


Received @ CCCAT Clinic 6/14 - 15


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Fueling the Runner


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Sports Nutrition Basics

- Fuel frequently
 - Goal is to eat smaller, more frequent meals to keep energy levels up
 - Example: Breakfast-Snack-Lunch-Post Workout Snack-Dinner-Snack
- 80/20 Rule
 - 80% of the time focus on quality food choices or "eating for health"
 - 20% of the time you can splurge on less nutritious foods and "eat for pleasure"
- Three nutrients give your body energy
 - Carbohydrates
 - Protein
 - Fat




About Amy




Amy Goodson, MS, RD, CSSD, LD

- Registered and Licensed Dietitian
- Certified Specialist in Sports Dietetics
- Speaker, Spokesperson, Writer, Media Specialist
- Co-author of book, *Swim, Bike, Run - Eat*
- Nutrition Contributor of book, *The 3-D Body Revolution*
- Has worked with the Dallas Cowboys, Texas Rangers, NBA G-League, FC Dallas, TCU Athletics, PGA Tour Players, endurance athletes, middle and high school athletes as well as the everyday person
- Getorade Sports Science Institute Speaker and Consultant
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Carbohydrates

- **Purpose:** Body's "choice" for energy; primary energy contributor during exercise
- **Types of carbohydrates:** simple & complex
 - Simple: jelly, cookies, hard candy, juice
 - Complex: bread, pasta, cereal, bagels
- Whole grains and wheat products
- Fruits
- Vegetables
- Dairy products
- Sports drinks/gels/goos/blocks




Outline

- Fueling the day
 - Carbohydrates, protein, fat
 - Creating fueling meals and snacks
- Hydration principles
 - Pre, during and post-exercise hydration
 - Electrolytes and cramping
- Fueling exercise
 - Pre, during and post-exercise fueling
- Sample meal planning days




Protein: Best Choices

- **Purpose:** Build/repair muscles, hair/nail growth, boosts immunity, RBC production
- Lean meat
 - Chicken, turkey, lean ham, lean red meat, fish, tuna, turkey bacon and turkey sausage
 - Take the skin off of meat
- Eggs and egg whites
- Low-fat dairy products
 - Milk, cheese, yogurt, cottage cheese
- Whey protein powders and smoothies/shakes made with it... whey protein absorbs very quickly
- Nuts, seeds, peanut butter have some protein



Fat: Best Choices


- Saturated Fats: "Bad Fats"
 - Fried foods, pastries/baked goods, creamy foods
- Unsaturated Fats: "Good Fats"
 - Peanut butter, almond butter, nuts, seeds
 - Olive oil and Canola Oil
 - Avocado
 - Flaxseed or flaxseed oil
 - Can buy milled, as oil, or in breads and cereals
 - Fats in fish like salmon
- Remember that you get some fat in dairy products, meats, whole eggs, and energy bars/shakes



Start the day with breakfast


- Cheap, Quick On-the Go Breakfasts
 - Whole wheat bagel w/2 spoons peanut butter, banana & 1 bottle 2% milk
 - Energy bar, banana & 1 bottle 2% milk
 - Peanut butter & jelly sandwich on wheat bread, Yoplait 2x Protein Yogurt and 8 oz low-fat milk
 - Peanut butter crackers, 1 cup trail mix, 1 bottle 2% milk
 - Smoothie w/fruit, milk & whey protein powder
 - Nature Valley Granola bar & add peanut butter on top, string cheese, 1 bottle 2% milk
 - Quaker Oatmeal On-the-Go bar, Individual bag of nuts, 1 bottle 2% chocolate milk

★ Quick Breakfast



Vegetables


- Aim to get in at least 5 servings of vegetables each day
- Vegetables provide vitamins and minerals to help your body fight off illness and recover
- 1 serving =
 - 1 cup raw vegetables/lettuce
 - ½ cup cooked vegetables
- Ways to mix in veggies:
 - Scramble them in an omelet
 - Carrots and hummus as a snack
 - Lettuce and tomato on a sandwich or burger
 - As a side item at dinner



