

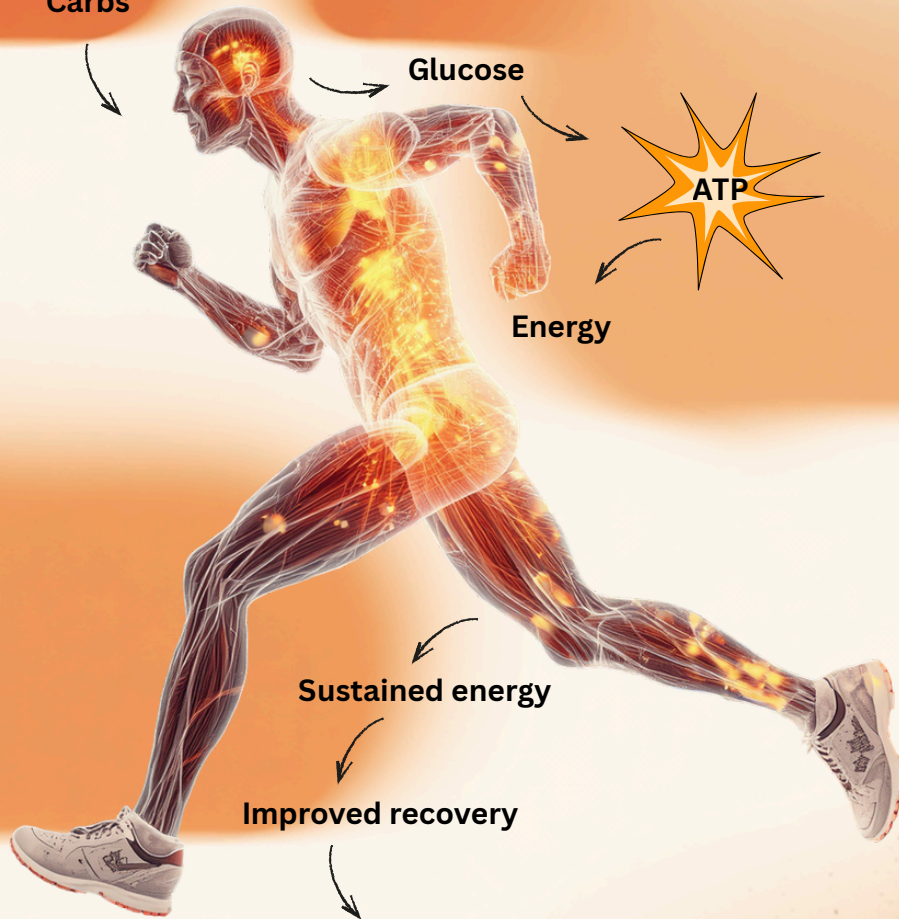
CARBOHYDRATES

What should my plate look like?

Your Fuel, not your enemy !



Carbs



On a moderate intensity workout Day?

“ 1/3 Veggies (mixed veggies)
1/3 Carbs : Pasta, Rice, Couscous, Potatoes etc.
1/3 Protein Eggs, Chicken, Tofu, Fish, Meat, Beans etc.”



On a high intensity workout Day ?

“ 1/3 Veggies: (mixed veggies)
1/2 Carbs: Pasta, Rice, Couscous, Potatoes etc.
1/3 Protein (eggs, beans, fish, meat, tofu, tempeh)”



What about the Restday?

“ Choose lean Meat/ Fish
• Swap the Pasta/Rice/Couscous to Potatoes
• Ditch the Pre-workout snack”



Why are Carbohydrates so important?

Before the workout



- Carbohydrates are stored as muscle glycogen, the body's main energy source for exercise.
- Adequate carbs help prevent early glycogen depletion, allowing you to maintain speed, strength, and endurance for longer.
- This supports higher-quality training and better performance.



After the workout



- Post-workout carbs restore energy and help your body adapt to training.
- Post-workout carbs speed up recovery between sessions.
- Adequate carbohydrate intake helps ensure you begin your next session energised, not fatigued.

So what happens if I don't eat enough Carbs?



Early Fatigue



Reduced Performance



Poor Recovery

Which Carbs should I have/not have before training?



