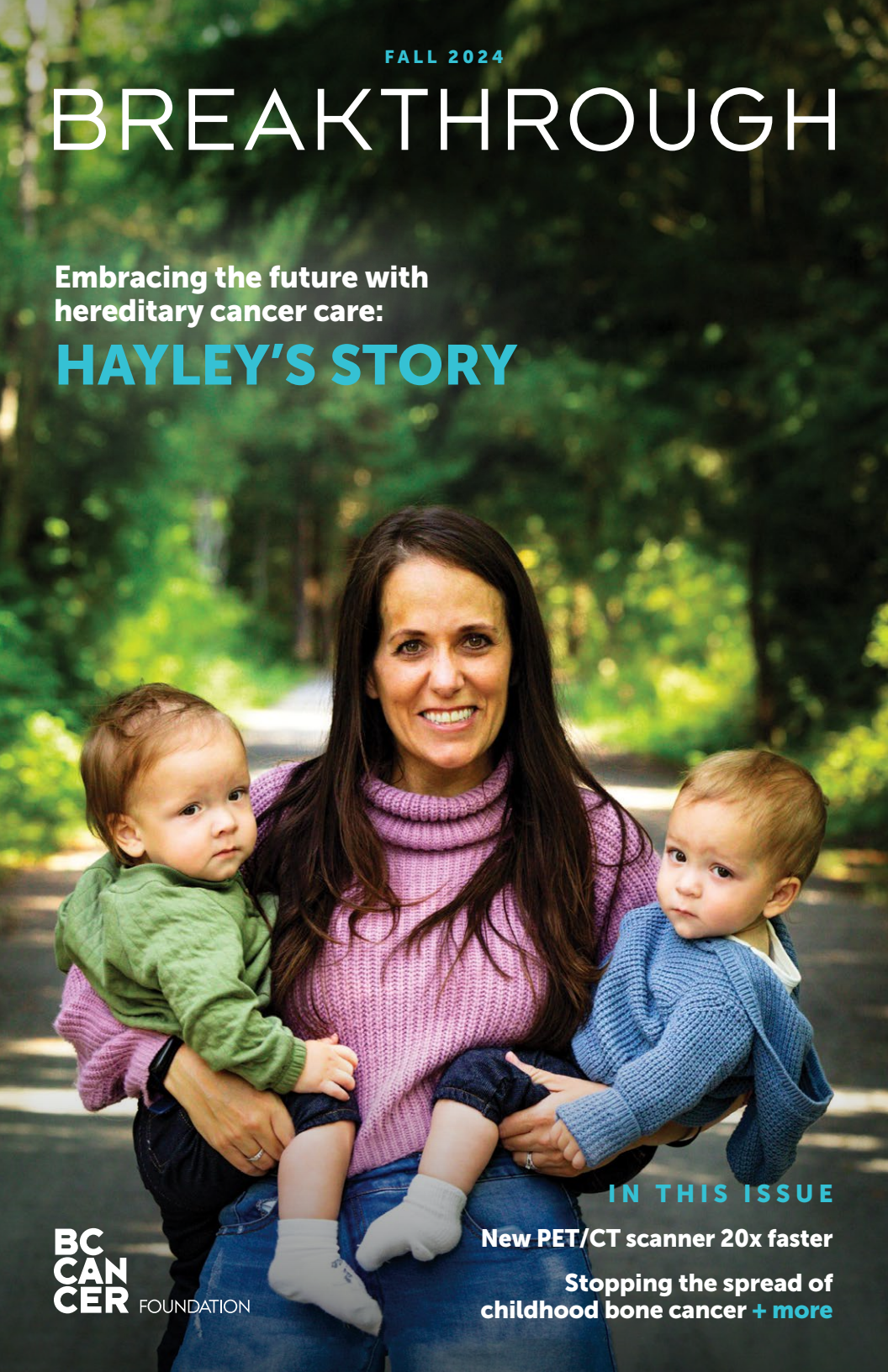
FALL 2024

BREAKTHROUGH

Embracing the future with hereditary cancer care:

HAYLEY'S STORY



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New PET/CT scanner 20x faster

Stopping the spread of childhood bone cancer + more

BC CANCER FOUNDATION

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ABOUT THE BC CANCER FOUNDATION

The BC Cancer Foundation is the fundraising partner of BC Cancer.
A world free from cancer is closer than ever before. Together, we will make it a reality.

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OPENING REMARKS

As we approach the end of 2024, I look back on a year of pioneering achievements at the BC Cancer Foundation. We're now on our way to supporting an incredible 10 BC Cancer centres across the province — the existing six centres in Kelowna, Abbotsford, Surrey, Vancouver, Victoria and Prince George and four new centres, in various stages of development, in Burnaby, Kamloops, Nanaimo and Surrey.

