

Billy Mills

- September 26, Wednesday (2 weeks)
- 3:30pm in the Auditorium
 - You can invite a friend or two or parents
- Movie Night
 - *Running Brave*
 - Bridget's house, Friday the 21st
 - Details to follow



Basic Nutrition for Endurance Athletes

Monta Vista High School

Coach Kirk Flatow

2012-13 Season

Which is a healthier breakfast?



A?



B?

Which is a healthier breakfast?



A?



B?

Which is a healthier lunch?



A?



B?

Which is a healthier lunch?



A?



B?

Which is a healthier snack?



A?



B?

Which is a healthier dinner?



A?



B?

Which is a healthier dinner?



A?



B?

Which is a healthier dinner?



Trick Question!
I'm not sure either...
...and I'm not sure the difference matters!

So, what's the point?

- We already know what is healthier to eat!
 - We just need to follow through
- Good nutrition is not a mystery
- A few guidelines get us 80% of the results
- Some athletes have special issues
 - Talk to your doctor

Why?

- For your life and health
 - You could be the first generation with a lower life expectancy than the generation before you
- For your athletic performance
 - **Nutrition is the #1 defense against fatigue**
 - Training is not #1
 - ***Fatigue is the body's defense against depleted energy stores***
- For your team
 - We are counting on each other

A Few Simple Guidelines

- Eat a wide variety of healthy foods
- Eat foods as close to their natural state as possible
- Avoid soda, convenience/snack foods in bags—**you know what to avoid**
- You are an athlete so...lots of complex carbs
 - Fruits and vegetables
- Proteins and healthy fats
- **HEALTHY Snacking is a good idea for endurance athletes:**
 - 4 to 5 ‘meals’ a day

Wide Variety

- Lots of complex carbohydrates
 - Many different fruits and vegetables
- Proteins
 - Meat, fish, nuts, eggs...
- Don't avoid **healthy** fats
 - For example, eat avocados don't eat potato chips; both have fat, but avocados, olive oil, other foods have healthy fats

Apple vs. Coke



Calories: 65
Antioxidants, fiber, water....



Calories: 210

Which is healthier?



A?



B?

Food closer to it's natural state is (generally) better for us



Calories: 62
Sugar: 12g
Fiber: 4g



Calories: 110
Sugar: 21g
Fiber: 0g

Larger point: Raw tends to be more nutritious than cooked, which tends to be more nutritious than overcooked, which tends to be more nutritious than pre-packaged...

How much Gatorade do you need to drink to get a banana's worth of potassium?



About 1.7 gallons!



Water, a banana and some nuts/trail mix
are a great post-workout snack

Pre-Race

- Mix of complex carbs and proteins
- Possibilities:
 - Turkey sandwich and some fruit, oatmeal cookie
 - Pasta salad with tuna and vegetables
 - Veggie burrito and glass of milk
 - Breakfasts:
 - Oatmeal with fruit and nuts
 - Toast with peanut butter and jam, and a banana
- Try different things, write these down, see how it works for you—there is no magic here

Post Work Out Recovery

- Getting refueled within 30 minutes after a workout is best (< 1 hour)
 - Repair the body
 - Reload the tanks
- Mix of protein and carbohydrates:
 - **Chocolate milk**
 - Nuts and fruit
 - Peanut butter sandwich
- A good meal that night is important to continue the process
 - Protein
 - Carbs
 - Healthy fats (yes, fats!)
- Also...
 - Hydration
 - Sleep
 - Stretching
 - Elevate legs

Education: Two Science Slides

- Carbohydrates and energy storage
- What vitamins do

Concentrate and hang with me for a couple minutes!



Carbohydrates and Athletes

- Glucose (**fuel**) is stored in the athlete's muscles, liver and fat (the athlete's **fuel tanks**)
- Carbohydrates are needed to refill these fuel tanks
 - Complex carbs from fruits and vegetables are best
 - Quantity requirements vary depending on many factors (the individual, training, sport)
 - Guideline: 6-10grams/Kg body weight/day (USATF Level 2 School)
- As an athlete runs at faster and faster speeds, glucose is used at a more rapid rate
- A car runs full speed until the tank is empty. **A human's performance degrades while the tank empties.**

