Bike Rally 2011
Nutrition & Hydration 101

Dr. Michelle Crispe BA Kin, DC.
Chiropractor
Personal Trainer
Lifestyle Coach

Questions…?

- What should I eat?
- When should I eat?
- How much carbs vs. protein and fat?
- Supplements/meal replacements?
- How much water should I drink?
- Training rides vs. the rally?

Remember when you ask someone else, the recommendations you are getting are what is best for that person, not you!

Lets start at the beginning…

ENERGY EXPENDITURE

- Need to find out your BMR

  What is it?

Examples:	Female 150lbs	Male 200lbs
	25% body fat	15% body fat
	320+(21.7 x lbm in kg)	
BMR	**1428**	**1997**

X Activity Factor of 3 (moderate activity 3-5 times per week)

AMR	**2213.4**	**3095.4**

This is how many calories you should be eating per day now if you wish to maintain your current mass

Differences…

- Not all of you travel at the same pace…
- If you move faster you will need more calories; more of which should come from carbohydrates. Later.
- Just because you go slower does not mean you will need less calories b/c it is the overall time that matters more. You may not need as many from carbohydrates though. Later.

Caloric Needs

- **Approximate Calorie Needs While Riding**

me=414/hour

Average speed (mph)	Calories Kg/Hr*
12(19.3km)	5.6
13(20.9km)	6.2
14	6.8
15	7.4
16	8.1
17(27.4km)	8.9
18	9.8
19	10.7
20	11.8
21	12.9
23(37km)	15.5

*Weight in kg = Weight in lbs/2.2

****1 mile = 1.609344 kilometers**

Take our Girl and Guy from before…

- Girl-150lbs is 68.2 kg; if she is travelling 16 miles per hour she is burning roughly 552.42 calories per hour.
- Guy-200lbs is 91kg; if he is travelling at 18 mph he is burning roughly 892 calories per hour.

- Minimum of 300 cal per hour; 4-500 if you are large or riding hard*

What should I eat?

- 3 main macronutrients or fuel...

1. Protein
2. Carbohydrates
3. Fat

- Carbs will be your bodies first choice when it comes to these rides. Although it is never burnt exclusively. Even when you reach 80% of your HR max you are still burning some fat as well as carbs. Talk more about this later.

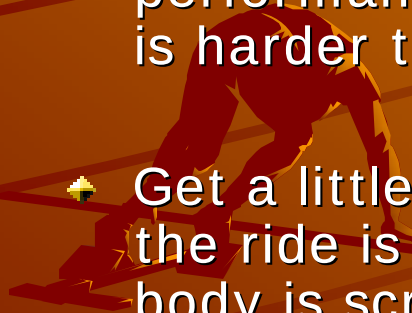
Protein

- AA are the building blocks of muscle tissue.
- Protein is extremely important for the repair phases after a ride but will do you little help as fuel during.
- You body will turn to AA in times of starvation or fuel deprivation but this usually is not a good situation. AA are not stored so this situation would mean that your body is stripping AA from your valuable muscle tissue and using it as fuel. Ideally you are taking in enough fuel in the way of fat and carbs to avoid this situation. *Not usually an issue on this ride.

So when should I eat it?

- Very important to get some at breakfast. This will be used predominately to repair the damage from the day before and will help to slow the digestion of the rest of your breakfast giving you more sustained energy.

- Avoid too much of it during riding as it will not help your performance and may cause gastrointestinal upset. Protein is harder to digest.



- Get a little at lunch and lots at dinner. Immediately after the ride is when protein is crucial(within an hour). Your body is screaming for nutrition-mainly protein and carbs-to repair the damage that has been done during the ride. Getting an adequate amount of protein after your ride will ease the DOMS of the following day. About 20-40g, depending on your size, immediately after is ideal.

Examples please?!

- Morning: -Eggs, cheese, cottage cheese, milk, yogurt, meat, protein bars.
- Lunch: -Tuna, cold cuts, milk, cottage cheese, bean salads, cheese, protein bars.
- Dinner: -Chicken, tofu, beef, fish, milk, beans, protein bars, trail mixes.

