NUTRITIONAL RECOMMENDATIONS FOR SWIMMERS

torq PERFORMANCE NUTRITION 25 YEARS

IMPORTANCE OF QUALITY NUTRITION

Optimal nutrition supports your training load by providing enough energy to meet the energy demands of your sessions. Increasing your training effort imposes physiological stress, stimulating adaptations like muscle growth, greater endurance capabilities, and improved cardiovascular efficiency.

Recovery is essential for your adaptation. Quality nutrition, sleep, and rest, enhance muscle protein production, carbohydrate replenishment, and a marked reduction in fatigue. Optimising your recovery shortens downtime between sessions and improves the response to your training.

Nutrition also supports immunity. Intense training periods can suppress your immunity, increasing the risk of illness. A balanced intake of carbohydrates, proteins, fats, vitamins and minerals ensures adequate energy is provided for muscle repair, adaptation and cellular function. This allows athletes to maximise performance while reducing the risk of overtraining, which can commonly present itself as poor immunity and long term fatigue.

NUTRITION FOR YOUTH SWIMMERS (11+)

FUELLING THE YOUTH ATHLETE

During puberty, the body undergoes key physiological and structural changes, including muscle growth, fat reduction, hormone fluctuations, organ maturation, and increased bone density. All of these factors require energy during the growth and development phase.

If adequate fuel is not provided to meet the energy demand for daily function, non exercise activity, focused exercise and growth, it's very likely that negative health and performance implications will occur.

To prevent this, it is important that a healthy relationship with food is established, paying attention to the roles of each macronutrient. Parents should encourage structured meal times, especially before and after hard days training or even support youth athletes with advanced meal preparation. Youth athletes should feel confident eating more food than their less active peers.

DAILY CARBOHYDRATE TARGETS

Unlike the recommendations of fat and protein which should remain stable each day, the demand for carbohydrate will be largely dependent on the amount of exercise being completed. Therefore, we recommend referring to the daily carbohydrate recommendations found on the next page.

DAILY PROTEIN TARGETS

Protein recommendations for an active adolescent should aim to achieve 1.5g/kg of bodyweight per day. This should be split evenly into 4-5 serves throughout the day.

DAILY FAT TARGETS

Youth athletes should target ~1g/kg of unsaturated fats with healthy Omega 3,6 & 9. These fats can be sourced from foods such as oily fish, avocado, nuts and seeds to name a few.

DAILY CARBOHYDRATE RECOMMENDATIONS FOR YOUTH & ADULT ATHLETES

We use an acronym known as F.I.T.T to help identify how much carbohydrate you need each day.

Frequency (how many times per week do you complete physical activity)
Intensity (how intense is the activity)
Time (how long the session is)
Type (what sport is being completed)

The factors that will impact the amount of carbohydrate needed the most will be **Time** and **Intensity** and we can use established scientific carbohydrate recommendations to determine how much carbohydrate we should be aiming to consume each day.

A review article from Desbrow and Leveritt 2015, suggested that the carbohydrate requirements of youth athletes are unlikely to differ to adults and so the adult recommendations remain a good benchmark for youth carbohydrate recommendations.

Exercise Intensity	Exercise Duration (hrs)	Low Range g/kg/day	High Range g/kg/day
Low Intensity & Skill or Drill Sessions	Up to 60 Min	3	5
Moderate Intensity	1 - 2 Hours	5	7
High Intensity and/or Very High Volume	1 - 3 Hours	7	10
Very High load Training / Multiple Sessions	4 Hours +	8	12

SHOULD YOUTH SWIMMERS SUPPLEMENT?

START WITH A WHOLE-FOOD DIET

Our advice is to start with a good, healthy, and varied diet consisting of all the macronutrients (fats, carbohydrates, and protein) from a whole-food diet.

Using the daily fat, protein, and carbohydrate recommendations provided within this document, aim to build a whole-food diet from structured meals, getting as close to the daily recommendations as possible.

