



TOGETHER, TOWARDS A WORLD-RENOWNED
INSTITUTE OF UROLOGIC SCIENCES



CAMPAIGN IMPACT REPORT

FALL 2023

[VGHFOUNDATION.CA/UROLOGY](https://vghfoundation.ca/urology)

A MESSAGE OF GRATITUDE

Thank you for your unwavering trust and support as together, we launched the Urologic Sciences Campaign. Ours is an ambitious \$35M goal towards a world-renowned Institute of Urologic Sciences. The response from philanthropists, community and business leaders like you has been truly remarkable and overwhelming in its generosity.

After its public launch, the campaign surged with tremendous momentum, and we have every confidence that together, we will surpass our original goal in the near future. Your collective generosity amplifies the success of the Vancouver Prostate Centre (VPC) in urologic research and care across the spectrum of urologic disease. It is building an unparalleled legacy of success for the future benefit of patients in BC, Canada and beyond. It is igniting the formation of six centres under the umbrella of an aspirational Institute of Urologic Sciences.

The first step to realize this bold vision is to build a critical mass of world-class talent to underpin the establishment of these centres and their parent institute.

That is why your giving is so important at this stage. It will help Drs. Martin Gleave and Larry Goldenberg and the existing team to continue to attract, recruit and retain exceptional clinician-scientists in Vancouver.

These medical superstars ask hard questions to come up with novel therapeutics and technologies to treat disease in ways not possible before. They drive innovations right here at home, so that BC patients are first to participate in clinical trials and benefit from discoveries that will become global standards of care. They also go on to attract additional grant funding, multiplying philanthropic seed funding to sustain growth.

Their success, made possible by philanthropy, is contagious. Other ambitious up-and-coming talent want to join them to learn and grow alongside established experts and mentors. In today's competitive labour market, where skilled professionals are at a premium, bright minds attract young talent to BC like a magnet, with generous support from philanthropists like you. This is how, together, we ensure that our community continues to have access to clinical innovators for many generations to come.

This report showcases the impact of your powerful giving, how it helps build, grow and sustain a team of superstars, and in so doing, seeds the formation of six centres of excellence in Urologic Oncology, Kidney Stones, Female Pelvic Medicine, Kidney Transplantation, Sexual Health and Transitional Urology.

Thank you for making such a big difference today for a greater tomorrow!



Angela Chapman
PRESIDENT AND CEO
VGH & UBC HOSPITAL FOUNDATION



Dr. Larry Goldenberg
CAMPAIGN CABINET CO-CHAIR
DIRECTOR, DEVELOPMENT, VPC



Rod and Jeannie Senft
CAMPAIGN CABINET CO-CHAIRS



Together, we discover

HOW RESEARCH IS LEADING THE WAY TO IMPROVED OUTCOMES

Thanks to philanthropic support, established clinician-scientists are making world-first breakthroughs in treating otherwise untreatable diseases so that people suffering from urologic diseases and cancers live longer and more meaningful lives.

This impact is particularly felt in the area of urologic cancers because some advanced forms of these cancers become resistant to standard therapies. The team at the VPC is relentlessly studying these cancers to understand their structure and biology and to identify new mechanisms that can be targeted therapeutically to stop cancer progression. With your support, they are finding new ways to beat back urologic cancers and other diseases, stamping Vancouver on the map as global leaders in the field. This increased reputation for greatness is key in helping the team reach the desired status of an institute.

RIGHT:
LOUISE HUBER

BELOW:
DR. PETER BLACK



LOUISE'S STORY

Bladder cancer is one of the more common forms of urologic cancers, and 25% of bladder cancer patients are women. Because their urologic systems differ significantly from men, women are often likely to suffer from symptoms longer and without a diagnosis. This often means that by the time they are diagnosed, they require radical bladder removal surgeries along with traditional chemotherapy. These surgeries leave them with long, uncomfortable recoveries and a lifetime of additional urinary issues.

Eleven years ago, when Louise Huber started having urinary issues, the urologist she initially met with suggested that it was merely a urinary tract infection (UTI). With her symptoms worsening, she saw a specialist who provided a shattering diagnosis: bladder cancer. This is when she started seeing top urologic oncologist Dr. Peter Black, Khosrowshahi Family Chair in Bladder Cancer Research.

After months of chemo and recovery, Louise went through a radical cystectomy, where Dr. Black removed her bladder, as well as other organs including her ovaries and fallopian tubes, to be sure the cancer wouldn't spread. At times she was so exhausted from the chemo and the surgery, she could barely even walk.