In addition, the new BC Cancer – Victoria Integrated Research and Care Pavilion is marking the first time donors will fully fund the purchase of a BC Cancer building — a pivotal moment in increasing access to hereditary cancer care for high-risk families such as the Henrys (pg. 10).

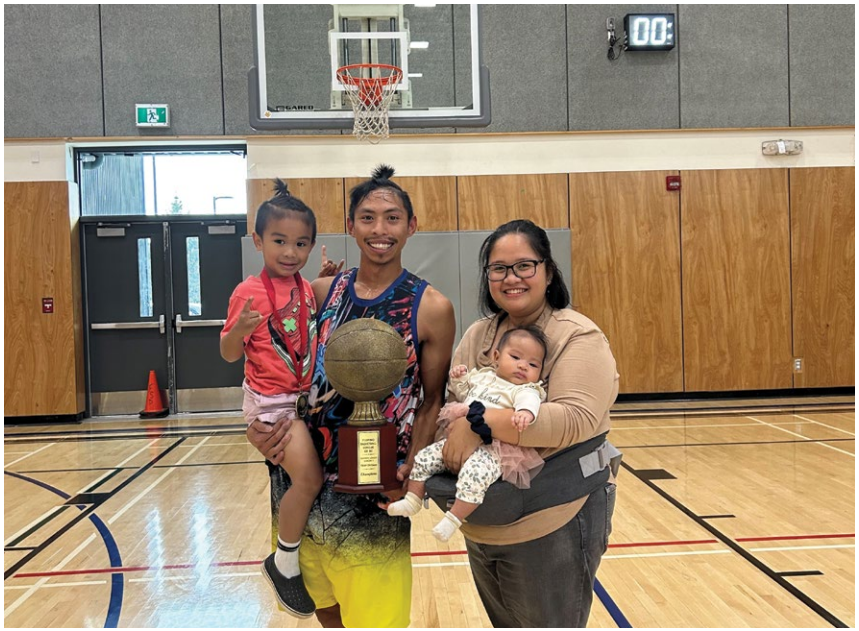
BC Cancer – Vancouver's Technology Transformation — an historic investment opportunity to acquire a suite of best-in-class diagnostic, imaging and radiation equipment for B.C.'s flagship centre for cancer research and care, which I look forward to sharing more about in the new year — will bring more firsts to cancer care in B.C., including a game-changing, state-of-the-art Next Generation PET/CT (pg. 12).

With this vital technology at their fingertips, BC Cancer teams will be able to detect and treat cancer earlier and more efficiently, and advance research beyond anything they could have imagined. Resulting in breakthroughs such as the childhood bone cancer drug discovery (pg. 7) and the world's first research protocol to preserve fertility in young women with early-stage endometrial cancer (pg. 4) that are providing hope to families across B.C.

From the dedicated monthly donors that provide BC Cancer experts with the continuous support to pursue ambitious research (pg. 15) to community champions like Elaine Chong (pg. 6), a Surrey teacher who has spent the last decade encouraging the next generation to make a difference, **it's your generosity that is making all this possible.**

Sarah Roth
President & CEO
BC Cancer Foundation

PIONEERING STUDY PRESERVES FERTILITY



The Castillos are now a happy family of four thanks to a BC Cancer study.

"I've always wanted a big family," says Marlifel Castillo, who is grateful a world-first BC Cancer protocol to preserve fertility in young women with early-stage endometrial cancer is helping to realize that dream.

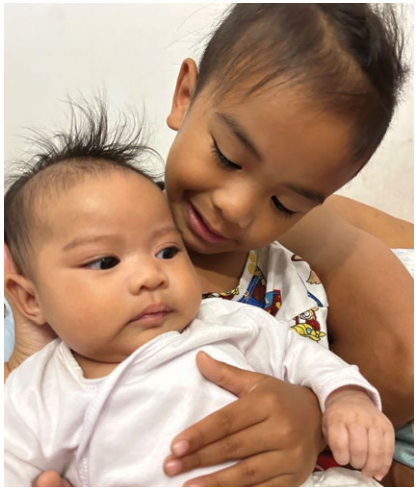
Marlifel and James met when she was 16. "He was my first and only boyfriend when I moved here from the Philippines," she says. They married in 2017 and welcomed their first baby, Marlon Jac (MJ), in 2020.

When Marlifel's menstrual cycle didn't return for over six months postpartum, she started to worry. When she finally had a period again, it lasted for over a month and was extremely heavy with large blood clots. An ultrasound and biopsy confirmed she had atypical hyperplasia Grade 1 endometrial cancer.

"I was told we could treat it with medication, or they could take out my uterus," says Marlifel. At just 28 years old, and hopeful for more children, she opted for hormone treatment. Unfortunately, after six months her doctor informed her it wasn't working.

