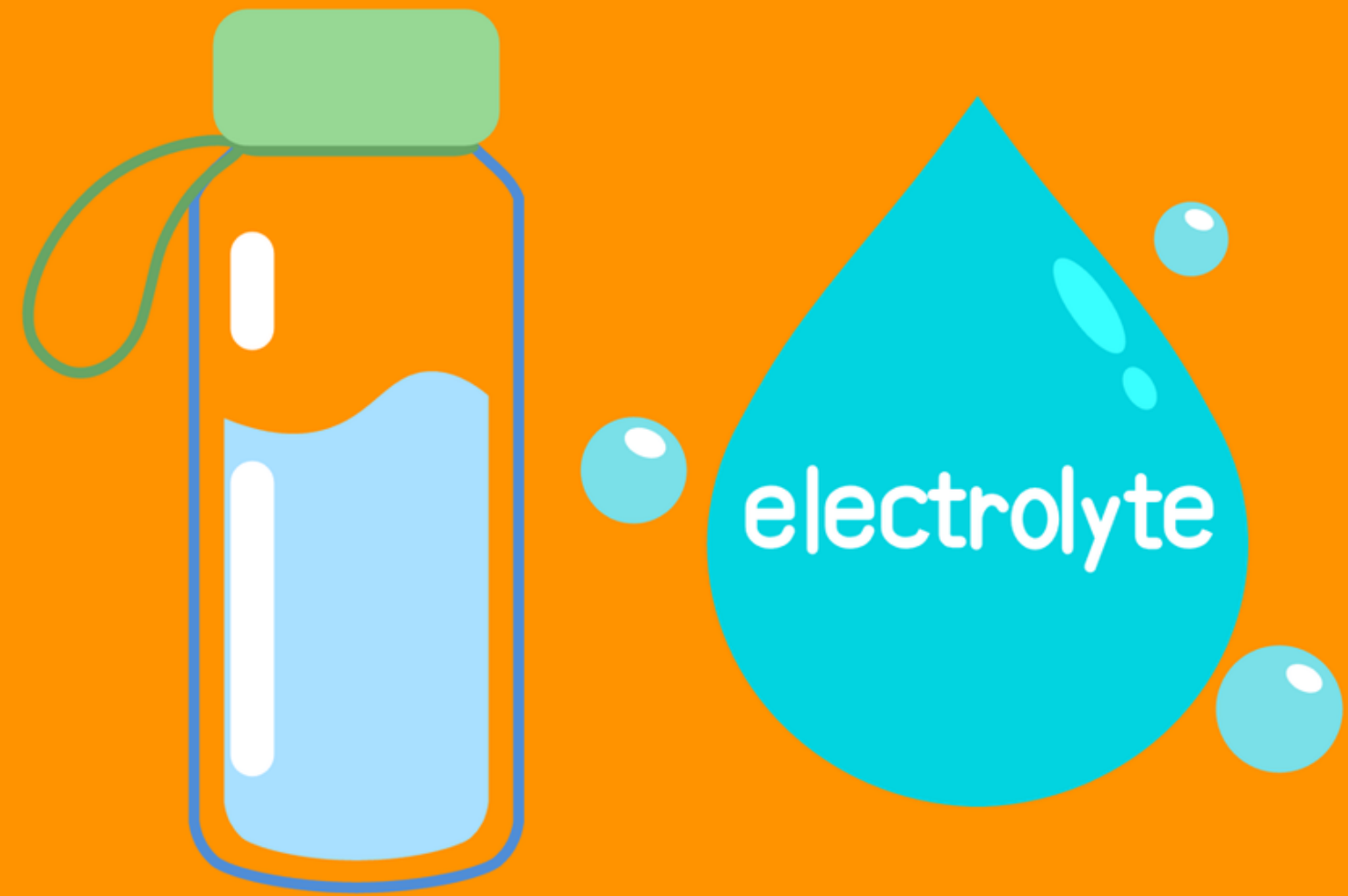
*****Note these symptoms can happen ANYTIME during the training and competitions if you notice ANY of these symptoms you need to follow rehydration strategy below**

