Patients Are Asking: Does Flying Increase My Risk for a Clot?

Home is where the heart is, though you might have to travel a long way to get there for the holidays. Long-distance travel may raise your stress level, but can it also raise your risk of getting a blood clot? Dr. Susan Kahn, a Professor of Medicine at McGill University and a Canada Research Chair in venous thromboembolism (VTE), weighs in.

Blood clots affect about 1-2 in 1,000 U.S. adults per year, and the risk may double or triple after a flight that’s 4+ hours. One study estimates that 1 in 4,600 travelers will have a VTE event within 4 weeks of a long flight. According to Dr. Kahn, “the actual risk of a travel-related blood clot is quite small, and the average traveler doesn’t need to worry about it. Billions of people travel by plane every year, and most of them don’t get a blood clot.”

Continued on page 4
Meet the Newest Member of the NATF Team!

Claire is the Associate Director of Events and Outreach at NATF. She is responsible for the planning, marketing, and logistics of all NATF educational events, outreach projects, and fundraising events. Prior to joining NATF, Claire was a Research Coordinator for the Thrombosis Research Group at Brigham and Women's Hospital.

Claire graduated from the University of New Hampshire with a degree in Biomedical Sciences and is working towards her Master's in Public Health at Boston University. Outside of work, Claire enjoys road biking, spending time with her black lab, Marge, and playing in several recreational sports leagues.

For more information about any of these events, please visit www.natfonline.org/events or email events@natfonline.org.

Upcoming Events and Support Groups

New Strategies for the Treatment and Management of Anticoagulant-Associated Bleeding

January 22, 2020
Cleveland, Ohio at the Cleveland Airport Marriott

March 10, 2020
Baltimore, Maryland at the Baltimore Waterfront Marriott

In-Person Blood Clot Support Group

January 15, 2020
February 27, 2020
March 17, 2020
April 23, 2020
May 21, 2020

Brigham and Women’s Hospital, Boston, MA

All support groups start at 7:00 PM. To register, email info@natfonline.org or call 617-730-4120.
A Dessert that’s Veggie Good!

Check out this heart-healthy holiday recipe courtesy of Alex Aldeborgh, MS, RDN.

ALMOND BUTTER ZUCCHINI BROWNIES

INGREDIENTS
1 cup finely grated zucchini
1 cup creamy almond butter
½ cup pure maple syrup
1 large egg
½ tsp vanilla extract
1/3 cup cacao powder (or unsweetened cocoa powder)
¼ cup almond flour
½ tsp baking powder
½ tsp kosher salt (optional)
1/3 cup dark chocolate chips, plus more for sprinkling on top

INSTRUCTIONS
1. Preheat oven to 350° F. Grease an 8×8-inch baking pan.
2. Use a clean towel to squeeze out as much moisture as possible from shredded zucchini.
3. Whisk together almond butter, maple syrup, egg, and vanilla extract in a medium bowl.
4. Mix together cacao powder, almond flour, baking powder, and salt (if desired) in a separate bowl.
5. Pour wet ingredients into dry ingredients and stir to combine.
6. Fold in shredded zucchini, then chocolate chips.
7. Pour batter into prepared baking pan and top with extra chocolate chips if desired.
8. Bake for 20-25 minutes until brownies are glossy and a toothpick comes out mostly clean.
9. Enjoy!

Find more healthy holiday recipes on Alex’s Instagram:  @daisybeet
However, those who already have risk factors for a clot may have a higher risk of developing travel-related VTE. These risk factors include:

- Obesity
- Age over 40
- Use of birth control pills or hormone therapy
- Recent injury or surgery
- Limited mobility
- Pregnancy
- A personal or family history of blood clots
- Active cancer or recent cancer treatment

It’s unclear if long-distance air travel is any riskier than car or train travel, but there are factors unique to airplanes that can affect risk:

- Air travelers sit in tight quarters with the back of the knee pressed against the seat. The vein behind the knee is a common area for clots to form.
- Immobility can raise the risk of a clot, but your seat assignment, turbulence, etc. can make it difficult to move around the plane.
- Your body takes in less oxygen when air pressure is lower, and some data suggest that lower oxygen levels can trigger the body’s clotting response.
- Dehydration may also increase the risk of a clot and drinking coffee or alcohol on a flight can fast-track dehydration.
- Many people sleep on flights – but if you’re sleeping, you aren’t moving or hydrating.

The good news is that there are several commonsense methods that can help lower your risk:

- Choose a bulkhead seat or see if your flight offers extra-legroom seating. If not, avoid putting a bag under the seat in front of you so you have more space for your legs and feet.
- Try to move around the plane every 1-2 hours. Selecting an aisle seat can make it easier to get up and walk.
- Avoid sleeping in awkward positions for long periods of time.
- Try not to cross your legs.