"I tried to stay optimistic, but I felt really sad that MJ might not ever have a sibling," she says.

Thankfully, Marlifel was referred to a groundbreaking BC Cancer study utilizing resection surgery to remove the cancer and biopsy and hysteroscopy (a thin, lighted tube that allows a surgeon to look inside the uterus) to monitor for recurrence while preserving fertility in early-stage endometrial cancer patients.



MJ and his new baby sister, Madeleine.

In June 2023, when her doctor felt it was safe, Marlifel and James were given a six-month window to try for a second child, and Madeleine Jeremiah was born in July 2024.

The study is being conducted by a multi-disciplinary team including BC Cancer gynecologic oncologist and study lead Dr. Mark Carey and BC Cancer oncologists Drs. Lily Proctor, Harry Brar, Ren Yuan and David Ferguson.

Marlifel is one of 40 young women in B.C. who have been given an opportunity to start or add to their family under the new protocol, says Dr. Carey. "Previously, the standard of care for these women was a hysterectomy," says Dr. Carey. "It's a very difficult conversation to have."

"While patients appreciate that their cancer will be cured, losing their fertility has a major impact on their lives and wellbeing."

Dr. Carey

With the success of the protocol study so far, the news of each patient who avoided a hysterectomy to go on to successfully conceive is a major cause for celebration for Dr. Carey and his team. "It's super exciting for us to be able to offer an alternative that results in such an amazing and joyous outcome."

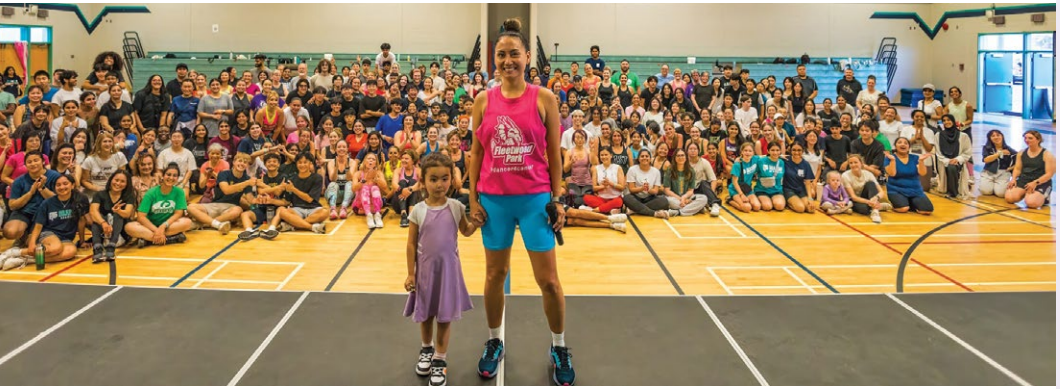
"In other parts of the world, resections (removal of all or part of the lining of the uterus) are often done early in the treatment, usually at the time of diagnosis," adds Dr. Carey, who says the findings of BC Cancer's protocol using a more selective approach is likely to change practice worldwide.

For his part, four-year-old MJ has graciously shared his parents' attention with the new baby, says Marlifel. "He really loves his sister, and I'm so grateful to BC Cancer that he has someone to grow up with."

With Madeleine just a few months old, Marlifel is content to be a mom of two for now, and not ready to think about any future additions to the family. But you never know, she laughs, "James, has ten siblings!"

To donate to groundbreaking gynecologic cancer research that is changing the lives of families facing cancer, please contact Becky Yost at 604.707.5926 or becky.yost@bccancer.bc.ca

LESSONS IN PHILANTHROPY



Elaine and her daughter with the Fleetwood Park Secondary School community at the 11th annual Zumbathon.

Elaine Chong isn't the kind of high school French teacher her former students will remember fondly, long after graduating. She's one they enthusiastically return to every June to Zumba with.

"They're grown men now. One is married, he's a teacher," Elaine says of the boys she recruited in 2013 to help lead the warmup at the inaugural Zumbathon, a dance-based fitness fundraising event at Fleetwood Park Secondary School, which has since raised more than $78,000 for the BC Cancer Foundation.

A combination of salsa, merengue and hip hop set to Latin rhythms, Elaine describes Zumba as "exercise disguised as a party." But it's the cause not the cardio that keeps the young men coming back.

"Zumba is not their thing," laughs Elaine. Even so, "they're always there for me." As are the other 200 people in the Surrey community — including fitness instructors; Linda, Gaby, Dani, Laarnie, Nicole and Olga, and DJ Gary and photographer Doug — who come together every year to support individuals in B.C. facing cancer.

