

# MOUNTAIN HEALTH

Appalachian College of Pharmacy Residency



## Weight Loss, Why is it so Important?

Ashley Bullard, PharmD



Image Credit: <http://www.healthylivinglivonia.com/menu-item/foodex3/>

**W**eight loss is almost always the first recommendation health care professionals make for overweight patients, especially diabetics. The study titled, "Benefits of Modest Weight Loss in Improving Cardiovascular Risk Factors in Overweight and Obese Individuals With Type 2 Diabetes," studied the positive effect of a 5–10% weight loss in patients with type 2 diabetes by examining the results of the Look AHEAD study. This study was published in *Diabetes Care*, the journal produced by the American Diabetes Association. The study explains the benefits of this recommendation on blood sugar, blood pressure, and lipid levels one year after beginning the interventions.

The study examined a total of 5,145 participants by measuring baseline values of weight, blood pressure, fasting blood sugar, hemoglobin A1C, HDL, LDL, and triglyceride levels. Patients were assigned to either intensive lifestyle intervention (ILI) or diabetes support and education (DSE) groups.

### THIS ISSUE...WEIGHT LOSS, MTM, INHALER SAFETY, DIABETES

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The groups were further categorized based on weight loss results after the first year. 683 participants gained >2% of their body weight, 1,289 remained weight stable ( $\leq 2\%$  or lost <2%), 914 lost  $\geq 2$  but <5%, 1,000 lost  $\geq 5$  but <10%, 601 lost  $\geq 10$  but <15%, and 412 lost  $\geq 15\%$ . It was determined that the greater the weight loss, the greater the improvement in cardiovascular risk factors.

Patients who lost 2–5% of their body weight had an increased rate of significant improvements in systolic blood pressure but not diastolic blood pressure, fasting blood glucose, hemoglobin A1C, and triglycerides. Patients who lost 5–10% of their body weight had a significant improvement in all risk factor categories, and those who lost 10–15% or >15% had even better improvements.

The results of this study help give insight to the impact of moderate weight loss on your health. A moderate weight loss of 5–10% may significantly improve the cardiovascular risk factors of patients. If you are ready to start losing weight, talk to your doctor or pharmacist today for help!

#### Reference:

Wing RR, Lang W, Wadden TA, et al. Benefits of modest weight loss in improving cardiovascular risk factors in overweight and obese individuals with type 2 diabetes. *Diabetes Care*. 2011;34(7):1481–6.

# Medication Therapy Management

Julie Large, PharmD

## *DID YOU KNOW?*

Medication-related problems cost **\$177.4 billion** each year?



Image Credit <http://www.neighborcarerx.com/services/mtm/mtm.html>

## **Why am I taking these medications? Your pharmacist can help!**

If you or a loved one is taking a large number of medications, and you are concerned about possible drug interactions and side effects, your pharmacist can help. Many people are taking more and more medications today to improve health and extend their lives. Unfortunately, if not taken properly, medications don't always work the way we expect them to, and in some cases can even cause harm. Your pharmacist can help you realize the full scope of your medication routine, by pointing out possible interactions between prescription, OTC, herbal and supplement medications. They can also provide valuable information on potential cost savings and tips to get the most benefit from your medication.

## **What is Medication Therapy Management?**

Medication Therapy Management (MTM) is a service provided by an experienced pharmacist that goes beyond traditional medication consultation. These confidential appointments provide an in-depth, one-on-one review of all of your medications (prescription, over-the-counter, herbal and nutritional) to ensure that your current drug therapy is both safe and effective. During this time with your pharmacist, any questions that you have about your medications can be answered.

## **Getting the Most from Your Medication:**

Your MTM Pharmacist will review your health status and treatment plan.

