

VGH+ Urologic Sciences

M.H. Mohseni Institute of Urologic Sciences Impact Report



+Your philanthropy builds a first-of-its-kind Institute here at home.

We are beyond thrilled to welcome the M. H. Mohseni Institute of Urologic Sciences within the Vancouver Coastal Health Research Institute (VCHRI). Officially launched in December 2024, the Institute bears the name of Mr. Mohammad H. Mohseni in recognition of his transformational \$20M gift to VGH & UBC Hospital Foundation's landmark Urologic Sciences campaign. This campaign saw hundreds of generous philanthropists like you come together to raise \$65 million in less than two years and establish Canada's first Institute of Urologic Sciences here in our hometown.

"The establishment of the M. H. Mohseni Institute of Urologic Sciences within VCHRI marks a pivotal moment in our mission to advance research that directly impacts patient care. With its focus on integrating scientific advancements into clinical practice, the Institute will be a catalyst for turning research into real-world solutions, setting a new standard for urologic care globally."

Dr. Teresa Tsang, Executive Director, VCHRI

The Institute is led by renowned surgeon-scientist Dr. Martin Gleave, who has been Distinguished Professor and Head of the Department of Urologic Sciences, Faculty of Medicine at the University of British Columbia (UBC) since April 2015. Among Canada's most cited and well-funded researchers, he has authored over 650 publications, amassing more than 75,000 citations, with a focus on uncovering molecular mechanisms of treatment resistance in cancer and developing co-targeting strategies to enhance cancer control. In recognition of his outstanding contributions, Dr. Gleave

was appointed to the Order of Canada in 2017 and inducted as a fellow of the National Academy of Inventors. As the Institute's inaugural Chief Scientific Officer (CSO), he brings extensive leadership experience to his role, including as Director of the Vancouver Prostate Center (VPC) from 2006 to 2024.



"Your generosity powered groundbreaking advancements and helped attract the world's best scientists and health care specialists to B.C. This is how we are now able to help grow other programs and centres within urologic sciences, linking translational research with clinical studies to offer leading edge treatments for many urologic conditions."

Dr. Martin Gleave, CSO, M.H. Mohseni Institute of Urologic Sciences

Building on VPC's global reputation, the Institute hosts six centres that bring the same world-leading research and care to other areas of urologic disease. This is the power of plus.

This is VGH+

+Leadership

+Dr. Martin Gleave, Chief Scientific Officer,
M.H. Mohseni Institute of Urologic Sciences

+Dr. Peter Black, Director,
Vancouver Prostate Centre & Centre for
Urologic Oncology

+Dr. Ben Chew, Director,
Centre for Kidney Stones and Minimally
Invasive Surgery

+Dr. Kate Anderson, Director,
Centre for Functional Urology and
Reconstructive Surgery & Co-Director, Ledcor
Centre for Adolescent and Transitional Urology

+Dr. Chzis Nguan, Co-Director,
Centre for Kidney Transplantation and
Immunology

+Dr. David Harriman, Co-Director,
Centre for Kidney Transplantation and
Immunology

+Dr. Ryan Flannigan, Director,
Reproductive and Sexual Medicine Centre

+Dr. Thomas De Los Reyes, Co-Director,
Ledcor Centre for Adolescent and
Transitional Urology

"With this investment, British Columbians will benefit from scientific discoveries made within their own province that can improve their urologic health. Vancouver Coastal Health (VCH) is proud to be part of this innovative partnership that can potentially change lives, right here in B.C."

Vivian Eliopoulos, President and CEO, VCH

The new Institute is already delivering scientific breakthroughs to patients across British Columbia and beyond with innovative diagnostic, therapeutic and preventative solutions that address the full range of urologic conditions.

This report showcases the long-lasting impact of your giving on health care for generations to come.

Thank you for your incredible support!