Elaine started the Zumbathon after both her siblings received a cancer diagnosis. Unfortunately, her brother passed away at one-and-half years old, but her sister, who was diagnosed with thyroid cancer at age 32, is doing well.

The Zumbathon is an opportunity to teach students about the power of giving back, says Elaine. "It gives them a voice to talk about it," and a platform to do something about a disease that impacts all of us.

Elaine Chong combines philanthropy, fitness and fun at the annual Zumbathon in Surrey.

Local fundraising events increase access to life-saving cancer care for people in the community — such as the development of a new BC Cancer centre to serve the rapidly growing city of Surrey. Donate or learn more at *bccancerfoundation.com/donations/new-surrey-cancer-centre*

Childhood Bone Cancer Breakthrough

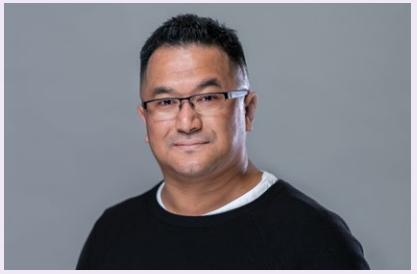
BC Cancer researchers have discovered a promising new drug that may have saved Terry Fox.

Terry Fox was only 18 when he was diagnosed with osteosarcoma (the most common bone cancer in children and young adults) which resulted in the amputation of his right leg. After the disease spread to his lungs, Terry was forced to stop his iconic, cross-Canada run, and he passed away at age 22.

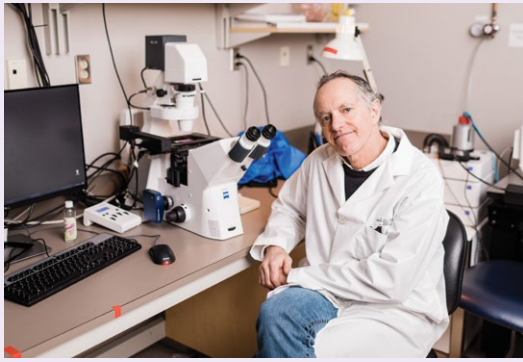
Osteosarcoma in children and youth is highly curable if caught early — survival rates are 70% for young people with localized disease, says Dr. Poul Sorensen, a BC Cancer distinguished scientist specializing in the molecular pathology of pediatric cancers.

"Unfortunately, if it has already spread to other sites, such as the lungs, this is called metastasis and then the outcome plummets to less than 20% survival, which hasn't changed for decades. We need to change the story for these kids."

Dr. Sorensen's team, including Dr. Michael Lizardo, a scientist in the Sorensen lab, have published a study that may just do that. It demonstrates a new drug that reduces lung metastasis by 90%, while also shrinking the primary tumour site.



Dr. Michael Lizardo.



Dr. Poul Sorensen (above) and Dr. Michael Lizardo (below) are the authors of a new study identifying a drug that could stop the spread of osteosarcoma.

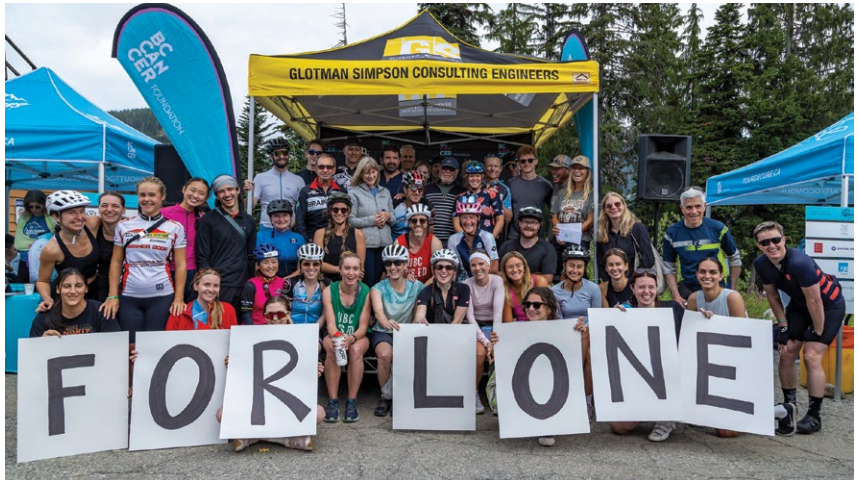
The drug, known as an eIF4A1 inhibitor, blocks the ability of osteosarcoma cells to survive in the lung's harsh microenvironment. "It essentially strips the cancer cells of their protective armour so that they're more susceptible to oxidative stress and unable to take root in the lung," says Dr. Lizardo.

"We know how devastating this disease can be if it spreads to the lungs and have long needed more effective tools to prevent and treat that process. With this drug we might be able to give young people a much better chance at beating this disease," says Dr. Sorensen, who hopes to bring the agent to clinical trial in two years.