This will ensure your pharmacist can make sure that:

- You are taking the correct amount of medicine at the right time.
- You are taking only the medications you need.
- Any vitamins, supplements or OTC drugs you are taking are safe.
- Your medications are not interacting with each other.
- You are not spending more than you need to for your medications

## **What is the Cost of MTM?**

Medication Therapy Management is an affordable service available to everyone and in many cases is provided at no cost to you through certain insurance plans. MTM service provided by your pharmacist can help you avoid serious drug interactions and over medication – preventing hospital admissions and in extreme cases, even death. If your insurance provider does not cover this service, demand that it is added.

***If you have any questions about MTM services or coverage, please ask your pharmacist today!***

## References:

APhA MTM Central: What is medication therapy management? APhA website. <http://www.pharmacist.com/mtm> Accessed 29 October 2015

MPhA: Medication Therapy Management Resources. [http://www.mpha.org/?page=mtm\\_resources](http://www.mpha.org/?page=mtm_resources) Accessed 29 October 2015

## Green Tea...More Than a Delicious Beverage?

Ashley Bullard, PharmD

Obesity is one of the most common uses for herbal supplements. There are many herbal products available that claim to aid in weight loss. One of these products is green tea. Aside from being a delicious beverage, green tea is suspected to aid in weight loss. There are arguments both against and in favor of green tea being used as a supplement.

There are two options for taking green tea; as a beverage brewed from tea leaves or as the extract usually in capsule form. Tea leaves contain many chemical

A Cochrane review assessed the effectiveness of green tea when used for weight loss. The review analyzed six studies conducted outside of Japan and eight studies conducted in Japan. The six studies conducted outside of Japan included 532 patients and resulted in an average loss of 0.04 kg of body weight. The eight studies conducted in Japan included 1030 patients and resulted in average weight losses of 0.5 kg to 3.5 kg. The studies conducted in Japan differed to a point that generalizations could not be made.

Due to mixed results, and no large studies conducted to generalize the use of green tea, it cannot be determined if green tea does or does not aid in weight loss. As with any weight loss supplement, the supplement should always be used as an adjunct to proper diet and physical activity.

Green tea is a natural supplement– but still should be regarded as a caffeine containing product. This should be taken into consideration by pregnant and breastfeeding women and patients with hypertension. Green tea supplements (capsules and tablets) should be taken with food. If you would like to try an herbal supplement, talk to your doctor or pharmacist first. Many over-the-counter medication and natural products have side effects and may interact with your current medications.

### References:

Jurgens TM, Whelan AM, Killian L, Doucette S, Kirk S, Foy E. Green tea for weight loss and weight maintenance in overweight or obese adults. *Cochrane Database Syst Rev.* 2012;12:CD008650.  
Online.factsandcomparisons.com. Facts & Comparisons® eAnswers. 2015. Available at: <http://online.factsandcomparisons.com/MonoDisp.aspx?monoid=fandc-np5150&book=NP&fromtop=true&search=401075%7c5&isStemmed=True&asbooks=#fandc-np5150.b104>. Accessed October 29, 2015.



Image Credit: <http://www.myessentia.com/blog/oolong-tea-green-tea-which-is-better-for-you/>

substances including catechins, polyphenols (largely epigallocatechin gallate), and caffeine. Drinking 3–5 cups (24–40 fluid ounces) will provide 250 mg of catechins. The speculated dosage for weight loss is 125–625 mg per day of the catechins substance or 270–800 mg per day of epigallocatechin gallate.

# Safety Alert: Always Recap Your Inhaler

Julie Large, PharmD

## An Unexpected Painful Breath

Do you use an inhaler? If so, please remember to always replace its cap after use.

A case reported in January 2015 demonstrated the importance of replacing caps on inhalers after a young woman accidentally inhaled a small earring while using her asthma medicine. While preparing for a party on New Year's Eve she developed a mild wheeze. Concerned her symptoms would develop and impact festivities, she got her uncapped inhaler from her purse. As she inhaled the medicine, she instantly felt a painful scratch in her throat and started coughing blood. She was taken to the emergency department, where the earring was removed from her lung. If the inhaler's cap had been in place, the loose earring in her purse would not have gotten into the inhaler.



