TheChomp

Nutrition, Exercise, & Wellness

Put out by the Nutrition, Exercise, & Wellness Group at the FSU College of Medicine

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Edited by Zachary Field

To FAST or BREAKFAST? That is the Question…

Ashley Kreher

With New Year's resolutions and Spring Break looming on the horizon you may be tempted to cut out those early morning Wheaties, smoothies, yogurt cups, eggs, or bagels…but stop right there. Long has it been said that "Breakfast is the most important Meal of the Day" and it has been said with good reason. Through research it has shown that people who regularly eat breakfast improve their nutritional intake, decrease their risk of obesity, and have a higher intake of vitamins and minerals throughout the day. Furthermore those who engage in physical activity and consume breakfast on a regular basis have had lower BMIs, body weight, waist circumferences, and body fat percentages compared to individuals that do not consume breakfast regularly.

By enjoying breakfast every morning it truly shows long term benefits, but ultimately how does it compare to skipping breakfast in general? By skipping that early morning breakfast frequently or by completely abstaining from breakfast all together can result in consequences throughout the day. People who do not consume breakfast regularly are shown to have a higher tendency to consume a greater number of calories through the day and tend to favor diets high in energy rich food (such as foods that are high in fat and sugar).

Unfortunately if the habit of eating breakfast isn't maintained early on, it can set the stage for unhealthy dietary habits in the long run. This is seen in the active, the sedentary, men, and women alike. Additionally those who did not regularly consume breakfast, lacked in the intake of vitamins of both the water and fat soluble varieties, minerals, and dietary fiber. Still not sold? Breakfast has also been proven to increase energy and concentration to avoid that mid-morning slump, plus it can take less than 15 minutes to make or you can even take it on the go! So before you push your oatmeal to the back of the cabinet or let those bananas ripen away, think twice, they could be the key to a more energetic and healthier you!

1. Deshmukh-Taskar PR, Nicklas TA, O'Neil CE, Keast DR, Radcliffe JD, Cho S. The relationship of breakfast skipping and type of breakfast consumption with nutrient intake and weight status in children and adolescents:
2. Johns Hopkins Bloomberg School of Public Health. Breakfast: Why You Should Eat a Healthy Breakfast. Johns Hopkins University, 2015. Web.
3. Nurul-Fadhilah A, Teo PS, Huybrechts I, Foo LH. Infrequent breakfast consumption is associated with higher body adiposity and abdominal obesity in Malaysian school-aged adolescents. PLoS One. 2013;8(3):e59297. doi: 10.1371/journal.pone.0059297. Epub 2013 Mar 8. PubMed PMID: 23520556.

In the Spotlight

For one month last semester, 95 of your fellow students and faculty made a commitment to walk more in an effort to build healthier habits. At the end of the challenge, the 95 participants collectively walked 17,145,299 steps, or approximately 8,572 miles. Congratulations to the teams that walked the most steps!

Faculty Team: Up to Speed

- Aleta Barber, Susan Epstein, Erica Heasley, Robyn Rosasco

Student Team: Walka Flakka

- Conor Malloy, Cory Nonnemacher, Lindsey Laux, Elizabeth Ball

Anaerobic Exercise Protects Type I Diabetics from Hypoglycemia

Mark Matechik

Everyone knows that physical activity has a wide range of health benefits for almost everyone. For most people, it is a good thing to get out there and exercise. For some populations, however, there are barriers to exercise that most of us do not realize.

In Type I diabetics, for instance, there is a balance that must be reached between carbohydrate and insulin intake prior to exercise to avoid exercise-induced hypoglycemia. Because hypoglycemia is such a big issue in Type I diabetics, most will vastly increase their carbohydrate consumption and decrease their insulin injection in an effort to avoid reaching a hypoglycemic state.

While this protects them from the issues associated with hypoglycemia, it can actually reduce or even negate the positive effects of the exercise itself by inducing a mild hyperglycemia that lasts for several hours after exercise. This leads to an

increased HbA1c level and potentially even weight gain, the exact opposite of what most people are trying to gain from a workout.

Fear not! There are ways that Type I diabetics can avoid this trap. Let's take a second to look at how aerobic and anaerobic exercise works, and how Type I diabetics can use this to change how they exercise.

Aerobic exercise (the movement of large muscle groups for relatively long periods of time) essentially causes the body to produce large amounts of glucose and maintain it. In an individual with functional pancreatic beta cells, insulin would decrease and glucagon would increase to accomplish this. In Type I diabetics, however, exogenous insulin is required and is generally higher than the levels found in those without diabetes. This decreases the liver's production of glucose and creates the need for a constant influx of carbohydrates. If this is not measured precisely, it can lead to the mild hyperglycemia trap and can actually cause Type I diabetics to increase their HbA1c and gain weight. Yikes!

"The handle on your recliner does not qualify as an exercise machine."

