

June 2017, Volume 29

# NUTRI*NEWS*



Department of Nutrition and Dietetics,  
University of North Florida

# Table of Contents

Page	Article
04	Student Nutrition and Dietetics Association Updates
05	Shopping in Season
06	Research Spotlight: Trevor Kennedy
08	Nutrition Updates
11	Exploring Superfoods: Maca
13	Fruit Consumption & Diabetes



Page

Article

14

Let's Go For A Walk!

15

Do Multi-Vitamins Help the Heart?

17

No Bull: Energy Drinks Tied to Cardiac Changes

19

Elevated Levels of Mercury in Women of Childbearing Age in Pacific Island Countries

21

Is Your Sunscreen Harming Your Health?

24

Contact Us



# Student Nutrition & Dietetics Association Updates



Happy Summer, everyone! We hope you are enjoying your break and making the absolute most of your free time! Whether you are working, volunteering, traveling, taking summer classes, or all the above, we wish you a fun and fulfilling break- because you deserve it!

## **INCOMING JUNIORS!**

We really hope you are gearing for an amazing next two years in the Dietetics program at UNF! We sincerely cannot wait to welcome fresh faces this upcoming year!

## **INCOMING SENIORS!**

Now is the time to seriously be researching and considering the dietetic internships that are right for you! In less than 1 year from now, many of us who wish to become registered dietitians will be sending in our DICAS applications. While that may seem like a lifetime away, time will go by so fast!

## **Have you started your DICAS yet?**

If you have, FANTASTIC! If you haven't, that's okay! But be prepared to get the ball really rolling once Fall semester starts. It won't hurt to start early, so why not get started now?! There are many resources to help you prepare for this process, so utilize them to the best of your ability!

Well, that's all... for now! Please stay safe and have a happy, healthy summer everyone!

Sincerely,

Brittany Mock

SNDA President

# SHOPPING IN SEASON

























By: Jenna Wallace

One of the best ways to save money on groceries, is to shop seasonally. This means purchasing foods when they are in season near you. These items generally don't need to travel very far to get to your grocery store and are more abundant when in season, and this allows you to save big! Every month, I'll be sharing a feature on what to shop for this season for our area of North Eastern Florida. In the month of June, the star fruits and veggies are going to be: avocados, mangos, watermelon, tomatoes, cantaloupe, oranges, guava, mushrooms, potatoes, sweet corn, passion fruit, and papaya.

So now you know, but what is the best way to use these yummy summer ingredients? Try combining avocado, cherry tomatoes, and corn in a refreshing salsa. Or, swap in mango chunks for a sweeter tropical spin. Fruit salad is another great way to incorporate seasonal fruits in a simple yet satisfying way.

**What's in Season Now?**  
Look for these "Fresh From Florida" items in your grocery store during **June**

 Avocados	 Mango	 Peanuts
 Cantaloupe	 Mushrooms	 Potatoes
 Carambola	 Oranges	 Sweet Corn
 Eggplant	 Papaya	 Tomatoes
 Guava	 Passion Fruit	 Watermelon
 Lychee		

      #FreshFromFlorida

Source: Fresh from Florida.

[http://www.freshfromflorida.com/content/download/](http://www.freshfromflorida.com/content/download/16792/269903/06June.pdf)

16792/269903/06June.pdf. Accessed May 15, 2017.



# Research Spotlight



**By: Maude Magee**

Everyone, I would like to introduce you to Trevor Kennedy. Trevor recently graduated from UNF in April of this year with his bachelors in Nutrition and Dietetics. There's some hope, to start out with, for us in the department, we can do it!

Trevor decided upon majoring in this field because he has always wanted to work in a profession that will help people and knows that dietetics gives you a great platform to do just that. Nutrition and dietetics is an effective way to facilitate great changes in the lives of many people. Trevor said, "I got involved in research because it is the basis for our whole profession. As dietitians, we do everything according to the evidence. One day I would love to be the person contributing that evidence to the field."

He first got involved in research when Dr. Arikawa approached him with an opportunity to design an experiment and from that experiment, apply for a grant. Along with Dr. Arikawa, Trevor formulated an experiment and submitted the grant proposal. He described his experience in research as "awesome". It wasn't smooth sailing at first, having to order multiple new pieces of

equipment to successfully conduct his research experiment, but still believes despite setbacks and time spent modifying the methods of research, it is all worth it. The results, not whether if they were what he expected or didn't expect, but seeing all the hard work translated into something is the most rewarding aspect of being involved in research for Trevor. During his time in the department as a student here at UNF, Trevor was involved in multiple research studies. One of the research studies he immersed himself in was the comparison of the amount of lycopene in organic vs. conventionally grown tomatoes. Trevor also was actively involved in Dwayne Swinton's research, in which Dwayne conducted experiments comparing the beta-carotene levels in organic vs. conventionally grown tomatoes.

Trevor's future goals include working in the food service management sector of dietetics at first. After some time working in this section of the field he plans on getting his Masters in Nutrition and Dietetics and dedicating himself to clinical research, maybe even ending up as a professor.

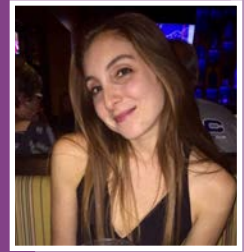
Two bright red tomatoes are positioned in the upper left corner of the image, resting on a dark, textured wooden surface. The tomato on the left is slightly larger and shows its green stem and leaves. The tomato on the right is smaller and more rounded. The background is a close-up of the wood grain, which is dark and has a rough, weathered appearance.