Everyday Hydration

WHAT: Mostly water

WHEN: Frequently throughout the day

- Keep a 1-2 water bottles on you at all time & refill regularly
- Keep an eye on the colour of your urine
- If you are feeling the effects of dehydration or are a heavy sweater – 1-2 electrolyte serves throughout the day

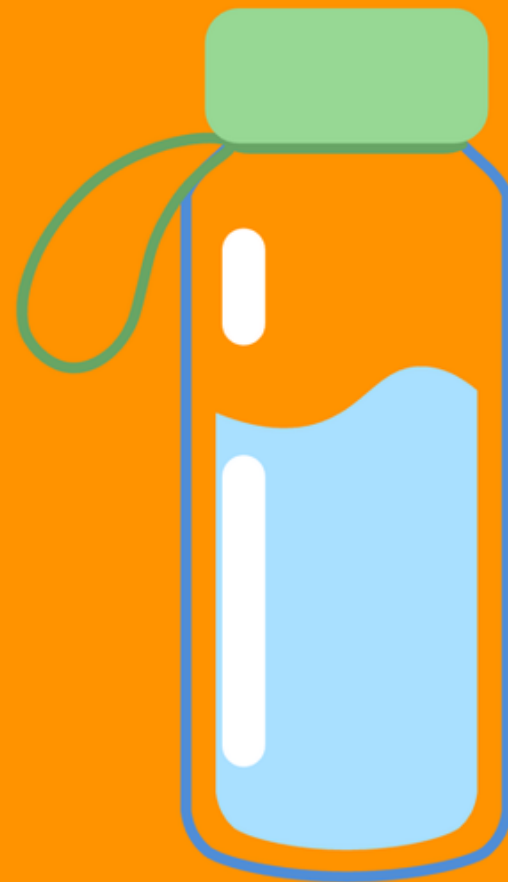


Training Hydration:



WHAT:
Water +/- Sports Drinks

Keep a water bottle +/- sports drink either on you or at start/finish



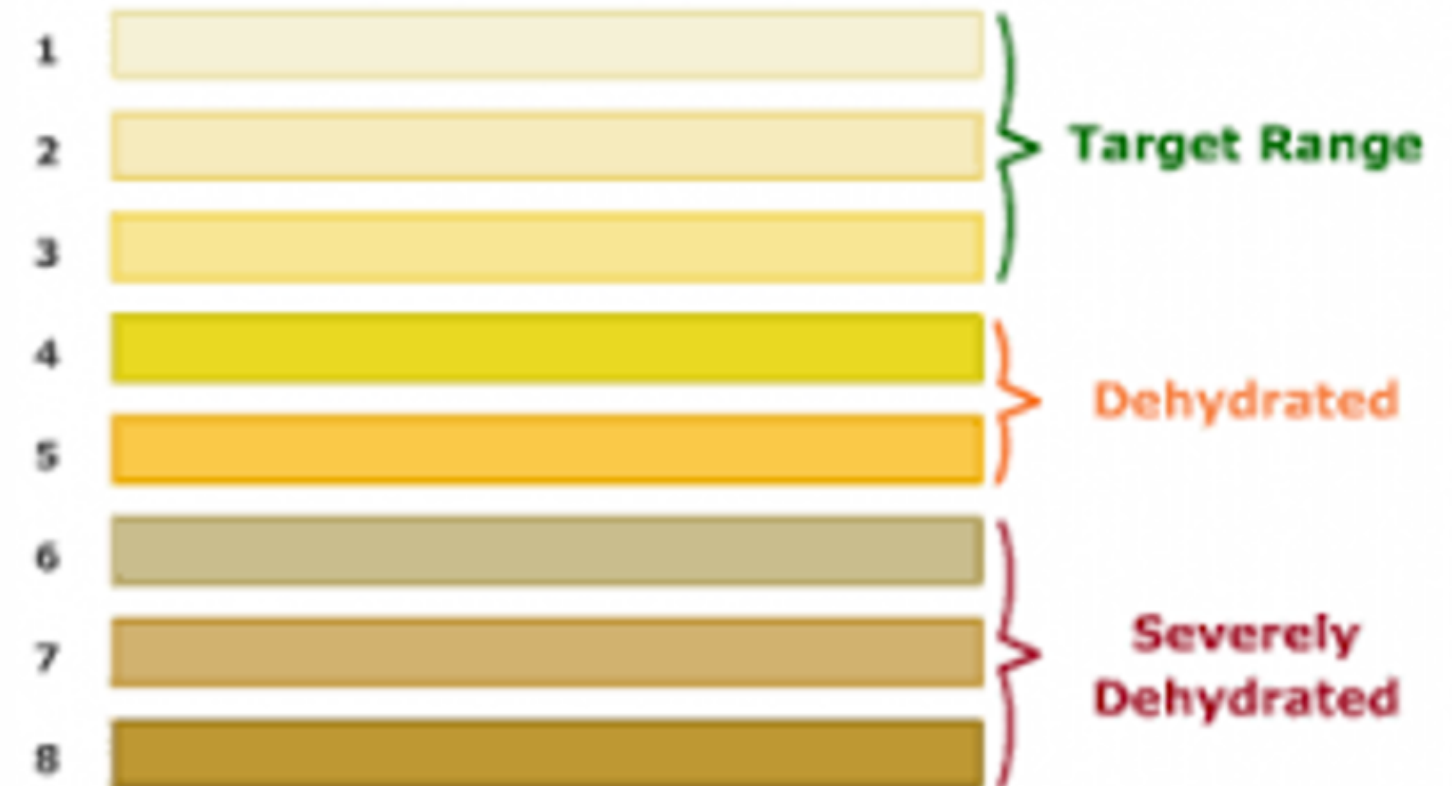
WHEN:
At every opportunity
Drink small amounts at every opportunity- during breaks, strapping, warm ups

