









### Introduction

- · Sports and athletes are not generic
- · Generally eat what they want
- Lecture scope
  - Deliver simple nutrition guidelines for athletes that parents or the athlete can implement
    - Goal enhance the training effect and competition outcome
      - Energy and performance
        - · Properly fill energy systems: eat to perform
      - Optimize recovery
        - Build on every training session every session counts



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# Proper Nutrition Can...

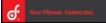
- Maximize each event performance including optimizing playing focus
  - Properly loading & reloading energy & fluids
- Enhance each training outcome
  - Timed feedings of proper nutrients will build more muscle & strength than "random eating"
    - · More building and less repair
- Contribute to an extended competitive lifespan
  - Steady flow of the "right stuff"
- · Control weight
  - Solely responsible for achieving ideal playing weight





### **Basics of Performance Nutrition**

- Energy (calories)
  - Too much is stored, too little takes away
  - Goal is to intake the best "fuel blend" for performance and total calories are determined by body composition goal
- Carbohydrates (sugars)
  - Primary fuel source thus calorie intake; timing & type around training is key
- Protein (amino acids i.e. building material)
  - Steady, timed flow of proper amounts
  - Too much is counter-productive
- Fat (fatty acids)
  - We have a virtually endless supply but can't efficiently utilize without carbs
  - Needs less attention to detail for most athletes



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# **Loading Your Energy Systems**

### Phosphocreatine (ATP-PC) System

First 10-15 seconds of high intensity contractions

- Goal:
  - Maintain optimal stores pre-activity
  - Maximize re-synthesis during activity
    - Impracticality of using food has led to widespread supplementation
- Young athletes only need to eat as outlined
- Competitive adult strength & performance athletes should consider loading & test for maximum performance





### Glycogen (Carbohydrate) System

- Main energy system or primary "fuel tank" for most high intensity athletes (basketball, football, hockey, soccer – middle distances, etc.) & central to endurance performance
- Goal
  - Adequate storage (fill it you last longer)
    - · Deliver maximum performance
  - Replace it fast to maximize all aspects of recovery
    - Positively affect hormonal training response (i.e. favors the building process)
    - · Capitalize on periods of heightened nutrient sensitivity
      - The sooner you get the "right stuff" in, the better the result: 0-60 minute post workout "growth" window triggered by unaccustomed activity that, if missed, is never "made up" i.e. lesser training outcome



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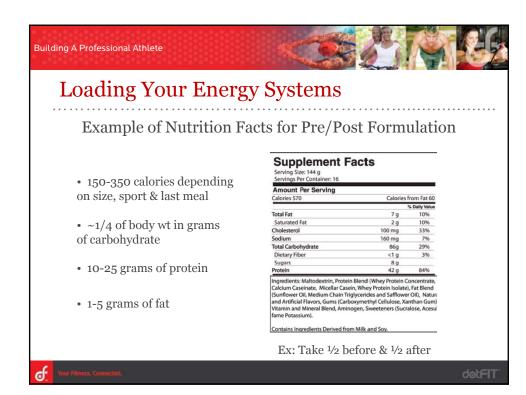
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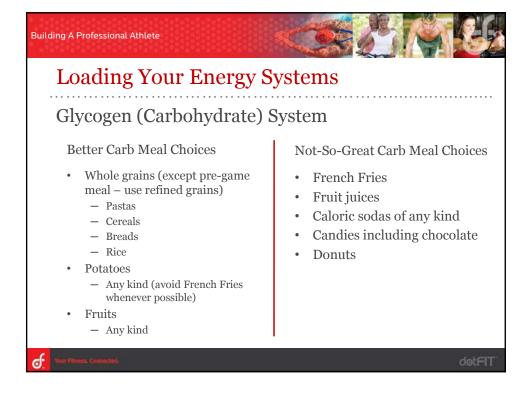
## **Loading Your Energy Systems**

## Glycogen (Carbohydrate) System

- 2.5-4.5 g/LB/day depending on the sport
  - 50-65% of total calorie intake (daily: 2-3 times more than protein)
- Supplementation: Pre/post shakes, bars, etc.
  - 60 minute post-exercise "rebuilding window" can be maximized by proper timing & nutrient composition
  - No traditional food is made to order, hence specialized formulas: e.g. liquid or other "quick digesting foods with moderate P, low F and high carb/sugar count
- Immediate pre & post ingestion delivers:
  - · Increase energy potential at the onset of training
  - Rapid and more complete energy restoration (glycogen re-filling)
  - Rebuilding hormonal environment
  - The actual building materials
  - Greater long-term outcome