Only 10-15% of total calories should be protein during ride

Fat

- Not all fat is bad!
- Good fats will help fuel you through this race.
- They also slow the digestion of carbohydrates giving you more sustained energy.
- Your body will use what fuel you give it. If you are a more experienced rider to eat more carbohydrate works in your favour as working in the higher VO2 max levels will induce gastrointestinal upset if you eat too many fatty foods. Bottom line-save these for breaky and dinner-not much use on a ride of this sort.

So when should I eat it?

- Very important to get some at breakfast. This will be used predominately slow the digestion of the rest of your breakfast giving you more sustained energy.

- Avoid too much of it during riding as it will not help your performance and may slow the digestion of the fuel you need most-carbs. It could also cause tummy upset at this point if too much is eaten.

- Get a little at lunch and lots at dinner. Immediately after the ride is when you should avoid fat. Your body is screaming for nutrition-mainly protein and carbs-to repair the damage that has been done during the ride. So, eating fat will only slow the delivery of these crucial fuels to your hurting body. Wait until dinner and after dinner snacks to get some fat in.

Examples please?!

- Morning: -Eggs, cheese, Peanut butter, Butter, Cream.
- Lunch: -Peanut butter, cold cuts, cheese, nuts and seeds, oils.
- Dinner: -Meat, butter, oils, nuts and seeds.

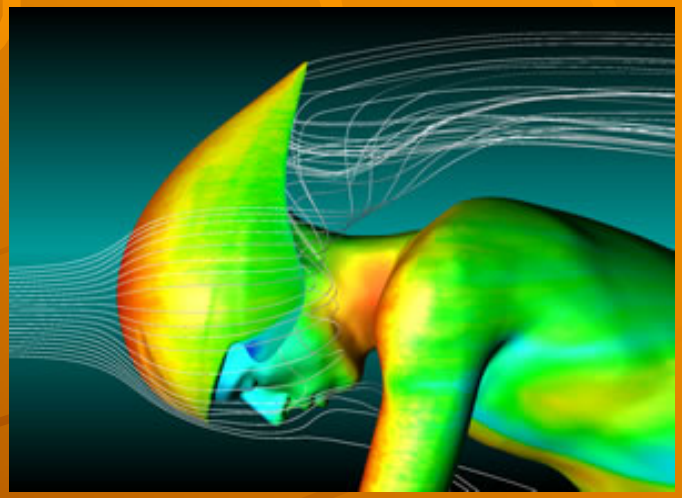
*Only 15-20% of total calories should be from fat during ride

*Keep in mind there is naturally occurring fat in a lot of foods as well so you really shouldn't add much.

Hoping to burn some of your tummy?

- Fat used for energy can be either fat from your diet or body fat. Some riders will eat less than they are actually burning, hoping to make up the deficit from the love handles.
- While this will lead to temporary weight loss, it may affect performance in the event. ***It's better to diet during training*** and make sure that the fuel tank is kept full during the rally.
- For help on this contact me at drmichelle@livelite.ca or 647.638.1469

Carbs



- This is your bread and butter. You will most surely ‘bonk’ if you do not get enough of these.
- Bodies preferred source of fuel.
- Anywhere from 55-75% of your diet should be coming from this during the ride.

Carb Storage capacity

- Roughly 250-450g between the muscle, liver and blood stream depending on your size and muscle mass.
- Lighter-assume the low end.
- Heavier-the high.
- *Based on lean mass only!!

- Important to note that these ‘temporary stores’ get exhausted after roughly 2 hrs of sustained activity; hence the importance of taking food with you to re-fuel if you are not stopping at rests.
- Keep in mind there is replenishment ~every 25-35km if needed so do not need too much on bike.

Fuel Usage

- **Approximate Sources of Energy While Riding% of VO2 max CHO/Fat:**

%VO2 max	***Carb/Fat usage ratio***
20-50%	about 50/50
60%	about 60/40
70%	about 70/30
80%	about 80/20
90%	90-100% CHO.

If you are a faster rider make sure you're getting your carbs

For a rough estimate, you need approximately 1/3 gram of carbohydrate per pound of body weight per hour to replace Calories expended.

So when should I eat it?