Dehydration strategy:

WHAT: Water + sports drink +
Hydralyte/Electrolyte
Effervescent tablet

WHEN: Immediately with onset
of any of the symptoms above

- Aim to take in 300-600ml within first hour
- Place electrolyte serve either into your water
OR sports drink
- If you are worried, please contact a medical
doctor



Your target is to make sure that your urine is the same colour as numbers 1,2 or 3. Colours 4 and 5 suggest dehydration and 6,7 and 8 severe dehydration.

How can we measure hydration?

1

Water – drink in sips regularly over the day. Aim for > 2 litres per day (plenty more on hot & humid days!) and ensure you are quenching your thirst.



During sessions – always have a water bottle with you and take any opportunities to sip on it. This includes gym sessions!

2

3

Sports Drinks – for sessions >2 hrs or when its particularly hot & humid, consider having water AND a sports drink. This is also a great strategy to use on competition day OR when travelling



Waking pee colour – take notice of the colour and amount of urine in your first pee of the day. Aim for a light yellow colour (first two rows on laminated sheet). If the urine is smaller in volume than usual, drink extra that morning.

4

SUPPLEMENTS



1 in 5
Australian made
Protein powders
contained banned
substances

HOW DO I KNOW IF A SUPPLEMENT IS SAFE?



A Sports Dietitian can guide you to ensure any supplements you're considering/using, are safe and effective for **YOU**.



Ensure you choose evidence based third party tested products. Use the AIS Framework to see which products have good evidence behind them.



Complete your SIA training modules + download the App.

AIS SUPPLEMENT FRAMEWORK



Strong scientific evidence for use in specific situations in sport using evidence-based protocols

GROUP A

Sports foods

- Sports drinks
- Sports gels
- Sports confectionery
- Sports bars
- Electrolyte supplement
- Protein supplement
- Mixed macronutrient supplement (bar, powder, liquid meal)

Medical supplements

- Iron
- Calcium
- Multivitamin
- Probiotics
- Vitamin D
- Zinc

Performance supplements

- Caffeine
- β -Alanine
- Dietary nitrate / Beetroot juice
- Sodium Bicarbonate
- Creatine
- Glycerol