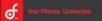




### **Protein Recommendations**

Factors determining recommendations

- Weight
- Growing athlete (age & experience)
- Type and goal of activity (activities)
- · Total energy intake
  - Severe/prolonged dieting increases the need
- · Type of protein
- Preference



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## **Loading Your Energy Systems**

### **Protein Recommendations**

- Supplies the structural components of working muscles
- · Goal:
  - Deliver on time, adequate amounts to maximize growth and recovery of affected tissues
  - Minimize muscle breakdown i.e. spend more time adding muscle than always repairing
- Growing or active athlete simplified formula
  - ~1gm per lb/day but spread it out
    - e.g. daily grams from slightly less than body wt up, to actual wt

of Your Fitness, Connecte



### **Protein Recommendations**

- Generally non-weight conscious athletes consume adequate protein
  - Try to deliver with every meal and don't miss meals
  - Milk is generally the best "default food" for young athletes
- Supplementation: pre/post shakes, bars, etc.
  - Contained in same pre/post drink to achieve the necessary timing & nutrient composition goal
  - "Immediate pre & post ingestion delivers:
    - · Rapid amino acid uptake (building materials)
    - Enhanced rebuilding environment ("green house")



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# **Loading Your Energy Systems**

### **Protein Recommendations**

#### Better Protein Meal Choices

- · Lean meats
  - ChickenTurkey
  - Beef (fillets, flank, ground, round, etc.)
  - Most any Fish
- Shakes/bars when necessary
  - Convenient fill-in for meal missing protein
- · Soy products
- Eggs

#### Not-So-Great Protein Meal Choices

- · Fatty meats
  - Bacon
  - Untrimmed steaks
  - Most fast food burgers
  - Fried meats
    - Chicken including tenders, etc.
    - Fish and chips
- Average hot-dog

\*Never within one hour of event unless small portion

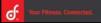


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### Fat Recommendations

- Basic parameters 20-35% of TCI
  - Don't worry about it except to NOT consume high fat pre-training meals or snacks
  - Kids & adults will get what they need from their proteins including milk and dressings/spreads/sauces



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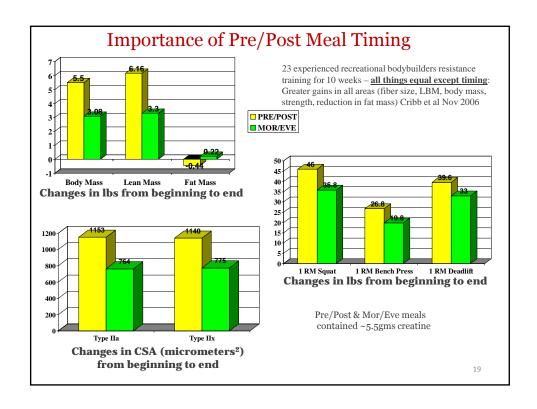


# Meal & Nutrient Timing/Composition

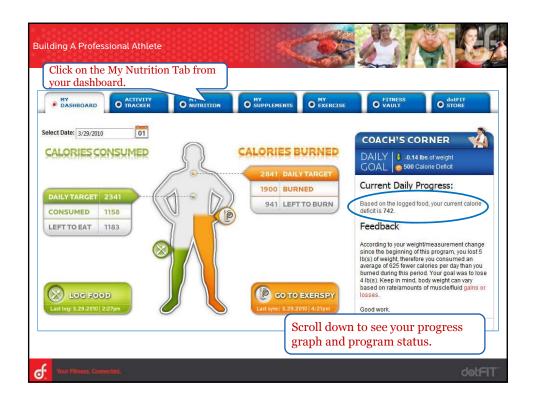
### Greatest outcome is predicated on arrangement & content