If you are struggling to meet the recommendations, don't be afraid to increase the portion size of meals and introduce considered snacks throughout the day, such as yogurt, fruit, vegetable strips with low-fat dips, and trail mix bags.

Remember, the focus needs to be on building a strong and durable athlete rather than restricting calories during times of accelerated growth.

This approach will help young swimmers identify what is possible, nutritionally speaking, from a whole-food diet before supplementation is required.

WHEN TO START USING SPORTS NUTRTION

If your child swims for 90 minutes or longer or has back-to-back training with little recovery time, they may benefit from supplementing with a dedicated nutritional product to help meet the total daily energy expenditure, prevent the depletion of carbohydrates during exercise, and assist with post-exercise recovery.

This is especially true for children involved in multiple sports, like triathlons or after-school activities, who stay active beyond structured training.

In these cases, before long sessions (90mins +) or sessions which are completed back-to-back, ensure they hydrate and eat a carb-rich meal or snack. During these periods, they should have 30–60g of carbohydrate per hour (1–2 TORQ Units) and a TORQ Hydration Drink per hour to maximise hydration.

If a protein- and carbohydrate-rich meal is not immediately available after exercise, consuming a TORQ Recovery Drink can significantly support the recovery process. This is especially beneficial in situations such as late-evening training sessions or when there is limited time between a morning workout and school.

INCREASING CARBOHYDRATE 24 HOURS PRE - SESSION

The major goal before a hard day's training or race should be to load up the body with carbohydrate. We store carbohydrate in the muscular and liver fuel tanks as glycogen. You should aim to consume around 8 grams per kg of bodyweight the day before a big swim session or competition. For a 65kg swimmer, this equates to 520g of carbohydrate.

The body is capable of depleting this amount of fuel in under 2 hours when working at a very high exercise intensity. It's also important to drink regularly throughout this period to help store the carbohydrate as glycogen.

HIGH CARBOHYDRATE MEAL IDEAS

// Pancakes topped with Banana, Blueberries, Honey, or Maple Syrup
// Jacket Potato with Baked Beans
// Grilled Salmon or Tofu on Whole Grain Rice
// Sweet & Sour Chicken Noodles
// Mediterranean Cous Cous Salad
// Tofu Risotto
// Rice Pudding With jam
// Banana, Blended Oat and Honey Smoothie

OPTIMAL NUTRITION 2-4 HOURS PRE TRAINING

This is your last major fuelling and hydration opportunity so it certainly shouldn't be neglected. These final few hours present time to "top up" your muscle and liver glycogen whilst also allowing you to maximise hydration.

CARBOHYDRATE

If you have time before your swim session, consuming 1 – 1.5g of carbohydrate per kg of body weight around 4 hours before, will help replenish carbohydrate in the liver and muscle providing you with the fuel you need for high intensity exercise. For a 65kg swimmer, this equates to 65 – 100g of carbohydrate.

