



## PREFACE

This newsletter is a bi-monthly publication of J & S Health, Fitness and Sports Academy—a gym located in St. James, Barbados. The main purpose of this newsletter is to keep members of the gym informed about current health and fitness trends.

### Quote to remember:

Money is the most envied, but the least enjoyed. Health is the most enjoyed, but the least envied.

Charles Caleb Colton

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## The Benefits of Fiber



**F**iber, or roughage as it is commonly called, is a micro-nutrient found only in plant foods (e.g. fruits, vegetables, legumes, whole grains). It is the part of the plant food which cannot be broken down by human digestive enzymes. Hence, your body cannot digest or absorb fiber; fiber passes relatively intact through your stomach, small intestine, colon and out of your body. From such a description it may seem as if fiber does not play a prominent role in maintaining a healthy lifestyle. However, maintaining an adequate fiber intake has been proven to offer numerous health benefits. This article is dedicated to exploring some of these many benefits of fiber.

Fiber is classified into two groups:

- ◆ Soluble fiber
- ◆ Insoluble fiber

Each of these groups has different effects on the body and, subsequently, their own specific health benefits.

**Soluble Fiber** - This is fiber which dissolves or swells in water to form a gel-like material. This classification includes fiber types called *pectin*, *gums*, *mucilage*, *algal substances* and some *hemicelluloses*. Examples of foods which are rich in soluble fiber are oats, rye, barley, certain vegetables (broccoli), certain fruits and fruit juices (plums, berries, bananas), root tuber and root vegetables (potatoes, carrots, yam).

Some of the benefits of soluble fibers are:

- (1) They lower your body's total blood cholesterol levels and LDL (bad) cholesterols by inhibiting the body's production of cholesterol and by bind to cholesterol compounds and carrying them out of the body with the faeces;
- (2) They play a role in improving the body's handling of glucose and maintaining moderate glucose levels by slowing the digestion or absorption rate of carbohydrates within the body; and,
- (3) They convey a feeling of fullness by absorbing water and in some cases delaying the emptying of the stomach.

**Insoluble Fiber** - This is fiber which does not dissolve in water. This classification includes the fiber types such as *cellulose*, *hemicelluloses*, and *lignin*. Examples of foods which are rich in insoluble fiber are whole grain products, wheat and corn bran, brown rice, nuts and seeds, many vegetables (green beans, cauliflower, celery), and the skins and peels of many fruits and vegetables (onions, potatoes, tomatoes).

Some of the benefits of insoluble fibers are:

1. They shorten the time of exposure of the digestive tract tissue to agents in food that may cause certain cancers by speeding up the passage of food through the digestive tract;
2. They allow the muscles of the digestive tract to retain their health and tone (by holding water in the colon thereby increasing bulk and stimulating the muscles of the digestive tract); and,
3. They also convey a feeling of fullness by absorbing water and in some cases delaying the emptying of the stomach.

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**Calves Overview:**



Calves refer to 2 separate muscles on the lower leg, the gastrocnemius (a muscle shaped like an upside-down heart) and the soleus (the muscle that lies underneath the gastrocnemius). Calf exercises that involve a fairly straight knee (e.g. standing calf raises, calf press, 45° calf raises) are better at focusing on the gastrocnemius, while the soleus is better targeted with any calf exercise that is performed with knees bent at approximately 90° (e.g. seated calf raises). Outside of traditional weight training exercises plyometric exercises (hopping & jumping exercises) also target your entire calf muscle, helping to strengthen and define them in ways that are distinct from traditional calf exercises. These exercises also help to complement traditional calf strength exercises and helps to enhance the development of your calves.