*Grab a fork and dive on in!*

In July, Trevor will be moving to Sarasota, FL to start a dietetic internship for which he was selected. He credits his selection for these highly desired and competitive internships from his experience in conducting research. During his interviews, he was asked many questions regarding his research, and the company employees were very interested in his knowledge and experiences from designing and conducting experiments.

For any students interested in pursuing research, Trevor gave me some words of wisdom to pass on to everyone. He advises everyone to check out the center for undergraduate research. He says Kelsey Eagen is “wonderful and is extremely helpful”. Trevor also recommends speaking with your professors like he did with Dr. Arikawa, who is always looking for new research opportunities. Last but certainly not least, his final advice to students considering conducting research, is to make sure you have the time. He said it can very tedious. Despite certain aspects of research being a little more time consuming than others, getting involved in research is worth it! Don’t shy away from it. If you would like to be a part of the future of nutritional science like Trevor, definitely check out the Nutrition Journal Club for current research being conducted and the latest findings. This is also a great avenue to get involved yourself! We are the future of the nutritional science field and research is a sure way to advance our knowledge and depth of understanding as much as possible.

# NUTRITION UPDATES



By: Michelle Wolff

With many people looking to lower their carb intake, whether it be refined carbs or just carbs in general, it's no surprise that low carb alternatives are on the rise. One of the healthiest alternatives to white flour being used today is almond flour. Almond flour is made from almonds that have been blanched and then ground into a fine consistency<sup>1</sup>. Not only is the flour much lower in carbohydrates, but it's also a safe alternative to those who are allergic to gluten. Additionally, it packs in an abundance of vitamins and minerals including vitamin E, iron, magnesium, and calcium. Almond flour can be used in many products such as baked goods, breads, tortillas, and bagels.

## *Almond Flour*

Food Trends

Mushroom coffee is exactly what it sounds like; coffee with the addition of mushrooms. Studies have shown that mushrooms have properties that help reduce anxiety and support healthy adrenal function<sup>2</sup>. Therefore, adding them to coffee may seem beneficial since caffeine is known to promote anxiety for some. Mushroom coffee is made by adding dried matsutake mushrooms that have been boiled and liquefied into an extract into the coffee. The extract is rich in selenium, potassium, vitamin D and niacin. The mushroom infused beverage has been shown to reduce stress, aid in weight loss, help sustain energy, and increase mental focus<sup>2</sup>. This may be a good option for those who are sensitive to caffeine as it does not cause the jitters that coffee may cause for some. Not only will one be supporting their adrenals with mushroom coffee, but also be getting a nutritional boost they wouldn't normally get in their morning cup of Joe.

## *Mushroom Coffee*



Adaptogens are naturally occurring substances that help the body adapt during natural processes, including digestion and regulating stress levels<sup>3</sup>. These compounds help to mitigate the stress response and bring one's hormones of the adrenal system back into balance. Other benefits include boost immunity, support healthy weight management, increase physical endurance, and encourage a balanced mood<sup>4</sup>. There are several different types of adaptogens including ashwagandha, reishi, and rhodiola, to name a few. Adaptogens can easily be incorporated into one's diet by adding them to things such as smoothies, tea, and even coffee.

## Adaptogens

Collagen is the most abundant protein in our body, specifically type 1 collagen<sup>5</sup>. It gives our skin strength and elasticity while also replacing dead skin cells. Unfortunately, as we age, our collagen production slows down which causes us to have wrinkles, saggy skin, and joint pain. With that being said, it has been shown that consuming collagen can help counteract some of these effects while bringing along additional benefits such as improving hair, skin and nails, and even helping to heal leaky gut. Some simple ways to up one's collagen intake is to drink bone broth or add collagen powder to drinks or smoothies.

## Collagen

# Supplement Trends

# Wellness Trends

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## LED Light Therapy

LED stands for Light Emitting Diode, which is a computer chip encased in a glass-like resin, which produces therapeutic wavelengths of light energy<sup>6</sup>. LED Light Therapy has long been used to repair damaged skin cells and works through the use of wavelengths. When the optimal wave length is provided, the cells in the dermis layer of the skin covert the light into ATP which fuel the cells to be repaired. It also improves circulation throughout the body which further aids in skin repair. Most recently, it has been shown that this type of therapy can be used for other things, most importantly leaky gut. Leaky gut is when the intestinal lining becomes more permeable causing substances to cross the border that shouldn't. It is becoming more familiar throughout the nutrition world, and is a hard disease to address. Many people who suffer with poor circulation suffer from an impaired gut, making it clear to see how LED Light Therapy could be extremely beneficial. One can go to spas and some dermatologist to receive treatment, or even buy their own LED Light Therapy Machine online and do the treatment themselves.

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1. What Are the Benefits of Blanched Almond Flour? SF Gate Healthy Eating Website. <http://healthyeating.sfgate.com/benefits-blanched-almond-flour-2996.html>. Accessed May 11th, 2017.
2. Is Mushroom Coffee Even Better Than Regular Coffee? Dr. Axe Website. <https://draxe.com/mushroom-coffee/>. Accessed May 11th, 2017.
3. Adaptogenic Herbs: What Are Adaptogens? Global Healing Center Website. <http://www.globalhealingcenter.com/natural-health/what-are-adaptogens/>. Accessed May 11th, 2017.
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5. What is Collagen? Dr. Axe Website. <https://draxe.com/what-is-collagen/>. Accessed May 11th, 2017.
6. Exactly What LED Light Therapy Is And Why It's Good For Your Skin. Huffington Post Website. <http://www.huffingtonpost.com.au/2016/05/12/exactly-what-led-light-therapy-is-and-why-its-good-for-your-ski/>. Accessed May 11th, 2017.
7. Far Infrared Treatment for Leaky Gut. Get Fitt Website. <http://www.get-fitt.com/Blog/far-infrared-treatment-for-leaky-gut.htm>. Accessed March 11th, 2017.