But let's think about this! As intensity increases, the role of glucagon and insulin is essentially overridden by epinephrine, and the body creates lactate without oxygen to power itself. This lactate can then be turned back into glucose, and, along with some other factors, can create a slightly higher blood glucose level than in lower intensity aerobic exercise. So, in very simplified terms, bursts of high intensity activity during your moderate intensity workout can actually protect Type I diabetics from developing hypoglycemia. This means that they do not have to greatly increase their carbohydrate intake or decrease their insulin levels significantly; the body can protect itself from hypoglycemia if you tell it what to do.

So let's say that John Doe, a Type I diabetic, wants to avoid hypoglycemia without the usual mild hyperglycemia that most experience. What do you say? Tell Mr. Doe to incorporate some anaerobic activity into his routine. If he is running, tell him to occasionally sprint for about 10 seconds to get his body into hypoglycemia-protection mode. If he is lifting, make sure he lifts maximally near the beginning of his workout (rep out to fatigue). As always, make sure he talks to his doctor before he tries this, but there is a lot of research out there that can make John's workouts much more effective for him.

Yardley, Jane E. and Ronald J. Sigal. "Exercise Strategies for Hypoglycemia Prevention in Individuals With Type I Diabetes." *Diabetes Spectrum* 28.1 (2015): 32-38.

Banana Oat Greek Yogurt Muffins

Meghan Brown

Yields: 12 muffins

Ingredients:

- 1 cup plain Greek yogurt
- 2 ripe bananas
- 2 eggs
- 2 cups rolled oats (old fashioned or quick)
- ¼ cup brown sugar
- 1½ tsp baking powder
- ½ tsp baking soda
- ½ cup chocolate chips, walnuts, or pecans (optional)

Instructions:

1. Preheat oven to 400F. Line muffin pan with paper liners and spray with cooking spray.
2. Add all ingredients except chocolate chips or nuts to a blender or food processor. Process on high until batter is smooth. Stir in chocolate chips or nuts by hand.
3. Pour batter into prepared muffin pan, filling each cavity about ¾ full.
4. Bake for 15-20 minutes (until tops of muffins are set and a toothpick inserted into the middle comes out clean). Allow muffins to cool in pan before removing.

A Little Seaweed Can Go a Long Way

Elizabeth Ichite

The World Health Organization (WHO) reports that cardiovascular diseases are the leading cause of premature death across the globe. It is important to note that many of the underlying pathologies associated with this form of premature death are largely preventable. Recent scientific research has suggested that the food industry can play an integral role in combatting cardiovascular diseases by the simple addition of seaweed to their processed food products.

Seaweed is jam-packed with beneficial antioxidants, essential amino acids, vitamins, minerals, dietary fiber, and polyunsaturated fatty acids. One very attractive element of seaweed is its potassium salt content. Unlike the sodium salts typically found in processed foods, seaweed salt does not contribute to elevated blood pressure levels. In addition, seaweed has the "fifth basic taste"—umami. Umami is long known to be regulator of food intake through its promotion of satiety. Researchers estimate that it would take around 5-10

grams of seaweed per day for one to experience its great health benefits.

A study was conducted to assess consumers' perception of seaweeds impact on food taste. In this study, a group of overweight (but otherwise healthy) men were asked to taste bread with varying levels of seaweed content as well as whole-meal bread (lacking seaweed content). It was concluded that the taste of the seaweed enriched bread was adequate as long as the seaweed content was kept under 4%. By eating bread containing 4% of dried seaweed, the men consumed more dietary fiber (4.5 g more per 100 g) and consumed 16.4% less energy in a 24 hour period than when they ate the control whole-meal bread. This study has led to the conclusion that consumers can reap the benefits of seaweed enriched food products without compromising the food's taste.

Frozen pizzas, hotdogs and dried pastas are just a few of the popular processed foods that are consumed in great quantities daily. Adding just a little seaweed to these food products may ultimately lead to a reduction of cardiovascular diseases and better health outcomes globally.

Cornish, Critchley & Mouritsen. A role for dietary macroalgae in the ameliorating ration of certainement Risk Factors Associated with cardiovascular disease**.** ***Phycologia*****, 54, 649-666 (2015)**

Just Go Nuts! (And Live Longer)

Thomas Paterniti

Long known to be a source of protein and energy, in addition to being a great snack, nuts may turn out to be a real life saver! A study published in 2013 looked at the relationship between nut consumption and mortality (both general and from specific causes), and found that those who consumed nuts 7 times or more per week had a 20% lower death rate than those who did not eat nuts at all. Additionally, the study found similar inverse associations between nut consumption and several specific causes of death, including heart disease, cancer and respiratory diseases ($p < 0.001$ for most causes).

Because nuts are known to contain large amounts of fat, many express concerns of weight gain with increasing nut consumption. This study found, however, that nut consumption was associated with weight loss, a finding that agreed with previous studies which have linked increased nut consumption with reduced waist size, less weight gain, and decreased risk of obesity.