**Training Your Calves:**

Calves are most commonly trained as a part of a 'legs' workout, however they can be included with any body part, based on time available, and personal preference. Your calves (especially your soleus) are comprised of a higher percentage of slow twitch muscle fibers compared to many other muscles within your body. As a result of this your calves have a higher endurance capacity and can therefore be trained effectively without undue fatigue with very high repetitions (25 + reps) per set compared to other weight exercises.. When targeting your calves it is best to include at least one exercise for both your gastrocnemius and soleus muscles. Plyometric exercises are also excellent exercises to strengthen, enhance and improve the size, definition and appearance of your calves. If plyometric exercises are included in your calf workouts they should be focused towards more rapid, short, hopping based exercises (e.g.. single leg hops, stair hops) compared to jumping based exercises (depth box jumps, jump squats). These short, hopping based exercises would be more effective since although the jumping based exercises also do work your calves effectively they also incorporate a larger portion of your leg muscles in the exercises and as a result a greater degree of fatigue would also occur at a faster rate.

**Calves Workout:**

| Exercise                            | Sets | Repetitions        |
|-------------------------------------|------|--------------------|
| *Standing Smith Machine Calf Raises | 4    | 20                 |
| *Calf Press                         | 3    | 40                 |
| *Seated Calf Raises                 | 4    | 20                 |
| Stair Hops                          | 5    | 10 - 15 (each leg) |
| Single Leg Hops                     | 3    | 20 - 40 (each leg) |



45° Calf Press

\* Designates that it is a weighted exercise

On occasion the soleus exercise should be performed first or second in the workout



Single Leg Dumbbell Calf Raises



Single Leg Hops



Seated Calf Raises



Standing Smith -Machine Calf Raises



Stair Hops

## Long Term Adherence to Low-Carbohydrate Diets Increases Risk of Death



In short term studies (studies about six months in length) low-carbohydrate diets have been proven to have positive effects on cardiovascular disease risk factors and to result in greater weight loss than mixed or high-carbohydrate diets. However, in a 26-year-long study, led by Teresa Fung, it was found that long-term adherence (multiple years) to this type of diet increases the risk of death from cardiovascular causes by 14%, death from cancer by 28%, and death from all-cause mortalities by 23%.

*(American Journal Clinical Nutrition, 91: 966 - 976, 2010)*



## 80:20 Rule to Best Build Endurance

Norwegian researchers analyzed the training diaries of Olympic champions in endurance events as well as the literature on endurance training and concluded that building endurance is best developed by following the 80:20 rule, where 80% of your cardiovascular training involves prolonged, sub-maximal exercise, while 20% is near-maximal intensity interval training. It was also determined that interval training (repeated bouts of high-intensity exercise alternated with periods of rest or low activity) performed two to three times per week caused rapid changes in metabolic and cardio vascular capacity, and subsequent large increases in physical fitness.

*(Sportsscience, 13: 32 - 53, 2009)*

## Lack of Sleep May Promote Obesity

A review of literature by Sanjay Patel from the Case Western Reserve University in Cleveland USA concluded that inadequate sleep promoted obesity. This result is similar to multiple large population studies which showed a clear inverse relationship between hours of sleep and incidences of obesity. The theory behind this inverse correlation is that a reduction of sleep generally results in increased fatigue and a subsequent reduction in exercise quantity and quality thus, promoting an increased daily calorie total and, subsequently, weight gain over time. It must be noted however, it cannot be unequivocally confirmed that inadequate sleep actually causes obesity due to multiple other external factors .



*(Current Sports Medicine Reports, 8: 331 - 338, 2009; Obesity Reviews, 10: 61 - 68, 2009)*

## Beneficial Effects of Yoga



Before 2009 there was very little research showing the beneficial effects of yoga; however, this has rapidly changed, as in this year various separate and distinct eight-week studies showed that yoga had significant benefits as it relates to a wide range of ailments, or situations. For example. (1) yoga training was found to be superior to wrist splints, reducing the symptoms of carpal tunnel syndrome, (2) arthritis patients displayed significantly reduced knee pain and stiffness, (3) significant improvement in flexibility, balance and muscle endurance were discovered in older individuals.