**By: Jenna Wallace**

It seems like **EVERY** food is a superfood these days. But what foods are seriously packing a punch for our bodies? Each month, we will explore 1 superfood, its benefits, and how to incorporate it into your diet.

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## *This month: Maca*

Maca comes from a root and can be commonly found as a powder or in capsules. This tan powder has some serious health benefits, especially for all those suffering from stress. One of the most significant benefits of Maca is its role as an adaptogen. An adaptogen is a food that allows our bodies to better react to stress whether it be physical or mental. Maca helps to increase stamina, combat fatigue, and encourage endocrine balance AKA lower stress levels! The good news, is that you don't have to chug a whole glass of this stuff. Nope, just 1 tsp added into a smoothie or even a homemade coffee drink can produce the amazing benefits known to this superfood.

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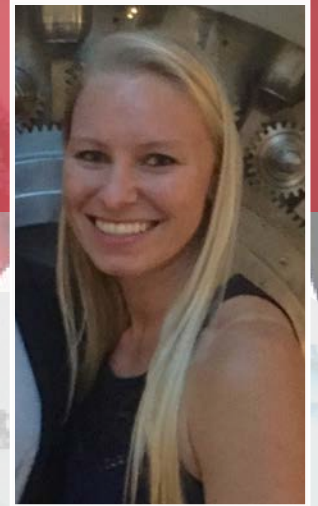
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# Fruit Consumption & Diabetes

By: Katie Wolf



Diabetes is a global problem. It affects more than 400 million people around the world, which equates to a quarter of diabetics living in China alone.<sup>†</sup> In the quest for diabetes maintenance, one approach is to make dietary changes. Fresh fruits and vegetables are recommended to a person who is diabetic. However, there is limited data on the effects of fresh fruit recommended to diabetic individuals. Normally, in China, fruit is consumed raw and eaten as a snack. Additionally, if a person in China is diagnosed with diabetes, (or “sugar urine disease” in Chinese) it is believed they should avoid or restrict all sweet tasting, sugar containing foods.<sup>1</sup> Consequently, this would include fresh fruits.

The sugar content in fruit tends to be higher than the sugar content in vegetables. This high sugar content in fruit may influence people who are diabetic. Fruit contains glucose and fructose, which may have negative impacts on glycemic control. Thus, natural sugar may be metabolized differently compared to refined sugar. Fresh fruit is a good source of fiber, minerals, antioxidants, which may reduce the risk of diabetes and vascular complications. This study intended to examine the impact of fresh fruit consumption and the incidence of diabetes as well as the risk for development of major vascular complications.

This seven-year study included 512,891 Chinese participants from ten diverse regions, with ages ranging from 35 to 74 years. Of these 512,891 participants, 30,300 (5.9%) had diabetes at baseline. Furthermore, 18.8% of the participants reported that they consumed fresh fruit daily and 6.4% of the participants claimed that they never or rarely ate fresh fruit. During the seven years, 9,504 new cases of diabetes were documented among the 482,591 participants that did not have diabetes at baseline.

In conclusion, fruit consumption was inversely associated with risk of hospitalization due to diabetic vascular complications.<sup>†</sup> The associations between fresh fruit consumption and diabetic complications were consistent. High fresh fruit intake was significantly associated with a lowered risk for developing diabetes, lowered risk for vascular complications, and lowered risk for people who had already developed diabetes. Furthermore, fresh fruit consumption was not associated with elevated blood glucose levels. This study shows that it is important for China and other countries in Asia to understand the importance of fresh fruit and its implications to help prevent and manage diabetes.

1. Du H, Li L, Bennett D et al. Fresh fruit consumption in relation to incident diabetes and diabetic vascular complications: A 7-y prospective study of 0.5 million Chinese adults. *PLOS Medicine*. 2017; 14(4).

Let's  
Go For  
A Walk!



**By: Brittany Mock**

Most adults will agree that finding the time to get in the recommended amount of physical activity (150 minutes per week) can be difficult. However, we all know physical activity is important for our health. If you can't find time to have an intense workout at the gym, try going for a walk! Every step counts. A study recently published in the International Journal of Obesity found longer time spent in sedentary posture is significantly associated with higher risk for Congenital Heart Disease and larger waist circumference. This cross-sectional study included 111 healthy, non-smoking Glasgow postal workers who wore activePAL physical activity monitors for 7 days. Cardiovascular risk was also assessed by using metabolic

syndrome categorization and 10-year PROCAM (prospective cardiovascular Munster) risk. Many participants in the study had metabolic syndrome, and the syndrome was associated with less physical activity: fewer steps, shorter stepping duration and longer sitting time. Additionally, the participants with no metabolic syndrome indicators were the most active. They walked at least 15,000 steps a day on average and spent more than 7 hours per day upright. Despite the fact that this was not a long-duration study, the findings still illustrate a strong association between metabolic syndrome and walking and staying upright. This is more reason to strive each and every day to get those steps in!

