

thrive

Life Keeps Moving

Finding ways to live your best life amid your cancer diagnosis



ROGEL CANCER CENTER
MICHIGAN MEDICINE

FALL 2019 CONTENTS

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Logan Moore plans her busy days as a working mom with breast cancer to enjoy family time with her husband and kids.

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For more information about the stories in *Thrive* or any other cancer-related information, please call the Cancer AnswerLine at 800-865-1125.

Report Your Symptoms, Feel Better

Side effects of chemotherapy can be difficult to handle, especially nausea and vomiting. One thing that should not be difficult is communicating your symptoms to your health care team so they can help treat them.

The Remote Patient Monitoring Program for Chemotherapy Related Nausea at the University of Michigan Rogel Cancer Center helps patients receiving high emetogenic treatment deal with the difficult side effects from chemotherapy and help them feel better as soon as possible. Highly emetogenic chemotherapy means there is a 90% or higher chance a patient will experience nausea and vomiting. These side effects are serious and need treatment.

By using the new texting app to share their symptoms, patients can be more empowered to be a key part of their care team.

“We are excited about the patient self-reporting application we have developed because it will help our patients in more ways than one,” says Al Quiery, M.D., medical director at the Rogel Cancer Center. “We have an opportunity to significantly improve our patients’ quality of life during treatment with this program.”

The program provides patients the opportunity to receive care for managing their symptoms after chemotherapy infusions. By watching patients and their symptoms closely, the cancer care team can quickly provide the best care possible.

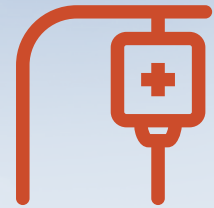
“Some patients may notice side effects, but may not call the clinic about these symptoms,” says Shannon Hough, Pharm.D. “We hope that by having information about patient symptoms earlier, even before the patient would think to call us, this can enable patients to be treated at home or in the clinic instead of these symptoms worsening, which may need urgent treatment in the emergency room or hospital.”

Patients receive a daily text message for a week after their infusion that allows them to answer questions about their symptoms and their food and water intake. These responses are added to a flowchart. Responses that meet a certain threshold are sent to the cancer center clinical pharmacists to review. Pharmacists then modify the patient’s symptom management plan and instruct the patient to come to the clinic, infusion center, urgent care or emergency department, as needed.

When doctors and pharmacists work together, they can provide better care for patients. By giving patients a role in their care, the cancer center team hopes all will feel comfortable and positive with their treatment plan.



Patient infusion



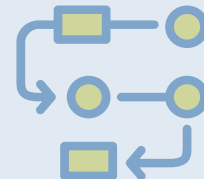
Daily text for one week



Patient response is entered into a flow chart



Pharmacist review



Adjust symptom management plan and give further instructions

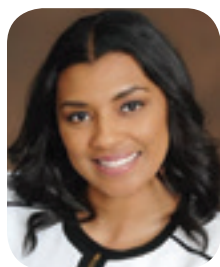


Visit rogelcancercenter.org/thrive for tips to manage symptoms and side effects.



It's Worth it to Quit

Tobacco Consultation Service offers support for success



The Great American Smokeout is a national program held each November by the American Cancer Society to encourage people to quit tobacco. The Rogel Cancer Center supports this effort. Quitting smoking any day of the year can greatly reduce your risk of cancer and cancer recurrence.

We sat down with Alena Williams, MSW, a Michigan Medicine health educator, tobacco treatment specialist and clinical group facilitator at the Cancer Support Community of Greater Ann Arbor, to discuss the Tobacco Consultation Service that's available to all patients at the cancer center and why quitting tobacco is so important to the health of patients and survivors

Q: **What is it about tobacco that causes cancer?**

The link between smoking and cancer is very well established. We know that one out of every three cancer deaths in the United States is linked to smoking, and while lung cancer was the first cancer to be identified as having this causal relationship with smoking, we know that there are actually 16 different cancers that are caused by smoking, including cancer of the stomach, pancreas, colon, cervix, kidney and liver.

This tobacco/cancer link is the result of tobacco smoke's damaging effect on every organ in the body. Tobacco smoke contains 7,000 chemicals with at least 70 known to cause cancer. The damage comes from directly inhaling smoke or indirect exposure from second- and third-hand smoke.