PROTEIN

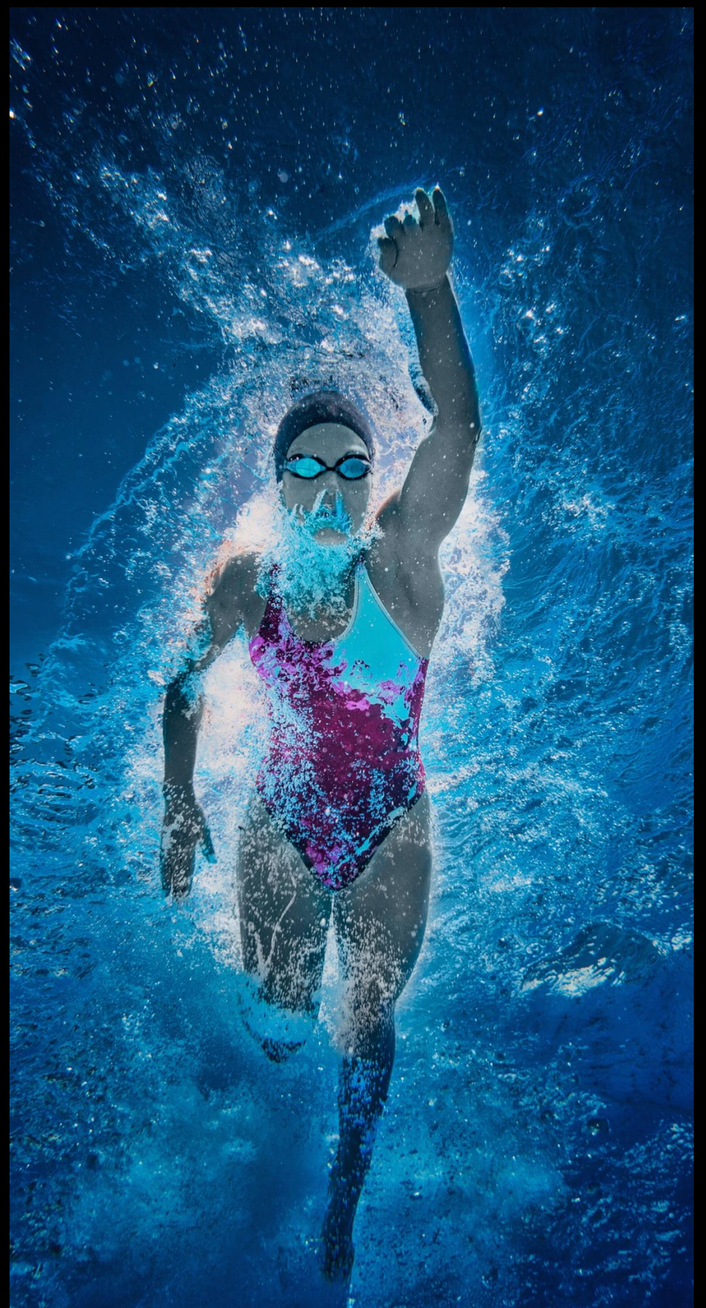
You should aim to consume 20 – 25g of protein 2-4 hours prior to your swim session. This will stimulate protein production prior to exercise, ensuring that the rate of breakdown is less than the rate of production, which ultimately supports athletic development.

FAT & FIBRE

Whilst high quality fats and fibre are essential to health, if ingested too closely before the start of a swim session, the slow digestion of these nutrients could cause stomach discomfort during exercise. We recommend reducing fat and fibre before a hard session, 6 hours before exercise.

TIME RESTRICTED NUTRITION PRE TRAINING

There may be sessions where early wake times or late sessions makes selecting the optimal nutritional strategy more challenging. When these instances occur, still aim to focus on the elements discussed on the previous pages, but eat more simple and familiar foods. You can find some examples on the right hand side of this page.



TIME RESTRICTED SNACK IDEAS

ENSURING OPTIMAL HYDRATION

The exercise intensity and temperature within the pool environment will determine your personal sweat rate. As a result, it's important that hydration is addressed using TORQ Hydration Drink in the hours pre-exercise, ensuring exercise commences in a well hydrated state.

The opportunity to rehydrate occurs multiple times per hour during swimming, and so an hourly hydration strategy should be implemented. Aiming to drink little and often, slightly ahead of thirst, is a common strategy used by athletes to prevent dehydration.

In instances where both intensity and environmental temperature are high, you should aim to drink more of TORQ's Hydration Drink per hour as sweat rates will be higher.

1 PRODUCT REPRESENTS 1 TORQ UNIT

UNDERSTANDING THE TORQ FUELLING SYSTEM

TORQ ENERGY DRINK - 30G CARBS

A naturally flavoured light and refreshing isotonic energy drink formulated using fast-delivery 2:1 Maltodextrin:Fructose and 5 key electrolytes.

TORQ ENERGY GEL - 30G CARBS

A naturally flavoured 2:1 Maltodextrin:Fructose hypertonic energy gel, containing no artificial sweeteners or colours, with a silky smooth melt-in-the-mouth texture.

TORQ ENERGY BAR - 30G CARBS

An organic ultra-low fat energy bar, formulated to deliver a unique blend of multiple-transportable carbohydrates to the muscles quickly.

