



COMPETITION NUTRITION

Table of Contents (click page #'s to jump to content)

DAILY FUEL.....	2
I. Good Fuel 365 Days a Year – The Key to Success in the Pool!.....	2
II. How to Fuel Your Engine – My Healthy Plate (MHP).....	2
III. Daily Fuel Routine	3
COMPETITION FUEL	3
I. Fuel Before the Meet:	3
<i>Guidelines for Pre-Meet Fuel:</i>	<i>3</i>
<i>Examples of Pre-Meet Fuel:.....</i>	<i>4</i>
II. Fuel During the Meet:	5
<i>Guidelines For Meet Fuel:.....</i>	<i>5</i>
<i>Examples of Meet Fuel:.....</i>	<i>5</i>
III. Recovery Fuel	6
<i>Guidelines for Recovery Fuel:</i>	<i>6</i>
<i>Examples of Recovery Fuel:.....</i>	<i>7</i>



DAILY FUEL

I. Good Fuel 365 Days a Year – The Key to Success in the Pool!

Swimmers need good fuel everyday. Nutrient-rich, balanced meals are of paramount importance to fuel a swimmer’s daily practices. Daily intake of proper nutrition provides the necessary energy and enables the muscle/tissue recovery that allow a swimmer to have high quality practices day after day. High quality practices make faster swimmers!

Swimmers should keep good nutrition habits all year long. Waiting until the week before the championship meet to start good fuel is tantamount to waiting until the week before the big meet to start taking training seriously. Swimmers who want to maximize performance need to choose good fuel everyday, all year long!

II. How to Fuel Your Engine – My Healthy Plate (MHP)

Good fueling is simple. To maximize performance in the pool, swimmers should strive to make every meal, every snack a My Healthy Plate (MHP).

½ plate of vegetables, some fruit is ok
¼ plate of healthy protein
¼ plate of mostly whole grains
a little healthy oils or fats water or milk

HEALTHY EATING PLATE

HEALTHY OILS
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

WATER
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

VEGETABLES
The more veggies – and the greater the variety – the better. Potatoes and French fries don't count.

WHOLE GRAINS
Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

FRUITS
Eat plenty of fruits of all colors.

HEALTHY PROTEIN
Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.

STAY ACTIVE!
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The Nutrition Source
www.hsph.harvard.edu/nutritionsource

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Harvard Health Publications
www.health.harvard.edu



III. Daily Fuel Routine

Swimmers should eat 5-6 MHP meals a day. Here's one way to do it:

Before school meal	Main MHP (big plate)
mid-morning	Snack-size MHP (small plate)
Lunch-time:	Main MHP (big plate)
mid-afternoon (before practice)	Snack-size MHP (small plate)
post practice	mini-MHP (small plate)
Dinner-time	Main MHP (big plate)

The key to good fuel is diligence. As much as possible, every meal, whether it's a snack or a main meal, a first helping or seconds, the first meal of the season or the last meal before the big meet, choose to fuel-up with a My Healthy Plate meal!

COMPETITION FUEL

Meets can throw a wrench in a swimmer's daily routine. However, as much as possible, swimmers should try to eat an MHP breakfast lunch and dinner and stick to the MHP model for mini-meals or snacks.

Just before competition and during competition, the main purpose of any fuel intake is to maintain or replenish energy stores, without slowing down the body's ability to bring energy and oxygen to working muscles. Here's where Competition Fuel diverges a bit from My Healthy Plate.

I. Fuel Before the Meet:

Swimmers should eat 2-4 hours before the first race to allow time for digestion. Any food left in the stomach at race time will siphon energy- and oxygen-rich blood away from working muscles and towards digestion. Pre-meet meals should be mostly complex carbohydrates with a little protein and little or no fat.

Guidelines for Pre-Meet Fuel:

- Eat 2-4 hours before first race
- Mostly carbohydrates (complex), low in protein, avoid fat
- 0.5 – 1.5g carbohydrates per pound of body weight (carb content reduces the closer the meals are to an event.)
- Limit the protein – a little protein can aid in regulating energy levels by slowing the absorption of carbohydrates. However, too much protein will



stifle energy production and transmission to muscles. Protein takes a long time and significant energy to digest and siphons oxygen-rich blood away from working muscles.

- Avoid Fat – fat takes a long time and a lot of energy to digest and siphons oxygen-rich blood away from working muscles.
- STAY HYDRATED – drink 8oz. of water or fluids when you wake up and again with your pre-meal

Examples of Pre-Meet Fuel:

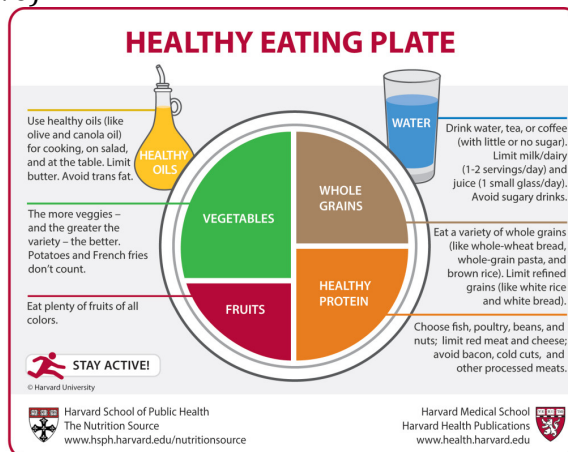
If 1-hour or less before 1st-event: nibbles and swigs, small amounts

