



SPORT NUTRITION

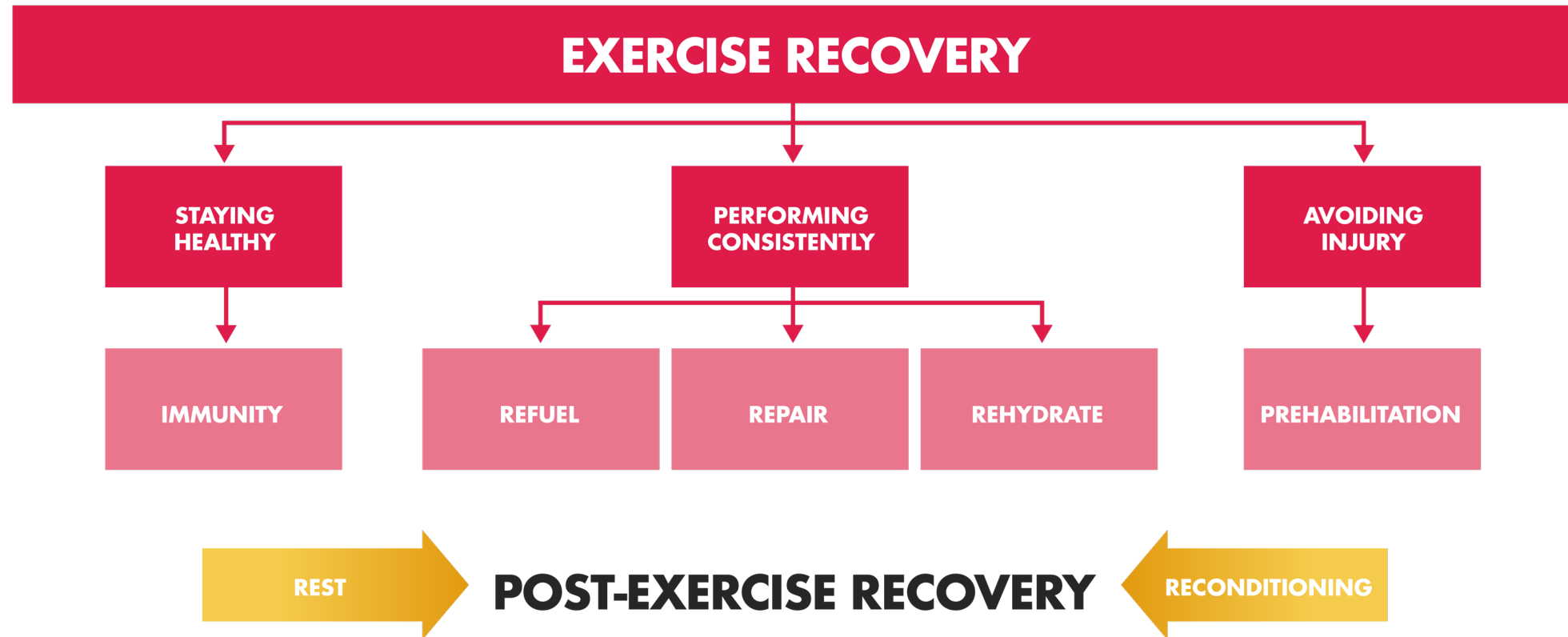
POST-EXERCISE RECOVERY

This resource was created by Oliver Witard, Senior Lecturer in Exercise Metabolism and Nutrition, Kings College London in collaboration with the GetPRO Professional team