+Angela Chapman,
President and CEO,
VGH & UBC Hospital
Foundation



+Dr. Larry Goldenberg,
Campaign Cabinet Co-Chair
and Director, Development,
VPC



+Rod and Jeannie Senft,
Campaign Cabinet
Co-Chairs

VGH + The Institute's Six Centres of Excellences

+Vancouver
Prostate Centre
& the Centre
for Urologic
Oncology

+Centre for
Kidney Stones
& Minimally
Invasive Surgery

+Centre for
Functional
Urology &
Reconstructive
Surgery

+Centre for
Kidney
Transplantation
& Immunology

+Reproductive
& Sexual
Medicine Centre

+Ledcor Centre
for Adolescent
& Transitional
Urology

VGH+

Vancouver Prostate Centre & The Centre for Urologic Oncology

The VPC remains the Institute's leading research hub and a globally impactful Centre of Excellence. It brings together over 25 scientists and clinicians; a team of more than 250 research and support staff; and 75,000 square feet of facilities and advanced technology for the discovery of new approaches to enhance urologic cancer prevention, diagnosis, treatment and patient care.

Productivity for 2024/2025:

161 Publications

156 Abstracts

148 Presentations

13 Patents filed or issued

21 New clinical trials initiated,
with 967 patients enrolled
and 166 in treatment studies.

\$30M Secured in new
grant funding

The VPC newly welcomed Dr. Peter Black at its helm. His appointment as Director of the VPC follows the outstanding leadership of Dr. Martin Gleave, who elevated the Centre's status to one of the world's most respected cancer facilities. Dr. Black is also Head of Urologic Sciences at UBC and holds the Khosrowshahi Family Chair in Bladder Cancer Research. As such, he will lead a broadened focus to strategically grow, expand and establish research on prostate, bladder and kidney cancers.



“My goal for the first five years of this appointment is to establish the VPC as the premiere bladder cancer research centre in Canada, and to build and elevate a kidney program at the VPC, beginning with hiring a translational researcher in kidney oncology. Thank you to our donors who put us on this exciting path!”

Dr Peter Black, Director, VPC

Dr. Peter Black

Dr. Black comes to the role with over 16 years of experience in urologic oncology at VGH and UBC. A senior research scientist and former associate director of clinical research at the VPC, he specializes in the treatment of urologic cancers, especially bladder and prostate cancer. He maintains a translational research program in urothelial — tissues lining part of the urinary system — carcinoma with a focus on the genomic analysis of responses to therapy, mechanisms of resistance to therapy and novel targeted therapies for bladder cancer.

Under his leadership, the VPC initiated a new Phase 2/3 Multicenter Trial Evaluating the Safety and Efficacy of ST-02 on Ablation of Urothelial Carcinomas in the Upper Urinary Tract, using a novel formulation of the existing chemotherapy drug gemcitabine. In addition, two phase 3 studies were initiated in intermediate and high-risk non-muscle invasive bladder cancer with the immunotherapeutic vaccine BCG and additional substance used to increase the vaccine's potency and kill cancer cells.



+Destroying cancer cells

Dr. Mads Daugaard has designed a pulsed laser therapy approach to target and destroy bladder cancer cells. His device emits pulses of electromagnetic radiation in infrared. The technique dramatically reduces burns side effects otherwise associated with such treatment. In combination with immunotherapeutic medication, it also supercharges the immune system, boosting the body's ability to mount an attack against cancer cells without destroying healthy cells.

"This could be a highly useful therapy when cancer spreads to other parts of the body," says Dr. Daugaard.

+AI in drug design

VPC is also a world leader in Artificial Intelligence (AI) and advanced computational methods in health research. This past year, **Dr. Artem Cherkasov**, a senior scientist at the VPC, won two international competitions, leveraging AI to find new potential treatment avenues for Parkinson's disease and COVID-19. He used the Deep Docking platform he developed to search through billions of molecules for candidate drugs that accelerate drug design and get medications to market sooner than through traditional methods.

+Genetic tumour coding cells

In the field of prostate cancer research, **Dr. Alex Wyatt** and his team at the VPC applied a first-in-the-world technology called plasma cell-free chromatin immunoprecipitation sequencing (cfChIP-seq) to unpack the genetic code of tumours. This technique allows researchers to examine small fragments of tumour DNA in blood samples from patients with advanced prostate cancer. It leads to understanding how genetic information is packaged inside cancer cells, what genes are turned on or off and which genes the cancer cells were most dependent upon at the outset to form and spread. And it offers new insights into why some prostate cancers are more aggressive than others, suggesting novel avenues for treatment.