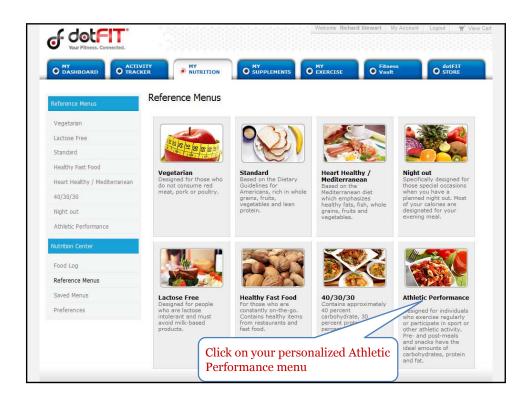
- Pre & post-training/event snacks
  - Your pre-training snack should be consumed 10-40 minutes before activity; post snack immediately after WO. The pre/post snack is usually in liquid form but you may substitute based on preference, venue and/or convenience, any other appropriate foods (CHO higher than P with low fat)
- · Large pre & post training/event meals
  - Pre-event meal to be eaten approximately 2-3 hours before your major activity; post ~ 1-2HRS post training based on post training supplement
- Early morning training
  - If you train soon after rising and have no time for complete digestion of a large meal, make sure you consume a large pre-training type meal as your final meal of the previous day and consume only the pre-workout snack before your workout
- · New key takeaway:
  - Normal feedings patterns (3-6 normal meals) containing the same foods and supplements will not deliver the same result (i.e. there is no "catch up" for what takes place in the post training "metabolic window")

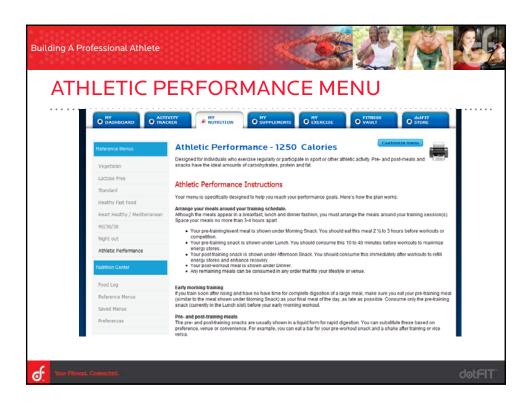














	2		T	F
Meal 5 – Post-training Meal (Eat this meal within 1.5-hours after workouts.)	Pro (g)	Carb (g)	Fat (g)	Calories
¹/₂ Foot long Turkey Sandwich	18	46	5	280
1 cup (8 oz) Whole Milk		11	8	147
Total:	26	57	13	427
Percent of Calories:	24%	53%	27%	
Meal 6 – Starch/Grain with Meat, Veggies & Fruit (Eat this typical dinner within 3-4 hours of previous meal.)	Pro (g)	Carb (g)	Fat (g)	Calories
5 ounces New York Steak, Lean, Broiled	41	-	9	258
1 large (10.2 0z) Baked Potato	8	64	-	290
1 tbsp Light Sour Cream	1	1	1	15
1 cup Green Beans, Boiled, Drained	2	8	-	35
1 cup Fresh sliced Strawberries	1	12	-	49
Total	53	85	10	647
Percent of Calories	33%	53%	14%	
Meal 7 – Late Snack (Eat any time before bedtime)	Pro (g)	Carb (g)	Fat (g)	Calories
1 cup Whole Milk	8	11	8	147
2 scoops dotFIT FirstString	21	43	4	285
Total	29	54	12	432
Percent of Calories	27%	50%	25%	1
Menu Totals:	191	418	70	3017
Percentage of Total Calories:	25%	55%	21%	





### Summary

### Performance Nutrition Goals Accomplished

- Pre-exercise plan followed:
  - Hydrated, most food converted to fuel (stomach almost empty), blood sugar levels stable, decreased muscle breakdown & energy systems full
    - Pre-training food was processed and deposited in tank (2-3hrs) & pre-training supplement "topped the tank"
- During exercise:
  - Stay hydrated and slow glycogen/energy losses
    - 4 to 8 oz of beverage containing 4 to 8% carbohydrate every 20 minutes (also helps with missed preparation)



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## **Summary**

## Performance Nutrition Goals Accomplished

- Post exercise plan followed:
  - Received every possible result from training/event session including increased muscle and glycogen building & quicker recovery - thus better prepared for next session
    - Repeated pre/post-exercise liquid meal immediately following activity
      - Additional benefit stave off improper food choices
  - Normal meal- 1 to 2 hrs after activity
    - · Keep nutrients flowing





### Summary

## Weight Control For Performance

- Total calories are determined by: body statistics, personal activity, the body composition goal and timeframe, which is often dictated by the demands of the sport or desired appearance. While the ratio of the macronutrients within those calories can be manipulated to improve performance.
- One single fact determines the rate of weight/fat lost: the average daily calorie deficit, which is the difference between how much energy is expended and the amount supplied (and you can't spot reduce). When weight/fat loss is necessary, the athlete should proceed at a pace that does not compromise performance gains. Same is true for weight gain.
- Exercise design is for all body structural & functional enhancements (e.g. functionality, strength, performance, longevity, aesthetics, etc.) & increasing daily energy expenditure.