- Very important to get lots at breakfast. This will be used to re-stock any empty stores from the day before and give you some readily available fuel to start.
- Eat predominantly this while on the bike as it is your chief fuel source during riding.
- Get lots at lunch and lots at dinner. Immediately after the ride is when you should eat anywhere from 40g to 100 g depending on your size. Your body is screaming for nutrition-mainly protein and carbs-to repair the damage that has been done during the ride. So, eating carb now will maximize glycogen re-fuelling and repair for the next days ride.

Examples please?!

- Morning: -Oatmeal, porridge, toast, cereal. bagel, muffin, fruit, milk, yogurt, jam, energy bars and drinks.
- Lunch: -Wraps, bean salads, muffins, fruit, veggies, energy bars and drinks.
- Dinner: -Pasta, rice, bread, veggies, fruit, energy bars and drinks. Dessert baby! Minimize if not a hard rider;) or pre-diabetic/diabetic.

Important to think of digestibility

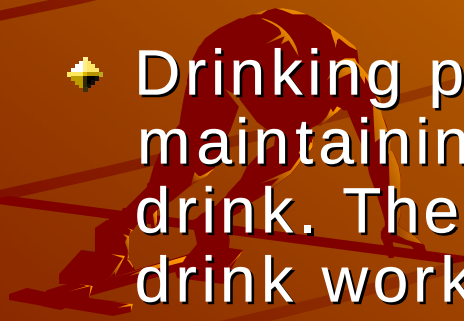
Real Food vs Supplements & MRP's

- More personal preference.
- Tough to get all the calories you need from food and tricky as you cannot eat brown rice while riding! MRP's are convenient.
- Remember though that real food has bulk, antioxidants, vitamins and minerals typically not found in MRP's so do not rely on them.
- livelite recommends Isagenix and Vega products as they do have nutrient profiles. Others like Gatorade, Eload and Clif bars are also a preference of riders but if you have concerns about sugar and artificial ingredients the first two brands are preferred.

H2O & Sodium

- Water is essential for regulating body temperature and cardiovascular function. As you sweat, you lose water and also electrolytes, especially sodium. Dehydration of as little as 2% of your body weight will impair performance .

- Drinking plain water is not as effective in maintaining fluid balance as drinking a sports drink. The carbohydrate and sodium in a sports drink work together to increase water absorption and the addition of sodium to the drink stimulates thirst, so you drink more.



H2O & Sodium

- During any ride of more than an hour, you should consume plenty of sports drink-amount depending on the temperature and how much you are sweating.
- Trying for ATLEAST a Litre an hour ***(4-8oz every 15minutes!)***-depending on your size, pace and the temperature outside. Thirst is not an adequate predictor as that does not kick in until .8-2% water loss which means your performance is already suffering.
- Eating salty crackers and/or adding salt to your meals is also a good idea to make up for the electrolytes loss. Sea salt is preferable.

H2O & Sodium

- Avoid sodas!

  I know, I know, they taste good though after a long ride. However... the carbonation keeps you from drinking as much as you need to re-hydrate soooooo...re-hydrate with water and sports drink first then have your soda.

- Also drink right when you wake up!!

Note about carbonation

Other supplements

- **Antioxidants:**can reduce free-radical generation and help to prevent muscle and immune-system damage.
- also aids in the production of anti-stress hormones and is required for tissue growth and repair.
- Using a proper multi should have the right profile of this for you
- If you ride for long periods supplementing with extra Vit C may be a good idea.

Other Supplements

- **Magnesium**-Acts as a natural musle relaxant and mild laxative(do not exceed 600mg!)
- Isa Flush is a great product or Natural Calms is also good-take just before bed.
- Will also help you to get good sleep

Other Supplements

- **Amino Acids:** are a source of energy for white blood cells and other immune cells.
- Basically, it is impossible to get all that you require from our nutritionally bankrupt food.
- If you want to improve performance, health and shed fat effectively you must supplement your nutrition plan.
- Some companies have created lines of products that have everything you would need. Some even have complete cleansing and fat burning systems like Isagenix.

SUMMARY

- calories in = calories burned
- water in = water out
- electrolytes in = electrolytes out

- It’s not rocket science folks!
- For individual help please do not hesitate to contact our team. We can help you to improve your speed, decrease injuries and lose weight.

Questions???

THANK YOU

drmichelle@livelite.ca

www.livelite.ca

www.drspeaksout.com