Now, ten years later and living a healthy, active life with her husband, Louise is incredibly grateful for the care she received from Dr. Black and the whole urology team. She attributes much of her strength during treatment to the encouragement from Dr. Black and his team, and their ongoing dedication to patients: "It's all about Dr. Black. His encouragement was so special, and I feel so lucky, really lucky. He's so busy, and so in demand, but he always makes himself incredibly available to his patients."

Thanks to the generosity of donors, Dr. Black and his team can continue to build on the incredible care they provide to patients across the province. Women like Louise are a beacon of hope to others battling urologic cancers, knowing that they will be given the best chance at a future when cared for by teams like Dr. Black's.



URO-ONCOLOGY



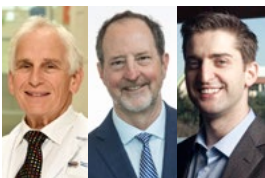
Dr. Artem Cherkasov is using computer-aided drug design to scan chemical libraries at an unprecedented speed and level of accuracy. His supercharged technology paves the way for the identification of novel pharmaceutical compounds that target specific disease pathways more effectively. It has broad applications, including kidney cancer, bladder dysfunction and even COVID-19.



Dr. Nada Lallous is bioengineering protein-based therapeutic solutions to target cancer at key sites on the human body. Her approach helps patients overcome resistance to standard treatment of advanced prostate and other cancers, such as endometrial cancer and Ewing sarcoma (a rare form of bone cancer).



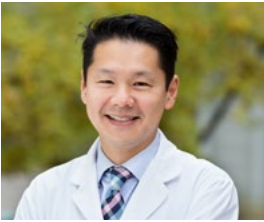
Dr. Alexander Wyatt has developed a potential tumour DNA diagnostic test that can be obtained with a simple blood test – a liquid biopsy of sorts. Unlike a regular biopsy, it is non-invasive, costs less than \$100, can be drawn anytime and returns up-to-date results within a matter of days. This innovation is poised to change the paradigm treatment for aggressive urologic cancers.



Drs. Larry Goldenberg, Michael Cox and Nathan Lack (left to right) of the VPC have teamed up with **Dr. David Perrin**, renowned UBC Chemist, to develop a novel compound (called radioisotope-linked PSMA-targeting aptamer) that will seek out and destroy cancer cells while preserving all other normal cells in the body. This is a critical and difficult scientific challenge, with a very unique, local approach.

BEYOND CANCER

Your giving also empowers the urology teams to leverage cutting-edge technology, artificial intelligence and sophisticated genomic and molecular processes to change treatment paradigms in non-cancer areas like:



KIDNEY STONES

Drs. Ben Chew and Dirk Lange have trialed a new equipment, called ‘Urowave’, to dissolve kidney stones without anesthetic. Patients in BC are the first in the world to find relief from chronic pain associated with kidney stones due to this innovative new technology made possible, in part, by donor support.



Dr. Dirk Lange has also published the results of his infection study, describing how a silver-based coating he discovered can easily be applied on medical implanted devices like catheters and stents. His discovery has been hailed as a silver bullet to prevent painful urinary tract infections.

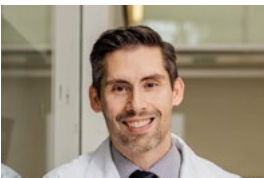


KIDNEY TRANSPLANTATION

Dr. Chris Nguan is leveraging philanthropy to develop a system to change the blood type of a donated organ, and to investigate how animal organs may be used in transplantation. His study is expanding access and improving outcomes for transplant patients in BC and beyond.



Dr. David Harriman is looking for early clues in patients’ urine that may warn of potential kidney distress following transplantation. This will help doctors identify more effective ways to stage an intervention and prolong healthy living for renal transplant recipients.



SEXUAL HEALTH

Dr. Ryan Flannigan has received numerous awards and global recognition for 3D printing human testicles to generate sperm; for advancing penile implant technology to treat severe erectile dysfunction; and for new injections to treat Peyronies disease, which causes bending of the penis. His acclaimed work is blazing a new trail to improve quality of life, reignite intimacy and bring fresh hope to couples wishing to start a family.

CLINICAL TRIALS

Clinical trials at the VPC returned to normal pre-COVID levels with 269 patients enrolled in therapeutic trials and a further 675 subjects in biomarker studies. The team has initiated 15 new trials in 2022, including a scrotal pain study. They have also launched a novel genomic-based neoadjuvant cancer therapy trial – a multicentre North American study, led by Dr. Gleave and the VPC. To date, 77 people across Canada have been enrolled in this trial.