A major breakthrough for families affected by osteosarcoma, this discovery could also aid in the treatment of other cancers that exhibit similar characteristics, such as lung, breast and pancreatic cancers.

To help fuel life-saving pediatric cancer research at BC Cancer, please contact Fatima Hassam at 604.877.6226 or Fatima.hassam@bccancer.bc.ca

FOR LONE WITH LOVE



Lone's friends and family show their support at the 2024 Capilano Volkswagen Cypress Challenge.

In his third Capilano Volkswagen Cypress Challenge, presented by Glotman.Simpson Cycling, this past July — but his first since losing his wife, Lone, to pancreatic cancer — Chris Armstrong personally raised an incredible $300,000, pushing the 17-year annual cycling event over the $5 million milestone.

Chris's efforts were in honour of Lone's wish that he continue to support pancreatic cancer research and care in B.C., specifically the work of her oncologist Dr. Dan Renouf.

"She would have done anything for that man," says Chris of Dr. Renouf, whom he and Lone got to know after she was diagnosed in April 2022.

The Lone Rangers were one of 30 teams (600 riders) to make the 12-km climb up Cypress Mountain in 2024, raising a record $800,000 to support Pancreas Centre BC (PCBC), a multi-disciplinary coalition of experts working to develop more effective treatments for the 800 people diagnosed each year in B.C.

Co-led by Dr. Renouf, PCBC has made significant breakthroughs in understanding the disease, including methods to improve outcomes through immunotherapy, advance early detection and identify patients with genetic risk. PCBC's Rapid Access Clinic is also streamlining patient care, reducing the time between diagnosis and treatment for patients.

The swell of support was overwhelming, but not surprising to anyone who knew Lone, says Chris. "More than 60 people — including our dentist — rode up that hill for Lone and in aid of pancreatic cancer research. And I expect many of them will do it again next year."

For his family, Chris says, "it's all part of healing — which may last a lifetime" and he'll continue to make the climb every year so that others won't have to lose people they love to the disease.

Register for the July 27, 2025 Capilano Volkswagen Cypress Challenge at *cypresschallenge.ca/register*

Sargent Family Gives to Surgical Oncology Research

Ken and Gloria Sargent.

Dr. Chris Baliski.

A $1.5 million donation from Ken and Gloria Sargent is launching the first ever Surgical Oncology Research Program at BC Cancer – Kelowna.
This historical gift will transform surgical oncology research and enhance cancer care in the Interior and across B.C.

Traditionally, cancer surgery has meant removal of the tumour, but also variable amounts of surrounding normal organ tissue. While effective in eradicating cancer, this can lead to unnecessarily long, challenging recoveries and life-altering side effects for patients.

Led by BC Cancer's Dr. Chris Baliski, the new program will pioneer research into more precise surgical techniques, as well as establish multi-disciplinary approaches to better integrate surgery with chemotherapy, immunotherapy and radiation. This will result in not only improved cancer outcomes, but also less invasive surgery, and in some cases avoidance of surgery entirely.

"Where there were once limited options, patients now have numerous potential treatment pathways," says Dr. Baliski. "Thanks to the Sargents, our new research program will ensure a patient-centered approach, where people receive the best treatment, or combination of treatments, possible."

Under Dr. Baliski's leadership, the Surgical Oncology Research Program will launch clinical trials in breast, melanoma, and thyroid cancers, and create leading research opportunities at BC Cancer – Kelowna to attract and retain top talent to the region.

Ken and Gloria Sargent's long history of bolstering cancer care in Kelowna includes supporting the recent campaign to establish a state-of-the-art Systemic Therapy Suite.

In recognition of their generosity, their names will be proudly displayed on BC Cancer – Kelowna's 'Ken and Gloria Sargent Molecular Imaging and Therapy Suite.'

"We have watched BC Cancer – Kelowna grow into a centre of excellence, driving global advancements and providing exemplary care. It fills us with hope for the future, knowing that generations to come will continue to benefit from world-class care and research, right here at home."

Ken and Gloria Sargent.

To donate to the $3.3 million campaign to support the new BC Cancer – Kelowna Surgical Oncology Research Program, please contact Pardeep Khrod at 250.878.5490 or pardeep.khrod@bccancer.bc.ca

Facing Hereditary Cancer Risk as a Family

Hayley Henry and her husband, Aidan, are grateful for the head start regarding their twins Hunter and Brody's increased cancer risk thanks to BC Cancer's Hereditary Cancer Program.

Pregnancy comes with a rollercoaster of emotions — joy and anticipation for the new experiences ahead, anxiety about navigating uncharted challenges and the overarching hope for a healthy baby.

Adding to all of this for Hayley Henry was the fact that there was a 50/50 chance she would pass on the neurofibromatosis (NF) gene, which resulted in her own cancer diagnosis in 2012.

