

Fueling for your rowing training

—
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It takes a lot of amazing people to feed a rowing team





Optimal Nutrient timing

Excellent quality of food

Fuelling according to the work you are doing by adding snacks throughout the day

Optimise protein pulsing by avoiding long periods without food (more than 4+ hours)

What do you eat before your training

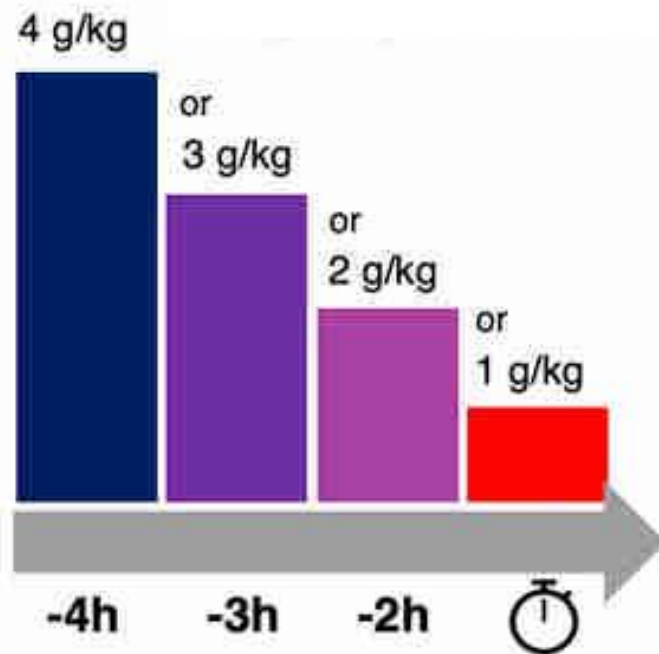
- Focus on Carbohydrates
- Adequate amounts of protein
- Enough calories?





Your pre-training meal depends on how much time you have to digest your meal

Focus on carbs



1

High carbohydrate, low fibre, low fat and low protein in the hour before your training

2

Low fat and moderate protein 2-3 hours before training

3

4 hours before training: high carbohydrate, meal; e.g., open sandwich, wholegrain toast with eggs and tomato, porridge made with milk and berries



Less than 1 hour before training



Between 2-3 hours before training



More than 3 hours before training



Brooke Francis

Silver Olympic Medal

Winner Tokyo

Olympic Games W2X





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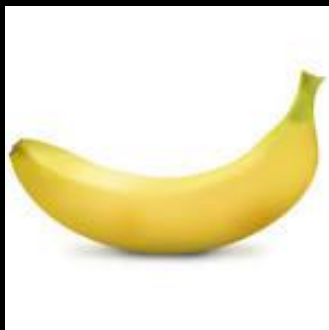
What do you eat during training

- Carbohydrates are king
- Aim for 30-60 g of carbohydrates per hour



What do you eat during training

Time	Recommendations
< 1 hour	Water OR Carbohydrate snack/drink for a high intensity session
1-2 hours	30-60 g of carbohydrate per hour



Banana



Fruit leather



onigiri

Logan Ulrich

Elite Men's Coxless Four

He will be competing at the
2024 World Rowing Cup II





**What do you
eat after
training?**





Best Recovery

1. **REPLENISH** your muscle glycogen with carbohydrates
2. **REPAIR** muscle tissues with protein
3. **REHYDRATE** with fluids and electrolytes