*What's your daily step goal?*

# Do Multi-Vitamins Help the Heart?

By: Rebecca Reidel



Vitamins are a crucial micronutrient for the human body, and they carry out many tasks that otherwise could not be done without them. Many people consume multivitamins in an attempt to reach adequate levels, or to fill in gaps under circumstances when obtaining vitamins from the diet is not an option. Although multivitamins can prove to be helpful, in some cases they really aren't doing much, even when poor nutrition is involved. According to recent research, it is suggested that the long-term use of multivitamins does not reduce the risk of cardiovascular disease (CVD) in men, *regardless* of baseline nutritional status.

In an effort to determine if multivitamins prevent the risk of heart disease, a group of scientists used the Physician's Health Study II in a randomized clinical trial. They found that baseline nutritional status *does not* influence the effect of randomized long-term multivitamin use on major CVD events.<sup>1</sup> The participants included

13,316 male physicians, 50 or older, that were observed for follow-ups after 2.3 years. Major cardiovascular events, such as nonfatal myocardial infarction, nonfatal stroke, and CVD mortality were included in the main outcomes and measures. This study found that there was no consistent evidence showing that modifications in the baseline nutritional status of the physicians had an effect on the multivitamin use on CVD endpoints. Ultimately, the study concluded that baseline nutritional status does not influence the effect of randomized long-term multivitamin use on major CVD events.<sup>1</sup>

This opens up new research areas about poor nutrition status and the use of supplementation to make up for it. As new studies become available to us about multivitamin use, it is important to keep in mind the positive or negative effects (if any) they have in relation to overall health and wellness.

1. Rautiainen S, Gaziano JM, Christen WG, et al. Effect of baseline nutritional status on long-term multivitamin use and cardiovascular disease risk: A secondary analysis of the physicians' health study II randomized clinical trial. *JAMA Cardiol.* 2017. <http://jamanetwork.com/journals/jamacardiology/fullarticle/2615261>. Accessed May 1, 2017. doi: 10.1001/jamacardio.2017.0176.

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# NO BULL: ENERGY DRINKS TIED TO CARDIAC CHANGES

**By: Heather Allen**



Energy drinks have been a continually growing trend in healthy, young adults for some time. The appeal of energy drinks compared to simply caffeinated beverages is not truly known, however recent research has brought about a possible explanation of the difference between caffeine and energy drinks on energy levels. While energy drinks do contain a significant amount of caffeine in them, Fletcher *et al.* found that a comparable amount of caffeine in two separate drinks, one an energy drink and one not, still had differing effects on heart functions.<sup>1</sup> This information leads to a belief that other ingredients within energy drinks are the cause of the blood pressure and QT interval differences.

In the study by Fletcher et al., eighteen participants were randomly selected to participate in the study. There were two portions of the experiment that every participant partook in: the control portion and the experimental portion. The control portion involved drinking 32 ounces of a controlled beverage containing 320 mg of caffeine. The controlled drink had no other ingredients in it that were believed to have any possible effects on the cardiac outcomes that were being tested. After at least six days, the subjects began consuming the experimental drink instead. The experimental drink also contained 320 mg of caffeine, but other typical ingredients found in energy drinks were in it as well. Blood pressure, QT intervals, and heart rate were some of the most important facets being recorded throughout the duration of the experiment. All information was recorded for both the controlled and experimental portion of the experiment at baseline, after 1 hour, 2 hours, 4 hours, 6 hours, and 24 hours after consumption of the beverage.

The study found that there was not a significant difference on cardiac function after six hours of consumption in any of the characteristics observed. However, the two hour mark seemed to be the most significant in differing outcomes between the control and experimental drinks. For example, corrected QT intervals were different between the groups at the two hour mark, but not at any other time interval. A similar increase in systolic blood pressure was noticed until the six hour mark was reached, in which case abnormalities were seen in the energy drink consumption. All other cardiac functions being monitored, such as diastolic blood pressure and heart rate, did not have any significant differences between the control and experimental portions of the experiment.<sup>2</sup> The results led researchers to the belief that blood pressure may be altered when energy drinks are consumed.'

The significance of the articles is mainly helpful for those who suffer with high blood pressure, cardiac problems, and other health issues that may be negatively affected by energy drinks. If someone needs a boost of energy for the day, a quick cup of coffee may be the better choice as the health effects of caffeine on the body are more known to researchers. <sup>1</sup> The topic of energy drinks still needs more research before any true conclusions are drawn, however it may be important to lean towards coffee rather than an energy drink if there are any concerns related to a person's heart.

1. Fletcher EA, Lacey CS, Aaron M, Kolasa M, Occiano A, Shah SA. Randomized Controlled Trial of High-Volume Energy Drink Versus Caffeine Consumption on ECG and Hemodynamic Parameters. *Journal of the American Heart Association*. 2017;6(5). doi:10.1161/jaha.116.004448.
2. Bachert A. Energy Drinks Tied to Cardiac Changes. *MedPage Today*. April 2017.