"Every little piece of me knew I wanted kids, but that it came with an added risk," says Hayley, who met her husband, Aidan, just months after finishing her cancer treatment and moving back home to Victoria.

BC Cancer's Hereditary Cancer Program (HCP) helped alleviate a lot of our stress, says Hayley. "When we decided we wanted to try and start to have kids we were set up with a genetic counsellor at BC Cancer – Victoria who gave us all the facts and information we could ever need."

Subsequent genetic testing, in which their twins, Hunter and Brody, both tested positive for the NF gene has armed the new parents with the knowledge and ability to plan for their future.

"I am very thankful that we found out at such an early age so that we can monitor them closely. For now, we will just watch for little signs. Once they are older, we will start scans to make sure all is well and hope for the best as not everyone with NF gets cancer."

"When we decided we wanted to try and start to have kids we were set up with a genetic counsellor at BC Cancer – Victoria who gave us all the facts and information we could ever need."

Hayley Henry

An $11.3 million BC Cancer Foundation campaign supporting the BC Cancer – Victoria Integrated Care and Research Pavilion — the new home of hereditary cancer care on the Island — will make space for genetic counselling, and provide similar peace of mind, for other families with hereditary risk.

Hayley's cancer journey began in 2010 with extreme back pain. A non-cancerous tumour was discovered on the nerves in her lower back (a common symptom of neurofibromatosis, a genetic condition she was born with) and Hayley underwent surgery to have it removed.

Two years later the pain returned. "Not only had the tumour grown back pretty fast but this time it was cancerous."

Hayley was in her early 20s and living in Whistler so her mom moved from Victoria to help her make the daily commutes to Vancouver to receive radiation treatment and surgery.

"I have a pretty big scar down my back and am missing part of two of my ribs on my right side — but I am happy to say I am now 11 years cancer-free."

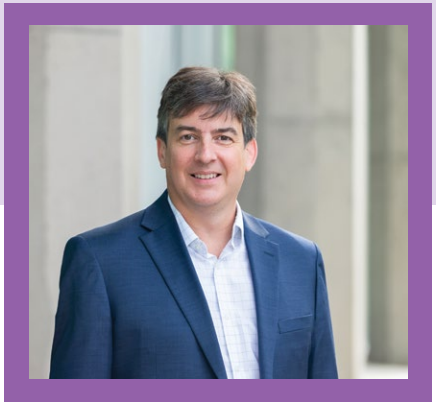
In addition to hereditary cancer care, Hayley is grateful more room is being made in the BC Cancer – Victoria Integrated Care and Research Pavilion for other supportive care services, such as psychiatry and patient and family counselling, as they were invaluable in supporting her and her mom.

"I know I was the one with cancer but my whole family was part of the journey, and it was just as hard on them. Having resources available not only to patients but to their support system is massive."

"I can't imagine what my mom went through," adds Hayley. Watching your child deal with cancer is something I hope I never have to go through. But if I do, I am confident I will be in good hands."

To make more space for hereditary cancer care and supportive care services at the new BC Cancer – Victoria Integrated Care and Research Pavilion, please contact William Litchfield at 250.667.8690 or William.litchfield@bccancer.bc.ca

STATE-OF-THE-ART SCANNING TECHNOLOGY A FIRST FOR CANADA



Dr. François Bénard.

How scientists and clinicians understand and treat cancer has come a long way. But, despite these extraordinary advances, effective cancer treatment still faces some common challenges: precision, patient comfort, accessibility and time.

BC Cancer's Senior Executive Director of Research Dr. François Bénard, his colleagues Drs. Arman Rahmim and Carlos Uribe, and their teams, are leading the charge to bring a Next Generation PET/CT scanner (as well as a new pre-clinical scanner) to BC Cancer — technology that offers a rare opportunity to overcome all of these challenges at once.

"It's the gold standard in cancer imaging, and not available anywhere else in Canada," explains Dr. Bénard. "Only a few of these scanners operate in the world and they're a huge leap forward from the current technology."

"It's not something I thought I would see in my career," adds Dr. Bénard. "When I started, it took 90 minutes to scan one person. We could only do five to seven patients per day and the image quality was nowhere close."

The new Next Gen PET/CT is about 20 times faster than the machine it's replacing, because it is more sensitive. This provides the option of drastically decreasing radiation doses or examination times, or a combination of both. What this can do for cancer care in the province is hard to overstate.

BC Cancer currently operates the busiest PET/CT imaging program in Canada, serving 70 patients per day. This new scanner's speed, sensitivity and accuracy will greatly increase the number of scans. "Space and personnel, rather than the scanner, become the limiting factors," says Dr. Bénard.