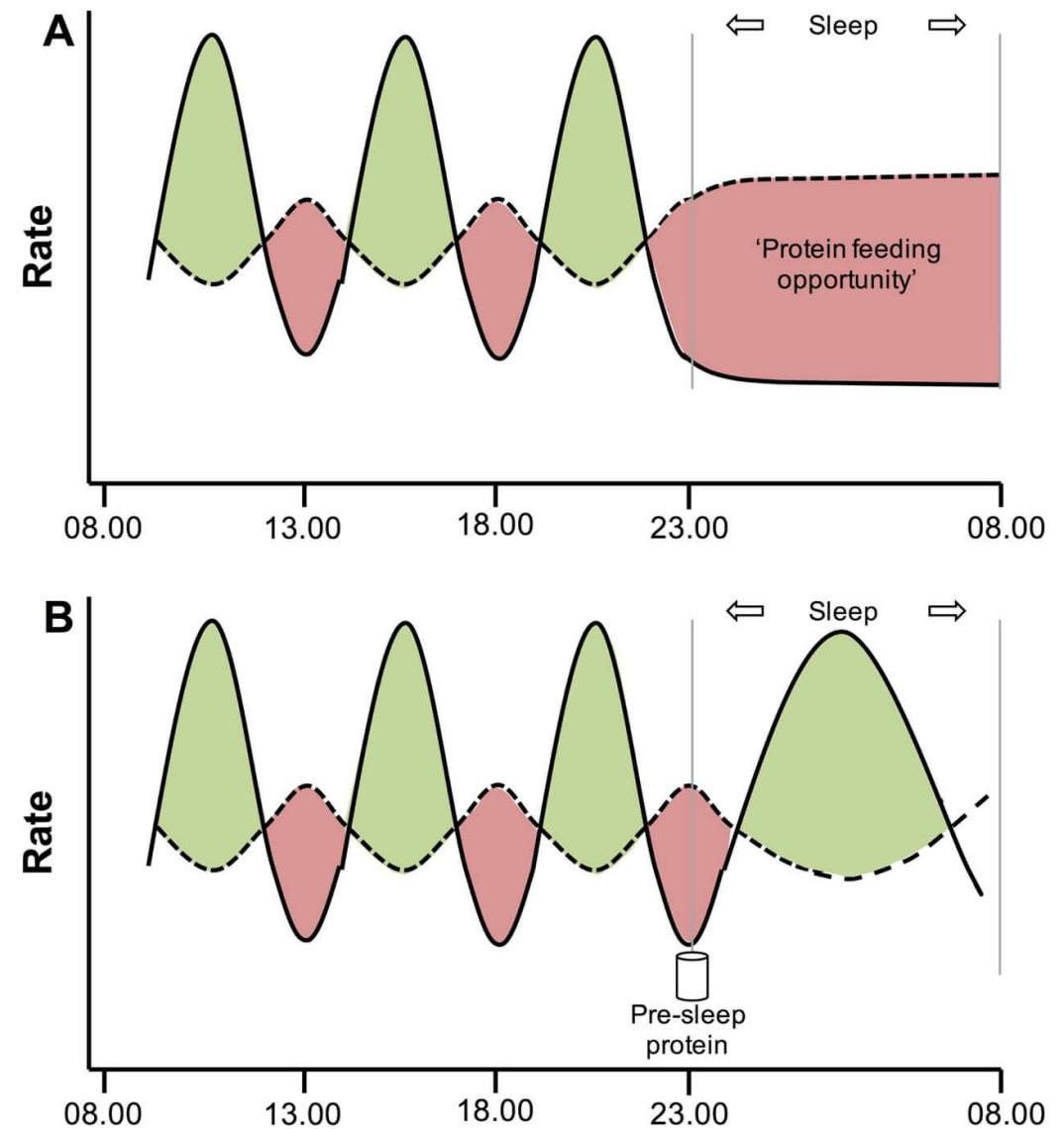
1. Replenish



2. Repair your muscles

Muscle is stimulated to increase its protein synthetic rates for up to **24 hours after a workout**.

Aim to spread protein over meals and snacks consumed over the day



Trommelen *et al*, 2016
Strongerbyscience.com
Nutritiontactics.com

20 g Protein



**525 ML
MILK**



**300 ML
YOGHURT**



**3 WHOLE
EGGS**



**300 g
LENTILS**



**75 g
EDAM CHEESE**



**90 g
CHICKEN**



**80 g GROUND
BEEF (RAW)**



**60 g LEAN BEEF
(RAW)**



**95g LAMB
(RAW)**



**95g PORK FILLET
(RAW)**

3. Rehydrate

Hydration Tips

Properly hydrated	1	
	2	
	3	
Dehydrated Increase fluid intake (monitor losses)	4	
	5	
	6	
Severely dehydrated Discuss with your doctor	7	
	8	

Urine color



Thirst



Body mass



Daily Hydration Needs

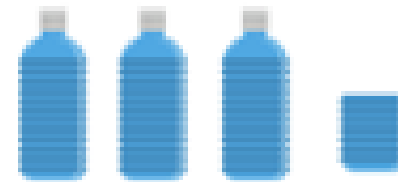
The average person needs to drink 30-40ml of fluid per kg body weight per day.

