## **BASIC NUTRITION FOR ATHLETES**

## What makes an Athlete?

- Genetics
- Motivation
- Training
- Recovery and Stress
  FUEL DIET AND FLUIDS

#### Fuel the Machine

• F-15

- \$30 million (1998)
- Special Fuel(s)





## Bobby

- LOVES TO PLAY! HUGE!
   >99% ON ALL GROWTH SCALES! LOVES TO EAT!
- Priceless
- Special Fuel(s)



## Lifespan

# F-15HUMAN16 yr Lifespan79.8 Year Lifespan



#### Why is nutrition so important?

- Food provides energy for workouts
  - This energy is crucial for peak performance
- There is no substitute for a healthy diet
  - You cannot out train a poor diet
  - You cannot out-supplement a poor diet.
- Poorly fueled athletes experience early fatigue
- Food provides materials critical for recovery

#### **Bottom Line**

YOU GET MORE OUT OF YOUR WORKOUT IF YOU EAT RIGHT

## **Fuel the Machine**



#### **During Exercise**

- Body first uses blood glucose for energy, but uses it up quickly
  - FOOD, DRINKS FROM THE PAST 3-4 HOURS
- Then the body relies on muscle glycogen for energy
  - MORE GLYCOGEN = MORE ENERGY
  - MORE GLYCOGEN = BETTER ATHLETIC PERFORMANCE

#### **Glycogen Depletion**

- 1 30 sec. sprint can deplete up to 35% of your glycogen
- Multiple sets of lifts can deplete up to 40% of your glycogen (on avg. we do 16 sets)

#### FASTED TRAINING

CAN CAUSE POOR PERFORMANCE, COMPLETE DEPLETION OF STORES, AND MUSCLE BREAKDOWN FOR ENERGY.



#### **PROPER FUELING/REFUELING/RECOVERY**

GLUCOSE

#### PRACTICE

ABSENCE OF PROPER FUELING/REFUELING/RECOVERY PERFORMANCE DECREASES

#### **Optimal Glycogen Storage**

- Consistent carbohydrate levels in daily diet
- Consume carbohydrates before workout
- Consume some combination of carbohydrate/protein shortly after a workout
- EAT BREAKFAST!

#### Find your performance edge!

If you do the bare minimum, expect bare minimum results. You want to be great, work to be great. Nothing just happens.

JJ Watt

#### **Recovery – Post Exercise**

#### THE SCIENCE OF WHY (ANABOLIC RECOVERY WINDOW) "15 MINUTES – 2 HOURS"

- Protein synthesis begins quickly. Recover. Rebuild.
  - Improves ability to grow lean muscle mass for up to 48 hours
- "Glycogen Gates" stay open for roughly 2 hours following exercise.
- You must replenish your glycogen stores during this time period to insure proper refueling and recovery before your next training session.

#### **Recovery – Post Exercise**

#### THE SCIENCE OF WHAT

- Protein/carbohydrate combinations are recommended
- Stay away from fatty, fried foods (esp. certain fast foods)
- Current research recommends a high protein moderate carbohydrate intake within <u>30 minutes</u> of training.
- I.E. CHOCOLATE MILK OR A PROTEIN SHAKE
- In addition, ingest a good, larger meal within <u>2 hours</u> of training.

#### **SOMETHING TO THINK ABOUT**

- We always talk about refueling after
  - Working out
  - Lifting
  - Training

What about after a game? What about after practice? What about during?

#### What is the best diet for an athlete?

- A well-balanced diet with a variety of healthy foods
- Plenty of water/healthy fluids
- NO FAD DIETS

Adolescents have different dietary needs than adults

#### **Basic Ideas**

- 60% Carbohydrates
- 25% Fat
- 1 Gram of Protein per lbs of bodyweight
- 3000 calories per average athlete
- HS athletes may require more energy/calories
- Proper Hydration
- Sodium is OK

KEYS BALANCE EAT OFTEN LOW IN JUNK FOOD NO FAD DIETS

# **B.E.A.S.T.**

- BREAKFAST
- EAT OFTEN
- ALWAYS HYDRATE
- SLEEP, REST, RECOVER
  TYPES OF FUEL



#### Breakfast

- Must refuel your body
  - the level of glycogen in your liver is considerably lower in the morning
- Kick starts your day and keeps you alert.
- Enhances mental performance
- Speeds up metabolism.
- Hydration is important at breakfast

## **Eat Often**

- Maintain/build muscle mass
- Increased metabolism
- Prevents catabolic states
- Blood sugar control
- Improves concentration and mood
- Simple strategies to eat often
  - Eat Breakfast Every Day
  - Plan Meals
  - Snacks





<b>BODY PART/ORGAN</b>	% OF WATER
Skin	64
Skeleton	31
Muscles	75
Brain	80
Liver	71
Heart	73
Lungs	83
Kidneys	79

#### **2007 National Soft Drink Study**

#### **Adolescents**

- Average consumption 30 oz per day
- 400 calories +
- 108 grams of sugar (RDA 12-36 grams)
- NO nutritional value---
  - NO Protein
  - NO Vitamins
  - NO Minerals
- Leads to less intake of healthy fluids (milk, water, etc.)
- Increase diabetes, obesity probability
- Can effect calcium absorption

#### WATER

- Most effective dietary ingredient
  - Water is cheap
  - Water is accessible
- No supplements to counter dehydration
   Dehydration can lead to reduced athletic performance
   \*\*\*Studies show up to 10%\*\*\*

300 lbs Bench Press -----270 lbs Bench Press

#### **Dehydration and Performance**

- 3-5% Drop in Bodyweight
- Dehydration 8-10% in Performance
  - Reduced Stroke Volume
  - Reduced Cardiac Output
    - Less Oxygen
  - Muscles