"We are the best resourced and most prolific cancer imaging program in the country and are well-positioned to take full advantage of this technology."

Dr. François Bénard

The Next Gen PET/CT can cut scan time from the current standard of 40 minutes to just 2 minutes. From those 120 seconds, researchers get unprecedented data that increases the chances for early detection, identifies smaller cancer sites, and accurately measures a drug's efficacy over time. This knowledge allows for a more seamless move from diagnosis to treatment.

This machine identifies and localizes cancer but will also be used to support research on the development of new radioactive drugs to treat cancer. "It's called Theranostics," Dr. Bénard explains, "and it's a game-changer — we plan to use this scanner to learn how much dose we need to deliver to treat the cancer, while making sure we keep healthy tissues safe."

With that process accelerated, these scanners address the crux of cancer care: Time. For the people facing it, for the oncologists treating it and for the researchers working to understand it.

B.C.'s unique ability to produce new radioactive particles will accelerate things even further. In addition to its own cyclotrons which produce radioisotopes for PET imaging, BC Cancer partners with TRIUMF, Canada's national particle accelerator centre.

"TRIUMF can produce rare diagnostic and therapeutic isotopes that no one else can. They are located right in BC Cancer's backyard, says Dr. Bénard. "We are the best resourced and most prolific cancer imaging program in the country and are well-positioned to take full advantage of this technology."

But Dr. Bénard's hope for these new scanners is on an even larger scale. It is another example in our long tradition of "B.C. innovation that can benefit the world," he says. "Our imagination will be the only limit to what this tool can provide."

NEXT GEN PET/CT AT A GLANCE

Image the entire body (head to pelvis) in a single frame.

Two-minute scan time — down from the 40-minute standard.

BC Cancer currently scans 70 patients per day — new scanner will increase the number of patient scans.

20 times more sensitive — resulting in faster scans, or lower doses of radiation, or both!

One machine is equivalent to four latest-generation scanners.

To learn more about how you can support BC Cancer – Vancouver's Technology Transformation (a suite of best-in-class diagnostic, imaging and radiation equipment, including the Next Gen PET/CT), please contact Oliver Zilhmann at 604. 723.0078 or oliver.zihlmann@bccancer.bc.ca

Baljit Dhillon: **Giving Back Through a Gift in His Will**

Baljit Dhillon, with his wife Jagir, is giving back to BC Cancer through a gift in his will.

Baljit Dhillon's gratitude and positivity have shaped his approach to life — and cancer. These qualities are also the driving force behind his decision to leave a gift in his will to the BC Cancer Foundation. In 2017, before his own diagnosis, Baljit decided to leave half of his estate to the Foundation, in honour of the care his parents received at BC Cancer.

After facing colon cancer himself, the importance of this gift became even clearer.

Diagnosed in February 2022, after a colonoscopy revealed a tumour, Baljit's journey was marked by optimism. He underwent surgery and chemotherapy, supported by his loving wife, Jagir. "Everything was going so smooth," he recalls of his recovery. Even a serious complication due to his diabetes medication didn't dampen his spirits. By summer 2023, his scans were clear and his health had returned.

In addition to the world-class care he received under Dr. Jon Loree, Baljit credits his faith and willpower, learned from his parents, for his positive outlook and 'smooth' recovery. Both his mother and father faced cancer with strength and determination, inspiring him to give back.

"I am so thankful for the care my parents and I received at BC Cancer. Every oncologist and staff member we met was excellent. I feel very lucky that we have the people and the system we do," he says, reflecting on his family's experience and his sense of responsibility to help others who will face the same journey.

Through the thoughtful decision to include the BC Cancer Foundation in his will, Baljit's legacy will support cancer research and care for future generations. His philosophy is simple: "Positivity, faith and giving back can make all the difference."

To learn more about leaving a gift in your will to the BC Cancer Foundation, please visit *bccancerfoundation.com/legacy* or contact us at legacy@bccancer.bc.ca

ADVANCING UNDER-STUDIED CANCER RESEARCH

The BC Cancer Foundation is a proud supporter of the inaugural 2024 BC Cancer Clinician Researcher Start Up Competition. From mental health in male breast cancer patients to rural cancer care, three of the stand-out clinician researcher recipients are:

Dr. Brandon Bernard (BC Cancer – Vancouver): Mental health and male breast cancer.

Treatment for male breast cancer mirrors that of female patients, however men may experience unique negative side effects, including mental health issues, at being diagnosed with a cancer mainly associated with women.

As there is currently limited data about the experiences of men with breast cancer, Dr. Bernard will measure quality of life, sexual function and body image in male patients in B.C.

Dr. Mathieos Belayneh (BC Cancer – Surrey): Methadone to treat chemotherapy-induced peripheral neuropathy.