Q: **How does using tobacco impact cancer treatment outcomes?**

Evidence shows that continuing to smoke tobacco after a cancer diagnosis increases the risk of a new primary cancer, cancer recurrence and adverse side effects from cancer treatment. Smoking also increases post-treatment mortality. Quitting smoking has significant health benefits and is one of the most important changes to make after a cancer diagnosis. Quitting is associated with decreased risk of disease recurrence, secondary cancers, treatment side effects and complications. Quitting is also linked to improvements in treatment response and effectiveness and overall improves survival.

Q: **Can you talk about the stigma of cancers related to smoking, especially lung cancer?**

I have a personal and professional connection to smoking-related cancers. I see the damaging and deadly impact every day working with patients living with cancer. Most people who smoke really want to quit and are making attempts to quit without support. They might not know that the use of evidence-based tobacco treatment can double a person's chances of successfully quitting.

On a more personal note, my mother was diagnosed with stage 4 lung cancer and died from the disease at age 50. After her diagnosis, she was urged to quit by her health care providers but was never provided with support on how to stop. Smoking had been a part of her everyday life for 30 years.

When patients talk about stigma, I say that tobacco use is an addiction; nicotine creates biochemical changes in the brain that make it extremely difficult to quit, even after a cancer diagnosis. Nicotine addiction should be addressed like any other addiction, with support to manage the psychological addiction.



Q: **What about smokeless tobacco? Is that healthier than cigarettes?**

Smokeless tobacco like chew tobacco, snuff and snus is still tobacco, which provides nicotine along with other substances that are known to cause cancer. While the tobacco is not inhaled into the lungs, it is still being absorbed through the lining of the mouth and circulates through the bloodstream to all parts of the body.

Use of smokeless tobacco has been linked to oral cancer, esophageal cancer and pancreatic cancer. It can also cause heart disease, gum disease and oral lesions known as leukoplakia.

Q: **And what about vaping? Are electronic cigarettes safe?**

E-cigarettes and vapes can contain harmful or potentially harmful substances, including heavy metals (like lead), volatile organic compounds and cancer-causing chemicals. The use of these products has been shown to cause severe lung disease and even death. Concern over the health impact of these products has prompted the Centers for Disease Control and Prevention to urge people to stop using flavored e-cigarettes pending investigation.

Q: **What resources are available for patients who want to quit smoking?**

The Tobacco Consultation Service, or TCS, is available for free to anyone interested in quitting. We provide inpatient consultation for hospitalized patients to manage nicotine withdrawal symptoms, help with a quit plan and a six-week outpatient program that covers preparing to quit and living a tobacco-free life. There is a telephone option to make our program more accessible to people who may not live near Ann Arbor. We focus on setting reasonable goals, nicotine replacement therapy, finding people in your life to offer support or encouragement and other aspects to ensure your success.

For people looking to quit, we recommend the use of one of the seven FDA approved medications to support cessation. These medications include the nicotine patch, nicotine gum, nicotine lozenge, nicotine inhaler, nicotine spray, varenicline (Chantix) and bupropion (Wellbutrin). These products are well researched, safe and effective.

Our website offers a Tobacco Treatment Virtual Quit Kit that is also helpful. It contains a guide to quitting smoking, what to do instead of tobacco, information on tobacco quit aids and even a recipe to make cinnamon-flavored toothpicks, which can be a great tool when quitting.

To connect with Tobacco Consultation Service, call **734-998-6222** or email **quitsmoking@umich.edu**. If you're admitted into the hospital, ask a member of your care team to contact TCS for a consultation. Or, visit **rogelcancercenter.org/thrive** for links to their website and materials.

Q: **Is there anything else you want patients to know about TCS?**

TCS is extremely happy to be working with the Rogel Cancer Center on the Cancer Center Cessation Initiative, also called C3I, to expand tobacco treatment programming. The C3I is a nationwide effort to help people who are undergoing treatment for cancer quit smoking. It is part of the National Cancer Institute's Cancer Moonshot.

A Mom with

Making good use of available information keeps one family focused on life, not cancer

Logan Moore had recently stopped nursing her second baby when she noticed a change to her breast. She suspected her body was adjusting after breastfeeding, but her physician offered a mammogram to be sure. Moore agreed, wanting to be able to relax and enjoy her children, Christian, 2, and Julian, 7 months.