While its authors stopped short of declaring a definitive cause-and-effect relationship between nut consumption and mortality, the design of the study was exceptionally strong: it lasted for 30 years, had great follow-up rates and frequent dietary assessments, and its funders had no influence on either the collection or interpretation of the data. Ultimately it offers compelling evidence that if we all just went nuts a little more often, we might live a bit longer!

Bao, Ying, et al. "Association of Nut Consumption with Total and Cause-Specific Mortality." *The New England Journal of Medicine* 369.21 (2013): 2001-2011.

FSU Campus Recreation offers the following services to students and faculty:

- Free 90 minute coaching session with a certified fitness coach. See the front desk at Leach or FMC for more details.
- 3 free personal training sessions with a NSCA Personal Trainer. Each session is geared towards your personal fitness goals
- Start 2 Fitness Program – 10 week program that meets 2 times a week
- Free health coach consultations with an ACE-certified coach. Discuss health and fitness and set your goals. Email admoore2@fsu.edu to set up an appointment.
- Free healthy cooking classes for FSU students. Classes are held every other week at 7pm in the WJB foods lab.
- Wellness testing available for all members – free vitals check, free fitness assessment, VO_2 assessment, blood glucose and lipid profile, resting metabolic rate, BOD Pod, and Know Your Numbers Comprehensive Health Assessment. See the Fitness Counter and Leach or FMC for more details.
- FSU Reservation – rock wall, water rentals, lakefront beach, and volleyball courts. Free access for all members.

A Yogi's Guide to Weight Loss

Yasmine Kahok

You don't have to pay an arm and a leg to get fit, nor do you have to spend hours on an eliptical or treadmill. It's good to switch up your routine a bit! It keeps fitness fun, and you are less likely to resent exercise.

Although yoga is mostly thought of as a meditative practice, it can also be a very challenging strength exercise. It's what you make of it! All you need to know how to do in order to be "good at yoga" is breathe. When performing the following sequence make sure to use your inhales and exhales to guide your transitions, and be mindful of your breathing while holding a pose.

This yoga regimen engages the largest muscles in your body, turning you into a calorie-burning machine for the rest of the day. Enjoy!

Chair Pose

Starting with Chair Pose gets your glutes, thighs, and shoulders warmed up for what's about to come. It's a great way to introduce energy into your body.

Whenever your knees are bent, make sure that you can still see your toes! Hips and knees should always be kept back, as if you are actually sitting in a chair.

Twisted Chair

Convert your chair into a Twisted Chair by twisting your chest to the right, placing hands at heart center, and supporting your left elbow on your right knee. After one minute, re-center to regular chair, and switch sides, holding for one more minute, or about 10 long breaths.

Twisted Lunge

Repeat your Twisted Chair pose, but now extend the opposite leg backward to get into a deeper stretch. This pose should be held for about 5 long breaths per side. If you are starting to feel your muscles burn, you're doing it right! However, there is a difference between good pain and bad pain. You know your body better than anyone else. If you feel a bad pain, rest your back knee on your yoga mat to make this pose a little less challenging.

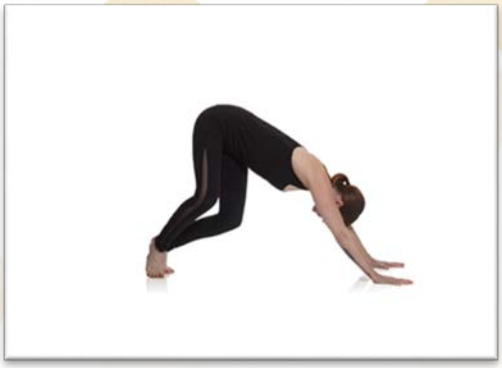
High Lunge

Take on long, deep inhale into lunge position. Transition into the next pose with your exhale.

Fist of Fire Lunge

Bring your chest forward with your exhale, and pump your "fists of fire" 5-10 times by your hips. Pretend like all your worries are floating around your hips, and punch them away! Remember to keep your breaths moving with you. Switch sides, with your left leg lunging and your right leg extending backward.

Down Dog Pose to Twisted Dog



Twist your dog to the right, then to the left, for 5 breaths on each side.

Side Plank

Now, extend both legs straight and point to the right, yourself up with your left arm, and extending your right arm to the sky. Get your core muscles firing with 5 breaths on each side.

Down Dog

Ahhh… Down Dog feels so refreshing after a wonderful strength-building routine. Take your time to catch your breath, then move into the final pose.

Detox Block

If you have a yoga block, feel free to use it for this incredibly cleansing pose. However, you can also lie flat on your back with your legs extended upward on the wall. Ending the sequence with this pose releases tension from your lower back and improves circulation.

Namaste

For more information, visit the following reference: www.active.com/fitness