Fueling Snacks


- Energy bar
- Individual bag trail mix
- Beef jerky and a banana
- Granola bar and nuts
- Whole wheat crackers and string cheese
- Yoplait 2x Protein Yogurt and fruit
- Hummus and whole wheat pita bread/pita chips
- Apple and peanut butter
- Popcorn and string cheese
- Peanut butter bites
 - Stir ½ cup peanut butter and ¼ cup honey together
 - Stir in 1 cup oats and ½ cup whey protein powder
 - Roll into 20-22 balls and refrigerate
 - Approx 70 calories, 7 carb, 2 fiber, 3 protein, 3 fat each

Great Snacks



Putting it all together: Fuel your day!

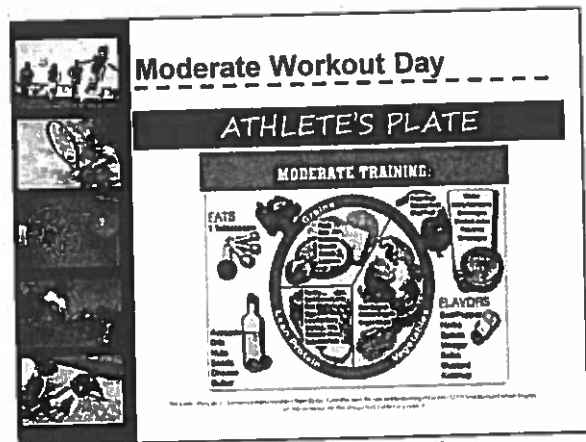
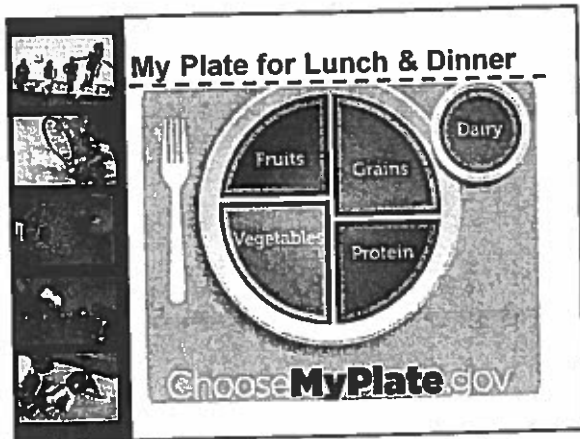
- Eat a complex breakfast before school
- Pack healthy snacks for mid-morning and pre/post workout
- Choose a lunch to help you recover from a morning workout and/or fuel your afternoon workout
- Eat a healthy dinner
- Hydrate with water, flavored water and nutrient-rich beverages like milk all day
- Drink sports drinks around your workout only



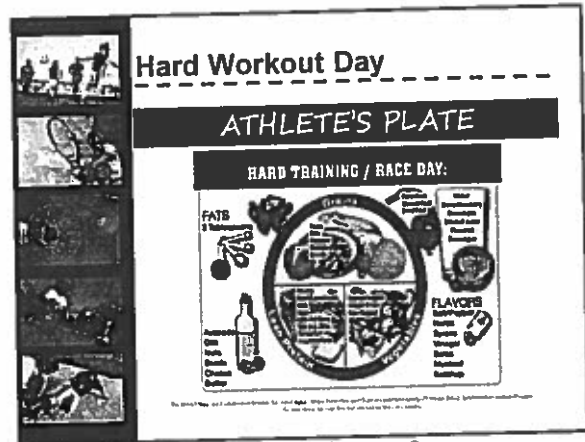
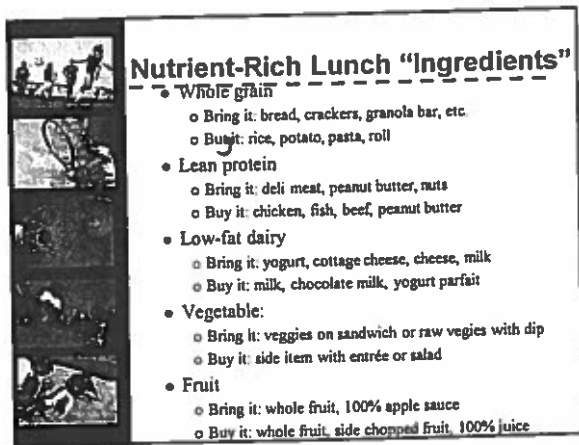
Healthy Convenient Store Snacks

