

## *Exercise and Hydration*

### Exercise:

#### 1. Types of Exercise:

- Power
  - Energy source: ATP and Creatine
- Speed
  - Energy source: glucose and glycogen
- Endurance
  - Energy source: all of above

#### 2. What causes fatigue?

- Power:
  - Depletion of Creatine and ATP
- Speed and Endurance
  - Depletion of Glycogen

#### 3. Creatine supplementation:

- Delays fatigue
- Helps with injury repair to muscles
- Increase muscle mass

#### 4. Protein needs:

- Endurance athlete: 1.2 – 1.4 g/kg (recreational athletes)
- Ultra-endurance athlete: 1.5 - 1.7 g/kg
- Strength athlete: 1.6-1.7 g/kg

#### 5. Benefits of exercising:

- Increase skeletal muscle glucose uptake
- Increase insulin sensitivity... which lowers risk of Diabetes and helps control Diabetes
- Releases epinephrine... makes you feel good and happy
- Gives you more energy overall
- Sleep better
- Increased exercise (endurance)... increases the efficiency and functioning of the body... I.E. higher and better fat burning system
- Decrease risk for Heart Disease
- Decrease risk for osteoporosis (weight bearing activities)

#### 6. Healthy weight loss

1. To loose 1 lb of fat a week =3500 Kcals. I.E. 500 kcals less a day.
2. High unsaturated fat diet, high fiber and low carbohydrate diet

#### 7. Maximize your work by working out based on body type!

##### *Type 1: **Endomorph:***

##### Characterized:

- Strong bones
- Shorter neck
- Round face
- An inclination to store fat on the abdomen and buttocks.

##### Training:

- Training goal is to amp up the metabolism... do more frequent workouts (5 -6 days/week).
- Weights 3 times per week (moderate poundage, high intensity with minimal rest between sets)
- Low-impact cardio 3-6 times per week for 30-60 minutes.
  - The best cardio for Endomorphs is brisk walking, stair climbers, biking, racket sports or hiking.

Diet:

- Leans meats
- Non-fat dairy
- Whole grains
- Fresh vegetables and fruits.
- Avoid fast foods and anything fried as they are high in fat and salt and will cause quick weight gain.
- Limit your use of butter and oil.
- Choose vegetables, or a glass of nonfat milk for late night snacks.

*Endomorphs have often been heard saying, "I gain weight just smelling a donut".*

**Type 2: Mesomorphs**

- Muscular and naturally athletic... but can gain fat weight by not being active.
- Long torso
- A large chest (pec muscles).

Training:

- Training goal is to keep their athletic look without bulking up unless that is necessary for a competition or job.
- Weights need only be done 1-2 days per week.
- Training should vary
  - Heavy weights for only 3 -4 weeks
  - Light weights for 1-2 weeks.
- Cardio 3 days per week for only 25 - 30 minutes. It may be low or high impact activities such as running, stair climbers, wind sprints, racket sports, hiking or biking.

Diet:

- Need more protein to maintain their higher levels of muscle mass... eat a little protein at every meal!
- Higher level of healthy fats such as peanut butter.
- Overall, choose lean meats
- Whole grains
- Fresh vegetables and fruits
- Non-fat or low-fat dairy.
- Use olive oil when cooking and avoid fast foods.

**Type 3: Ectomorphs**

- Long arms and legs
- A short upper torso which is also usually narrow
- Hands and feet also tend to be long and narrow.
- Find it difficult to gain weight, store little body fat
- Have thin musculature.

Training:

- Training goal is usually to add weight in the form of muscle particularly in the upper body since the shoulders tend to round forward.
- Should only exercise a few times per week.
- Weights should be primary exercise done 1-3 times per week lifting heavy and with lots of rest between sets.
- Cardio should be kept to a minimum as that burns up muscle tissue. If you must do cardio, then just do 15-20 minute sessions of moderate walking, biking, or swimming. Another excellent

exercise is yoga since

- Ectomorphs tend to speed around and yoga is calming.

#### Diet:

- Famous for not eating often enough and not eating the proper foods.
- Recommended to eat 5-7 small meals throughout the day.
- Protein is recommended at 35% of total calories
- Carbohydrates around 45%
- Protein shakes in the evening are one way to help maintain your precious muscle tissue.
- Metabolism is high ... Limit fruit and other simple sugars
- Whole dairy products like cheese
- Some heavier meats... because your body type needs the calories.

Information on body types from Bodybuilding 201 by Robert Wolff, Ph.D.

#### Hydration

##### 1. Basics of hydration:

- Don't just judge by thirst
- Don't wait until it's too late!
- Drink more when in high temperatures

##### 2. Signs of Dehydration....

- Dry mouth
- Dizziness & lightheaded
- Fast heart beat and Fast breathing
- Dark colored urine

##### 3. Make Adequate Hydration Part of Training...

- 2- 3 hours before game:
  - 13- 20 ounces (oz)
- During Game:
  - 6-12 oz/ 15- 20 minutes
- After Game: 16-24oz/ pound lost
- Consume water mostly for hydration. But, if you are sweating a lot then you may need to replace some electrolytes and a sports drink (Gatorade, Vitamin water) would be best for that.

##### 4. Beverages to Avoid Before Training and Events...

- Caffeinated Beverages
- Energy drinks
- Alcoholic Beverages
- Heavy beverages... like shakes and smoothies

*WATER IS A VERY IMPORTANT NUTRIENT IN OUR DIETS; MOST PEOPLE FORGET HOW MUCH WE NEED IT!*

*TRY TO DRINK AT LEAST 8 CUPS A DAY (64 OUNCES)*

#### **Recipe (demo/ sample):**

*Trail Mix*

#### Demonstrates:

1. Example of nutrient snack that can maintain blood energy and protein during exercise.