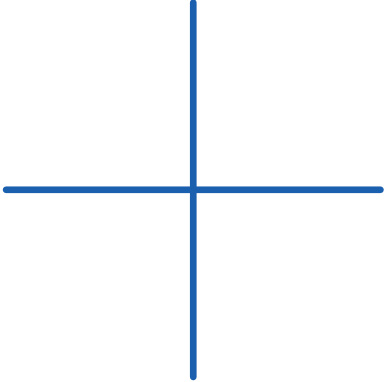
“Understanding how cancer behaves in different conditions is a key step towards better, individualized cancer care”, says Dr. Wyatt.

Along with applying cfChIP-seq to additional prostate cancers from a larger proportion of patients, his team is now exploring additional clinical uses for the technology, including for the monitoring and treatment of other cancers.



+New cancer therapies

A key resource to support scientists in their quest to bring more effective cancer therapies to market is the Protein Engineering Core led by **Dr. Nada Lallous**. Her team used computer-aided drug design and various biochemical and biological tools to discover a new compound, called Ln268, which can block a biological pathway that is known to promote therapy-resistant tumor progression. Until now, no drug existed that could inhibit this pathway and treat cancer patients effectively. Today, Dr. Lallous's discovery can lead to the development of novel therapeutics that work in synergy with other chemotherapy drugs to suppress tumour cell growth and overcome treatment resistance.



Powered by your
philanthropy, VPC
advances cancer
treatments at remarkable
speed and significantly
improves the lives of
patients across British
Columbia and beyond.

An aerial photograph of Vancouver, British Columbia, showing a dense urban landscape with numerous high-rise buildings. In the background, the city is nestled at the foot of large, forested mountains, some with patches of snow. The sky is blue with scattered white clouds. A large blue speech bubble is overlaid on the left side of the image, containing the title of the program.

Prostate Cancer Supportive Care (PCSC) Program

Under the leadership of Dr. Celestia Higano, the Prostate Cancer Supportive Care (PCSC) Program has grown into the most comprehensive survivorship program of its kind in Canada. As of August 2025, it has enrolled more than 6,500 patients, with new registrations continuing to increase each year. Thanks to virtual education sessions and clinical consultations, participation from patients outside Metro Vancouver increased from 19% to 38%, expanding access to care for individuals across British Columbia. The team has also developed dedicated workshops for younger men (age 60 and under), men who have sex with men and female partners of prostate cancer patients for more inclusive, personalized care.