Image Credit: <http://cdn1.bostonmagazine.com/wp-content/uploads/2013/09/inhaler.jpg>



Image Credit: [http://www.consumermedsafety.org/report-a-medication-error/index.php?option=com\\_k2&view=item&layout=item&id=558](http://www.consumermedsafety.org/report-a-medication-error/index.php?option=com_k2&view=item&layout=item&id=558)

In April 2015, a similar event was reported in England. In this case, a woman used her inhaler and suddenly felt something shoot to the back of her throat. She began gasping for air and spitting up blood. She ran outside, and a neighbor came to her rescue and called emergency medical services. The woman eventually coughed out a fake nail that had been part of set she had worn weeks ago. In this instance, the inhaler's cover had actually been in place before use. The nail had probably lodged in the inhaler while using it when wearing the nails. This tragedy may have been prevented by simply inspecting the inhaler before use.

**What you can do:** If you use an inhaler, always inspect the inhaler thoroughly before use to ensure that there are no unwanted objects within the inhaler. Also be sure to replace the inhaler cap after each use. If a foreign object enters the inhaler, it places the user at risk of breathing in the object and causing choking or severe respiratory difficulties.

### Reference:

ConsumerMedSafety: An unexpected painful breath. ConsumerMedSafety website. <http://www.consumermedsafety.org/medication-safety-articles/item/779-an-unexpected-painful-breath> Created 4 June 2015, Accessed 29 October 2015

# What is Type 2 Diabetes?

Julie Large, PharmD

Diabetes is a condition in which your body causes blood glucose (sugar) levels to rise higher than normal. Type 2 diabetes is the most common form of diabetes. In type 2 diabetes your body does not make or use insulin properly, and this is called insulin resistance. At first, the pancreas can make extra insulin to offset the difference; however, over time your pancreas is not able to keep up and cannot make enough insulin to keep your blood glucose levels normal. When glucose builds up in the blood instead of going into cells, it can cause two major problems:

1. Initially, your cells may be starved for energy.
2. Over time, high blood glucose levels can damage your eyes, kidneys, nerves or heart.

Some people with type 2 diabetes can control their blood glucose with healthy eating and exercise. However, many times medications or insulin may be needed to help you meet your target blood glucose levels. Type 2 diabetes commonly gets worse over time – even if you do not need medications at first, you may need it later on. Some groups have a higher risk for developing type 2 diabetes than others.



Image Credit: <http://diabetes.org/>

## Are You at Risk for Type 2 Diabetes?

1. How old are you? -----  
*Less than 40 (0 points)      40–49 (1 point)      50–59 (2 points)      60 or older (3 points)*
2. Are you a man or woman? -----  
*Man (1 point)      Woman (0 points)*
3. If you are a woman, have you ever been diagnosed with gestational diabetes? -----  
*Yes (1 point)      No (0 points)*
4. Do you have a mother, father, sister, or brother with diabetes? -----  
*Yes (1 point)      No (0 points)*
5. Have you ever been diagnosed with high blood pressure? -----  
*Yes (1 point)      No (0 points)*
6. Are you physically active? -----  
*Yes (0 points)      No (1 point)*
7. What is your weight status? -----  
*(see chart to the right)*

**If you scored 5 or higher:** You may be at increased risk for having type 2 diabetes. However, only your doctor can confirm if you do have type 2 diabetes or prediabetes (a condition that precedes type 2 diabetes in which blood glucose levels are higher than normal). Talk to your doctor to see if additional testing is needed.

**References:**

Diabetes Basics: Facts About Type 2. American Diabetes Association website. <http://www.diabetes.org/diabetes-basics/type-2/?referrer=https://www.google.com/> Updated 27 October 2015, Accessed 31 October 2015.