For most people, this is 2.5 to 3.5 L of fluid daily.

Higher intakes will be required on hot days in Paris



$$0.035 \times 75\text{kg} = 2.6\text{L}$$



$$0.035 \times 95\text{kg} = 3.3\text{L}$$

This does not include fluid lost as sweat!

Aim to replace 150% of the fluid lost during training

Weight before training	70.0 kg
Weight after training	69.6 kg
Fluid drank during training	0.5 kg (ml)
Total fluid lost	0.9 kg

To fully replace fluid losses before the next training session you need to drink $0.9 \times 1.5 = 1.35$ ml before the next training session



SPORT

Tom Mackintosh

Gold Olympic Medal

Winner Tokyo

Olympic Games M8+





Are you eating enough?

Rowers have a high training load;
average 19.8 hour/week

Rowers are often of large stature

- Men: 95-98 kg
- Women: 70-80 kg



Energy availability is described as the energy available to the body (from food) after the costs of exercise has been accounted for. It is the fuel (energy) available for physiological processes within the body.



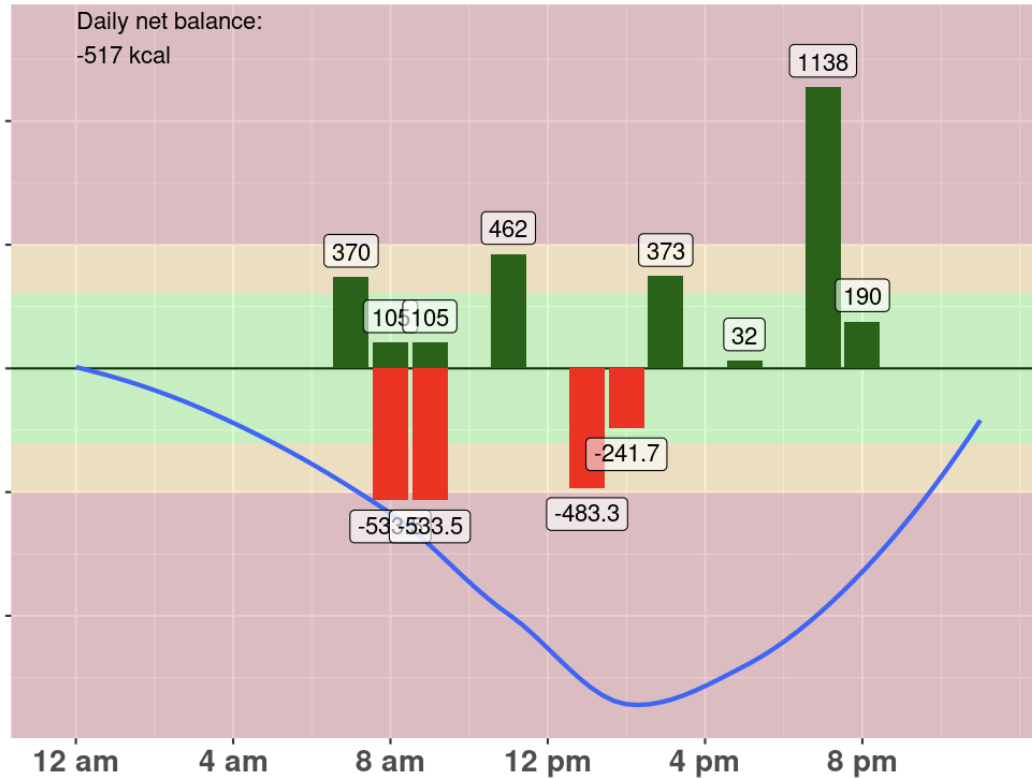
Energy available from food (kCal)

Cost of exercise (kCal)