She and her husband, Brandon, grew concerned when the mammogram led to a biopsy that day on her breast and lymph nodes. Moore received the official diagnosis two days later. She had stage 3, grade 3 invasive ductal carcinoma.

“I arranged to have my mother-in-law keep our kids overnight. I came home, drank wine and let myself cry. That was my time to lose it,” Moore says.

Then it was time to make a plan. Moore, now 36, describes herself as someone who falls into the optimistic hole while doing research. She tries to find the best solution and works to make it happen.

For example, when she was pregnant with Christian, she transitioned from her job at a rental office with Enterprise Rent-A-Car to a more flexible position in the corporate office. She and Brandon lived in a starter home in Canton to save money for their dream home in the community’s Cherry Hill Village.

Facing cancer treatment as a working wife and mother with two small children was no small feat. In addition to making health care decisions, she and Brandon needed to manage schedules, child care and talking to their kids about her cancer diagnosis.

STAYING INFORMED ON TREATMENT CHOICES

Moore’s breast cancer was HER2-positive. This meant her cancer had a genetic mutation that made too much of a protein called human epidermal growth factor receptor 2. Her cancer was also ER/PR-negative, indicating it did not depend on estrogen or progesterone to grow.

Moore learned she would receive four chemotherapy treatments of Adriamycin.

In doing internet research, she discovered that the drug is likely to cause hair loss and can cause heart damage in some people. Because of its red color, it has the nickname “the red devil.”

Aki Morikawa, M.D., Ph.D., who is now Moore’s oncologist, explains that research can be scary and recommends patients stick to professional websites, such as the Rogel Cancer Center or American Cancer Society.

“Chemotherapy, in general, is scary for patients and they can read horrible things online,” she says. “I support web research but recommend patients stick to good websites and resources, not Googling at random. Everyone’s experience is very different.”



Call **734-615-6952** for more information on the Families Facing Cancer Program.

a Plan





THE LOGISTICS OF TREATMENT, WORK AND BUSY SCHEDULES

Moore's treatment plan also included 12 doses of the chemotherapy Taxol, surgery and 25 radiation therapy treatments. Wanting her illness to impact her children as little as possible, she closely tracked the days she felt the most well and unwell, using good days to plan activities with her children and husband and bad days to work at home or rest.

She and Brandon arranged to have friends and neighbors over to play with the children during her chemotherapy appointments so she could return home and go right to bed.

"It was important to me not to disrupt my kids' lives," Moore says. "We had a great social circle and a lot of people willing to help."

During her chemotherapy treatments, Moore experienced chest pains that required an X-ray. She learned the devastating news that her cancer was metastatic.

COMMUNICATING WITH CHILDREN ABOUT CANCER

Moore and Brandon decided not to shy away from using the word cancer with their children. Julian was too young to understand, but Christian was old enough to pick up on worries and sadness, even if he saw it through his young perspective.


"Depending on the child's developmental level, a child might think the cancer is their fault or that cancer is contagious," says Madison McTevia, a child life specialist at the Rogel Cancer Center. "It is important to talk to them in language they understand and make sure they know who to go to with questions."

Moore convinced Christian she wanted a haircut like baby Julian, which eased the shock of losing her hair. She compared her side effects to the time Christian was sick with the flu. They named her chemotherapy port her "heart button" and explained it was how she took her medicine.

LOOKING FORWARD TO THE FUTURE

Though her metastatic breast cancer requires staying on the targeted therapy Herceptin for the foreseeable future, Moore feels well and experiences minimal side effects. Her most recent scans show no evidence of disease. This means that treatment is working.

"We continue treatment with Herceptin as long as it's working or as long as the benefit outweighs the risk," Morikawa says. "Logan has done a great job coping with the unknown and continuing with her life."

"I want to keep feeling good until I have a reason not to," Moore says. "Maintaining social groups and regular life is so important. I like to plan things for the future to look forward to." 



Hard Work Pays Off

Delivering more than packages helps
one bladder cancer patient find
positivity and enrichment

Kevin Harrington loves his job delivering packages for United Parcel Service Inc. The 52-year-old husband and father of two from Howell, Michigan, is also a safety co-chair, training other drivers on the UPS mantra to stay safe “one stop at a time.” He applies the same philosophy to another important role: mentoring newly diagnosed bladder cancer patients at the University of Michigan Rogel Cancer Center.