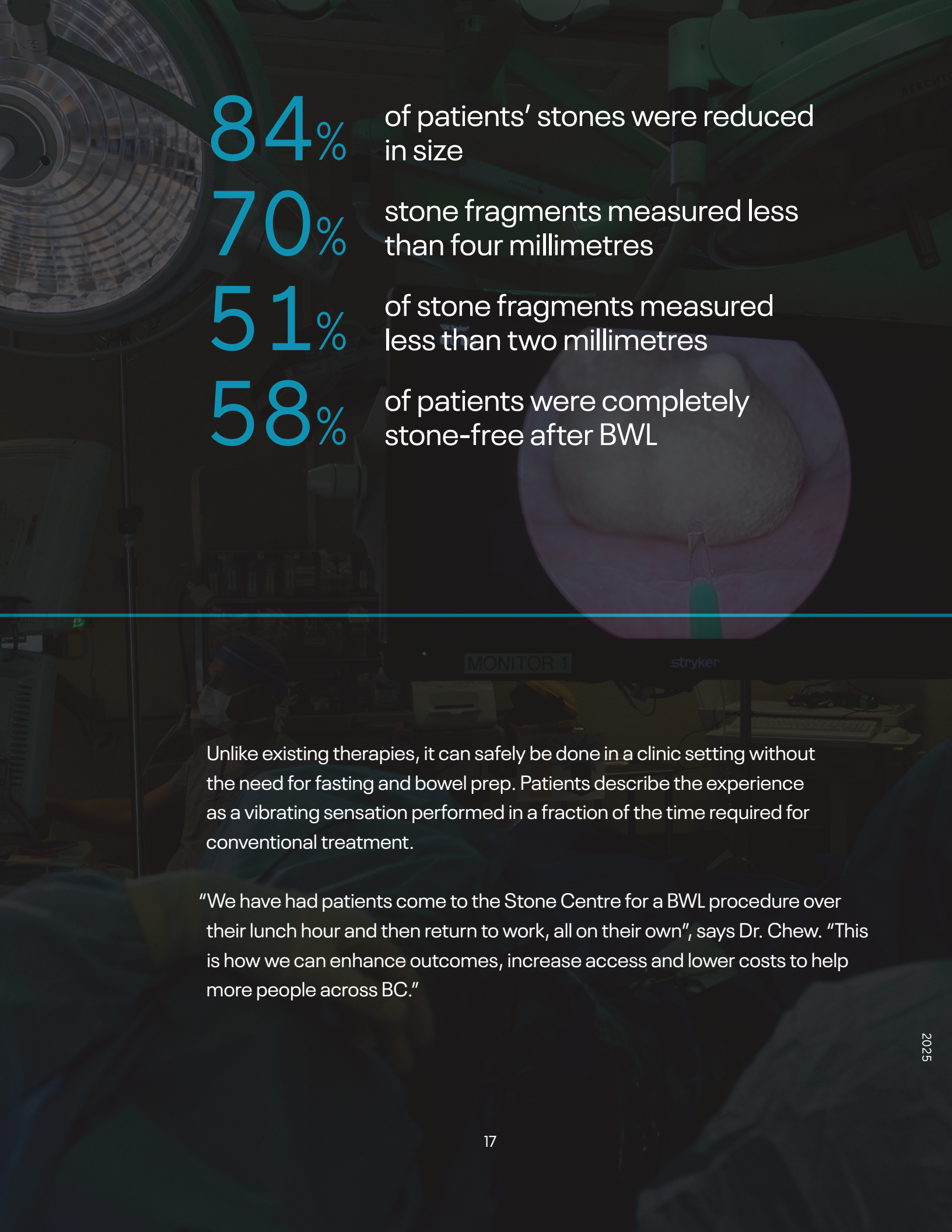


Centre for Kidney Stones and Minimally Invasive Surgery

The Centre remains a world leader in translating novel ideas into clinical practice to prevent and treat kidney stone disease, while building capacity to also address benign prostate hyperplasia (BPH).

+Break Wave

The biggest highlight of the year is a study on 44 kidney stone patient participants, published in the Journal of Urology, that demonstrates the effectiveness and efficiency of Break Wave lithotripsy (BWL) in removing kidney stones without the use of anesthesia or sedation. Pioneered by the Centre's Director, **Dr. Ben Chew**, BWL produces energy by sound waves to wear away at stones from the outside in to form smaller pieces.



84%

of patients' stones were reduced in size

70%

stone fragments measured less than four millimetres

51%

of stone fragments measured less than two millimetres

58%

of patients were completely stone-free after BWL

Unlike existing therapies, it can safely be done in a clinic setting without the need for fasting and bowel prep. Patients describe the experience as a vibrating sensation performed in a fraction of the time required for conventional treatment.

"We have had patients come to the Stone Centre for a BWL procedure over their lunch hour and then return to work, all on their own", says Dr. Chew. "This is how we can enhance outcomes, increase access and lower costs to help more people across BC."



Dr. Chew and international collaborators are now conducting a large, multi-site, international Sonomotion stOne comminUtion resoNance ultrasoundD (SOUND) Pivotal Trial to test BWL in up to 116 patients with upper urinary tract stones.



+Bright young minds

Thanks to your philanthropy, the Centre recruited **Dr. Connor Forbes** to the team, who is studying the hormonal pathways of BPH to improve prognostics, prevention and novel treatment for this common ailment. He received the 2025 VCHRI Investigator Award to determine how the 3D model for BPH which he developed can elevate personalized diagnostics and treatments. Through this model, Dr. Forbes will analyze and assess differences in cellular mechanisms that contribute to BPH development, paying particular attention to the presence of a hormone linked to patients who require surgery.

With ongoing cutting-edge research into microbiome influences, minimally invasive surgical techniques and next-generation medical devices, the Centre continues to shape the future of urology, translating laboratory discoveries into real-world solutions that enhance patient outcomes worldwide.



Centre for Functional Urology and Reconstructive Surgery

Your generous philanthropy helped attract functional urology expert **Dr. Kate Anderson** to VGH. As **Diamond Foundation Surgeon-Scientist in Female and Functional Urology**, she established the province's first specialized centre in female pelvic medicine, continence surgery, neurogenic bladder and gender-affirming surgery here on campus.