This resource is for use under professional supervision

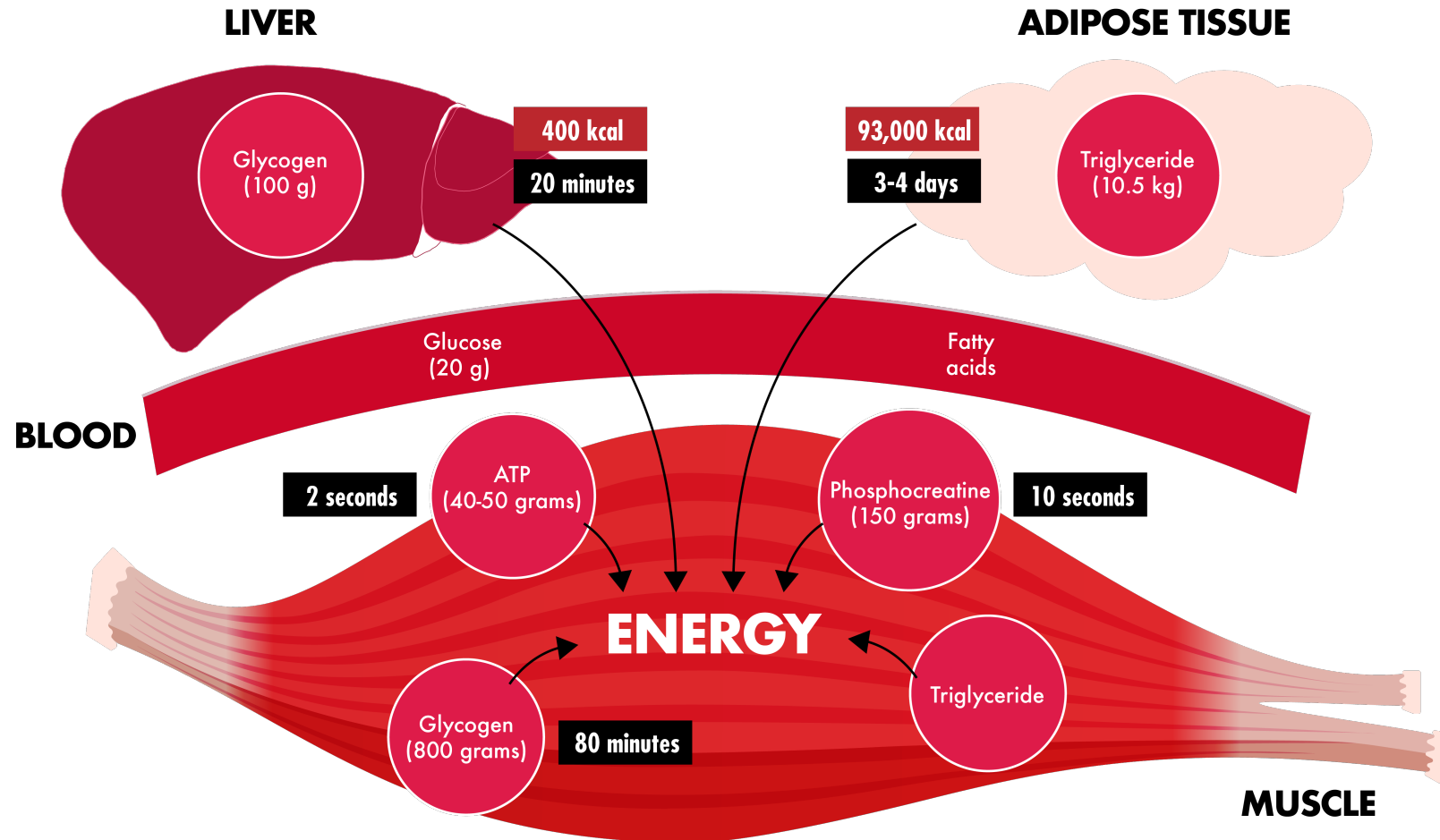
RECOVERY

WHAT IS POST-EXERCISE RECOVERY?



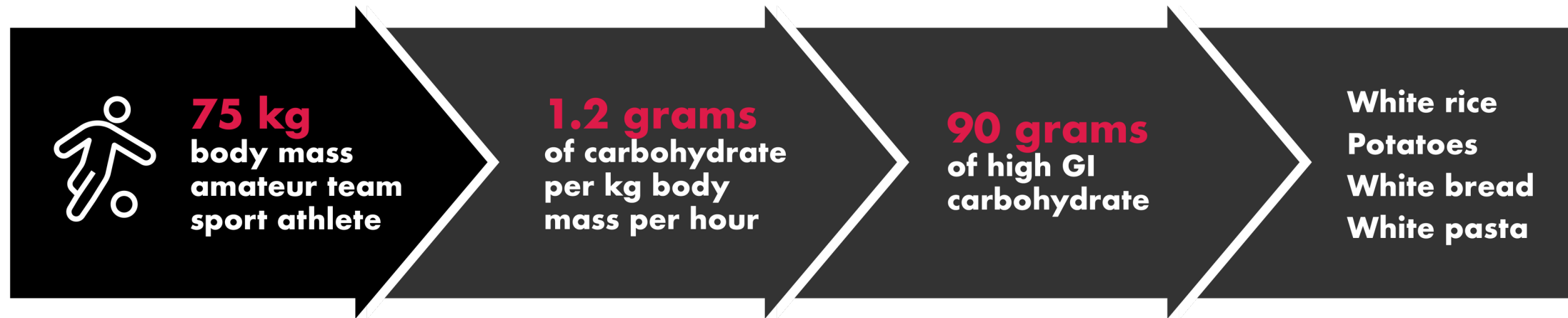
WHY REFUEL?