# Elevated Levels of Mercury in Women of Childbearing Age in Pacific Island Countries

By: Shannon McCarthy



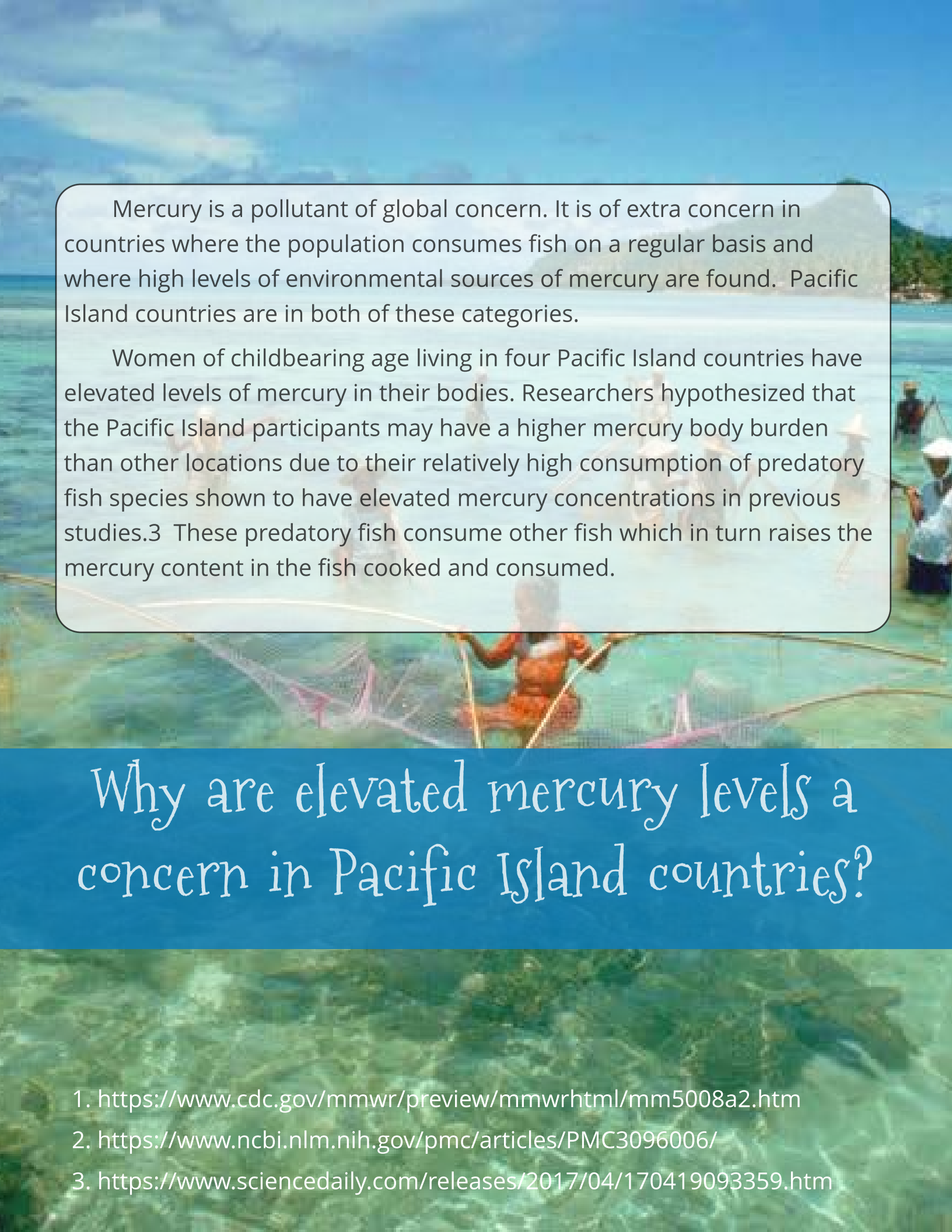
Mercury (Hg), a heavy metal, is widespread and persistent in the environment.

Exposure to hazardous mercury levels can cause permanent neurologic and kidney impairment. The U.S. population primarily is exposed to methylmercury by eating fish.

Methylmercury exposures to women of childbearing age are of great concern because a fetus is highly susceptible to adverse effects.<sup>1</sup> Elevated levels of mercury are not considered safe for anyone but especially not for women and children.

Mercury is a highly toxic element; there is no known safe level of exposure. Ideally, neither children nor adults should have any mercury in their bodies because it provides no physiological benefit.<sup>2</sup>

So technically any levels of mercury are considered high and should not be found in humans.



Mercury is a pollutant of global concern. It is of extra concern in countries where the population consumes fish on a regular basis and where high levels of environmental sources of mercury are found. Pacific Island countries are in both of these categories.

Women of childbearing age living in four Pacific Island countries have elevated levels of mercury in their bodies. Researchers hypothesized that the Pacific Island participants may have a higher mercury body burden than other locations due to their relatively high consumption of predatory fish species shown to have elevated mercury concentrations in previous studies.<sup>3</sup> These predatory fish consume other fish which in turn raises the mercury content in the fish cooked and consumed.

Why are elevated mercury levels a concern in Pacific Island countries?

1. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5008a2.htm>

2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3096006/>

3. <https://www.sciencedaily.com/releases/2017/04/170419093359.htm>

# Is Your Sunscreen Harming Your Health?



By: Kea Schwarz

**A study shows that widespread vitamin D deficiency is likely due to sunscreen use and may be linked to chronic disease.**

Vitamin D is a fat-soluble vitamin that is naturally present in certain foods while other foods are fortified with vitamin D. Dietary supplements are also available, but the most naturally occurring way to retain vitamin D is through direct skin exposure to sunlight. Regardless all forms are biologically inert until they process through two hydroxylations for activation in the body.<sup>1</sup>

Vitamin D aids in calcium absorption in the gut and helps to balance concentrations of calcium and phosphate to maintain proper mineralization of bones and to prevent hypocalcemic tetany. It is also vital in bone growth and remodeling. In the absence of Vitamin D, bones can become brittle, or misshapen. In severe cases, it can cause rickets in children, osteomalacia and osteoporosis in adults. In addition, vitamin D is important for cell growth, neuromuscular function, immune function, reducing inflammation, and cell proliferation and differentiation.<sup>1</sup>

There aren't many natural food sources containing vitamin D. Most foods are fortified and provide the most common sources of vitamin D in the American diet. A few of the dietary sources include fatty fish like salmon and tuna. Also, egg yolks, portabella mushroom, beef liver, cheese, and fish liver oils, fortified milks and breakfast cereals are all good sources of vitamin D.