TORQ ENERGY JELLIES - 30G CARBS

An igloo-shaped jelly formulated using a 2:1 blend of Glucose Derivatives to Fructose and are naturally flavoured as well as being colour and artificial sweetener-free.

FUELLING YOUR SWIM SESSIONS

UP TO 60 MINUTES

Ensure you have consumed a carbohydrate rich diet prior to exercise and drink 500ml of TORQ Hydration Drink to replace fluids and electrolytes lost through sweat.

60 - 90 MINUTES

Consume 1 - 2 TORQ Units Per Hour

You burn more carbohydrate with longer and harder sessions, replacing this fuel becomes important to maximise your response to training and recovery.

MORE THAN 90 MINUTES OR TWICE DAILY TRAINING

Consume 2 - 3 TORQ Units Per Hour

For very long or hard sessions, or training phases which utilises twice daily training, consuming 2-3 units per hour will help meet the daily energy need, protect immunity, extend time to exhaustion and maximise the response to training.

If you are training multiple times per week, we recommend consuming TORQ Recovery Drink after your sessions.

OPTIMISING POST EXERCISE RECOVERY

The process of ‘Recovery’ is about putting nutrients back in to the body to facilitate the regeneration of your physiological systems and structural components. A strategic recovery plan should focus on 4 key phases: Rehydration, Refuelling, Repairing & Recharging.

Rehydrate: Replace the water and electrolytes lost in sweat.

Refuel: Replenish the carbohydrate that has been burnt to power the exercise.

Repair: Provide the protein and amino acids required to repair the physiological componentary associated with enhanced performance.

Recharge: Provide the nutrient D-Ribose to the body, assisting the rejuvenation of ATP (the human energy currency) after heavy exercise aiding cellular recovery.

POST EXERCISE PROTEIN & CARBOHYDRATE RECOMMENDATIONS

On the previous page, we highlighted the importance of consuming rapidly digestible protein and carbohydrate sources to maximise the immediate recovery opportunity, but how much protein and carbohydrate should athletes of various weights target? We have provided some nutritional recovery targets which should be implemented within the first 15-minutes following an intense exercise session lasting longer than 90 minutes.

TORQ Recovery Drink has been formulated to maximise the post activity absorption window. The dual source, fast release carbohydrate rapidly replenishes carbohydrate stores while the whey protein is quickly digested, prioritising muscular repair and adaption as amino acids are rapidly released into circulation.

Body Mass (kg)	Protein Target g/kg	Total Protein Target (g)	Carbohydrate Target (g/kg)	Carbohydrate Total (g)
30	0.3	9	1.2	36
35	0.3	11	1.2	42
40	0.3	12	1.2	48
45	0.3	14	1.2	54
50	0.3	15	1.2	60
55	0.3	17	1.2	66
60	0.3	18	1.2	72
65	0.3	20	1.2	78
70	0.3	21	1.2	84
75	0.3	23	1.2	90
80	0.3	24	1.2	96

PRIORITISING DENTAL HYGIENE WITH SPORTS NUTRITION

Whilst fuelling correctly can improve general health, as well as performance, there is a contradictory link between fuelling with carbohydrate to support performance and dental hygiene.

It’s important to be aware that brushing your teeth immediately after a meal or consuming products rich in simple carbohydrates, may have a negative impact on your tooth enamel.

According to dental care manufacturer Colgate, it’s recommended to wait at least an hour if you’ve consumed something acidic before brushing your teeth. For example, foods with citric acid such as oranges, grapefruits, and lemons can weaken your enamel and rushing too soon after consuming these acidic foods can potentially harm your enamel when it’s in a vulnerable state.

Therefore a prudent approach would be to brush your teeth before consuming acidic foods or energy products and, after eating, to rinse your mouth with water to remove the acidic residues, then brush after 1 hour.

INSPIRING
EXCELLENCE

enquiries@torqfitness.co.uk

www.torqfitness.co.uk

torQ PERFORMANCE NUTRITION 25 YEARS