RESTORE MUSCLE GLYCOGEN AND PHOSPHOCREATINE STORES



HOW TO REFUEL POST EXERCISE

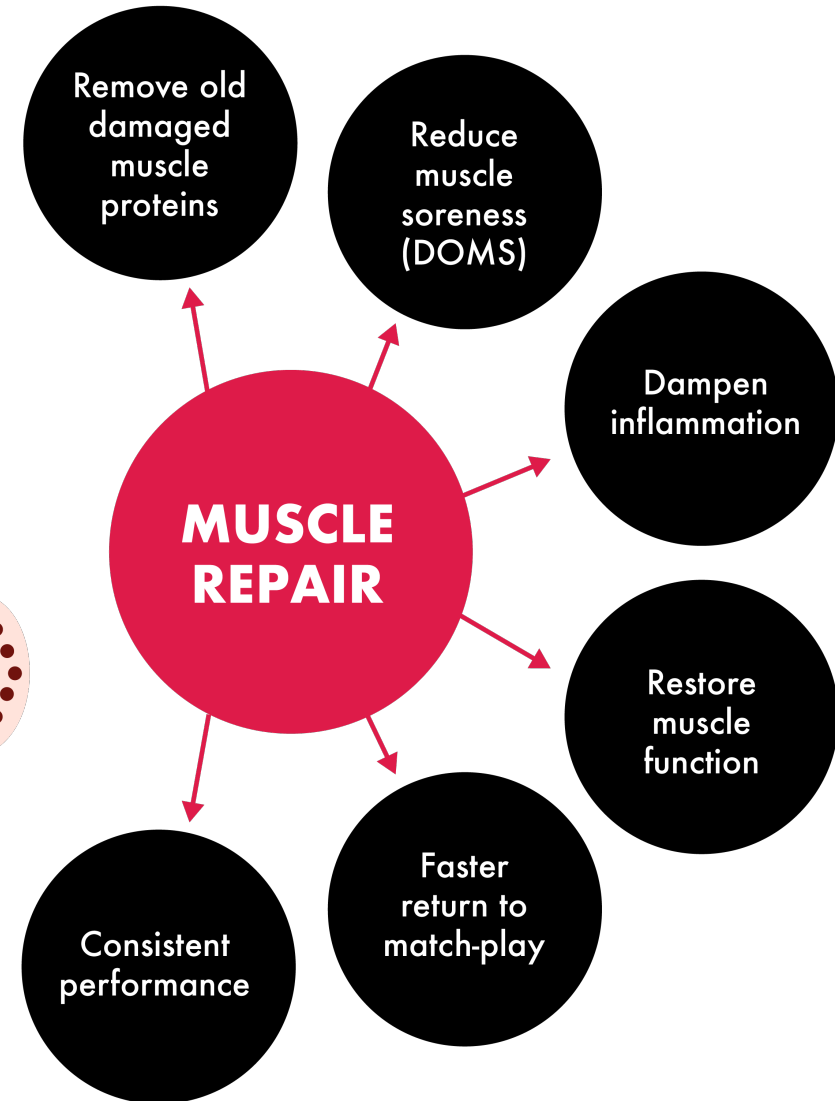
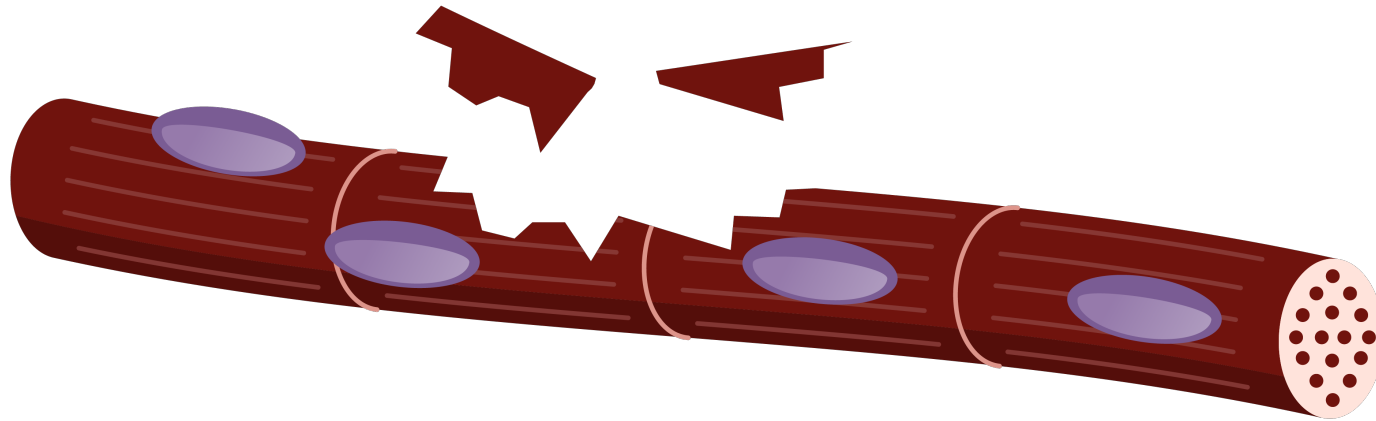
CARBOHYDRATE IS KING



