

ENERGY NEEDS OF THE GROWING SWIMMER

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Calories provide the energy your young swimmer needs for everyday activity, swim performance and growth.

With hints of calorie intakes in excess of 10,000 calories per day, Michael Phelps blew the competition away in 2008 and blew our minds with his over-the-top calorie consumption. And it produced the nagging question in parents' minds, "How much does my young swimmer need to eat?"

Children aged 9–13 years need about 1,500-2,400 calories each day, depending on age and gender, to support the demands of normal growth and development. Add the energy burn of a regular two-hour swim practice, and the energy needs can skyrocket to the tune of 2,700 (consistent one hour workouts) to 3,600 (consistent 2 hour workouts) calories or more per day.

Impressive.

Martinez and colleagues (Journal of Strength & Conditioning Research 2011) recently found that young, amateur swimmers on semiprofessional teams (year-round club teams) had low energy consumption compared to what they needed. They also found these young swimmers were overdoing protein and missing the mark on other important vitamins and minerals.

What happens if kids don't get the calories they need? Fatigue, impaired focus and concentration, low physical performance and perhaps a delay in physical development (lag in muscle building, slowed height growth and/or delay in adult development) may occur when calorie intake is less than needed over time.

As parents, it's our job to make sure that kids get the energy they need, and from the proper food sources. Avoid the mistake of delivering high calorie, nutrient-poor foods from the fast food drive-through. Not only are they excessive in fat, salt and sugar and under-deliver important nutrients like iron, calcium and B vitamins, they set the tone for future food cravings and selections that won't support good health when swimming is over.

Sound complicated? It's not.

Here are some ways to assure your growing child gets the right amount and type of calories he needs as an active swimmer:

- Stock your kitchen with good quality nutrition: whole foods in their natural state, such as low fat dairy products, lean meats and other protein sources, vegetables, fruits, whole grains and healthy fats. These are the foods that should be a part of every healthy, growing child's diet.
- Make sure your child gets three nutritious meals a day. No skipping! A meal should include at least 3-4 of these foods: a protein source, dairy, fruit, vegetable, healthy fats and/or a whole grain food source.
- Aim for two snacks each day that include a protein source. Meats, beans and bean dips, nuts and nut butters, cheeses, yogurt, milk or milk substitutes, and protein-rich whole grains such as quinoa are great sources of protein for the swimmer. Unsweetened cereal and milk; yogurt, fresh fruit and nuts; whole-wheat toast and peanut butter are all examples of a healthy protein-rich snack for your school-age athlete.
- Timing is everything. Kids perform best in all aspects of life when they eat regularly. Try to provide a meal or snack every 3-4 hours, and avoid sending your swimmer to practice on an empty stomach.

With a little bit of planning, it's easy to assure your young swimmer gets enough nutrition to cover all his needs. The benefits of that are worth it, keeping your swimmer healthy, growing and energized for performing in the pool.



Nutrition Information

NUTRITION

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Everything you do influences your performance, but your food choices have the most effect due to the long term and short term benefits. A proper diet, including proper selection of foods, will help your training and performance while also achieving a healthy lifestyle once you stop competing.

To help ensure a balanced diet, remember that there are no magical nutrition remedies. So forget the fads and eat a variety of wholesome foods from the four food groups--milk, meat, fruits & vegetables, and grains. Foods in these groups provide protein, fat carbohydrate, fiber and all the necessary vitamins and minerals. Your ideal diet should include the following percentage of calories:

Carbohydrate	50-60%
Fat	20-30%
Protein	14-18%

This nutrition series is designed to help you better understand good nutrition and to provide guidelines for ideal food choices. Within sports, there are four major periods that nutrition will impact.

During Training

1. Training represents the period in which athletes spend most of their time. Therefore, this category represents the most critical period. During this time, a diet high in carbohydrates is important. This is important since it is not uncommon for athletes training 4-6 hours a day to burn 2500 to 4000 calories a day. The best way to replenish these calories is with a high carbohydrate diet. By being conscious of this and by taking high carbohydrate foods or drink in the first 30 minutes following a workout, you can minimize depletion of energy stores.