+New bladder therapy

In its first year of operation, the Centre is already making marked improvements to patients' quality of life with **BC's first Sacral Neuromodulation (SNM)** program to treat refractory overactive bladder. To date, several patients have undergone life-changing SNM device implantation, marking an important step forward in expanding advanced continence care in the province.

Diamond Foundation Surgeon-Scientist in Female and Functional Urology key clinical achievements:



- Sacral Neuro-Modulation (SNM) pilot project: 14 test phases and 10 full implants successfully completed, with patients reporting very positive experiences and improved outcomes
- Working with Medical Imaging to expedite process for delivering SNM so that more people receive novel treatment faster
- Clinical Director for Bladder Care Centre at UBC Hospital: working with clinic patient services manager to realize efficiencies in service delivery and improve journey of care
- Submitted grant application to leverage AI in urodynamic interpretation to improve diagnostics and access to care

+Collaboration

In the area of Neuro-urology, the Centre is collaborating with spine surgeons and rehabilitation specialists on several translational research projects focused on bladder dysfunction following spinal cord injury. A major partnership involves investigating implanted SNM to improve bladder function in spine injured lab models. Three further projects involve assessments of non-invasive spinal cord stimulation for bladder function improvements in different spinal cord injury settings. Collectively, these initiatives leveraged your philanthropy to attract an additional \$3M+ in grant funding and expand the breadth and depth of your impact manifold.

Diamond Foundation Surgeon-Scientist in Female and Functional Urology key academic achievements:

- Urology Residency Associate Program Director
- Gained Associate Membership for UBC Department of Obstetrics and Gynecology
- Published: "Analysis of British Columbia practice patterns in the management of female stress urinary incontinence with emphasis on mesh use" in Canadian Urology Association Journal. April 2024.
- Moderated Poster Abstract: "The financial burden of adult urinary incontinence management on patients and healthcare systems: a systematic review of economic evaluations" at Canadian Urology Association Annual (CAU) meeting in Ottawa, Ontario. June 2025.
- Secured \$50,000 early/mid-career investigator grant: clinical trial looking at intravaginal treatments for Interstitial cystitis/bladder pain syndrome (collaboration with St Paul's and Kelowna General Hospitals)

Looking to the future, the new Centre is building strong momentum toward establishing an interdisciplinary female pelvic floor disorders clinic through a proposed collaboration between the Department of Urologic Sciences and Obstetrics & Gynecology. This joint effort aims to address critical care gaps for women with pelvic floor disorders and has already gathered enthusiastic support as Dr. Anderson continues to engage with Health Authorities to make it a reality.

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Centre for Kidney Transplantation and Immunology

Drs. David Harriman and Chris Nguan co-lead the Centre's advanced work in understanding how the immune system influences kidney transplantation success, improving outcomes and incorporating AI and machine learning so that patients are less likely to experience organ rejection.

+Prevention

In collaboration with **Dr. Dirk Lange** at the Centre for Kidney Stones and Minimally Invasive Surgery, they looked at how the urobiome influences renal transplants. The urobiome refers to the community of microorganisms, including bacteria, fungi and viruses, that inhabit the urinary tract, and plays a crucial role in maintaining urinary tract health. The Centre's leading experts performed sophisticated analysis on 32 urine samples from patients and found that the urobiome was significantly changed post transplantation with certain microbial genes that could lead to organ rejection or inflammation. This finding opens new avenues to monitor response to transplantation and prevent organ rejection.

+Monitoring

A second study assessed the feasibility and functionality of a handheld, non-invasive optical technique based on near-infrared imaging to monitor the health of a transplanted kidney during surgery. The technique was successfully deployed during 25 transplantation surgeries and provided vital information to improve patient outcomes without the need to deploy other tests, such as biopsies, bloodwork and abdominal ultrasonography. There are plans to extend studies of this technique on more donor kidneys to refine the approach before it changes standards of care.



Dr. David Harriman



Dr. Chris Nguan



Dr. Dirk Lang

With expertise spanning immune function, diagnostics and therapeutics, the Centre collaborates with key provincial partners to continuously improve transplantation outcomes across British Columbia.

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Reproductive and Sexual Medicine Centre

Led by **Dr. Ryan Flannigan**, a multidisciplinary team of clinician-scientists, mechanical engineers, reproductive biologists and computational scientists is using 3D Bioprinting, microfluidic chip development and Artificial Intelligence (AI) - based drug discovery to support rare sperm identification and production and give couples a real chance at becoming parents.