AVOID ALCOHOL OR HAVE ONLY IN MODERATION

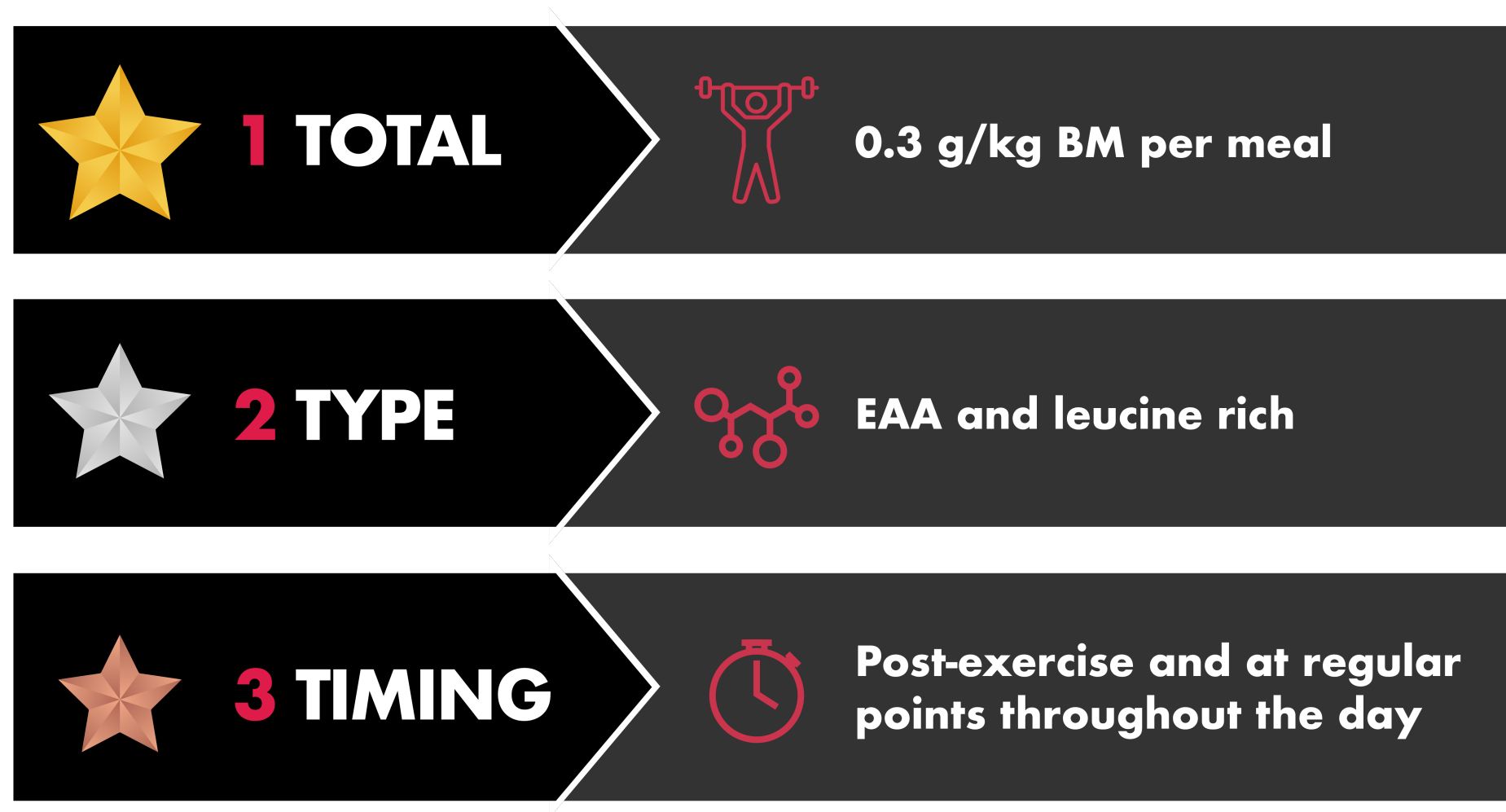
WHY REPAIR?