- ½ Food bar
- Raisins
- Banana, orange, berries, watermelon, apple...
- ½ bagel
- pretzels (handful)
- fig bar
- applesauce
- sports drink (8 oz, diluted)
- toast (1 slice)
- crackers (x5)

If 2-3 hours before 1st-event:

- Whole grain cereal and milk
- whole grain bagel or bread with peanut butter
- berries and/or banana and honey over fat free greek yogurt
- oatmeal with milk and fruit
- fresh fruit
- baked potato (plain)
- food bar
- fruit smoothie (just fruit, veggies and milk or yogurt – no added sugar)

If 4 or more hours before 1st-event: Eat a full MHP meal. (see “How to Fuel Your Engine” above)





II. Fuel During the Meet:

The purpose for taking in fuel during a meet is to top-off energy stores. Swimmers should not rely on meet fuel for the main source of their racing energy. Most of the energy a swimmer burns during racing comes from energy stored in the muscles from the fuel the swimmer eats in the days leading up to the meet. Fuel eaten during the meet replenishes those energy stores and enables muscle and tissue recovery for the next event, the next session, the next day of racing.

Meet fuel should be primarily easily digestible carbohydrates (energy), limited protein and no fat. The body efficiently converts carbohydrates to energy, but digestion of protein and fat siphons oxygen and energy away from working muscles.

Guidelines For Meet Fuel:

- Size of a Snack – the amount of fuel a swimmer needs during one session of a meet is no more than the size of a snack.
- Mostly Carbohydrates, a little protein, avoid fat
- Variety – pack a variety of fuels to stay satiated
- Nibbles and Sips Tip #1 – Take in fuel in small amounts at a time. Too much food in the stomach will draw energy- and oxygen-rich blood away from the muscles towards digestion.
- Nibbles and Sips Tip #2 – plan a swig/bite of fuel immediately after each event to top-off fuel stores and aid in recovery
- STAY HYDRATED – drink a bottle of water during each session of a meet

Examples of Meet Fuel:

< 1-hour between events: swigs/nibbles of easily digestible carbohydrates

diluted sports drink or liquid carbohydrates

fruit – orange, watermelon, cantaloupe, apple, banana, berries...

fruit puree

WATER!

2-3 hours between events: solid carbohydrates that take longer to digest

hot or cold cereal with or without non-fat milk, plus fruit

½ bagel or muffin with fruit

½ bar with fruit

pretzels with fruit (my girls' go-to)

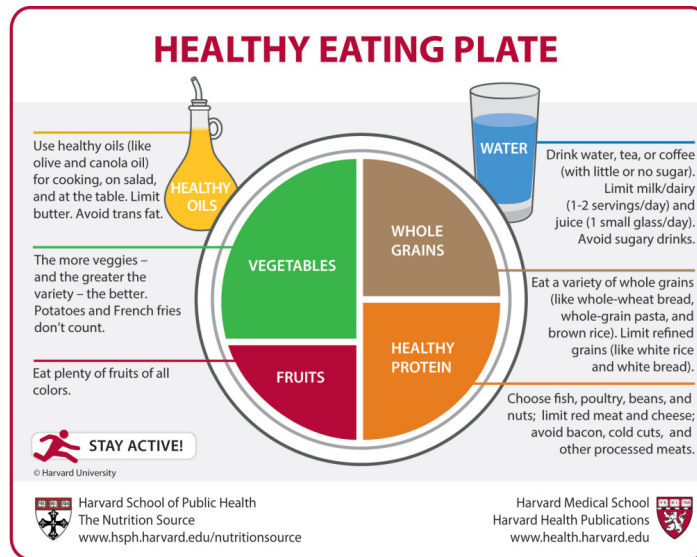
stave off hunger – add a little protein (yogurt, low fat cheese, hard

boiled egg...)

WATER!



4+ hours between events: My Healthy Plate meal.



III. Recovery Fuel

Recovery Fuel has two purposes:

1. Replenish energy stores used-up during racing.
2. Enable muscle and tissue recovery after racing.

Guidelines for Recovery Fuel:

- After Warm-up and Each Event - take a bite or swig of carbohydrates to replenish energy spent during warm-ups or racing
- After Each Session of a Meet -
 - within 30-minutes:
 - eat or drink carbohydrates with a little protein (4g carbohydrates to every 1g protein)
 - 0.65g carbohydrate x body weight (#'s)
 - chocolate milk (low fat) is an excellent recovery fuel!
 - within 2-hours of end of session: eat a My Healthy Plate meal.
- Stay Hydrated – drink water or fluids with every bite of food and every meal!



Examples of Recovery Fuel:

After warm-ups and each event: swigs and bites, small amounts!

- Food bar
- Raisins
- Banana, orange, berries, watermelon, apple...
- bagel
- pretzels (handful)
- fig bar
- applesauce
- sports drink (diluted)
- crackers (x5)

After each session of a meet:

Within 30-minutes

- Chocolate milk and fruit
- Chocolate milk and pretzels
- ½ bagel and hummus
- ½ turkey or PBJ sandwich
- pretzels and hummus
- fat free or lowfat yogurt with fruit
- cereal with hard boiled egg

Within 2-hour – My Healthy Plate meal!