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## Summary (all contained in your program)

## Weight Control For Performance

- > Basic Formula: lose weight/fat & improve/maintain performance
- Total calorie intake should be slightly below expenditure (~500c)
- A measurable or visual reduction in body fat and/or weight should take place
  in a fairly consistent manner such as a decrease in circumference inches, a
  pound of weight a week or 1% of body fat every 2 weeks depending on size and
  normal growth factors. If progress stops or slows dramatically, one or a
  mixture of the following adjustments is all that will be necessary to re-start the
  process:
  - Increase daily activities (e.g. daily steps or other non-athletic or non-exercise activities)
  - Increase workout time or intensity
  - Decrease food intake approximately 200-300 calories/day and repeat this reduction if after 2 weeks there is no change in body composition
    - · Remove least necessary foods or caloric fluids (e.g. cut biggest meal in half)





# Summary (all contained in your program)

### Weight Control For Performance

- ➤ Basic Formula: gain weight & improve/maintain performance
- Total daily calories intake should be moderately over current expenditure
- If weight gain does not occur every 2 weeks, you may increase calories approximately 100 to 250/day (based on body size) consisting of equal amounts of carbohydrates and protein and moderate fat
  - For example, 20 g protein, 20 g carbohydrate, 10 g fat equaling 250 calories. If preferred, use your pre & post shakes or snacks to supply extra calories
- Some form of resistance training is generally needed to create a physiological environment conducive to depositing the extra nutrition into muscle as opposed to fat storage



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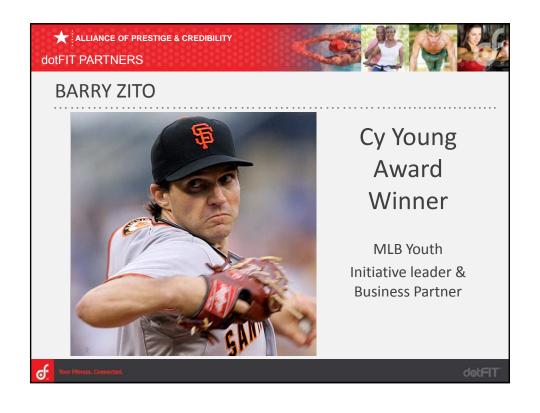
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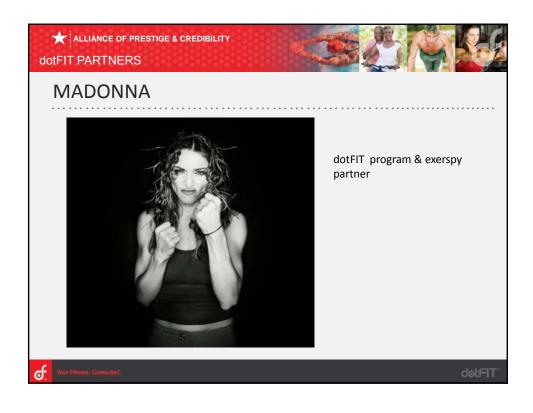
#### **BOTTOM LINE: COACHES, PARENTS & ATHLETES**

- By "topping off" the energy systems, one maximizes power/strength & endurance (time to exhaustion) and maintains thinking power, offering the potential to then maximize skills and experience throughout the playing period
- When the benefits of training and diet on muscle mass and performance have stabilized, specific diet & supplement regimens can play a role in progressive development
- The degree to which athletes improve their nutritional practices will relate to the strength with which you incorporate nutritional education into the home and program
  - Remember that "bad foods" will replace the right foods
  - If it's not there, they won't eat it