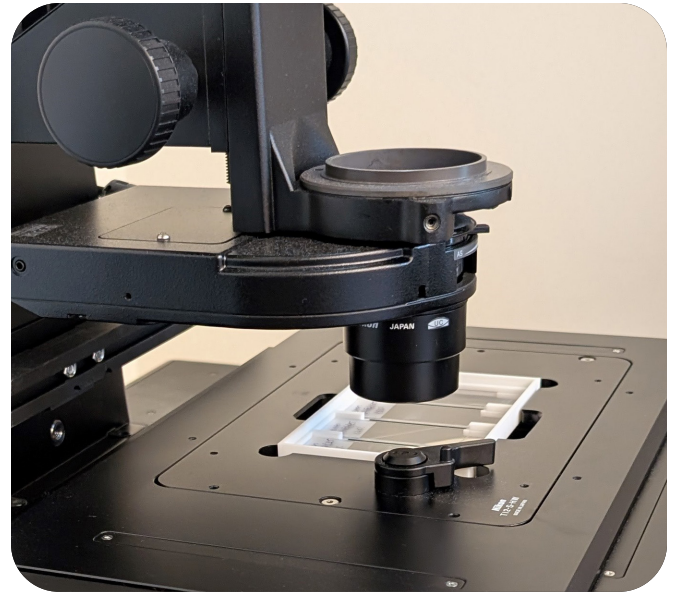


Dr. Ryan Flannigan

The most severe form of male infertility, non-obstructive azoospermia (NOA), affects approximately 1% of the male population and lacks effective regenerative treatment. Current solutions are invasive and yield low live birth rates (10–25%). The team used key equipment* funded through the campaign to print the world's first high resolution spermatogenetic tubular structures from patient-derived cells and to create an algorithm that finds rare sperm from testicular biopsies from men with severe male infertility. A young male patient diagnosed with NOA was among the first to benefit from these pioneering efforts, which provide real hope and potential for fertility restoration in otherwise untreatable scenarios.



*This inverted clinical microscope with computer system and camera is used to translate the AI-based sperm identification algorithm into clinical trials to benefit couples with severe male infertility.



*This microsurgery microscope serves as the cornerstone of fellowship and residency microsurgery training, driving innovation in microsurgical techniques to treat infertility.