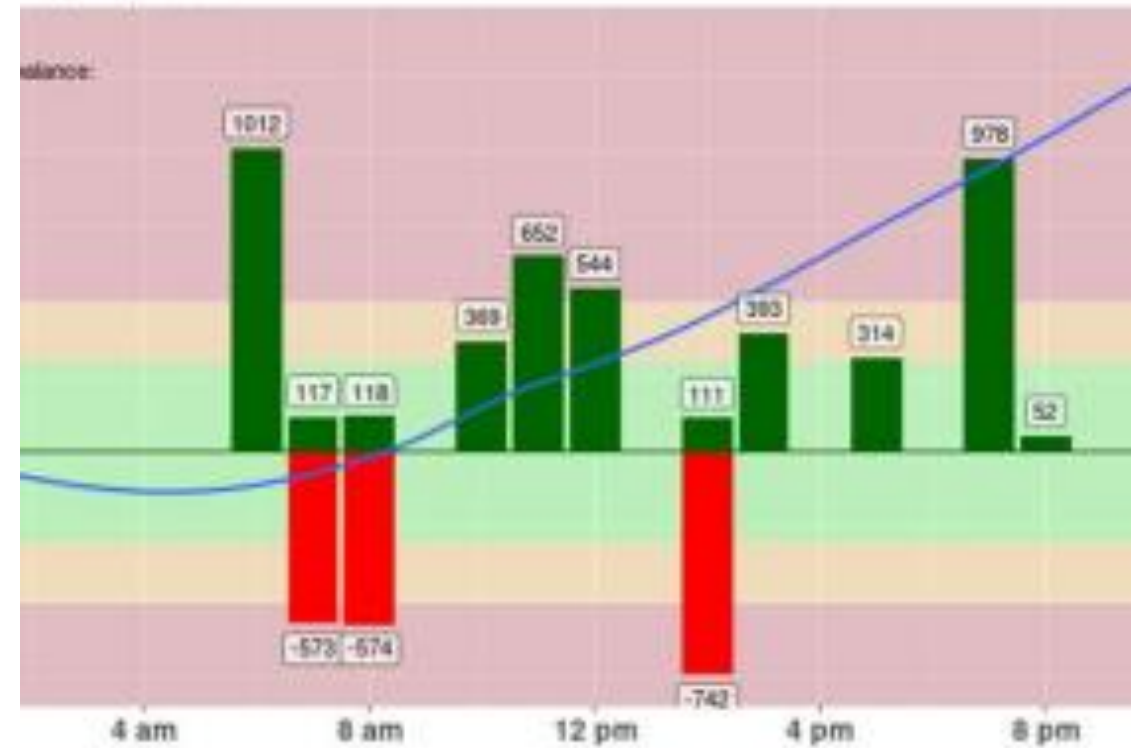
Energy Available for
normal bodily processes
(kCal * kg⁻¹ * FFM⁻¹ * day⁻¹)

Within day energy balance - example

Exercise shown in red, food intake shown in green
Blue line indicates hourly energy balance



Exercise shown in red, food intake shown in green
Blue line indicates hourly energy balance



Small changes can make a big difference



Breakfast:
Porridge + milk

Plus: maple syrup + 1 tsp peanut butter + banana + walnuts

Recovery

Whey protein + water

Plus: milk + piece of toast + jam



Lunch:

Wrap + ham + salad

Plus: change the wrap for toast or add beans + glass of juice

PM

Piece of fruit

Plus: milk + peanut butter + banana (smoothie)



Dinner:

$\frac{1}{4}$ plate carbohydrate
 $\frac{1}{4}$ plate protein
 $\frac{1}{2}$ plate vegetables

Plus:

fruit
crumble
+ yoghurt

Any questions?



RACE DAY NUTRITION

When rowers race in three or four events on one day, there is little time for rest and recovery between races. Eating during competition can be difficult, when nerves and a busy schedule take over. Practising competition eating during training will help to identify food choices that suit you best.



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NZ Registered Nutritionist
High Performance Sport New Zealand

Less than 30 minutes between races

Eat foods that are rapidly digested from the gut:



30-60 minutes between races

Include 'real foods' that are easily digested:



1-2 hours between races

Eat a SMALL meal high in good quality carbohydrates, moderate in protein and low in fat:



More than 2 hours between races

Eat a small meal that helps you recover and refuel for the next race without leaving you feeling uncomfortable.