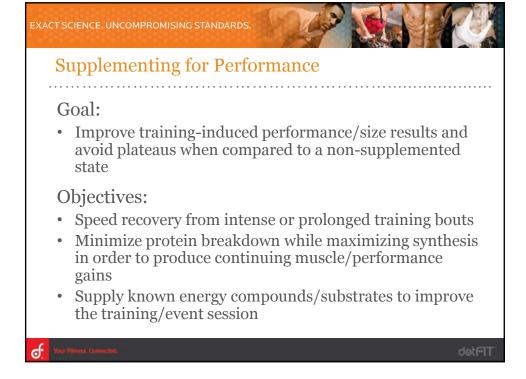


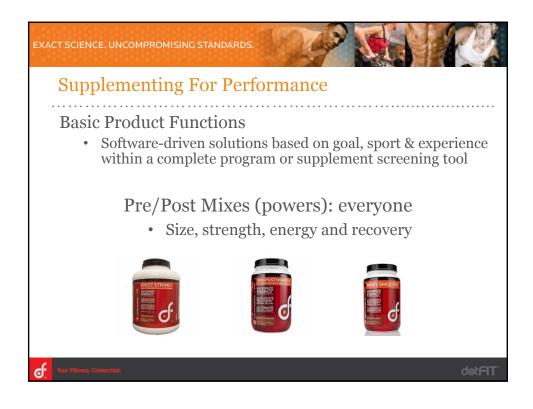


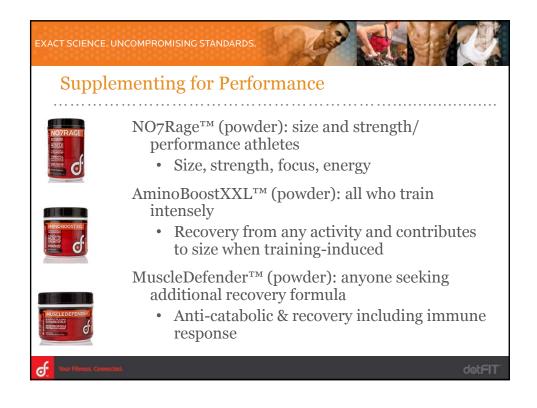


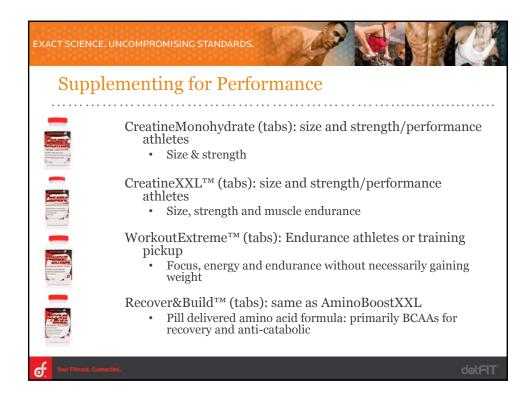


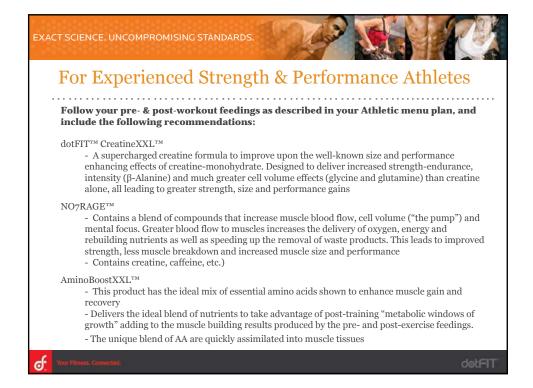












'eek	NO7Rage*	AminoBoostXXL**	CreatineXXL***	Training Intensity
1	1-2.5 scoops as directed30 min before WO			Med
2	1-2.5 scoops as directed30 min before WO			Med-high
3	1-2.5 scoops as directed30 min before WO			High
4	1-2.5 scoops as directed30 min before WO	1/2-1 scoop as directed 30 min before & immediately post WO*		High
5	1-2.5 scoops as directed30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*		High
6	1-2.5 scoops as directed 30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*		High
7	1-2.5 scoops as directed30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*	6 tabs, 3 after WO, split remaining throughout day with meals	High
8	1-2.5 scoops as directed30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*	7 tabs, 3 after WO, split remaining throughout day with meals	High
9	1-2.5 scoops as directed30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*	8 tabs, 4 after WO, split remaining throughout day with meals	High
10	1-2.5 scoops as directed30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*	9 tabs, 4 after WO, split remaining throughout day with meals	High
11	1-2.5 scoops as directed30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*	10 tabs, 4 after WO, split remaining throughout day with meals	High
12	1-2.5 scoops as directed30 min before WO	1/2-1scoop as directed 30 min before & immediately post WO*	10 tabs, 4 after WO, split remaining throughout day with meals	Competition Week
13		1/2-1scoop as directed 30 min before & immediately post WO*	6 tabs, 2 after WO, split remaining throughout day with meals	Low/med or active rest
14	0	0	0	Off
15	0	0	0	ОП
16	0	0	0	Medium intensity and hold u next intense training cycle

