## Good nutrition can help vegetarians recover from surgery

I am scheduled for an upcoming surgery. I am a vegetarian. How does my diet and exercise impact my health outcomes after the procedure? — LB, Farmville

Last week, Taylor Stamey shared great information about diet and wound healing. This week, Kristen Armel, also a Brody medical student, will focus on physical activity and add a few comments about how a person might meet the needs of surgery recovery following a vegetarian eating pattern. Here is what she wants you to know.

Surgical trauma is hard on the body and can cause it a lot of stress. The ability for your body to tolerate these surgical stressors depends on a variety of factors, including fitness and nutrition.

As many as two out of every three patients that undergo major surgery are diagnosed with malnutrition prior to surgery. Malnutrition is the lack of nutrients required to meet your body's needs and can be identified through a variety of factors such

as a low body mass index (BMI), unplanned weight loss or eating and drinking too little healthy food, beverages and water.

It is known that malnutri-

tion prior to surgery increases risk for poor outcomes after surgery. Studies show that surgical patients that are malnourished experience higher rates of morbidity or illness, longer lengths of hospital stay, greater chances of being readmitted to the hospital and even death.

In addition to nutrition, it is also known that physical fitness impacts all aspects of health. Generally, patients who are more physically active have better outcomes. Studies show that patients who have decreased exercise ability are at an increased risk for poor outcomes after surgery.

**KATHY** 

**KOLASA** 

An example of decreased exercise ability can be seen in the elderly. As we age, our peak heart rate declines, our oxygen consumption decreases and our ability for our heart to pump out blood, known as cardiac output, is reduced. It is possible that exercise and physical activity improve

surgical outcomes because exercise improves your body's ability to tolerate stress through enhancing its ability to deliver oxygen to muscles and become more efficient at using its energy.

If your surgery is planned, you may be able to improve your postoperative outcomes with improved nutrition and physical activity. Experts suggest that exercise should include a combination of aerobic exercise and strength training in order to protect cardiovascular health prior to surgery. Exercise before surgery may also protect both muscle and nerves from damage.

If you have not been doing regular physical activity, do not start a program without talking first to your doctor, an exercise physiologist or physical therapist.

It is recommended that patients consume a high protein diet preoperatively. Making sure you get enough protein in the time leading up to surgery can maintain and support increase in lean body mass, ameliorating physical frailty, and support the efficacy of other interventions such as exercise training

In other words, diet and exercise can work together to improve your

outcomes. There was a wonderful article last week from my colleague about wound healing which discussed protein recommendations. If your doctor or Registered Dietitian Nutritionist (RDN) has given you a recommendation, please follow it. They would have a specific reason for giving you a different number.

The recommendations for vegetarians is a bit higher since the quality of proteins may not be as complete. When preparing for surgery, experts recommend vegetarians consume is 1.2 grams of protein for every kilogram of body weight, which is about 96 g of protein per day for most adults. Some excellent sources of protein in people that adhere to a vegetarian diet include legumes, nuts and seeds.

Arginine is emerging as an important amino acid (a building block for protein) for wound healing. It helps with cell growth. Some foods that are high in arginine and acceptable to vegetarians are nuts, such as almonds or pine nuts, seeds, such as sesame or pumpkin seeds, chickpeas and seaweed.

It is also recommended that patients aim for good control of blood sugar before surgery. This is true for both patients with diabetes

and without diabetes. Studies show that good control of blood sugar in patients prior to surgery can reduce surgical site infections. You should aim to have a hemoglobin A1c of less than 7 percent. The A1c is a number that doctors use to evaluate your blood sugar control prior to your surgery.

Several ways to lower your A1c are to be active, eat a healthy diet with a moderate amount of carbohydrates and lots of fruits and vegetables, and do not smoke. Talk to your doctor, RDN, or exercise specialist before starting any of the above strategies.

Implementing a strategy of both exercise and good nutrition is not only beneficial for general health outcomes but has shown to be effective in reducing post-operative risks.

If you are scheduled for surgery, follow your health care team's recommendations carefully. If you don't have an RDN or an exercise specialist, ask your doctor for a referral. Good luck.

**Professor emeritus Kathy Kolasa,** a registered dietitian nutritionist and Ph.D., is an affiliate professor in the Brody School of Medicine at ECU. Contact her at kolasaka@ecu.edu.

**ASK THE DOCTORS** 

## Time is best cure for a hangover

EVE

**GLAZIER** 

I always thought that you get a hangover from drinking too much. But when I have a single mixed drink, or sometimes even just one glass of wine, I wake up feeling nauseated and with a bad headache. What causes a hangover? Is there a cure?