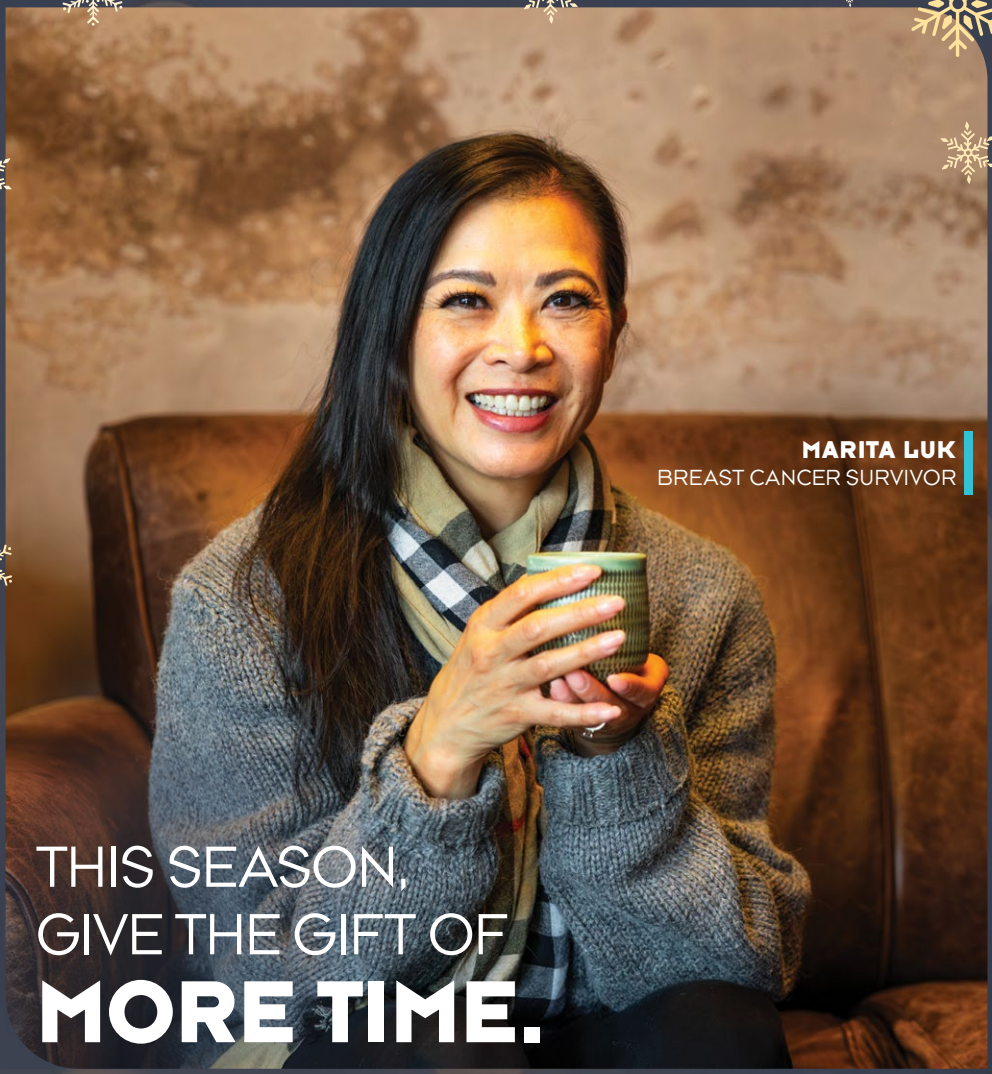
Nearly 70% of people who receive chemotherapy suffer from chemotherapy induced peripheral neuropathy (CIPN), which can cause nerve pain, weakness, and other debilitating symptoms. Duloxetine is currently the recommended medication, however studies indicate it has a modest effect. Dr. Belayneh aims to assess the efficacy of methadone compared to duloxetine to treat CIPN, as methadone has been shown to treat nerve pain with better efficacy.

Dr. Emily Jackson (BC Cancer – Vancouver): Overcoming disparity in breast cancer care in rural B.C.

Adjuvant endocrine therapy (AET) after surgery in patients with early-stage hormone-positive breast cancer significantly reduces the risk of recurrence.

However, studies show people who live in rural B.C. are less likely to initiate or remain on AET compared to patients in urban locations — increasing their risk for recurrence and death. Dr. Jackson's study will test the feasibility and patient satisfaction of a virtual, nurse-led model of care in rural B.C. followed by a pilot virtual nurse-led group clinic and follow-up visits with individual patients.

To support these and other innovative research projects at BC Cancer, please contact Elissa Morrissette at 604.707.5992 or elissa.morrissette@bccancer.bc.ca



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BEYOND CANCER.

Give today at
bccancerfoundation.com

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