MEET OUR NEW RESIDENTS

We welcome our four new pharmacy residents for the 2016-2017 year. These residents have each graduated from an accredited pharmacy school and are licensed to practice pharmacy in Pennsylvania. They will spend a year in various pharmacy practice settings at our institution, including the Anticoagulation Clinic.

When coming to the clinic, please welcome the new faces you may see. These residents staff at the 30 Hope Drive Fingerstick Clinic.

Pictured above (l-r): Mark Attilio (Wilkes University), Regis Bender, Jr. (Duquesne University), Alexandra Kibler (University of Pittsburgh), Alex Yohe (University of Pittsburgh)

WHERE DO I ORDER MY PRESCRIPTION RENEWALS?

Please call the Anticoagulation Clinic to renew your warfarin prescription. It is best to request this of us, as we have the most up-to-date, accurate dose of your warfarin.

Please allow 48 hours to allow the local pharmacy to prepare the prescription.

Please allow at least two weeks for your mail order pharmacy to process and mail to you.

Help us to help you! Thank you!

717-531-5312
**Vitamin K Background**

Vitamin K is a fat soluble vitamin that plays an essential role in the body's blood clotting pathway. This vitamin can be found in the foods people eat as well as produced naturally by our own intestinal bacteria. Vitamin K can reduce the anticoagulant effect of warfarin; due to this, it is important for patients to be knowledgeable about the different factors that influence the vitamin K content in the food. This is a complex topic with many factors that influence it. Patients must be able to eat the food that they enjoy to maintain their quality of life. Consistency is the most important thing for patients to remember. In order to maintain consistency, patients must be aware of the vitamin K content of the food they are eating and how the preparation of the food can influence the vitamin K content.

**Fresh versus Frozen Vegetables**

When the vitamin K content of frozen vegetables is compared to fresh vegetables it appears that frozen foods are usually higher in vitamin K. The fat-soluble nature of vitamin K makes it unlikely the freezing process would affect the vitamin K content. A more likely source of this extra vitamin K is that some frozen vegetables are made tastier by adding oils to them. This is the likely source of the higher vitamin K since we know that certain oils can contain a surprising amount of vitamin K. The extra vitamin K found in these frozen vegetables can be hard to spot given that many companies do not openly publish the vitamin K content of these frozen veggies. This raises an important question: how do patients avoid these frozen vegetables that offer a longer shelf life, convenience, and faster prep time? One solution is to simply be a savvy shopper. It is possible for patients to look at ingredient labels and choose frozen vegetables that are raw, do not contain extra oils, and are not pre-seasoned. Another option is that patients could prepare raw vegetables themselves for freezing that would give them better portion control and a better idea of the vitamin K content.

**Cooked versus Raw food**

There are many things to consider when it comes to the vitamin K content of cooked vegetables versus raw vegetables. The most obvious one is that some vegetables shrink when they are cooked. The best example of this is spinach, which is significantly smaller when its cooked compared to when it’s raw. A cup of cooked spinach will have much higher vitamin K content than a cup of raw spinach. A simple rule to avoid underestimating the vitamin K content of cooked vegetables is to measure out your portions before cooking. This allows you to estimate the vitamin K content of a meal more accurately and can be easier to make each meal with a similar amount of vitamin K. This ‘raw only’ measuring system makes it easier to compare the vitamin K content of a salad to cooked meals with the same ingredients.
Cooking methods
There are many different ways to cook vegetables and some of them can increase the amount of vitamin K you are actually eating. Methods such as frying can add vitamin K due to various oils used in cooking. Steaming vegetables adds no vitamin K content to vegetables. Roasting or sautéing your vegetables, as minimal amounts of oils are used can also cut back on amounts of oils used.

Selection of Cooking Oils
In today’s grocery store, there is a large variety of cooking oils. Not all cooking oils have the same amount of vitamin K. Although a small amount of oil is not likely to affect your INR, a large amount will decrease the INR, depending on the choice and cooking method. To avoid this, it is important to choose foods that have lower oil or “grease” content. If you are choosing to cook with oils it is important to count the vitamin K content in the oils. Once again, the most important thing is that your vitamin K content is consistent.