2

Most people meet some of their vitamin D needs through exposure to sunlight. Many factors including season, geographic region time of day, cloud cover, air pollution and skin pigmentation (lighter skin synthesizes more vitamin D than darker skin, and sunscreen) can impact the amount of UV radiation exposure and vitamin D synthesis. Additionally, as researchers suggest, 5- 30 minutes of sun expose between 10 AM and 3 PM, at least twice a week to the face, arms, legs, or back void of sunscreen will usually promote sufficient synthesis of vitamin D.

It is important to skip sunscreen during these sessions because application of sunscreen with SPF 15 or greater has been shown to decrease vitamin D production by 99 percent.<sup>3</sup> Individuals with minimal access to sun exposure may require a supplement to achieve recommended levels of intake. The recommended intake levels are presented in the chart below taken from the National Institute of Health Vitamin D fact sheet on their website.<sup>1</sup>

### Recommended Dietary Allowances (RDAs) for Vitamin D [1]

Age	Male	Female	Pregnancy	Lactation
0-12 months*	400 IU (10 mcg)	400 IU(10 mcg)		
1-13 years	600 IU(15 mcg)	600 IU(15 mcg)		
14-18 years	600 IU(15 mcg)	600 IU(15 mcg)	600 IU(15 mcg)	600 IU(15 mcg)
19-50 years	600 IU(15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)	600 IU(15 mcg)
51-70 years	600 IU (15 mcg)	600 IU(15 mcg)		
>70 years	800 IU (20 mcg)	800 IU (20 mcg)		

\* Adequate Intake (AI)

There are many risk factors associated with deficiency in vitamin D absorption, including inadequate dietary sources, malabsorption, and inadequate sunlight exposure related to over use of sunscreens. Symptoms that arise due to lack of vitamin D include muscle weakness and bone fractures. Also, certain diseases that can arise from deficiency include type 2 diabetes, crohn's disease, and celiac disease. Ongoing research is determining if vitamin D deficiency plays a role in multiple sclerosis, autoimmune disorders, respiratory disease, cancers, cardiometabolic disease, and infections.<sup>3</sup> Overall, people are spending more time indoors and when they go outdoors they generally apply sunscreen which inhibits the body's ability to produce vitamin D. Although it is important to protect yourself against skin cancer it is also necessary to receive moderate levels of exposure to sunlight to help boost vitamin D synthesis.

1. Office of Dietary Supplements - Vitamin D. National Institutes of Health. <https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>. Published February 11, 2018. Accessed May 5, 2017.

2. Pfothenhauer KM, Shubrook JH. Vitamin D Deficiency, Its Role in Health and Disease, and Current Supplementation Recommendations. The Journal of the American Osteopathic Association. <http://jaoa.org/article.aspx?articleid=2625276>. Published May 1, 2017. Accessed May 5, 2017.

3. American Osteopathic Association. Widespread vitamin D deficiency likely due to sunscreen use, increase of chronic diseases, review finds. ScienceDaily. <https://www.sciencedaily.com/releases/2017/05/170501102258.htm>. Published May 1, 2017. Accessed May 5, 2017

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# NUTRI *RECIPES*

Volume 5



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# TABLE OF CONTENTS

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<i>Page</i>	<i>Article</i>
27	The Lunch Box: Two Recipes to Boost Fruit and Vegetable Content in a Packed Lunch
29	Fruit of the Month: <i>Watermelon!</i>
30	The Science Behind Kombucha
31	All About "Wheat Allergy"

# the lunch box

## Two Recipes to Boost Fruit and Vegetable Content in a Packed Lunch

By Katie Evers

Low fruit and vegetable consumption is a significant dietary concern. During young adulthood it can be a particularly challenging time to include fruits and vegetables<sup>1</sup>. For many, the transition from college to work life can be stressful. High stress is correlated with low fruit and vegetable intake<sup>2</sup>. However, young adulthood is a great time to focus on healthful eating patterns, as habits developed during this time can help to create healthy lifestyle patterns that can last throughout adulthood<sup>1</sup>. As students are often in class or working around lunchtime, it is a particularly easy time to choose more convenient, less nourishing choices. Business around lunchtime can cause even the most devoted fruit and vegetable eater to choose fast food options. That is because there are readily available in the workplaces and on college campuses. Below are two delicious, easily made, and packable options for lunchtime. They can be whipped up the night before, or quickly in the morning. Toss in a packable fruit (like banana, apple, or a couple of small clementines) and a Greek yogurt and you can expect a nutritious, satisfying lunch ready to be enjoyed anywhere you can find a seat. Be sure to add an ice pack or frozen water bottle to keep everything cool until lunchtime.