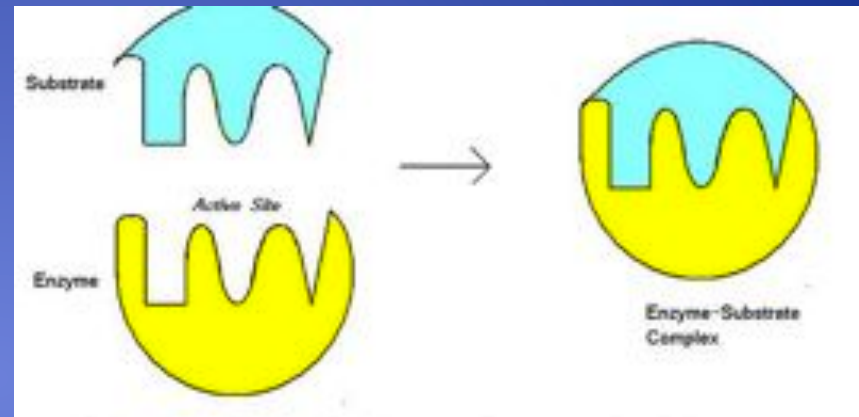
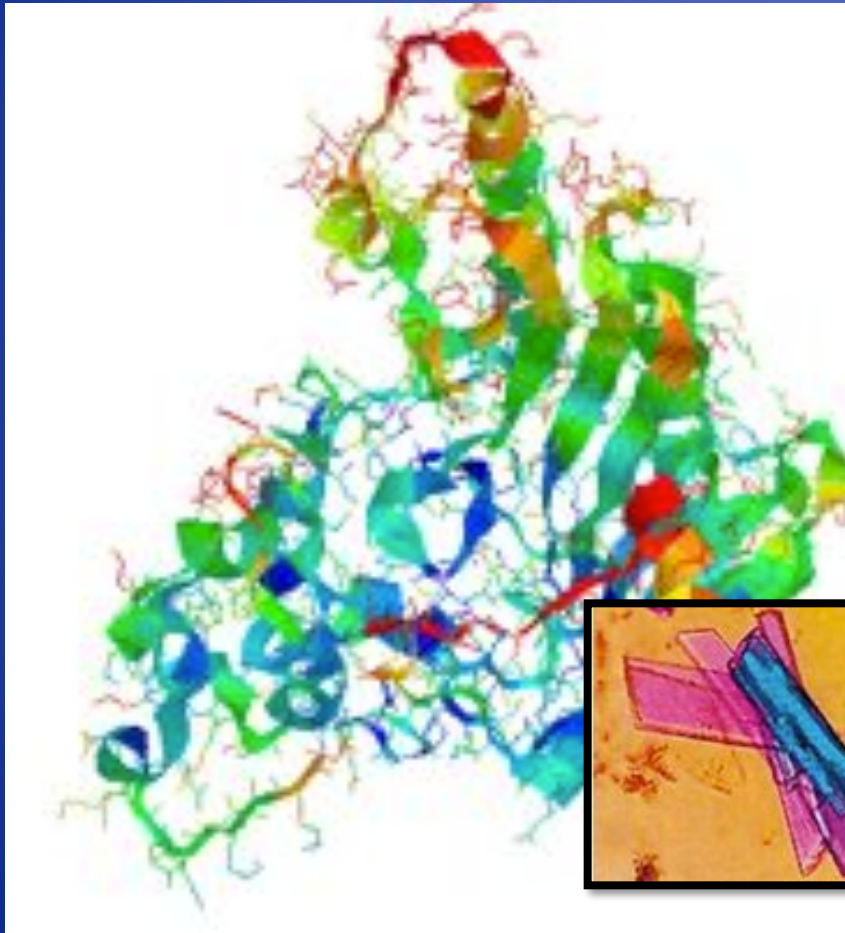
Diets for weight loss are not a good idea for athletes in general. Low carb diets are **preposterous** for an athlete.

Vitamins and Minerals

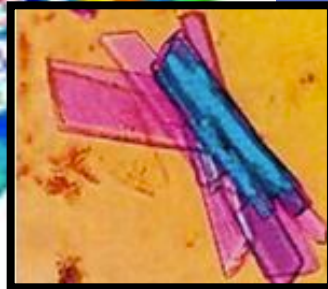
- Adenosine triphosphate (**ATP**) is the form of energy our body uses
- **Power** is how fast ATP can be produced
 - Aerobic system and two anaerobic systems (PCr, Glycolytic)
- Enzymes are critical for almost every chemical action in the human body
 - **Absolutely crucial** for an athlete's energy production
- Vitamins and minerals uniquely help the many enzymes hold their shapes so they can bind efficiently
 - The better the enzyme works, the more **power** the system can produce

A varied diet is needed to ensure we have all the elements needed for high power energy production

Intro to Enzymes



Think of an enzyme as a key that is soft; vitamins and minerals help enzymes hold their shapes. Lots of different vitamins & minerals are needed!



That Didn't Hurt, Did It! 😊

Seriously, I hope you found that interesting...
If so, let's talk! We can learn more together.
Maybe you have a future in medicine.

Athletes and Diets

- High school athletes in training should not be on 'diets'
 - Particularly low-carb diets
 - Low-carb diets will tell the athlete's body to power down, start using proteins as fuel
- Athletes should have healthy eating habits
- A healthy diet does not mean being perfect
 - Indulging NOW AND THEN is fine
 - Athletes are not expected to be monks (or nuns)
- Training + healthy eating and the athlete's body will find it's balance

NO ONE ON THIS TEAM SHOULD BE
ON A '**DIET**'

EVERYONE ON THIS TEAM SHOULD
BE EATING HEALTHY

2500 HEALTHY CALORIES A DAY IS A
GOOD GUESS (WE HAVE 100 KIDS SO
THAT VARIES)

5 '**MEALS**' (3 meals, 2 snacks) A DAY IS
A GOOD IDEA

Supplements

- Multivitamins are OK but are not a substitute for good nutrition
- Illegal supplements are, well, illegal
 - And dangerous
- Other legal supplements are generally untested, unproven, and risks are unknown
 - Do NOT self-prescribe supplements; talk to your coach **AND** your doctor

Eating wisely is a better idea than
supplements

Conclusion

- Nutrition is the new frontier in athletic performance
 - A pill does not replace good nutrition
- Common sense and self-discipline will get us most of the way to a healthy diet
 - Some athletes will have special issues
 - Further nutrition optimization is possible
- If you want more...just ask

Cooking Class

- We'd like to offer a cooking class for interested athletes
 - Education
 - Health
 - Team Bonding
- Sign up sheet being passed around