Cooking Oils and Vitamin K

<table>
<thead>
<tr>
<th>Cooking Oil</th>
<th>Portion Size</th>
<th>Vitamin K Content</th>
<th>Important Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soy/Soybean oil</td>
<td>1 tablespoon (15 mL)</td>
<td>25 mcg</td>
<td></td>
</tr>
<tr>
<td>Canola oil</td>
<td>1 tablespoon (15 mL)</td>
<td>10 mcg</td>
<td></td>
</tr>
<tr>
<td>Olive oil</td>
<td>1 tablespoon (15 mL)</td>
<td>8.1 mcg</td>
<td></td>
</tr>
<tr>
<td>Cocoa butter oil</td>
<td>1 tablespoon (15 mL)</td>
<td>3.4 mcg</td>
<td></td>
</tr>
<tr>
<td>Walnut oil</td>
<td>1 tablespoon (15 mL)</td>
<td>2.0 mcg</td>
<td></td>
</tr>
<tr>
<td>Sesame oil</td>
<td>1 tablespoon (15 mL)</td>
<td>1.8 mcg</td>
<td></td>
</tr>
<tr>
<td>Flaxseed oil</td>
<td>1 tablespoon (15 mL)</td>
<td>1.3 mcg</td>
<td></td>
</tr>
<tr>
<td>Palm oil</td>
<td>1 tablespoon (15 mL)</td>
<td>1.1 mcg</td>
<td></td>
</tr>
<tr>
<td>Safflower oil</td>
<td>1 tablespoon (15 mL)</td>
<td>1.0 mcg</td>
<td></td>
</tr>
<tr>
<td>Almond oil</td>
<td>1 tablespoon (15 mL)</td>
<td>1.0 mcg</td>
<td></td>
</tr>
<tr>
<td>Sunflower oil</td>
<td>1 tablespoon (15 mL)</td>
<td>0.8 mcg</td>
<td></td>
</tr>
<tr>
<td>Corn oil</td>
<td>1 tablespoon (15 mL)</td>
<td>0.3 mcg</td>
<td>May be mixed with olive oil or canola oil</td>
</tr>
<tr>
<td>Peanut oil</td>
<td>1 tablespoon (15 mL)</td>
<td>0.1 mcg</td>
<td></td>
</tr>
<tr>
<td>Coconut oil</td>
<td>1 tablespoon (15 mL)</td>
<td>0.1 mcg</td>
<td></td>
</tr>
</tbody>
</table>
5 FOODS YOU DIDN'T KNOW CONTAIN VITAMIN K

“How many servings of vitamin K foods are you eating per week?” It’s one of the questions we ask during a phone call or point-of-care visit with a pharmacist at the Anticoagulation Clinic. Consistent vitamin K consumption is very important when you are taking warfarin because fluctuations can cause low or high INR values, which can place you at risk for clots or bleeding.

You already know the common foods like broccoli, spinach, Brussels sprouts, cabbage, etc., are high in vitamin K. These foods have anywhere from 100 to 500 mcg of vitamin K per serving! We routinely ask about these foods because they are more likely to interact with your warfarin.

But what about other foods? Vitamin K is found in many different foods, but the amount varies significantly. Even foods that have low or moderate amounts of vitamin K (see below, barring guacamole) can affect your INR if eaten in large quantities. Here are some examples:

<table>
<thead>
<tr>
<th>Food</th>
<th>Serving Size</th>
<th>Vitamin K Content</th>
<th>Take Home Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avocado</td>
<td>1 cup raw</td>
<td>Avocado=30-50 mcg</td>
<td>Watch portion sizes</td>
</tr>
<tr>
<td>Guacamole</td>
<td>2 tbsp.</td>
<td>50-1500 mcg</td>
<td>The other ingredients in guacamole have a major influence on the vitamin K content</td>
</tr>
<tr>
<td>Asparagus</td>
<td>4 spears, raw</td>
<td>50 mcg</td>
<td>In large amounts, asparagus may count as 1 serving of vitamin K food</td>
</tr>
<tr>
<td>Blueberries</td>
<td>1 cup fresh</td>
<td>30 mcg</td>
<td>Be careful during berry season – large amounts of blueberries may lower your INR</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>1 cup fresh or frozen</td>
<td>20 mcg</td>
<td>Although it is lower in vitamin K, this white veggie can be deceiving!</td>
</tr>
</tbody>
</table>

So what does this mean for you?

- Please talk with your pharmacist if you are concerned about specific foods.
- If your INR suddenly becomes unstable, try to think of new foods you’re eating.
- Watch your serving sizes! This is especially true for foods that are high in vitamin K especially large amounts of guacamole.
- Always remember that consistency with how much vitamin K you are eating each day is crucial!

Want to learn more? Ask your pharmacist for a list of foods that contain Vitamin K!