Pre-event Nutrition

2. The major purpose of the pre-event diet is to ensure sufficient energy and fluid for the athlete. Two to three days before competition, a high carbohydrate diet with plenty of fluids should be emphasized. The pre-event meal should include light, high carbohydrate meal three to four hours before the event.

Nutrition During Competition

3. Provided that good nutrition practices were followed during training, middle distance and sprint events will not be limited by nutrition-related factors. During a three to four day competition, make sure you consume plenty of fluids and each meal should include high carbohydrate, lot fat selections.

Nutrition After Competition

4. High intensity work will deplete the muscle's energy supplies. Therefore, carbohydrates play an important role after competition to make sure energy stores are maintained.

Food Choices

The best food choices include a well balanced, mixed diet with choices from each of the four food groups. You can get all the nutrients you need by selecting a variety of foods in the recommended serving size from each of the following food groups.

Food Group	Selections	Servings
MILK	Milk, Cheese, Yogurt, Cottage Cheese, Ice Cream (Vitamins & Protein)	4 or More
MEAT	Meat, Fish, Poultry, Eggs, Beans, Peas, Nuts (minerals & protein)	2 or More
FRUIT & VEGETABLES	Fresh, Frozen, Canned, Dried and Juiced Fruits and Vegetables (Vitamins and Carbohydrates)	8 or More
GRAIN	Cereals, Breads, Rolls, Pasta, Muffins, Pancakes (Carbohydrates and Minerals)	8 or More
OTHERS	Cakes, Cookies, Pies, Candy, Soft Drinks, Chips (Carbohydrates and Fat)	ONLY if you need additional calories AFTER selections from above

Fast Food Nutrition (??)

Yes! "Fast Food" restaurants play an important role in the diets of athletes on the go. Today, these restaurants can provide a viable source of good nutrition--but the choice is yours and selection is critical. Here are some guidelines to make wise choices:

Menu Adjectives

Fat content must be watched when selecting menu items. If you see one of the following words, try to make another selection:

Fried, Crispy, Breaded, Scampi Style, Creamed, Buttery, Au Gratin, Gravy.

Selection adjectives that are good include:

Marinara, Steamed, Boiled, Broiled, Tomato Sauce, In Its Own Juice, Poached, Charbroiled.

Restaurant Choices

Depending on the restaurant you go to, here are some tips when selecting foods:

Mexican- Choose pot beans instead of refried beans and chicken or bean burritos and tostados. Ask for baked, soft corn tortillas instead of deep fried shells. Salsa is fine, but watch your chip intake.

Italian- Pasta with marinara sauce is good but watch alfredo sauces. Pizza, plain or with vegetables, is a good choice. Bread is good (watch the butter). Low-fat Italian ices are better than rich dessert choices.

Chinese- Stir fried and steamed dishes, like chicken & vegetables and rice, are good choices. Minimize fried egg roll intake or avoid all together.

Burger Places- Salad bars are great but watch the dressing. Look for grilled burgers, hold the mayonnaise and go light on the cheese. Watch your french fry intake (select a baked potato with a little butter if you can) and go easy on the milk shakes.

Breakfast Cafes- Always ask for butter on the side of pancakes, toast, muffins, etc. Select fresh fruit, juices and whole-grain breads and muffins.

Fast Food Choices

Listed below are a partial list of fast foods and their calorie & fat content. When selecting, always go with the low fat choice.

		Calories	Fat (gm)			Calories	Fat (gm)
Breakfast	Juice	80	0		Sundae	361	10
	English Muffin/Butter	186	5		Frosty (12oz)	400	15
	Ham, Chs., Mushrm, Omelet	290	20	Fish	Fish Sandwich	450	30
	Egg McMuffin	340	20		Seafood Platter	471	35
	French Toast (2 slices)	400	20				
	Sausage with Biscuit	467	35	Pizza (3 slices of 12 inch pizza)			
Burgers	Hamburger	262	15		Cheese	510	8
	Cheeseburger	318	20		Pepperoni	430	17
	Quarter Pound Burger	427	25	Potatoes	Plain, baked	215	0
	Quarter Pound Cheeseburger	525	35		Regular Fries	220	15
	Big Mac	570	40		Baked, Cheese & Broccoli	541	25
	Whopper with Cheese	760	50		Baked with Cheese	590	40
Chicken				Mexican	Taco	179	6
	Chicken Sandwich	310	10		Beefy Tostado	291	15
	Chicken Nuggets	630	23		Bean Burrito	343	15
	Chicken Salad Sandwich	386	20		Taco Salad	390	20
	Chicken Sandwich w/cheese	620	35				
Desserts				Milk and Milk Shakes	2% Milk	120	5
	Soft Serve Cone	185	5		Whole Milk	150	10