- 7-11's and Quick Trips offer the most options
- Peanut butter crackers/peanut butter filled pretzels
- Individual bags of trail mix or nuts & a fruit
- Whole grain granola bars & string cheese/nuts
- Box of whole wheat crackers & string cheese
- Protein bar & banana/milk
- Turkey/ham and cheese sandwiches/wraps & baked chips/ fruit cups
- Yogurt & fruit parfaits & a bag of nuts
- Ready-to-drink Protein Shake & a fruit/granola bar
- Add milk/chocolate milk to any snack to increase calories and protein

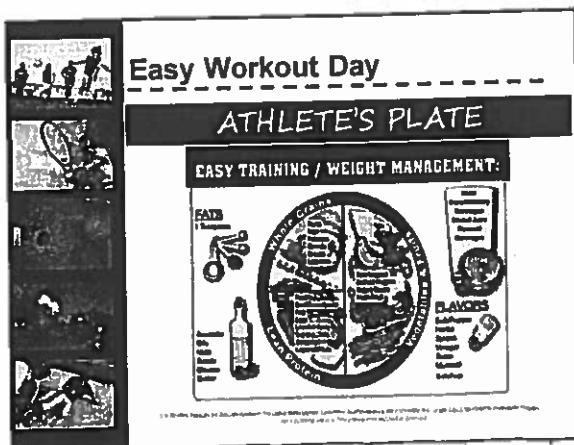
On the Road Ideas



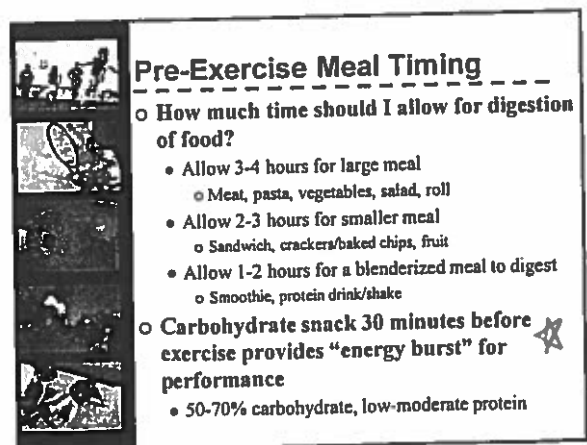
Medium = More Carbs
Day




Hard = Big time Carbs
Day



Easy Day = more fruits + veggies




Meet
Buis idea




Pre-Exercise Eating

- **Pre-exercise meal**
 - High carbohydrate
 - Low in fat & fiber
 - These slow down digestion
 - Moderate protein
 - Combine protein + carbohydrate
 - Plenty of fluids
- **Immediate Pre-exercise Snack**
 - 30 minutes before workout/game
 - High carbohydrate, small amount of protein to provide you with a boost of energy




During Workouts

- **Carbohydrate-rich foods/drinks**
 - Carbohydrates digest the quickest & thus provide energy faster!
- **Carbohydrate need**
 - 30-60 grams of carbohydrate per hour after the first hour of exercise
- **Fluid need – match sweat losses**
 - Consume 5-10 oz fluid every 15-20 minutes
 - Water and sports drink to replace electrolytes
- **Avoid fat, protein, & fiber when exercising...** slows digestion & increases time in which energy is available to be used