SORENESS, INFLAMMATION
AND MUSCLE PERFORMANCE



PROTEIN FOR MUSCLE REPAIR AND REMODELLING

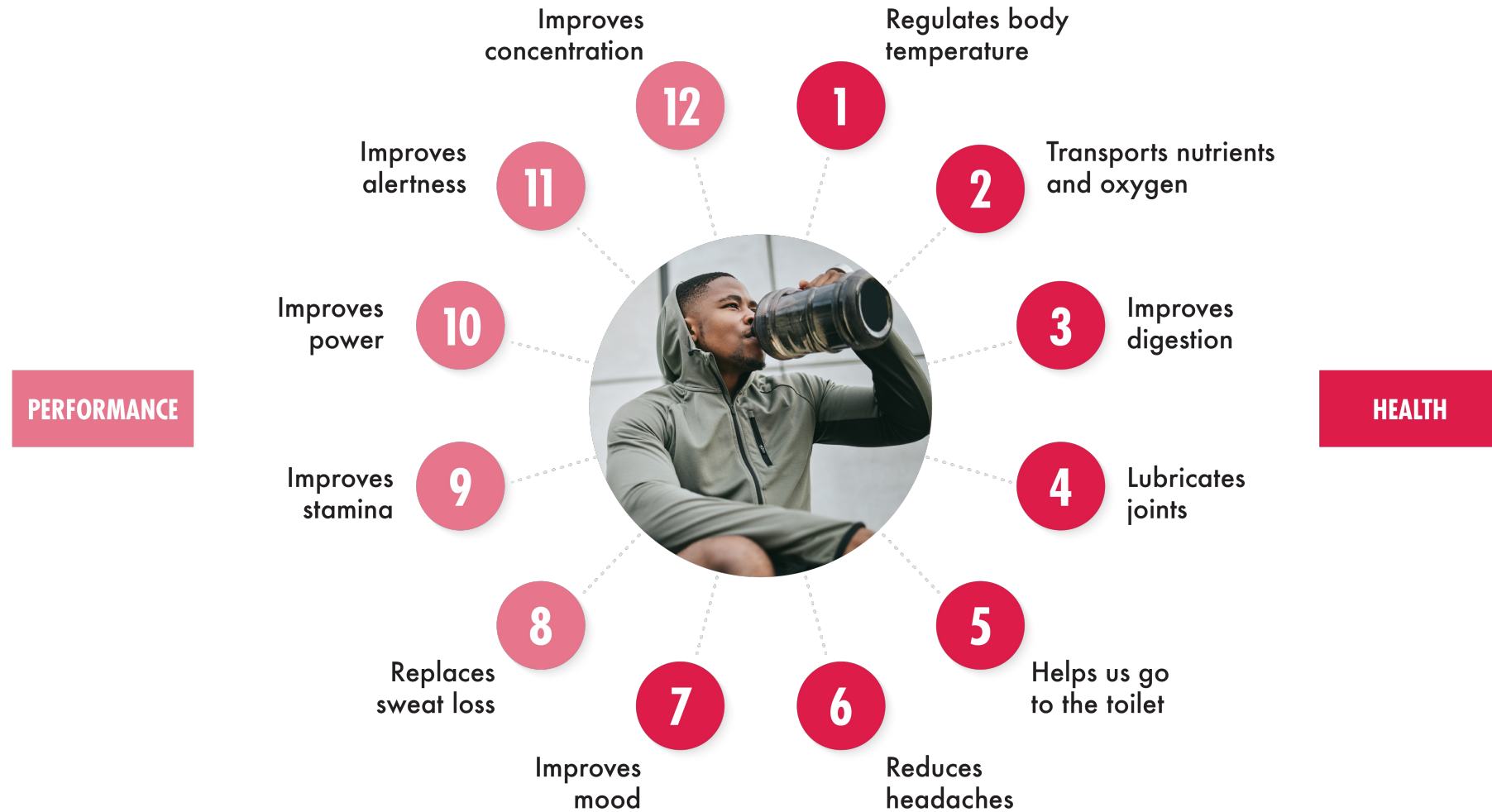
TOTAL, TYPE AND TIMING



EAA: essential amino acids

WHY REHYDRATE?

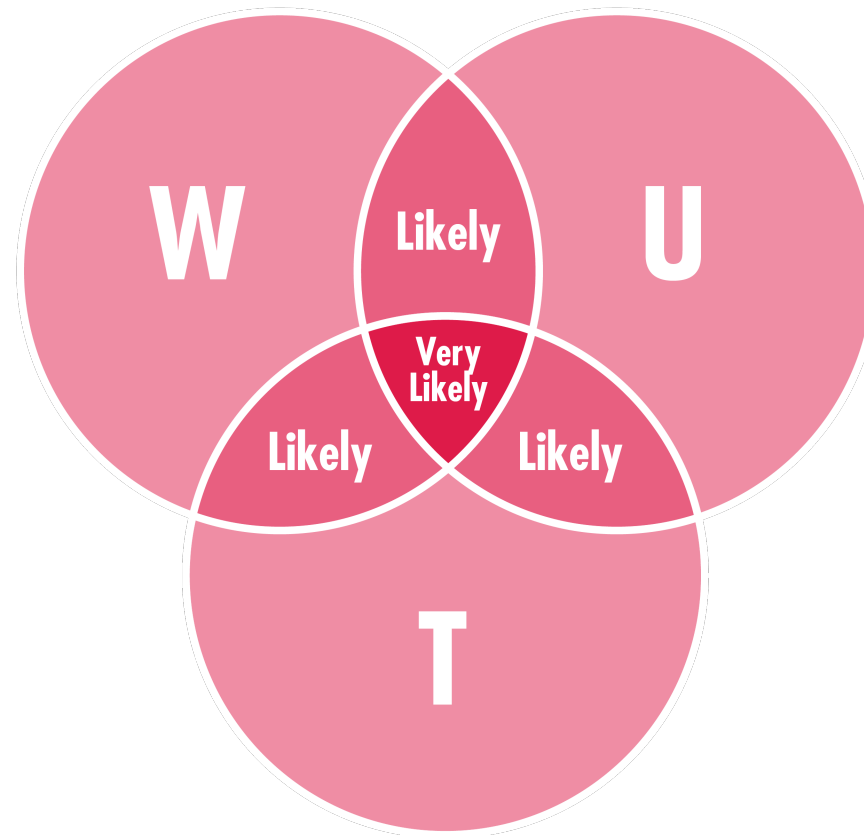
PHYSICAL AND MENTAL HEALTH AND PERFORMANCE



REHYDRATION

HOW SHOULD WE MONITOR OUR HYDRATION LEVELS?

- W** **Weight:**
Have you lost more than 2% body mass?
- U** **Urine:**
Is your urine a dark colour?
- T** **Thirst:**
Are you thirsty?