*(IDEA Fitness Journal, October 2009)*

### TIPS CORNER

#### Weight loss tip: *Fill Up on Fiber*

Increasing your fiber intake can help reduce your daily calorie intake due to the fact that fiber provides satiety (gives you a feeling of fullness) with a limited number of calories.

### TIPS CORNER

#### Muscle Building tip: *Rest for Muscle Growth*

Your muscles grow when you are resting, not training. If you do not let your muscles recover adequately between training sessions your body will become over trained, leading to muscle atrophy (breaking down of muscle) and constant fatigue.

# The Benefits of Fiber

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**Table Showing Some Potential Health Benefits of Dietary Fiber for Specific Health Problems**

| <i>Health Problem</i>   | <i>Fiber Type</i> | <i>Possible Health Benefit</i>  |
|---|-------------------|---|
| Obesity   | Insoluble/Soluble | Replaces calories from fat and prolongs eating time due to the chewiness of the food                |
| Digestive Tract Disorders<br>(e.g. Constipation, Diverticulosis, Hemorrhoids) | Insoluble         | Provides bulk and aids intestinal motility, binds bile acids  |
| Colon Cancer  | Insoluble         | Speeds up transit time through intestines and may protect against prolonged exposure to carcinogens |
| Diabetes  | Soluble           | May improve blood sugar tolerance by delaying glucose absorption                                    |
| Heart Disease   | Soluble           | May lower blood cholesterol by slowing the absorption of cholesterol and binding bile acids         |



Root Tubers & Root Vegetables



Nuts & Seeds



Fruits

## Daily Recommended Amount of Fiber Intake

Similar to most items in your diet, there is a recommended daily amount of fiber which each person should aim to consume per day. Here are a few general guidelines.

- ◆ The American Dietetic Association recommend of 20 to 35g of fiber per day.
- ◆ The American Dietetic Association suggest 12.5g per every 1000 cal ingested (thus, a 2000 cal diet should include 25g of fiber per day).
- ◆ The United States National Academy of Sciences, Institute of Medicine prefer to list the recommended daily intake based on sex and age. They recommend a daily fiber intake for women of 25g/day (younger than 50 years old), or 21g/day (older than 50 years old). While, for men they recommend a daily fiber intake of 38g/day (younger than 50 years old), or 30g/day (older than 50 years old).
- ◆ There are also guidelines that focus on children. The American Dietetic Association recommends that children's intake should equal 'age in years plus 5 g/day'. For example, a 4 year old should consume 9 g/day. This rule should be applied throughout adolescence until the person reaches age 20, when the adult guidelines should be used.

# NEWS, NOTICES AND EVENTS



## NATIONAL SENIOR GAMES

♦ J & S Health, Fitness and Sports Academy wishes to congratulate Jennifer Swanston-Jones on her outstanding performance at 2011 Barbados National Senior Games held at the Barbados National Stadium on May 14th 2011. Jennifer won the 50m, 400m, 800m, javelin & long jump within the 50-54 division.

## BARBADOS AMATEUR BODY BUILDING AND FITNESS FEDERATION

♦ Competitors who require entry forms to compete at the 2011 BABBFF Nationals Bodybuilding, Fitness & Body Fitness Competition may collect them from the front desk at the gym from Friday, July 1st, 2011.

## PAST NEWSLETTER EDITIONS

♦ Past editions of J&S Academy's Health & Fitness Newsletter can be downloaded from the gym's website ([www.jandsacademy.com](http://www.jandsacademy.com)).

## CONTACT US



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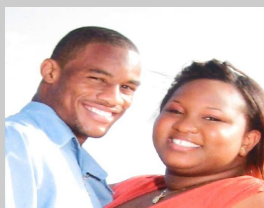
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## WANTED...

Models for the next publication of the Health & Fitness Newsletter

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### Let Us Know What You Thought Of This Issue

Read something that you disagreed with, that you did not understand or that was really helpful? Send your feedback to

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