Morning Training

- **Lots of carbohydrate; more bland foods**
- **Aim to get in 12 – 16 oz fluid**
- **Good choices for early morning:**
 - Shake with carbohydrates & some protein
 - Shake powder mixed with water or skim milk, fruit, 1 scoop protein powder, ice and water
 - Energy bar with lots of carbohydrate and up to 10 grams of protein
 - Low-fat granola bar like Kashi crunchy/chewy, Nature Valley, Quaker Oatmeal Square
 - Fruit (i.e. banana, nothing very acidic)
 - Plain bagel or dry cereal/granola mix




During Workouts

- **Carbohydrate-rich foods/drinks**
 - Carbohydrates digest the quickest & thus provide energy faster!
- **Avoid fat and fiber when exercise**
 - Slows digestion and increases time in which energy is available to be used
- **Carbohydrate needs during exercise**
 - <30 minutes = None Required, Water works
 - 30-60 minutes = Mouth rinse or small amounts
 - 1-2.5 hours = 30-60 gm carbohydrate/hour
 - >2.5 hours = Up to 90 gm carbohydrate/hour
 - Ideally around 1 gm carbohydrate per kg body wt




Fuel for Before or During Workouts

- **More dense foods provide more calories per bite which are ideal when time is limited**
- Peanut butter crackers/filled pretzels
- Trail mix
- Lenny and Larry Complete Cookies or Muscle Brownies
- Granola with nuts
- Protein bars – store bought or homemade
- Peanut butter bites
 - Stir ¼ cup peanut butter and ¼ cup honey together
 - Stir in 1 cup oats and ¼ cup whey protein powder
 - Roll into 20-22 balls and refrigerate
 - Approx 70 calories, 7 carb, 2 fiber, 3 protein, 3 fat each




Getting your carbohydrates in while training and racing

- **Race/Long Run Nutrition:**
 - Goal of 30-60 gm carbohydrate per hour (probably divided into 2 little snacks an hour)
 - 4 Gatorade Endurance Energy Chews = 31 gm
 - Gatorade Endurance Carb Energy Drink = 30 gm
 - 1 gu = 25 gm
 - ½ Bonk Breaker Bar + 6-8 oz Gatorade Endurance = 25-30 gm
 - 1 pack sports jelly beans (1 oz) = 25 gm
 - ¼ Clif Bar = 20-22 gm
 - 8 oz Gatorade Endurance = 14 gm
 - ½ banana = 15 gm
 - 15 grapes = 15 gm




Mid-Practice/Meet Snacks

- Carbohydrates, some protein, little fat
 - Energy bars
 - Granola bars
 - Half peanut butter jelly sandwich and fruit
 - Peanut butter crackers
 - Peanut butter-filled pretzels and a fruit
 - Beef jerky and a banana
 - Beef jerky and a granola bar
 - Trail mix and a banana
 - Sports drinks and water as hydration




Recovery Nutrition Post-Workout

- Carbohydrate - Replenish
 - Body NEEDS lots of carbohydrate post-exercise to replace energy stores
 - Simple carbs are best: milk, sports drink, fruit, juice
- Protein - Rebuild
 - Body needs some protein to start repairing tiny muscle tears
 - Ideally 20 gm protein immediately post-workout
 - Whey protein is the highest in BCAAs, specifically leucine which has been shown to re-synthesize muscle the fastest after a workout




Post-Exercise Nutrition

- The three R's to post-workout recovery:
 - Replenish carbohydrate burned during exercise
 - Repair damage done to lean muscle mass
 - Rehydrate the body to euhydration




Recovery Nutrition Post-Workout

- Carb-Protein Combo Food Examples
 - If you have products available:
 - Carb-Protein Replacement Shake
 - Muscle Milk or EAS or Advocare
 - Energy bar & Gatorade
 - Smoothie made with 1-2 cups low-fat milk, fruit, cold water, ice, and 1 scoop NSF Certified whey protein powder
 - If you are on a budget:
 - 16-20 oz low-fat chocolate milk
 - Granola bar and 12 oz low-fat milk
 - Yoplait Greek 2x Protein Yogurt and a string cheese