“With safety, you have to play the odds,” Harrington says. “At UPS, you do everything possible to get home safely from your last stop. In my cancer situation, I made the decisions that would give me the most longevity.”

Diagnosed with pT2N1 bladder cancer in 2017, these choices have not been easy. But for Harrington, having his bladder surgically removed, participating in an immunotherapy clinical trial, continuing to work to stay active and educating others on early detection of bladder cancer are crucial.





“I can’t do anything about what’s going on inside my body,” Harrington says. “But if you sit back and feel sorry for yourself, cancer is winning. I wasn’t going to let cancer win.”

EARLY SIGNS AND SYMPTOMS

Harrington begins his workdays at the UPS package distribution center in Howell. After a morning huddle and stretches to prepare for the active job of package delivery, he heads to the picturesque town of Chelsea to begin his route.

He had noticed a frequent and persistent urge to urinate—far more than normal—but weeks passed with Harrington trying over-the-counter remedies and convincing himself his symptoms were improving. They kept returning. Then he saw blood in his urine.

One of his customers, a urologist, scheduled Harrington for an appointment. More tests revealed tumors on his bladder wall. When pathology reports confirmed it was bladder cancer, he was referred to Todd Morgan, M.D., a urological surgeon and chief of Urologic Oncology at the Rogel Cancer Center.

“Symptoms of bladder cancer can mimic urinary tract infections, enlargement of the prostate in men, or common lower urinary tract symptoms in women,” Morgan says. “Often patients are treated for these more common problems first, leading to a delay in diagnosis. However, blood in the urine should never be ignored.”

Because Harrington’s cancer had invaded the bladder muscle, Morgan recommended a treatment plan that started with chemotherapy, followed by surgery to remove his bladder, prostate and surrounding lymph nodes.

During recovery, Harrington did not like feeling confined and soon longed to return to work.

“Working at UPS allows you to focus on other people instead of just yourself,” he says. “At work I was the same person as before cancer and I tried to feed off that positivity.”

LIVING WITH CANCER

Harrington has continued working throughout his cancer experience, finding enrichment through interaction with his coworkers and customers, who gave him the nickname “The Chelsea Cowboy,” due to his wide-brimmed hat.

Reflecting upon his experience at the Rogel Cancer Center, he attended the bladder cancer support group and, as a result of his positivity, now takes phone calls from newly diagnosed patients who want to speak to someone for information and support.

“When I talk to people at the support group, I’ll show a picture of my UPS truck full of boxes. Instead of one stop at a time, for cancer



Visit rogelcancercenter.org/thrive for more information on the bladder cancer support group.

it's one appointment at a time. Those packages come off the truck and get delivered. Your cancer gets treated and hopefully goes away.”


Morgan is grateful for the work Harrington does with the bladder cancer community.

“Kevin’s attitude, spirit and engagement with other patients has been one of the most inspiring things I’ve witnessed in my career in medicine,” Morgan says. “His impact has been felt by innumerable patients who have looked to him for advice as much as they have looked to the rest of our medical team.”

THE FUTURE OF BLADDER CANCER TREATMENT

Harrington participated in an immunotherapy clinical trial when pathology results from surgery detected cancer in his lymph nodes.

Immunotherapy is a newer form of cancer treatment that boosts the body’s immune system or trains the immune system to attack cancer cells. Because it works well for some cancer types, but not others, and for some patients, but not others, researchers across the United States have many clinical trials underway to try to learn more.

“Advancements in bladder cancer care had been stagnant for decades until two years ago when the first systemic immunotherapy was approved for metastatic bladder cancer,” Morgan says. “It would be impossible to overstate the importance of this new treatment, and more immunotherapy drugs have started to become available as well. With results from key clinical trials, these treatments should become available to more and more patients, leading to more cures and more quality time for patients.” 



Harrington shares a friendly moment with one of his regular customers, Elizabeth Tiege.



Five Popular Diets:

University of Michigan Rogel Cancer Center researcher Suzanna Zick, N.D., MPH, partnered with researchers in California to review which popular diets best support a patient's goals of improving survival and preventing recurrence.

They examined five diets: the alkaline, Paleolithic, ketogenic, vegan/vegetarian and macrobiotic.

ALKALINE DIET



The philosophy is that cancer is caused by an acidic environment in the body, resulting from too many refined carbohydrates and animal fats, like red meat, pork and white flour.