**Simple Exercises to Do In-Flight**

**KNEE-TO-CHEST STRETCH**
Slightly lean forward and slowly pull your knee into your chest. Hold for 15 seconds on each side.

**ANKLE CIRCLES**
Raise your feet off the floor and circle them 5 times clockwise and counterclockwise.

**FOOT PUMPS AND CALF RAISES**
Lift your toes as high as you can and hold for 10 seconds. Then, lower your toes and repeat the exercise with your heels – lift them for 10 seconds while keeping your toes on the floor.

**SHOULDER STRETCH**
While seated, put your right hand on your left shoulder. Use your left hand to grasp your right elbow and pull down toward your left side. Hold this for 10-15 seconds and repeat on your left side.

*Repeat each exercise 5 times if possible.*
Avoid wearing tight clothing.
Drink lots of water and avoid alcohol, caffeine, and sedatives.
Do some simple exercises in your seat to improve blood flow. (See sidebar on page 4.)

WHAT DO THE GUIDELINES SAY?
2012 American College of Chest Physicians (ACCP) Guidelines
Low-risk travelers should frequently move, perform calf exercises, and sit in an aisle seat if possible.

It’s suggested that high-risk travelers wear properly fitted, below-knee compression stockings while in flight.

Preventive blood thinners or aspirin are not recommended for long-distance travelers.

2018 American Society of Hematology (ASH) Guidelines
Compression stockings or anticoagulants/aspirin are not recommended for low-risk travelers.

“For the average healthy person taking a long flight, we don’t recommend anything other than commonsense measures, like walking around the plane and staying hydrated,” explains Dr. Kahn, who helped write the guideline.

ASH suggests that high-risk passengers use graduated compression stockings or a preventive dose of low-molecular-weight heparin (LMWH) for flights over 4 hours. If these measures aren’t practical, travelers can consider taking aspirin.

Because there’s still a limited amount of data on travel-related VTE, the ASH recommendations are conditional, meaning that the right course of action may be different for each patient.

The bottom line:

• Travel-related blood clots are rare.
• Moving around and staying hydrated are two ways to stay healthy – both in flight and on the ground.
• Travel-related VTE is an area that needs more research. Clear-cut evidence is lacking.
• Talk to your healthcare provider if you’re concerned about developing a blood clot while traveling.

REFERENCES:

With Gratitude
Thank you to our board of directors, staff, faculty, donors, Titans of Thrombosis, and all of you for a great year! We look forward to 2020!
**NATF Board and Staff**

**BOARD MEMBERS**

**Samuel Z. Goldhaber, MD**  
President, Founding Director  
Associate Chief and Clinical Director, Division of Cardiovascular Medicine  
Section Head, Vascular Medicine  
Director, Thrombosis Research Group  
Brigham and Women’s Hospital  
Professor of Medicine  
Harvard Medical School

**John Fanikos, RPh, MBA**  
Treasurer, Founding Director  
Director of Pharmacy Business and Financial Services  
Brigham and Women’s Hospital  
Assistant Professor of Clinical Pharmacy Practice  
Northeastern University, Massachusetts College of Pharmacy

**Jawed Fareed, PhD**  
Vice President, Founding Director  
Director, Hemostasis and Thrombosis Research Laboratories  
Loyola University Medical Center  
Professor of Pathology and Pharmacology  
Loyola University Medical Center

**Gregory Piazza, MD, MS**  
Director, Chair of the Education Committee  
Staff Physician, Division of Cardiovascular Medicine  
Brigham and Women’s Hospital  
Assistant Professor of Medicine  
Harvard Medical School

**Christian Ruff, MD, MPH**  
Director, Chair of the Atrial Fibrillation Action Initiative  
Associate Physician, Cardiovascular Medicine Division  
Brigham and Women’s Hospital  
Assistant Professor of Medicine  
Harvard Medical School

**Jeanine Walenga, PhD**  
Co-Director, Hemostasis and Thrombosis Research Laboratories  
Professor, Departments of Thoracic-Cardiovascular Surgery and Pathology, Stritch School of Medicine  
Loyola University Medical Center

**STAFF**

**Kathryn Mikkelsen**  
Executive Director  
KMikkelsen@natfonline.org

**Courtney Anderson**  
Associate Director  
CJohnson@natfonline.org

**Claire Galvin**  
Associate Director, Events and Outreach  
CGalvin@natfonline.org

**Aviva Schwartz**  
Director, Content Development  
Managing Editor, The Beat  
ASchwartz@natfonline.org