Recovery Nutrition Post-Workout

- The Post-Workout "Window of Opportunity"
 - In the two hours after a workout, the body absorbs carbohydrate and protein for recovery more quickly
- Goal
 - 0 to 45 minutes
 - Consume simple carbohydrate (glucose, fructose, sucrose, lactose, etc.) to promote quicker digestion and absorption
 - Consume 10-20 gm quality protein, ideally whey protein
 - Begin to replace fluids lost, especially if another workout is that day
 - Try to consume snack with little to no fat in this window
 - 45 minutes to 2 hours
 - Consume a meal rich in carbohydrate, lean protein and fluid
 - Low in fat




Hydration - Rehydrate

- Pre-exercise
 - 2-3 hours prior exercise: 16-20 oz fluid
 - 10 minutes prior exercise: 5-10 oz fluid
- During-exercise
 - Really individualized to sweat rate
 - Every 15-20 minutes: 5-10 oz fluid
 - Water and sports drinks
 - Sports drinks especially after 1 hour of exercise and/or in very hot/humid conditions
- Post-exercise
 - 16-24 oz fluid for every pound lost
 - 24 oz if in 2-a-days or need to rehydrate quickly




Hydration - Cramping

- Typical causes:
 - Fatigue
 - Dehydration due to loss of electrolytes
- Foods to improve/prevent cramping
 - High salt foods
 - Crackers, popcorn, baked chips, pretzels
 - Tomato sauces, soups, pickles & pickle juice
 - Salt your food!
 - High potassium foods
 - Bananas, strawberries, cantaloupe, raisins
 - Avocados, potatoes, beans, broccoli, spinach
 - Yogurt, milk, tomato juice, soybeans
 - Sports Drinks
 - Gatorade, PowerAde, Hydrade, Aceleade




Sample Afternoon Workout Day Eating Example

- Breakfast – 7:00-8:30 am
- Mid-morning snack – 10:00am
- Lunch – 11:30am-1:00 pm
- Small pre-workout snack – 3:00-4:00pm
- Hydrate during workout
- Post-workout snack – within 30 minutes
- Dinner – 6:00-7:30 pm
- Evening snack – 9:00 pm




Fluids to Drink & Fluids to Dump

- Fluids to drink are nutrient-rich providing water, vitamins and minerals
 - Water
 - Low-fat, fat-free milk, dairy-based smoothies
 - 100% fruit and vegetable juice
- Fluids to dump contain large quantities of sugar, fat and caffeine that have no added nutritional benefit to the diet
 - Soda
 - Sweet tea
 - Lemonade, sugary fruit drinks
 - Energy drinks




2-a-day Practice Eating Example

- 5:00am snack
 - Granola bar, energy bar, banana, baggie of cereal
- Workout
- Post-workout snack: chocolate milk
- Breakfast within 45 min-1 hour after practice
- Lunch 11:00am-12:00pm
- Afternoon (pre-workout) snack around 2pm-ish
- Workout: Consuming water & Gatorade
 - Might want to consume energy bar or granola bar in the middle of practice if possible
- Dinner within 45 min-1 hour after practice
- Evening snack approximately 3 hours after dinner



Sample Morning Workout Day Eating Example

- Small pre-workout snack 5:30-6:30am
- Hydrate during workout
- Breakfast – within 30 minutes
 - If going to be longer, drink chocolate milk or small shake
- Mid-morning snack – 10:00am
- Lunch – 11:30am-1:00 pm
- Afternoon snack – 3:30-4:30pm
- Dinner – 6:00-7:30 pm
- Evening snack – 9:00 pm



Putting it all together: Fuel your day!

- Eat a complex breakfast before school or gym
- Pack healthy snacks for mid-morning and pre/post workout
- Choose a lunch to help you recover from a morning workout and/or fuel your afternoon workout
- Don't forget post-workout nutrition
- Eat a nutrient-rich dinner
- Hydrate with water, flavored water and nutrient-rich beverages like milk all day
- Eat to match your energy needs



Questions

Thank you to Gatorade
Sports Science Institute
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presentation

Max Dr check ferritin levels (stored iron)
Slow FE Iron