If a person eats more fruits and vegetables and limits red meat, sugar and white flour/rice, more alkaline ions are available after digestion. The extra alkalinity decreases the acid load and helps reduce the strain on acid-detox systems.

"There is very limited data that the acid nature of your body causes cancer, but by increasing fruits, vegetables and whole grains, and by limiting red meat and simple carbohydrates, you're essentially following the American Cancer Society and World Cancer Research Fund/American Institute for Cancer Research's guidelines for cancer patients and survivors, and eating foods that decrease cancer mortality and recurrence," Zick says.

PALEOLITHIC DIET



The Paleolithic diet attempts to replicate the dietary pattern of Stone Age humans — the hunter-gatherers who ate fruits, vegetables, nuts, meat and eggs — while excluding grains, legumes, dairy products and processed foods.

But strict adherence eliminates food groups, like beans and whole grains, proven to be beneficial for preventing cancer, decreasing cancer mortality and improving general health.

Zick says this diet tends to have people eat too much red meat, which could increase one's risk of colorectal cancer, although it does emphasize whole foods, fruits and vegetables.



Call **877-907-0859** to speak to our dietitians for nutritional counseling.



Visit rogelcancercenter.org/thrive for a link to the full study by Zick and her colleagues.

Are They Right for Cancer Patients?

KETOGENIC DIET

The keto diet emphasizes a high-fat, low-carbohydrate meal plan. This approach shifts the energy source of cancer cells away from glucose to ketones.

Evidence suggests that some cancer cells appear less able to metabolize ketones compared with healthy cells, while other experiments show tumor cells use ketones for energy.

The diet is difficult to follow long term and patients often fail to reach the proper level of ketones. It also promotes nutrient deficiency and includes processed foods.



VEGAN/VEGETARIAN DIET

The heart of the vegan diet is abstinence from eating animal products, such as meat, fish, eggs, dairy and honey. It encourages cancer-fighting foods, including berries, greens, whole grains, nuts and seeds.

However, there are many highly processed and sugar-filled vegan and vegetarian foods. “The problem is you can eat poorly while being a vegan or a vegetarian,” Zick says. So attention needs to be put on whole plant foods and less-processed foods to optimize the benefits of this diet.



MACROBIOTIC DIET

Imbalance in the body can cause illness such as cancer, according to the Eastern philosophy behind a macrobiotic diet.

The diet is predominantly vegetarian and emphasizes unprocessed, organic, whole foods. Cereal grains, like rice and millet, make up 40-60% of the diet, while vegetables and legumes split the rest.

It remains a good choice because it meets most of the dietary ACS and AICR guidelines.



The Waiting Game

Managing Scan Anxiety Workshop gives tools to ease the stress and anticipation of scans and test results

Waiting for answers is never easy, but cancer patients know that waiting for scans, test results or health information can be so stressful that day-to-day life can be practically unbearable. Patients have coined the term “scanxiety” to capture the flavor of the experience.

“Whether it’s a surgical procedure and you’re waiting on pathology results or waiting for scans, patients tell us about their anxiety and we’re listening,” says Claire Casselman, LMSW, a clinical social worker at the Rogel Cancer Center.

Casselman leads the monthly Managing Scan Anxiety Workshop at the Rogel Cancer Center.

HOW ANXIETY WORKS

Anxiety is a natural response to a traumatic experience such as a cancer diagnosis. Hearing “cancer” sounds the internal alarm, generating a swift dose of activating biochemicals to help outrun, fight or freeze in order to survive the threat.

“The heart rate picks up and blood rushes to the large muscles,” Casselman explains. “Along with the rush of energy is a cascade of thoughts about the danger.”

Even after the immediate threat is lessened, there remains a sense of vigilance or anxiousness that is often aroused as a planned scan, test or procedure approaches or while waiting for results. Anxiety can be present at all phases of the disease, from diagnosis to survivorship.

People can experience anxiety in different ways, including sleep difficulties, intrusive thoughts, tearfulness and more.

A PATIENT’S EXPERIENCE

Judy Yanachik, 70, enjoys golfing and became more diligent about using sunscreen as she aged. The married mother and grandmother from Novi, Michigan, was stunned to learn that a spot on her arm was a rare and potentially aggressive form of skin cancer called Merkel cell carcinoma.

Yanachik attended the scanxiety workshop before she had surgery to test the area around her tumor and a sentinel lymph node biopsy to determine if the cancer had spread. Results would take seven to 10 days.