DR. CELESTIA HIGANO
MEDICAL DIRECTOR
PCSCP

IMAGE COURTESY PCSC

In the spotlight

PROSTATE CANCER SUPPORTIVE CARE (PCSC) PROGRAM

Led by Dr. Celestia Higano, the PCSC Program is the most comprehensive survivorship program available in Canada for patients with prostate cancer, their spouses and families. It provides support from the time of initial diagnosis onwards. The program addresses various crucial aspects related to prostate cancer, including treatment decision-making, sexual health, nutrition, exercise, urinary incontinence, androgen deprivation therapy, and advanced disease management.

As of April of 2022, the PCSC Program has serviced over 5,000 patients, and registrations continue to grow steadily yearly. With the availability of virtual education sessions and clinical appointments during the pandemic, registrants from outside Metro Vancouver increased from 17% to 35%, expanding the reach of care to more patients across BC.





Together, we lead

MEET THE SUPERSTARS

Vancouver General Hospital (VGH) is the main provincial referral site for complex urologic care and the largest and most important medical training and education centre in Western Canada. The expertise and reputation of VGH and the VPC inspire professionals from around the globe to come to Vancouver to join the team. Here they can learn from the best and brightest minds in the field and ultimately make meaningful contributions to their profession to enhance patient care at home and improve outcomes across the world.

Philanthropy has helped attract and recruit new rising stars to the team and train and mentor the future leaders in urology. This is how your giving is helping build capacity for research and care, putting the building blocks in place to grow and expand the team so it can eventually become an institute.

URO-ONCOLOGY FELLOWS

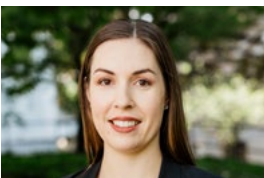
The Urologic Oncology Fellowship at VGH is a leading urologic training program in the country, housed in one of the world's leading translational research centres – the VPC. It provides advanced training in comprehensive clinical and surgical care of patients with urologic malignancies, as well as a dedicated research fellowship. Your philanthropy is helping the team educate and train the brightest minds in urology research and care, ensuring that patients will continue to have access to excellent specialized treatment now and well into the future.



Dr. Marie-Pier St-Laurent completed a clinical fellowship in Uro-oncology, working alongside Drs. Peter Black, Martin Gleave and Miles Mannas. She treated patients with all types of urologic cancers, with a particular focus on prostate and bladder cancers.

Dr. St-Laurent chose VGH to do her fellowship because it is Western Canada's premier teaching hospital, with comprehensive clinical and surgical opportunities. With a trend in the medical field towards doing more robotic and minimally invasive surgeries, it can be difficult to get exposure to large open surgery. While her fellowship has allowed her to do both robotic and open surgery cases, her time at VGH has provided her with unique exposure to large, complicated procedures.

"I feel like everything I've learned during my fellowship will be applicable to my work going forward. I am grateful for the philanthropy which has supported my training and afforded me the opportunity to use the skills and knowledge I gained to help care for more people in the future." – DR. MARIE-PIER ST-LAURENT



Dr. Gillian Vandekerkhove is a PhD scientist whose research leverages biopsy samples to study the molecular landscape of aggressive bladder and prostate cancer with the ultimate goal to apply genomics to tailor cancer treatments and thus improve patient outcomes.

A central part of her research is the use of liquid biopsy, an emerging technology that takes a standard blood sample and enables scientists to extract DNA that is derived from the tumor. This helps researchers understand the tumor without the need for an invasive tissue biopsy, providing a real-time snapshot of a patient's cancer.

"My research is possible in part thanks to generous philanthropy funds, which amplifies its impact manifold, helping us attract more grant funding and share discoveries with the world." – DR. GILLIAN VANDEKERKHOVE



FEMALE PELVIC HEALTH

Dr. Katie Anderson is a bright new talent in the field of female and functional urology. She completed her residency at Dalhousie University in Halifax, NS and her fellowship at the Bristol Urological Institute in the United Kingdom (UK), with a certificate in urodynamics. In 2021, Dr. Anderson was awarded a prestigious travelling fellowship in surgery from the Royal College of Physicians and Surgeons in Canada to support her sub-specialty surgical training in the UK and build capacity and expertise within Canadian academic surgical programs. She gave a podium presentation on the topic of urologic trauma during pregnancy during an annual scientific meeting in Bristol, and looks forward to sharing her expertise and knowledge to improve the health of patients in BC. Dr. Anderson starts with the team in October 2023. She is the *Diamond Foundation Surgeon-Scientist in Female and Functional Urology*.