**ART HAS ARRIVED!**

(l-r, counter clockwise): Frank Herrmann, Amy Foltz, BethAnn Shields, Jonathan Frazier, Terri Zimmerman, and Paul Kocis

Come see our new paintings at the Hope Dr. location. Thanks go out to Claire DeBoer, Director of Center Stage, Arts in Healthcare, who arranged funding and commissioned local artist, Jonathan Frazier for the above paintings. Pictured above are the Anticoagulation Clinic staff and artist, Jonathan Frazier. You can order 8x10 artist-signed prints at our Hope Dr. location for a fee of $25 through September 2016.

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**COOL SUMMER RECIPE:**

**GAZPACHO**

6 servings (13mcg of Vitamin K per serving)

2 cups Tomato, chopped

½ cup Bell pepper, green, finely chopped

2 cups Tomato Juice

1 & ½ cup Onion, finely chopped

½ cup Basil, fresh, minced

1 tsp Garlic cloves, minced

½ cup Cucumber, peeled, chopped

1 tbsp Lemon juice

¼ tsp Ground black pepper

Combine all ingredients in a mixing bowl and refrigerate. Serve chilled.

**NUTRITION PER SERVING:**

Calories 57
Fat 0.3 g
Cholesterol 0
Sodium 16 mg
Protein 1.5
Carbohydrates 10.9 gm
Fiber 11 gm
**FIRST AID: OVER-THE-COUNTER PRODUCTS TO CONTROL MINOR BLEEDING**

Patients on warfarin have an increased risk of prolonged bleeding from minor injuries like cuts, scrapes and abrasions. While you can take precautions to limit your risk of injury, accidents do happen. Therefore, it may be helpful to have one or more of the following products (also known as hemostat agents) in your home to control minor bleeding.

As a reminder, injuries that require emergency care include falls that involve hitting the head, nosebleeds lasting more than 30 minutes, animal bites and cuts that are deep or can’t be held together with gentle pressure.

In addition, use of these products does not replace the need for proper cleansing and care of the wound.

<table>
<thead>
<tr>
<th>Type of Product</th>
<th>Product Brand Names</th>
<th>How It Works</th>
<th>Directions for Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauze-to-Gel</td>
<td>Curad® BloodSTOP</td>
<td>Gauze turns into gel to seal the wound</td>
<td>Place gauze over wound &amp; apply pressure – product will change to gel. When bleeding stops, gel dissolves in water for easy removal.</td>
</tr>
<tr>
<td>Gauze Sponge</td>
<td>QuikClot®</td>
<td>Gauze sponge accelerates clotting when it comes in contact with blood</td>
<td>Place gauze over wound &amp; apply pressure for several minutes to stop bleeding.</td>
</tr>
<tr>
<td>Liquid Bandage</td>
<td>New-Skin® Nexcare® Liquid Bandage KeriCure® Natural Seal</td>
<td>Dries rapidly to form a flexible, waterproof seal that lets the skin breathe. Convenient to use on hard to cover areas.</td>
<td>Apply or spray a small amount of product on the wound &amp; let dry; apply more as needed. Product will wear off naturally.</td>
</tr>
<tr>
<td>Powder</td>
<td>WoundSeal®</td>
<td>Absorbs the liquid portion of your blood to form a protective seal over the wound</td>
<td>Tear open package, pour powder onto the wound to completely cover it &amp; press down for 30 seconds – this will activate seal formation. Seal will fall off naturally.</td>
</tr>
</tbody>
</table>
The Penn State Hershey Anticoagulation Clinic is available for fingerstick appointments Monday through Friday.

A simple fingerstick will give INR results right away!

Shown above is Natalie Treese, PharmD, taking a fingerstick blood sample at the Nyes Rd office.

NYES ROAD HOURS FOR POINT OF CARE (Fingersticks)
First appointment: 8:00 a.m.
Last appointment: 3:00 p.m.

HOPE DRIVE HOURS FOR POINT OF CARE (Fingersticks)
First appointment: 7:45 a.m.
Last appointment: 4:45 p.m.
Please call us if interested.

CALL ANTICOAGULATION CLINIC any time at 717-531-5312 or toll-free at 1-800-243-1455, ext. 5312
Email us any time: anticoagulationclinic@hmc.psu.edu

EDITOR’S NOTE: Let us know of any topics of interest for our next edition.
ONE PATIENT AT A TIME

CONTACT US:
717-531-5312
(OR 1-800-243-1455 EXT. 5312)
Monday through Friday: 9:00 a.m. - 5:00 p.m.
In case of emergency, please call 911.

HOW ARE WE DOING?
Please send your comments to Lisa Barletta, MBA, RPh (lbarletta@psu.edu), Director of Pharmacy, Outpatient Services

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