“I don’t have trouble falling asleep, but I wake up in the night and start thinking about my daughter and grandson. All these worries come into my head and I can’t get back to sleep,” Yanachik says.

She and Casselman reviewed sleep strategies to try when anxiety struck. Reading or using prayer beads were good options for Yanachik, as well as avoiding screens and not counting down the hours until morning.

GOING HOME WITH A PLAN

Workshop participants receive an information packet containing tools and tips for managing anxiety related to cancer and treatment.

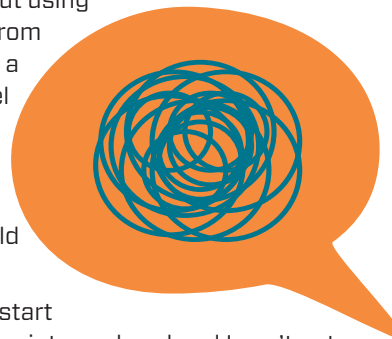
“With cancer, it can feel like we can’t do enough to control the situation. But when we sit down and make a list of what we can control, it’s longer than we think,” Casselman says.

“The workshop was valuable, particularly the genuine concern and advice from Claire. I have shared her handouts with other friends and relatives experiencing similar health issues and anxiety.”

—JUDY YANACHIK



Call **877-907-0859** to sign up for an upcoming Managing Scan Anxiety Workshop.



A NEW WAY OF UNCOVERING PREDICTIVE BIOMARKERS MAY HELP THOSE WITH RARE CANCER

Large randomized clinical trials can uncover biomarkers that indicate which cancer treatments are likely to work best for individual patients. But it's been challenging to find these biomarkers in rarer cancers where such robust data aren't available.

Using a new approach that combines data from human tumors grown in mice with data from The Cancer Genome Atlas, a team led by University of Michigan Rogel Cancer Center researchers has uncovered several previously unknown biomarkers for glioblastoma, the most common malignant brain tumor.

About 11,500 patients are diagnosed with glioblastoma each year, according to figures from the Central Brain Tumor Registry of the United States.

The genetic signatures the researchers identified could help doctors determine which patients with glioblastoma are likely to respond well to chemotherapy, radiation therapy or a combination of both — and which patients are unlikely to benefit from standard care and thus may be good candidates for trials of novel drugs.

The approach could be applied to other uncommon cancers where data from randomized trials aren't available, says Daniel Wahl, M.D., Ph.D., a radiation oncologist and researcher at U-M, and senior author of a study recently published in *Neuro-Oncology*.

Wahl's lab teamed up with Jann Sarkaria, M.D., a radiation oncologist at the Mayo Clinic whose lab has long worked with mouse models of glioblastoma using patient-derived tumors. These have primarily been used to understand whether new drugs might work for glioblastoma, but Sarkaria's group had also determined how well these models responded to standard treatments.

"His group generously shared reams of treatment data that our first author, George Zhao, M.D., analyzed and annotated," Wahl says. "We looked at data from nearly 300 experiments in about 30 mouse models to figure out which gene transcripts predicted benefit for each type of treatment."

The method generated candidate predictive biomarkers for study that, upon further validation, could help clinicians make treatment decisions.



ALTERNATIVE TO A BIOPSY: DEVICE SCREENS FOR CANCER IN THE BLOOD

A prototype wearable device, tested in animal models, can continuously collect live cancer cells directly from a patient's blood.

Developed by a team of engineers and doctors at the University of Michigan, it could help doctors diagnose and treat cancer more effectively.

"Nobody wants to have a biopsy. If we could get enough cancer cells from the blood, we could use them to learn about the tumor biology and direct care for the patients. That's the excitement of why we're doing this," says Daniel F. Hayes, M.D., the Stuart B. Padnos Professor of Breast Cancer Research at the University of Michigan Rogel Cancer Center and senior author on the paper in *Nature Communications*.