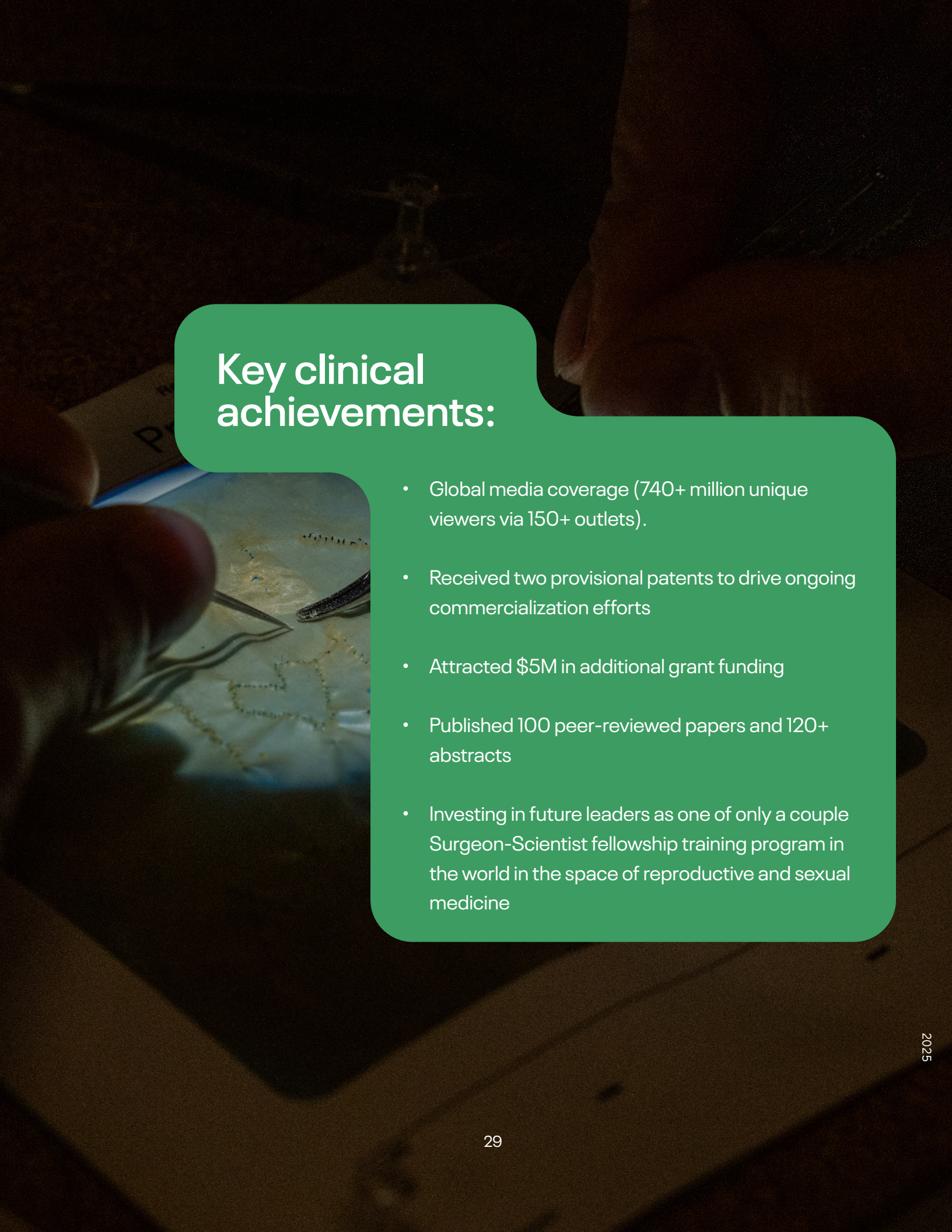


+Robotics

The team is also using soft robotics and biomaterials to develop novel penile implant devices to treat erectile dysfunction, while leveraging machine learning applications to create non-invasive assessment tools for Peyronie's disease (a fibrotic disorder leading to deformation of the penis). These innovations promise to radically alter surgical approaches and treatment options thanks to non-invasive diagnostics that eliminate the need for uncomfortable procedures.

+Pain therapies

On the therapeutics front, they are leading Phase 2 clinical trials for sustained release lidocaine to treat chronic scrotal pain and are in approval stages for a dose-escalation study of intra-urethral prostaglandin gel for erectile dysfunction. Such novel solutions will prevent disease progression and restore sexual function, intimacy and quality of life for patients and their partners.



Key clinical achievements:

- Global media coverage (740+ million unique viewers via 150+ outlets).
- Received two provisional patents to drive ongoing commercialization efforts
- Attracted \$5M in additional grant funding
- Published 100 peer-reviewed papers and 120+ abstracts
- Investing in future leaders as one of only a couple Surgeon-Scientist fellowship training program in the world in the space of reproductive and sexual medicine



Ledcor Centre for Adolescent and Transitional Urology

In February 2025, your philanthropy helped launch the province's first Centre for Adolescent and Transitional Urology. This achievement marks a significant step forward in specialized care for adolescents and young adults with complex urologic conditions in British Columbia.

+New beginnings

The Ledcor Centre is located at GF Strong Rehabilitation Centre and co-led by Drs. Kate Anderson and Thomas De Los Reyes. The team sees an average of 5-6 patients/clinic to provide comprehensive, multidisciplinary care to youth transitioning from the pediatric to the adult health care system.

The team is actively recruiting for a primary care nurse practitioner to support a holistic care model and increase the number of monthly clinics and patients it serves. There are plans to hire a research coordinator to lead patient-focused clinical research, and to bring in a physiatrist to better support the patient journey of care.



“We are grateful to our donors who helped power a new program for patients in great need”

*Drs. Kate Anderson & Thomas De Los Reyes
Ledcor Centre for Adolescent and Transitional Urology,
M.H. Mohseni Institute of Urologic Sciences*

We are deeply thankful
for your generosity and
proud of such significant
advancements made
possible with your support
of the new M.H. Mohseni
Institute of Urologic
Sciences.