Nutrition Do's & Don'ts

Carbohydrate intake is important during every stage of nutrition. For each meal and snack, follow these Do's and Don'ts for wise food choices during training.

	Do	Don't
Breakfast	<p>Eat hot cereals like oatmeal or oat bran.</p> <p>Select whole-grain or high fiber cold cereals.</p> <p>Eat breads, including muffins, biscuits and bagels.</p> <p>Try milk, skim or lowfat is best.</p> <p>Choose fruit, including fresh, canned and fruit juices.</p> <p>Drink hot beverages such as hot chocolate and hot apple cider.</p> <p>Eat pancakes, waffles and french toast.</p> <p>Choose eggs up to two or three times weekly.</p> <p>Choose fat-free toppings like syrups and jams as an alternative to butter</p>	<p>Eat sausage, ham or bacon more than once or twice weekly.</p> <p>Opt for eggs every day.</p> <p>Choose sugary children's cereals.</p> <p>Choose fast food breakfast sandwiches and fat-laden croissants every day.</p> <p>Use too much margarine or butter.</p> <p>Eat doughnuts or pastries daily.</p> <p>Skip breakfast.</p>
Lunch	<p>Pack a lunch when possible.</p> <p>Choose whole-grain breads</p> <p>Choose lean meats like turkey over salami or bologna.</p> <p>Use mustard and ketchup as condiments.</p> <p>Choose a hamburger over hot dogs.</p> <p>Choose a baked potato over french fries.</p> <p>Eat pasta as much as you like, but choose tomato sauces rather than cream sauces.</p> <p>Try pizza without fatty meat toppings. Eat hearty soups and stews.</p>	<p>East fast-food meals too frequently.</p> <p>East fried foods like fish 'n' chips too frequently.</p> <p>Overuse condiments like mayonnaise or salad dressings.</p> <p>Eat fatty and salty luncheon meats too often.</p> <p>Skip lunch.</p> <p>Choose prepared salads containing excessive mayonnaise or salad dressing.</p>
Dinner	<p>Eat pasta dishes.</p> <p>Choose pizza with vegetable and lean meat toppings.</p> <p>Try Chinese food with rice and fresh vegetables.</p>	<p>Choose deep-fried meals more than twice a week.</p> <p>Eat high-fat meals like hot dogs or sausages in excess.</p> <p>Choose meals with heavy cream sauces or gravies.</p>

	<p>Select fish often. Broiled or poached is best.</p> <p>Trim visible fat from meats and remove skin from poultry.</p> <p>Have soups, salads and plenty of vegetables.</p> <p>Eat as much bread as you like.</p> <p>Include potatoes, rice or beans when available.</p> <p>Choose fresh fruit, yogurt or jello for dessert.</p>	<p>Ruin a baked potato or bread with too much butter.</p> <p>Have cakes, ice cream and pies every night.</p>
<p>Snacks and Beverages</p>	<p>Pack nutritious snacks like fruit, raisins and nuts.</p> <p>Have rolls, muffins and breads when you a break.</p> <p>Snack on popcorn, pretzels and breadsticks.</p> <p>Drink eight to ten glasses of fluids every day.</p> <p>Drink nonfat or lowfat milk.</p> <p>Drink fruit juices, sparkling waters and plain water.</p> <p>Drink hot ciders, soups and hot chocolate.</p>	<p>Count on potato chips or tortilla chips as good snacks.</p> <p>Eat cupcakes or cream-filled pastries to satisfy hunger.</p> <p>Eat ice cream, cakes or candies in excess.</p> <p>Drink too many soft drinks.</p>