# RECIPES

## Hummus Wrap<sup>3</sup>

*adapted from Robyn Coale, RD, FNP*

1. Take a large whole grain wrap or tortilla and spread with about 2 Tbsp. of hummus of your choice (black bean and chickpea are my favorites).
2. Add 1-2 heaping handfuls of leafy greens (spinach is by far my favorite but any relatively tender green will work).
3. Add another handful (about ½ cup) of chopped crunchier vegetables like cucumber, bell pepper, or carrot.
4. Wrap in foil and pack!

## Hearty Lunch Salad<sup>4</sup>

*adapted from Anne Mauney, MPH, RD*

1. Fill a medium-large size container (with a lid) with 2 heaping handfuls of leafy greens of choice.
2. Add about ½ cup of cooked brown rice or quinoa (or any whole grain!)
3. Add about ½ cup cooked beans (or rinsed and drained canned beans).
4. Add about ½ cup of chopped vegetables (raw or leftover roasted vegetables are both great).
5. Add either another ½ cup of vegetables or ½ cup fresh fruit (like blueberries, sliced strawberries, or peeled orange wedges) or ¼ cup dried fruit (like raisins, cherries, or cranberries).
6. Then add a source of fat: avocado, shredded or feta cheese, nuts, seeds, dressing (olive oil and red wine vinegar is a great and simple option).

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By Sarah Boroski

# FRUIT OF THE MONTH

# WATERMELON



1. Watermelon contains more of the antioxidant lycopene than fresh tomatoes; one cup of watermelon has 1.5 times the lycopene as a raw tomato<sup>1</sup>
2. Shown to decrease muscle pain. <sup>1</sup>
3. New research showed citrulline and arginine supplements derived from watermelon extract lead to significant improvements in blood pressure and cardiac stress in obese study participants<sup>1</sup>
4. Watermelon Is a Fruit and a Vegetable. <sup>1</sup>
5. Store your watermelon in a cool area (50-60 degrees F) until it's cut. <sup>1</sup>
6. Asthma prevention: Certain nutrients found in the watermelon, such as vitamin C, aid in asthma prevention. <sup>2</sup>
7. Digestion and regularity: Due to the water and fiber content, it helps to prevent blockade and promote regularity for the digestive tract.<sup>2</sup>
8. Inflammation: Watermelon contains choline, and due to its versatility it helps in sleep, muscle movement, learning and memory, and reducing inflammation. <sup>2</sup>
9. Watermelon contains nutrients such as: thiamin, riboflavin, niacin, vitamin B-6, folate, pantothenic acid, magnesium, phosphorus, potassium, zinc, copper, manganese, selenium, choline, lycopene and betaine. <sup>3</sup>
10. Hydration: Watermelon is 92% water. <sup>3</sup>

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## THE SCIENCE BEHIND

# K O M B U C H A

By Stephanie Jean



Within the past year, Kombucha tea has been one of the trendiest nutritional food items sold in supermarkets. I still remember when I first saw kombucha drinks lined up in the grocery stores, wondering what exactly kombucha was. Could it be a practical and nutritional addition to people's diets, or was it just a new trendy drink that was coined with a catchy name? As a nutrition student, I was eager to plunge into the health benefits of kombucha to fully understand what kombucha was and how it got a name for itself.

Kombucha is thought to have originated in Asia around 212 BC and has gained widespread popularity throughout the years. It is a fermented drink made with tea, sugar, bacteria, and yeast. Because of this, the production of kombucha involves various food science principles that can be practiced at home. The process begins by brewing green or black tea and adding real sugar. After it cools, yeast (SCOBY) and kombucha tea from a previous batch is added. The mixture will then ferment in a glass jar for about 7-14 days. The resulting taste is slightly sour and vinegary, so it is definitely a taste based on preference.

Preparing kombucha at home is the cheapest way to drink the beverage. However it may not be advised to do so. Home-brewed and unpasteurized kombucha prepared in nonsterile conditions can be dangerous. There is risk of unhealthy bacteria getting into the tea. The FDA cautions that home-brewed kombucha is at higher risk for contamination therefore, it is advised to purchase the beverage that is commercially prepared and pasteurized.

According to a study published in the February 2014 issue of the *Journal of Medicinal Food*, kombucha has detoxifying properties, that protects against free radical damage, has energizing capabilities, and promotes immunity. Additionally, kombucha's popularity can be associated with its association as a probiotic. Studies show that it can improve digestion and boost immunity. Although, yogurt may be a better option due to the additional nutrients that it contains, such as calcium and vitamin D.

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# WHEAT ALLERGY



By Katie Kuykendall

## *What is wheat allergy?*

Food allergies are very common these days and they can easily be defined as an undesirable bodily reaction, or immune response, from proteins found in foods.<sup>1</sup> Some of the more common allergens we see today include dairy, soy and wheat. Wheat allergies are most common in children and infants and it is listed as one of the six most commonly implicated food allergens according to the Food and Agriculture Organization of the United States.<sup>1</sup> When a person has a wheat allergy, one type of white blood cells, called B-cells, send out antibodies to “attack” the wheat<sup>2</sup>. At the same time, local tissues in the body send out natural chemical messengers to alert the rest of the body that there is a problem<sup>2</sup>. This reaction happens very fast (within minutes to a few hours) and can involve a range of symptoms.<sup>2</sup> Such reactions can manifest in numerous ways such as hives, diarrhea, eczema, angioedema and even migraines. Unlike a common allergy, gluten sensitivity and Celiac disease are autoimmune disorders characterized by only an intolerance to the protein gluten found in wheat, but there can be overlap with the symptoms so it is important to get an accurate diagnosis from an allergist. Those who are allergic to wheat can have reactions to any number of proteins in wheat, not just gluten. If you have an allergy to wheat, the best way to manage your symptoms is to simply avoid eating foods containing wheat. Stick to a wide variety of vegetables and proteins to create a balanced diet free from allergic reactions. Below is a wheat-free take on a classic, hearty, Italian dish!

