

“Lunch is at 12:30 and then I don't eat again until 6:15pm....”



Pre-Workout Strategy

■ Type of Fuel

- Carbs: Fuel muscles
- Protein: Prevents muscle damage
Turns on protein synthesis

■ Enhances performance, endurance:

Schabert et al 1999, bikers lasted 27 minutes longer after consuming 400 calories pre workout



Pre-Workout Strategy

- High carbohydrate, moderate protein
- Avoid high fat foods, fried foods
- Familiar foods, watch spices
- Leave enough time for digestion:
Meals = 3-4 hours to digest
Snacks = 1-2 hours to digest



Pre-Workout Strategy

Carbohydrates

<u>Time (hrs)</u>	<u>g/kg (hrs)</u>	<u>Ex) 140 lbs</u>
1	1.0	64g
2	2.0	127g
3	3.0	190g
4	4.0	254g

Sherman et al 1989, Sherman et al 1991

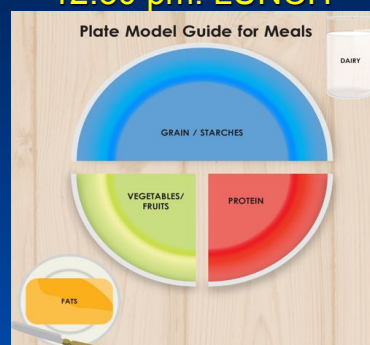
2- 3 hours before

- 127 grams carbohydrates =

12:30 pm, LUNCH ~100 grams

2:30 pm, right before, ~30 grams

12:30 pm: LUNCH



Pre-Workout Strategy

12:30:

- Turkey and cheese sandwich + fruit + 1/3 c trail mix or granola bar
- Whole grain bagel with peanut butter + Yogurt + Fruit
- Vegetarian: salad with 1c beans, + Soup with rice + tofu, dressing
- Spaghetti and Meatballs, minestrone soup + 16 oz. milk
- Ham Sandwich + Apple + Greek yogurt



Pre-Workout Strategy

2:30: "Top Off"

- Granola Bar: Cliff, Luna, Nature Valley
- Banana
- Handful Pretzels with salt
- Baked pita chips or chips
- Crackers: Triscuits, Wheat Thins etc.
- Smoothie
- 1/2 sandwich: 1/2 PBJ
- Handful trail mix with dried fruit/nuts



Fuel Up During Workout?



During a workout > 1 hour

Add **30-60 grams** carbohydrate



During Exercise: Goals

- Prevent blood sugar drop
- Deposit fuel (carbs) to sustain exercise



During Exercise Benefits

- Delayed fatigue
- Faster
- Better endurance
- Boost immune function
- Reduce muscle damage
- Reduce inflammation

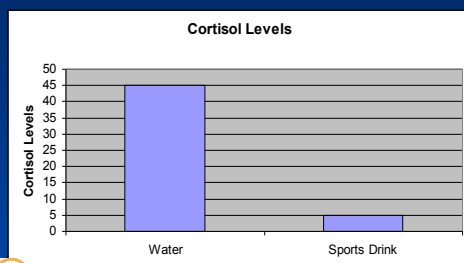


During Exercise Strategy

- Cortisol Levels
 - Increases 5x during resistance training
 - Suppresses immune system
 - Breaks down muscle
 - Can be controlled with carbohydrate availability



Effect of Carbohydrate on
Cortisol Levels



During Exercise

30 – 60 grams carbohydrates/hour

- 20 oz. Gatorade, Powerade etc(34 g)
- Skratch, Nuun tablets for water
- Gel (25 g)
- Clif shot bloks (25-50 g)
- Gatorade Chews (4 = 31 g)
- ½ Bagel (35 g)
- Banana (30 g)



Fuel Up Post Workout



WHY RECOVERY?