“Philanthropy has been an engine of health care innovation, ensuring patients across BC have access to some of the world’s best medical experts, diagnostics, therapies, clinical trials, and technologies – right here at home. The opening of the M. H. Mohseni Institute of Urologic Sciences is an important step in lifting medical research capability and capacity here to improve care for everyone in BC living with urologic disease.”

Angela Chapman

President & CEO
VGH & UBC Hospital Foundation

VGH+ The Institute's Six Centres of Excellences

+Vancouver Prostate Centre & the Centre for Urologic Oncology

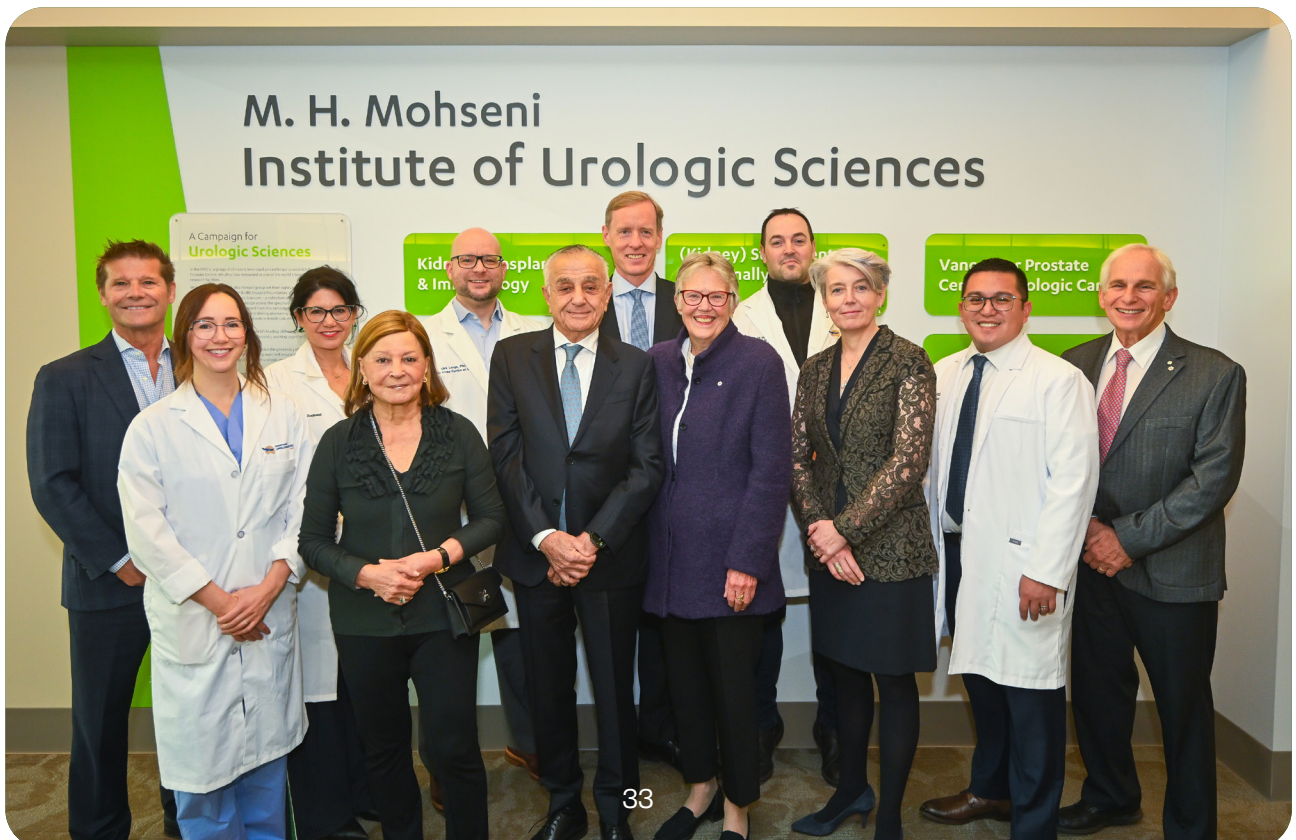
+Centre for Kidney Stones & Minimally Invasive Surgery

+Centre for Functional Urology & Reconstructive Surgery

+Centre for Kidney Transplantation & Immunology

+Reproductive & Sexual Medicine Centre

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**The leading charity investing in
health care innovation in BC.**