Heart

- Electrolyte Inbalance (cramping)
  - **Swiss Sports Nutrition**

www.verofit.com.au

#### WATER

- Helps rid the body of waste
- Helps the body to metabolize fat
- Can act as an appetite supressant in some cases
- Amount needed can vary based on weight and gender
- GENERAL RULE: 100 oz/1 gallon per day

   Sip
- Measure hydration by urine color (light/clear)

#### **AM I HYDRATED?**

#### Urine Color Chart

1	
2	If your urine matches the colors 1, 2, or 3, you are properly hydrated.
3	Continue to consume fluids at the recommended amounts.
4	If your urine color is below the RED line, you are
5	DEHYDRATED and at risk for cramping and/or a heat illness!!
6	YOU NEED TO DRINK MORE WATER!
7	
8	

#### **ELECTROLYTES**

- Sodium
- Potassium
- Cramping
- Diet
- Water, Salt, Lemon

#### Water 1<sup>st</sup>

Sports Drinks 2<sup>nd</sup> (only when training)

#### Sleep, Rest, Recover



#### Effects Of Sleep Deprivation On Our Human Body

#### Sleep, Rest, Recover

#### **Sleep guidelines**

Sufficient sleep has been found to help prevent chronic disease. The amount of sleep needed varies, based on person's age and health. Recommended sleep amounts by age group:

AGE	SLEEP NEEDED (IN HOURS)	
Birth to 2 months	12 to 18	
3 to 11 months	14 to 15	
1 to 3 years	12 to 14	
3 to 5 years	11 to 13	
5 to 10 years	10 to 11	
10 to 17 years	8.5 to 9.5	
17 or older	7 to 9	
Courses National Clean	-minimum recommend	ation

Source: National Sleep Foundation

THE COLUMBUS DISPATCH

#### Sleep, Rest, Recover



## **Types of Fuel**

## **Types of Fuel** Carbohydrates

- They don't "make" you fat
- Best fuel for activity
  - Duration
  - Concentration
- Fuel
  - BLOOD GLUCOSE
  - MUSCLES GLYCOGEN
- Look for "Whole Grain"
- Check for sugar content
- Watch the sauces
- Fiber

#### Examples

- BREAD
- BAGELS
- CRACKERS
- FRUITS
- \*JUICES\*
- VEGGIES (colors)
- RICE
- PASTA
- TORTILLAS
- \*CEREAL\*
- OATMEAL
- \*SPORTS DRINKS\*

## Types of Fuel Fats

- A no fat diet is not healthy
- Energy source
- Help you feel full
- Taste good
- Helps absorb certain vitamins
  - Vitamin deficiencies
- > 30% of diet is not healthy
  - Obesity
  - Heart disease
  - Body fat increases

#### Examples

- BUTTER
- OILS
- MARGARINE
- SAUCES
- GRAVIES
- SALAD DRESSING
   HIDDEN FATS...

## Types of Fuel Protein

- Building blocks
- An absolute necessity for recovery
- Must be consumed post workout
- 1 gram per lbs of bodyweight
- 30 grams per serving is OK
- Whey protein
- Soy protein

#### Examples

- BEEF
- CHICKEN
- TURKEY
- PORK
- FISH
- MILK
- CHEESE
- YOGURT
- PEANUT BUTTER
- EGGS
- BEANS
- NUTS

## **Types of Fuel** Building Lean Muscle

- Extra 500 calories per day can lead to 1 lbs of body weight gain per week
- Maximum of 5 lbs per month
- Set realistic goals
  - SMART goals

**DON'T VALUE SUPPLEMENTS OVER REAL FOODS** 

## **Types of Fuel** Getting Extra Calories

• EAT BREAKFAST

– Something is better than nothing!

- Impossible to get enough calories when you skip meals
- Snack often
- Make good caloric choices
- "White foods"
- Supplements





PALM:

FIST:

FINGERTIP: Fats (butter)

Breads

Meats

Veggies, Rice, Pasta, Fruits





#### Supplements

- Not regulated by the FDA
  - Proprietary Blends
  - False claims and misinformation
  - <mark>– \$\$\$\$\$</mark>\$
- Studies not conducted on teens
- Not a substitute for diet and/or training

## SOME, NOT ALL CAN CAUSE HARM



\* Our products are manufactured in compliance with NSF International's GMP for Sport<sup>™</sup> Registration, including semi-annual audits, verifying that no NSF 306-Certification Guideline Annex A List banned substances exist in our facility.

35%

45%



#### What happens if I'm not a BEAST?

- Limited gains
- Decreased performance
- Increased injury potential
- What can I fix first?
  - Hydration issues....
  - Sleep, rest, recovery....

#### DO WHAT WE TELL YOU TO DO DEVELOP GOOD HABITS

#### **Break the Barriers**

- Time
- Money
- Schedule
- Importance
- Environment



## Let your education and motivation drive you towards your goal

## **Injury Nutrition**

- Consider the psychological effects of injury
- Physically caloric/protein needs still very high
- Eating is often crucial for recovery and weight maintenance
- Avoid high sugars/fats
- Inflammation prevention and control

#### **Concussion Nutrition**

- Should be considered in protocol
- Reduce inflammation
  - Increase intake of berries and vitamin C
- Reduce sugar intake
- Reduce fried food intake
- Increase green vegetable intake
- Increase omega 3 intake
  - Salmon
  - Tuna
  - Olive oil

# ONE "BAD" MEAL WONT MAKE YOU FAT.

# ONE "GOOD" MEAL WONT MAKE YOU SKINNY

JUST LIKE

## QUESTIONS