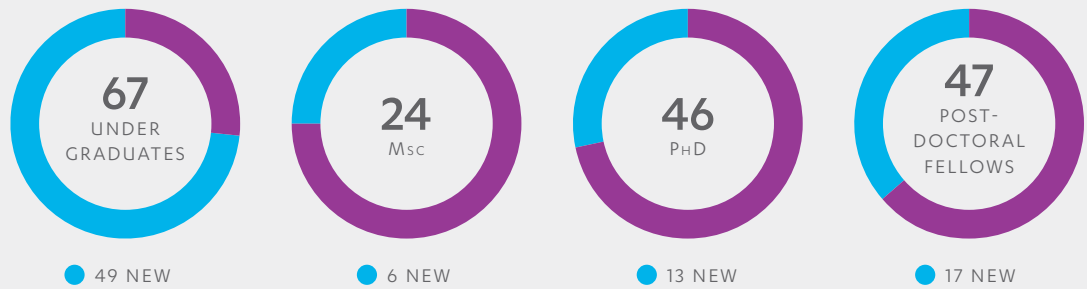
TRANSITIONAL UROLOGY

Dr. Thomas de Los Reyes (*right*) and **Dr. Andrew MacNeily** are leading the planning for a new Centre that will offer support for patients transitioning from pediatric to the adult care system, filling an otherwise unmet need and gap in their complex care.

KEY INGREDIENTS OF A SUCCESSFUL CENTRE OF EXCELLENCE

ATTRACTING INTERNATIONAL TALENT, 2022–2023

The VPC attracts a steady flow of trainees from all over the world at all levels.



RETAINING INTERNATIONAL TALENT, 2016–PRESENT

Many of the trainees the VPC attracts stay at VGH to improve health care in BC.

- 35% stayed with the team
- 31% joined international university or hospital
- 15% joined other Canadian university/hospital
- 11% joined industry

Together, we build

HOW PHILANTHROPY IS AMPLIFYING PRODUCTIVITY

The team has leveraged the power of philanthropy to secure grant money at an average ROI of 5:1 and expand the impact of their work. These grants are crucial to ensure sustainability and growth for a future institute.

We are pleased to share that in 2022, the team secured an astonishing 31 new research grants totaling \$15.1M and 20 student support awards totaling \$1.1M.



PROSTATE CANCER

Dr. Amina Zoubeidi, Professor and Senior Research Scientist at VPC and Tier 1 Canada Research Chair in Cancer Therapy Resistance, has secured a \$6 million Terry Fox Program Project grant for the VPC team's research targeting prostate tumours that evade standard therapy. Her group will investigate how some prostate cancer cells evade current targeted therapies, assess the ability of cells to change their genetic information in response to environmental cues (emergent cell plasticity) and uncover exploitable vulnerabilities. This research will allow scientists to understand why some cancers are able to evade standard treatments and try to find new ways to attack these difficult cancer cells.

PATENTS AND COMMERCIALIZATION

Patents and commercialization play a significant role in advancing the health care industry. They encourage innovation by granting exclusive rights to research centres, allowing them to protect their inventions and recover investments made in research and development. In addition, patents can make health care inventions more attractive to funding organizations, providing the opportunity for research scientists to expand their studies through grants.

ACCOMPLISHMENTS IN THIS AREA OVER THE PAST YEAR

4 new and 21 ongoing contract research and clinical trial agreements with pharma/biotech companies totaling **\$3.66M**

5 new patents and 1 invention disclosure filed

2 patents issued

1 new licensing agreement
(SnapCyte Solutions Inc.)

KEY RESEARCH OUTPUTS

173
peer-reviewed publications

68
conference posters/abstracts

151
invited presentations



THANK YOU

Thank you for your philanthropic support of VGH & UBC Hospital Foundation's Urologic Sciences Campaign. Your generosity sets the foundations for an aspirational Institute of Urologic Sciences. Together, we are making huge strides towards a big dream.

"We have a number of centres that are on the verge of becoming globally renowned and this Institute will make a big difference to the men and women and adolescents of BC, Canada and the world. As champions of research, we must always believe in the power of curiosity, energy and effort. This campaign helps ensure that the best is yet to come." – DR. LARRY GOLDENBERG

Your collective giving has moved the needle in treating untreatable disease, boosted research productivity and attracted extensive grant funding. It has played a key role in drawing new talent to the team, helping to attract, recruit and retain both established world-renowned clinician-scientists and bright young minds who are the future of urologic medicine. These are the essential pieces that will build critical mass to form six centres under the umbrella of one world-class institute.

Together, we can transform health care. This is only the beginning of a remarkable journey. Thank you for being part of it.

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Special gratitude and recognition to the **funding supporters** who have been fundamental to the Urologic Team's successes:

Gordon & Leslie Diamond

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