Are You at Risk: Type 2 Diabetes Risk Test. American Diabetes Association website. <http://main.diabetes.org/dorg/PDFs/risk-test-paper-version.pdf> Updated 9 July 2015, Accessed 1 November 2015.

Height	Weight (lbs.)		
4'10"	119–142	143–190	191+
4'11"	124–147	148–197	198+
5'0"	128–152	153–203	204+
5'1"	132–157	158–210	211+
5'2"	136–163	164–217	218+
5'3"	141–168	169–224	225+
5'4"	145–173	174–231	232+
5'5"	150–179	180–239	240+
5'6"	155–185	186–246	247+
5'7"	159–190	191–254	255+
5'8"	164–196	197–261	262+
5'9"	169–202	203–269	270+
5'10"	174–208	209–277	278+
5'11"	179–214	215–285	286+
6'0"	184–220	221–293	294+
6'1"	189–226	227–301	302+
6'2"	194–232	233–310	311+
6'3"	200–239	240–318	319+
6'4"	205–245	246–327	328+
	(1 point)	(2 points)	(3 points)
(0 points) If you weigh less than the amount in the left column			

## Upcoming Events

October 15– December 7:

Medicare Open Enrollment

Ask your pharmacist for help today!

November 3:

Pharmacy students – PhORCAS goes live! Start inputting residency application materials.

November 8:

Speedway in Lights 5K Marathon

Bristol, TN

November 9<sup>th</sup> 9am – 3pm

Marsh Regional Blood Center Blood Drive

Castlewood High School, Castlewood, VA

November 9<sup>th</sup> 6pm – 7pm:

Diabetes Support Group

Lebanon Town Hall, Lebanon, VA

November 13<sup>th</sup> 8am – 4pm:

Marsh Regional Blood Center Blood Drive

Wellmont Bristol Regional Medical Center

Bristol, TN

November 14<sup>th</sup>:

Glow Baby, Glow! 5k Run/Walk

Abingdon, VA

November 19<sup>th</sup> 1pm – 6pm:

Marsh Regional Blood Center Blood Drive

Food City #893, Coeburn, VA

November 21<sup>st</sup>:

YWCA Women's 5K Turkey Trot & Gobblers Gait

Bristol, TN

November 23<sup>rd</sup> 8:30am – 3pm:

Marsh Regional Blood Center Blood Drive

Honaker High School, Honaker, VA

December 6–10<sup>th</sup>:

ASHP Midyear Clinical Meeting

Ernst N. Memorial Convention Center

New Orleans, LA

February 20–21<sup>st</sup>

VPhA Midyear Conference

Hotel Roanoke & Convention Center, Roanoke, VA

**It's not too late, get your FLU SHOT today!!!**

## Featuring : Emily Rourk, PharmD

Cavalier Pharmacy: Clinical Coordinator

Nickelsville Pharmacy: Pharmacist in Charge



Dr. Emily Rourk received her Doctor of Pharmacy degree from South Carolina College of Pharmacy in Columbia, SC in 2013. She completed a PGY1 Community Pharmacy Residency at Appalachian College of Pharmacy in Oakwood, VA in 2014.

Dr. Rourk currently practices as Clinical Coordinator at Cavalier Pharmacy in Wise, VA as where she oversees patient services including Medication Therapy Management, Collaborative Practice Agreements, Medication Adherence Program, and student precepting. She also serves as Clinical Coordinator and Pharmacist in Charge at Nickelsville Pharmacy in Nickelsville, VA. Dr. Rourk played an integral role in the development and recent opening of Nickelsville Pharmacy on October 26, 2015.

Dr. Rourk was awarded with the ASHP Foundation Pharmacy Resident Practice-Based Grant and the Appalachian College of Pharmacy Research Grant for her research project, "*Health Outcomes Associated with a Community Pharmacy Based Transition of Care Program in Rural Central Appalachia.*" She is recognized for many professional publications and ongoing research.

Dr. Rourk spends her free time enjoying time with loved ones and traveling.