Emerging scientific support, deserving of further research. Considered for use by athletes under a research protocol or case-managed monitoring situation

GROUP B

- Fruit Derived Polyphenols (cherries, berries, blackcurrants and pomegranate)
- Vitamin C

Tastants

- Menthol
- Pickle juice
- Quinine

- Collagen support
- Carnitine
- Ketone supplements
- Fish oils
- Curcumin (Turmeric)
- N-Acetyl Cysteine



Scientific evidence indicates no benefit to athletes and/or no research undertaken to guide an informed opinion

GROUP C

These supplements remain under investigation and are subject to ongoing review

- Magnesium
- Alpha Lipoic Acid
- HMB (B-Hydroxy B-Methylbutyrate)
- BCAAs/Leucine
- Phosphate
- Prebiotics
- Vitamin E
- Tyrosine



Banned or at high risk of contamination with substances that could lead to a positive doping test

Consult WADA for full list (updated annually)

GROUP D

- Stimulants
- Prohormones and hormone boosters
- GH releasers and 'Peptides'
- Beta-2 agonists
- Selective Androgen Receptor Modulators (SARMS)
- Metabolic Modulators
- Colostrum
- Tribulus terrestris and other testosterone boosters
- Maca root powder

WHERE TO GO?

Informed sport:

<https://sport.wetestyoutrust.com/>



Hasta tested:

<https://hasta.org.au/certified/>



Batch tested:

<https://www.batchtested.com.au/>



Top 4 tips for athletes:

FUEL for what
you're about
to do.

‘Pre-trainer’

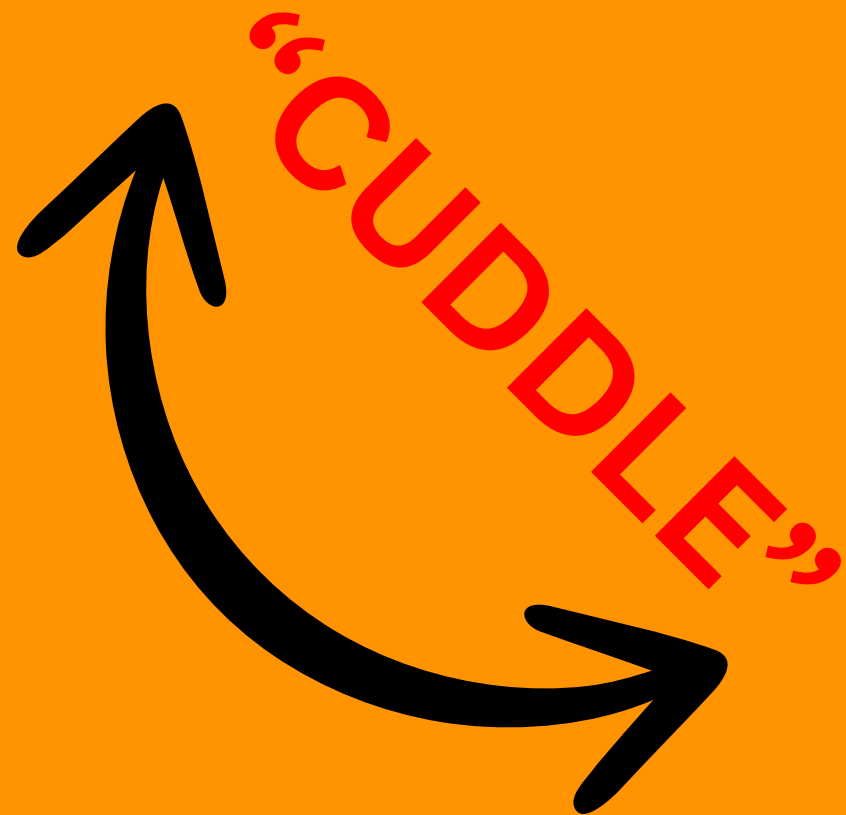
SOMETHING
is **ALWAYS**
better than
NOTHING!



FUEL for what
you just did.

‘Post-trainer’

REPAY the
DEBT to your
body
and your body
will **THRIVE**



QUESTIONS?