Option 1

3-4h before



Chicken & Rice



Pasta



Porridge with fruit

Option 2

1-2h before



Toast with jam



Toast with Honey



Chicken Wrap

Option 3

45 min before



Banana



Rice cakes



Apple juice



Nuts, Seeds



Legumes



Fizzy Drinks



Lasagne



Raw Veg



Creamy Pasta



Spicy Foods



Fried Foods



Burgers

- Option 1: **3-4 hours** before exercise to allow digestion and reduce discomfort.
- Option 2: **1-2 hours** before training, as they require less digestive processing.
- Option 3: **~45 minutes** before exercise to provide a quick source of energy.

It's best to **avoid fizzy drinks** and foods that are very **spicy**, high in **fat** or high in **fibre** before training because:

- They can slow digestion
- They can increase the risk of bloating, reflux, cramps or stomach discomfort
- Reduce training quality



Important Facts



Why Carbs instead of Fat?

- Carbohydrates and Fats are the two Nutrients we primarily use for Energy production. Both are converted into the universal Energy carrier 'ATP' through various metabolic pathways.
- While the conversion of 1g of Fat produces significantly more ATP than the metabolism of 1g of Carbohydrates (which is why 1g of Fat equals 9kcal and 1g of Carbohydrates only 4kcal), the conversion of Carbohydrates into ATP is faster and more effective. It is precisely this fact that makes Carbohydrates so important for athletes, because in most cases the aim is either to develop as much strength as possible or to move as efficiently as possible. In both cases, carbohydrates perform better than fats.

How are the Carbs stored

Humans can only store carbohydrates as energy reserves to a limited extent:



- Approx. 100g in the Liver to Regulate Blood sugar levels during Fasting periods.



- Approx. 400-500g in the Muscles to generate Energy during muscular Exertion.

Why is consistent Carb intake around training important?



- Depending on the intensity, Glycogen stores are depleted after approx 75-90 minutes of Continuous exercise. In stop-and-go Sports such as Football, Tennis or American Football, there are frequent Breaks and no continuous Exertion as in Endurance Sports, but the strain is higher and consequently so is the Energy and Carbohydrate consumption per minute of Movement.



- Since glycogen stores are limited, it is important to consume sufficient carbohydrates before exercise to ensure availability, during prolonged exercise to maintain performance, and after exercise to support glycogen resynthesis.



- The amount and timing of carbohydrate intake depend on the duration and intensity of exercise, as well as the recovery time between training sessions. Short recovery periods (>24h) require more rapid and higher carbohydrate intake to fully restore glycogen stores.



Recommendations



So how many Carbs should I have?

When the Recovery time is
>24h before the next session

Carb Requirement: 3-5g/kg

1-2 Hours of **Low** to
Moderate intensity
training

Carb Requirement: 5-7g/kg

1-2 Hours of **High** intensity
2-4 Hours of **Low** to
Moderate intensity

Carb Requirement: 7-9g/kg

2-4 Hours of **High** intensity
4-5h **Moderate** intensity
~ 4h **Low** intensity

Carb Requirement: 9-12g/kg

5-6 Hours of **High**-intensity



When the Recovery time is
<24h before the next session

Carb Requirement: 1-4g/kg

1-2 Hours of **Low** to
Moderate intensity

Carb Requirement: 4-5g/kg

1-2 Hours of **High** intensity
2-3 Hours of **Low** to
Moderate intensity

Carb Requirement: 5-7g/kg

3-4 Hours of **High**
intensity
~4 Hours **Low** to **Moderate**

Carb Requirement: 7-8g/kg

>4 Hours of **High**-intensity

What does this look like in a real life scenario?

Case Study:

Example of a 60kg female athlete who is training 2h at high Intensity in the gym (1h running + 30min stair master + 30min strength training). The next training session is less than 24h away.

Carb Requirement: 7g/kg = 420g

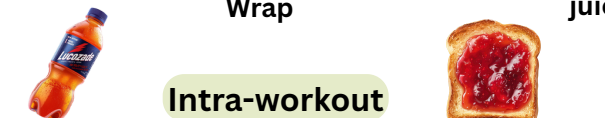
What does it look like in terms of food?



Breakfast



Lunch



Intra-workout

Post-Workout



Dinner