A • The term "hangover" refers to the collection of deeply unpleasant (and

sometimes debilitating) symptoms that can occur after drinking too much alcohol.

The specific symptoms, as well as their intensity and duration, vary from person to person. They include headache, stomach upset, fatigue, muscle aches, dizziness, sweating, nausea, vomiting, persistent thirst, rapid heartbeat and an increased sensitivity to light and sound.

A hangover can also affect someone emotionally, leaving them feeling anxious, irritable or depressed. People sometimes find that their motor skills and cognition take a temporary hit as well.

While we typically associate a hangover with being overserved, the amount of alcohol needed to cause one varies from person to person. For some, it takes multiple drinks to excess and beyond to reach hangover territory. Others, like yourself, find that even a modest amount of alcohol causes the body to revolt.

A wide range of factors have been found to contribute to the development of a hangover. These include the person's sex, age, body mass and general health; the amount and pace of their drinking; dehydration; gastrointestinal issues; inflammation; and even the state of their

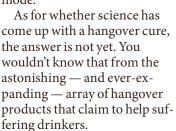
gut microbiome.
Also at play is how the body metabolizes alcohol. This is carried out primarily by the liver in a two-step process. First, the liver converts alcohol

you need them

into acetaldehyde — a toxic byproduct that contributes to inflammation in the liver, pancreas, gastrointestinal tract and brain. In the second step of alcohol metabolism, the enzymes in the liver turn acetaldehyde into acetate, a nontoxic substance.

But there's a catch. The liver can process only about one drink per hour. Drink

any faster than that, and you're creating a buildup of toxic acetaldehyde. More recent research adds small proteins called cytokine to the hangover equation. Cytokines alert the immune system to potential threats. The theory is that drinking triggers the release of cytokines, which sends the immune system into defense mode.



Unfortunately, the only real cure for a hangover is time, typically 24 hours or more. While waiting that out, you can take

steps to manage the symptoms. This includes rest, antacids to calm the stomach, complex carbs to boost low blood sugar and plenty of water and other nonalcoholic fluids for hydration.

Headache can be eased with nonsteroidal anti-inflammatories. However, never take Tylenol during or right after drinking, as when mixed with alcohol, liver damage is possible. And ignore advice that urges easing a hangover with an alcoholic drink. The boost it may give is temporary, and merely lengthens the time to a genuine recovery.

**Eve Glazier,** M.D., MBA, is an internist and associate professor of medicine at UCLA Health. **Elizabeth Ko,** M.D., is an internist and assistant professor of medicine at UCLA Health.

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## Five of the germiest places on a commercial airplane

**EBONY WILLIAMS** 

Atlanta Journal-Constitution

If you were one of the millions of people traveling by plane around the holidays, you're probably aware that planes are a perfect environment for germs to spread. It's why vitamin C boosters are so popular with travelers. But just where exactly do you encounter the most germs while flying?

"I think of airplanes as emergency rooms in the air," Jason Tetro, microbiologist and author of "The Germ Code," told Yahoo Life

"You are surrounded by people you don't know, and their health status is completely unknown. And if there hasn't been a good cleaning and disinfection, you have no idea about the people who were on the plane before you," explained Tetro.

While airlines clean their aircraft between flights, it's not a practice enforced or regulated by the Federal Aviation Administration.

Andrea Sachs — a travel reporter with the Washington Post — did her own research on the cleanliness of plans by using an inspector kit AAA uses for hotels. Her amateur research revealed these are the five of the germiest places on a plane:

- Bathroom sink handle
- Bathroom
   Tray table

MONTH SMART ÓBATH

■ Inside bathroom door



DREAMSTIME/

The dirtiest places on a plane are all items that are often touched. Use a disinfectant wipe on the seat belt, tray table and armrest.

handle

- Seat belt buckle
- Armrest

"A 2019 peer-reviewed study by the Hunter College NYC Food Policy Center at the City University of New York showed the drinking water on planes as potentially unsafe for humans. The study scored 10 major airlines from 0 to 5 and found that seven out of 10 scored a three or below," added Travel + Leisure.

While the dirtiest places on a plane are all items that are often touched, Josephine Remo, a flight attendant and travel blogger, shared that the dirtiest spot on a plane — for her, at least — is the safety

instruction card in the seat pocket as it never gets cleaned or wiped down.

Avoiding germs while flying may seem impossible, but health professionals, flight attendants and travel bloggers all say the same thing: Bring disinfecting wipes and hand sanitizer.

"Before you sit down and buckle up, use a disinfectant wipe. Clean your seat, seat belt, armrest, and tray table, all of which contain germs. If you need to adjust your overhead light or air vent, use hand sanitizer afterward. The same applies if you touch anything in your seat back pocket," advised Family Doctor.



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