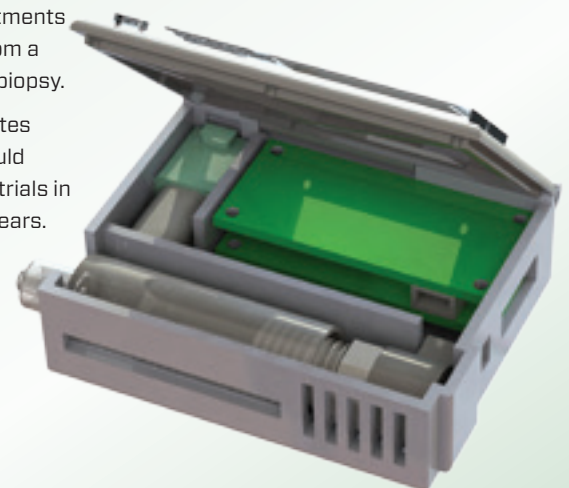
Tumors can release more than 1,000 cancer cells into the bloodstream in a single minute. Current methods of capturing cancer cells from blood rely on samples from the patient — usually no more than a tablespoon taken in a single draw. Some blood draws come back with no cancer cells, even in patients with advanced cancer, and a typical sample contains no more than 10 cancer cells.

Over a couple of hours in the hospital, the new device could continuously capture cancer cells directly from the vein, screening much larger volumes of a patient's blood. In animal tests, the cell-grabbing chip in the wearable device trapped 3.5 times as many cancer cells per milliliter of blood compared to the traditional blood draw samples.

"It's the difference between a security camera that takes a snapshot of a door every five minutes or one that takes a video. If an intruder enters between the snapshots, you wouldn't know about it," says Sunitha Nagrath, Ph.D., associate professor of chemical engineering at U-M, who led the development of the device.

Research shows that most cancer cells can't survive in the bloodstream, but those that do are more likely to start a new tumor. Typically, it is these satellite tumors, called metastases, that are deadly, rather than the original tumor. This means cancer cells captured from blood could provide better information for planning treatments than those from a conventional biopsy.

Hayes estimates the device could begin human trials in three to five years.



For information about clinical trials at the Rogel Cancer Center, call the Cancer AnswerLine at **800-865-1125**



Shawna Kraft, Pharm.D.

Have a question for the pharmacist? Email us at ThriveMagazine@med.umich.edu.

Should I get a flu shot?

Flu season is upon us with expected peaks in January and February. Because many people with cancer already have weakened immune systems, we get a lot of questions about whether patients and their families should get vaccinated.

Speak to your cancer care team about getting a flu shot.

Q: I'm on chemotherapy. Should I get a flu vaccine?

A: Yes, it's incredibly important to receive the flu vaccine to help prevent against serious complications like pneumonia. All Rogel Cancer Center patients should receive a flu shot containing an inactivated influenza vaccine. People with cancer should not take the nasal vaccine FluMist because it is made with a live, weakened flu virus.

Q: How long does it take the flu vaccine to work?

A: It takes about two weeks after the flu vaccine for antibodies to develop in your body to provide protection against the flu. The timing of this and number of antibodies may vary.

Q: Which vaccine should my family members receive?

A: We often recommend close family members receive the inactivated influenza vaccine (the shot) because there is a small risk of transmitting the flu from the nasal vaccine FluMist.

Q: What are tips for avoiding the flu?

A: Wash your hands often, keep your hands away from your eyes, nose and mouth, and stay away from people who are sick. And, get your flu shot.



visit rogelcancercenter.org/thrive for a link to flu information or speak to your oncology care team. Flu shots are available in your cancer care clinic and at other Michigan Medicine locations.

Just a Phone Call Away

Art Therapy
877-907-0859

Cancer AnswerLine
800-865-1125

Clinical Trials
800-865-1125

Family Resource Center
734-647-8626

Fertility Services
734-763-4323

Financial Counseling
734-232-2621

Guided Imagery
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Make a Donation
734-764-6777

Music Therapy
877-907-0859

Nutrition Services
877-907-0859

Patient Assistance Center
734-232-2208

Pharmacy
734-647-8911

PsychOncology
877-907-0859

Smoking Cessation Counseling
734-998-6222

Social Work
734-647-8901

Symptom Management and Supportive Care
877-907-0859



THRIVE ONLINE

rogelcancercenter.org/thrive

Thrive doesn't end here! Visit rogelcancercenter.org/thrive for more. Here's what you'll find:

- The full research study by Suzanna Zick on five popular diets
- Resources to help you quit smoking
- Details on bladder cancer and other support groups at the cancer center
- Links to events at the Rogel Cancer Center and in the community
- Information on the Families Facing Cancer program
- Clinical trials looking for participants