EXAMPLE OF HOW URINE COLOUR MIGHT VARY WITH HYDRATION STATUS



Probably adequately hydrated



Possibly dehydrated



Probably dehydrated

Note: Colour reproduction may vary slightly from the original - do not use this chart for diagnostic purposes

REHYDRATION

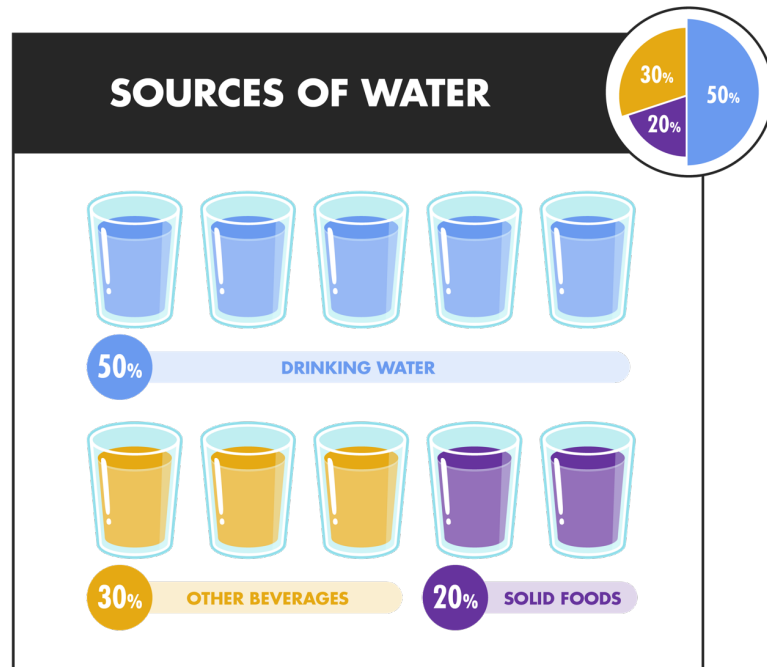
HOW SHOULD WE MONITOR OUR HYDRATION LEVELS?

Date	Weight yesterday morning (kg)	Weight this morning (kg)	Weight change (kg)	Thirsty (Yes/No)	Dark yellow urine (Yes/No)	Comments
01/11	75	72	-3	Y	Y	Very likely dehydrated Need to drink more during and after training or matchplay
02/11	72	73	+1	N	N	I have my hydration strategy down. Repeat!
03/11	73	76	+3	N	N	Very likely over hydrated. Need to drink less during during and after training and matchplan

REHYDRATION

HOW SHOULD AMATEUR TEAM SPORT ATHLETES REHYDRATE?

1. Drinking water
2. Other tasty beverages (milk, sports drinks, juices)
3. Solid foods



League table on water content of foods

1. Fruits/vegetables = 80-95% water
2. Yoghurt = 75-85%
3. Rice/pasta = 70-85%
4. Fish = 65-80%
5. Eggs = 65-75%
6. Meat = 40-65%
7. Soups, custard = 60-65%
8. Cheese = 40-60%
9. Bread and cookies = 30-40%

KEY MESSAGES

THE 3 Rs

REFUEL

Aim to consume carbohydrates with a high glycaemic index in the hour post-exercise to refuel the muscle

REPAIR

Prioritise protein and omega-3 rich foods to promote muscle repair and reconditioning during post-exercise recovery

REHYDRATE

Ensure to fully rehydrate after exercise to replace both fluid and sodium lost through sweating

REFERENCES

1. Sawka MN *et al.* American College of Sports Medicine position stand. Exercise and fluid replacement. *Med Sci Sports Exerc* 2007; 39:377-390.
2. Balsom PD *et al.* Carbohydrate intake and multiple sprint sports: with special reference to football (soccer). *Int J Sports Med.* 1999; 20(1), 48-52.
3. Cockburn E *et al.* Effect of milk on team sport performance after exercise-induced muscle damage. *Med Sci Sports Exerc.* 2013; 45(8), 1585-1592.
4. Witard OC *et al.* Dietary Protein for Training Adaptation and Body Composition Manipulation in Track and Field Athletes. *Int J Sport Nutr Exerc Metab.* 2019; Mar 1;29(2):165-174.

About the author: Dr Oliver Witard worked in collaboration with the GetPRO Professional team to produce this presentation. He is a Senior Lecturer in Nutrition and Exercise Metabolism at King's College London. His academic research interests are in the response of muscle protein metabolism to exercise and nutrition with application to athletic and clinical populations.



THANK YOU