# *Zoodle Bolognese!*

## **INGREDIENTS**

- 5-8 medium zucchinis, spiralized or shredded
- 1 pound ground protein of choice (turkey, beef, bison or soy crumbles work great)
- 1 yellow onion, diced
- 2 tablespoons olive oil
- 4 cloves of garlic, sliced
- 2 carrots, diced
- 1 stalk of celery, diced
- 1 28-ounce can whole tomatoes
- 1 tablespoon tomato paste
- 1 tablespoon oregano
- 1 teaspoon salt
- 1 teaspoon black pepper

## **INSTRUCTIONS**

Start by heating the olive oil in a large pan on medium-high heat. To that, add the onion, carrot, celery and meat and sauté until the veggies are softened and slightly browned on the edges and the meat is completely cooked through. About 10 minutes. Next, add the garlic, tomatoes, tomato paste and seasonings. Stir and simmer, using a spoon or fork to break up the whole tomatoes. The longer this simmers the better, but if you are short on time, thirty minutes should do the trick. Grab a bowl and fill it up with lots of zucchini noodles, then top with your Bolognese!

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# The Truth About Food Labels and Wheat



By Alisa Mae Fernandez

Wheat is one of the most common food allergens today. It is considered one of the ‘Big Eight’ as there are eight major food allergens. If consumed, it may cause a fatal reaction. It is required by law for manufacturers to indicate whether a food product contains a potential allergen as one of its ingredients. They can do this in one of two ways: by including it in the ingredients list, or in a “*Contains*” statement. This is important because it allows for consumers to determine whether a food is safe for them to eat. Manufacturers may also include a voluntary “*May contain*” statement when a product may contain an allergen. This could be due to the processing of different products with the same equipment or machinery. When it comes to shopping or eating food, it is important to look at the ingredients list, especially if you have an allergy. If you are unsure about the ingredients, don’t buy it or call the manufacturer to inquire about it.

# *Does corn have wheat traces to it?*

*By Anielly Rocha*



Gluten is a hot topic in the nutrition world, as the global prevalence of gluten induced wheat allergies is estimated around 5%.<sup>1</sup> So, how do you know if you need to be gluten-free? There are essentially three main categories of people who should be cutting out wheat and/or gluten for health reasons.

Gluten is the main structural protein of wheat, however it is also found in grains such as rye and barley. There are three different types of wheat allergies: Celiac disease (the most common), wheat allergy, and non-celiac gluten sensitivity. Celiac disease is an autoimmune reaction triggered by gluten proteins that create inflammation, damaging the small intestine's lining. This condition leads to medical complications. It also prevents absorption of some nutrients because of malabsorption. Wheat allergy is an immune system reaction to gluten proteins contained in wheat and related grains with a similar route of response as other food allergies like nut or egg allergies. The response to eating gluten protein with either of these can cause hives, lip swelling, wheezing, rash, nausea, abdominal pain, diarrhea and in some extreme cases death.<sup>2,3,4</sup>

So, word of advice: Don't go gluten-free just because it's trendy. There is no need for you to avoid gluten unless you have been tested positive for a wheat allergy. If you do have Celiac disease or a wheat allergy, don't worry! There are many other delicious options for you to still enjoy the foods that you like! It is often easy to mistake the grains do or do not contain gluten proteins. Many gluten free flours and goods are made with corn flour, brown rice flour, coconut flour, almond meal and other specialty flours which are not structurally made with gluten protein. These make for great wheat substitutes.

*"Don't go gluten-free just because it's trendy."*

# Cinnamon Apple Gluten Free & Vegan Pancakes

Makes: 6, 6" Pancakes

## INGREDIENTS

- 1 cup & 2 tablespoons, Bob Red Mills - Gluten Free 1-to-1 Baking Flour
- 2 tablespoon ground flaxseed (mixed with 5 TBS of water)
- 2 teaspoons baking powder
- 3 teaspoons ground cinnamon
- 1/2 teaspoon salt
- 2 tablespoons maple syrup (or honey if non-vegan)
- 3 teaspoon vanilla extract
- 1/4 cup unsweetened applesauce
- 3/4 cup almond milk (or nondairy substitute)

## INSTRUCTIONS

1. Grease a pan, and heat over low medium heat.
2. In a small bowl, mix the ground flax meal with water and place in the fridge for a minimum of 10 minutes.
3. In a separate mixing bowl, sift together the flour, baking powder, cinnamon, and salt.
4. In a different bowl, combine the maple syrup, vanilla, applesauce, and almond milk.
5. Remove the flax mixture from the fridge and combine with the dry ingredients.
6. Slowly mix half of the liquid with the mixture, stirring continuously, and then the rest 1/4 cup at a time to avoid a runny batter.
7. Pour the mixture in the pan and begin to cook the pancakes, using about 1/4 cup of the batter for each one.
8. Cook for 2 minutes, until they start to bubble and are golden around the edges, then flip. Cook for another 1 to 2 minutes until golden brown on both sides. Remove from pan, and serve with your favorite toppings! delicious with fresh fruit, peanut butter or just butter and syrup!



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