- Play with a full tank each day
- Protect, build lean muscle mass
- Increase energy
- Enhance strength and performance
- Reduce soreness
- Improve immune function



Refueling

- Restore GLYCOGEN levels in order to enhance stamina, energy capacity



Before After

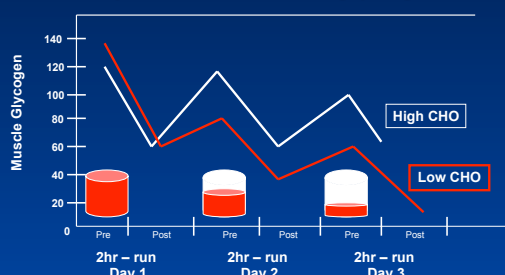
Refueling

- Restore GLYCOGEN levels in order to enhance stamina, energy capacity



Before After Day 2 Day 3
[Poor Fueling]

Carbohydrates & muscle glycogen levels

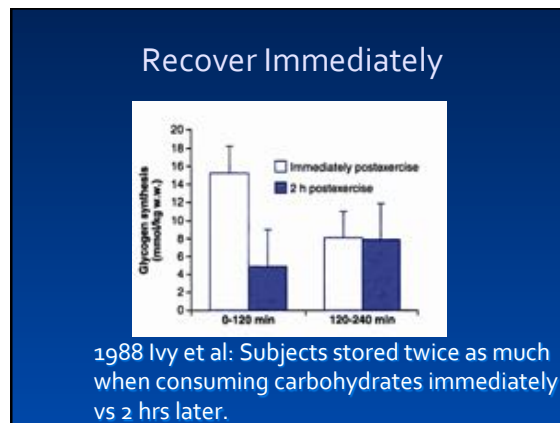
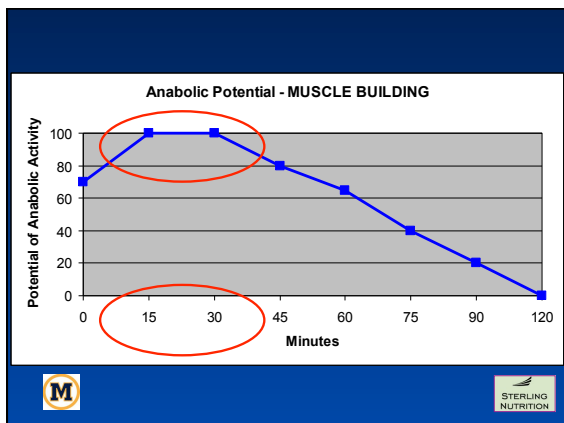


Recovery Timing

Step 1:
Within 15 – 30 min

Muscles are most sensitive & reactive





Recovery Timing

Step 2:
Again 2 hours later

Continuing refueling

M STERLING NUTRITION

Types of Fuel for Recovery

- **CARBOHYDRATES**- majority
Restore muscle glycogen levels
- **PROTEIN**
May further accelerate glycogen synthesis, repairs muscle damage, protein synthesis

M STERLING NUTRITION

How much?

Carbohydrate	1g/kg
Protein	0.25 g/kg *5-20g max

x next four hours

M STERLING NUTRITION

Recovery Schedule

STEP ONE: <30 min after practice

STEP TWO: 1-2 hours later – MEAL

M STERLING NUTRITION

STEP ONE: <30 min after practice

- Chocolate milk + banana
- Trail mix + Gatorade
- Apple + PB
- Greek yogurt + granola
- Smoothie small
- Granola Bar + Fruit



STEP TWO: 1-2 hours later -> MEAL

- Chicken, rice, green beans, milk
- Burrito
- Turkey Sandwich + yogurt + fruit
- PBJ + milk + fruit
- Fish + Cous Cous + Salad + broccoli
- Burger, avocado, salad/dressing, corn
- Pasta and meatballs, spinach
- Vegetarian: Tofu, rice, green beans w/ almonds, milk



Harmful to Recovery

- Additional heat exposure (sun/saunas)
- Failing to get enough sleep
- Eating too far after exercise
- Additional exercise
- Protein Shake or Protein Bar only
- Chicken and spinach only for dinner



Balanced Sports Diet

B: Oatmeal, berries, nuts, Greek yogurt

L: Turkey Sandwich, Trail mix, Fruit

Pre: Granola bar + Fruit

During: Gatorade

Post: Chocolate milk + banana

D: Steak
Baked Potato
Kale salad



S: Greek yogurt + granola



“My coach wants me to come back leaner, and I’d like to be more cut. Will adding all this sports performance food make me get fat?”



Answer

- No!
- Adjusting your pre, during, and post workout protocol will make you **stronger, faster, more explosive, and increase your energy.**
- Regardless of weight goals, never sacrifice nutrition at these keys times.

Next Talk....

- Hydration
- Cramping
- Caffeine
- Sleep

