

The Ride of a Lifetime

Profile of Phil Gold

by Ashley Rabinovitch



- As Dr. Phil Gold prepares to retire from McGill University after six decades of service, his friends and colleagues paint a vivid portrait of an icon whose influence will be felt for generations to come.

In the fall of 1953, Dr. Phil Gold set foot on campus for the very first time. As he surveyed the stately porticos, the fresh-cut lawns, and the sea of unfamiliar faces, he turned to his best friend, Mortimer Levy, and said, “Mort, I’m going to leave this place better than I found it.”

And he did.

Over the next six decades, Dr. Gold’s accomplishments in cancer and immunology research, clinical practice, hospital administration, and teaching would become the stuff of legend. Now, at the age of 84, he has accumulated more letters than the alphabet behind his name and more awards and accolades than he can list from memory.

It would have been easy for someone who made a once-in-a-lifetime research breakthrough at 29 years old to rest on his laurels. Dr. Gold could have become arrogant or detached, content to inhabit an upper echelon of intellectual superstars without much interest in the everyday concerns of his patients, colleagues, or students. But that’s not what happened.

Finding the needle in a haystack

As an undergraduate student in Honours Physiology at McGill, Dr. Gold never harboured any aspirations to attend medical school. “Frankly, I saw medicine as a distraction,” he admits. “I was much more interested in pursuing a career in research at the time.” When he complained to his mentor, Sir Arnold Burgen, that he had run out of physiology classes to take at McGill, Burgen convinced him to change course and apply to medical school.

Dr. Gold enjoyed medical school more than he anticipated and graduated with a handful of prizes to show for his efforts. After graduation, he began what would become a lifelong love affair with the Montreal General Hospital, an integral part of the McGill University Health Centre (MUHC). As the Montreal General celebrates 200 years, it’s hard to overstate the impact of Dr. Gold on the past 50.

Back in 1961, though, he was a first-year resident in internal medicine who was deeply grieved at the ravages of cancer. “I saw so many patients who were suffering, and all we could do for them was fill them with radiation, drugs, and hope,” Dr. Gold remembers. “I thought there had to be a better way.”

In 1963, Dr. Gold embarked on a PhD in physiology in the laboratory of Dr. Samuel Freedman, a clinical immunologist who would later serve as Dean of the Faculty of Medicine from 1977 to 1981. His career trajectory shifted dramatically when he came across a paper on immunologic tolerance. The author had demonstrated that if researchers exposed an animal to a foreign molecule in utero or immediately after birth, they could fool the animal’s immune system into thinking that the molecule is native to their body. After reading the paper, Dr. Gold hatched a plan to induce tolerance to normal human bowel tissues in a newborn rabbit. Sir Arnold Burgen tried to dissuade him, insisting that “the field of cancer research is littered with the bodies of people with good ideas.”

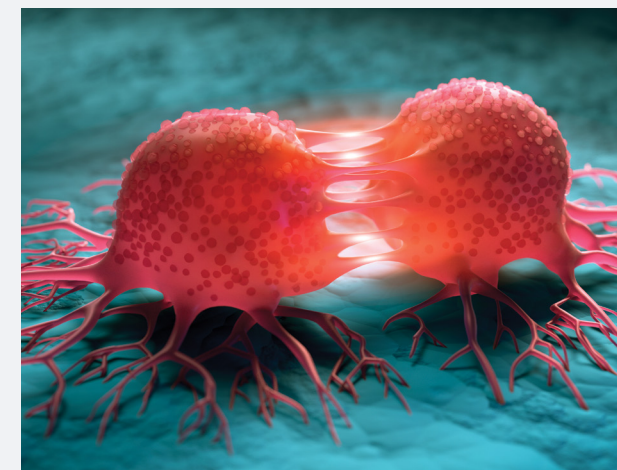
Dr. Gold’s unusual experiment succeeded beyond anyone’s wildest dreams. He successfully induced tolerance to normal human bowel tissues in newborn rabbits, injected them with human colon cancer cells as adults, and searched for any differences in how the rabbits’ immune systems reacted to cancer cells compared to normal cells. He found what he was looking for: carcinoembryonic antigen (CEA), a protein that indicates the presence of cancer.

Once the word began to spread, Dr. Gold’s career took flight. The paper he co-authored was the most highly cited in the medical literature at one point in time, and the FDA soon recognized CEA as the first human tumour marker for cancer. To this day, clinicians use a CEA blood test to diagnose and manage certain types of cancer, particularly cancers of the large intestine and rectum.

Dr. Gold frequently remarks that three things determine the course of one’s life: “the genome, the epigenome, and the ‘fortunome,’—in other words, your genes, your environment and luck.” He designed an experiment in a way that removed the haystack to find the needle, and it worked. “I was lucky, and I knew I was lucky,” he reflects. “I know me better than anyone knows me, and I’m not a genius.”

His contemporaries beg to differ. According to Dr. Abraham Fuks, another renowned McGill immunologist who previously served as Dean of the Faculty of Medicine from 1995 to 2006, Dr. Gold achieved a rare feat. “Aside from the fact that he was so young when it happened, his findings were monumental when you consider their lasting impact,” Dr. Fuks reflects. “Not many lab tests innovated in 1965 are still used clinically today. That’s remarkable. This is what happens when highly ambitious, talented people find ways to execute a creative idea.”

Dr. Richard Cruess, who preceded Dr. Fuks as Dean of the Faculty of Medicine from 1981 to 1995, was an attending orthopaedic surgeon at the Royal Victoria Hospital at the time of the discovery of CEA. “At that time, there was this feeling that wonderfully exciting things were happening in cancer immunology,” remembers Dr. Cruess. “Along with Sam Freedman, Phil really did create a whole new world of possibility in cancer research. That’s what makes him such an icon.”



The grandfather of cancer research

Dr. Gold and his colleagues leveraged the discovery of CEA to launch a new chapter in cancer research and clinical care at McGill. Dr. Fuks, who was a resident at the Montreal General at the time, still remembers the impression that Dr. Gold and his colleagues made on the people around them. “Phil Gold, Sam Freedman, Joe Shuster, and David Hawkins worked so well as a group and demonstrated so much joy in their work that they influenced my own decision to choose immunology as a clinical and research career,” he affirms.

Dr. Gold and his research group relocated to the McIntyre Medical Sciences Building in 1968. He accepted a role as the first director of the newly inaugurated McGill Cancer Centre in 1978 while serving as a professor of medicine, physiology, and oncology at the Faculty of Medicine. The Centre evolved into the first university-based Department of Oncology in North America, which now includes the world-class Rosalind and Morris Goodman Cancer Research Centre.



“People like Dr. Gold saw the future,” says Dr. David Eidelman, the current Dean of the Faculty of Medicine and Health Sciences. “Unlike most people of his time, he approached cancer as a subject of mechanistic inquiry instead of this mysterious, hopelessly untreatable disease.”

The discovery of CEA has given rise to more than a few scientific careers over the years. Dr. Nicole Beauchemin, a principal investigator at the Goodman Cancer Research Centre, calls herself the “scientific granddaughter” of Dr. Gold, with her mentor, Dr. Abe Fuks, in the generation above her. “Phil is like the root of a very large, majestic oak tree,” she illustrates. “With the discovery of CEA, he opened up a new field of research and inspired dozens of research teams to build upon his work. Every year, the tree grows more branches.”

In 1986, Dr. Beauchemin contributed her experience in molecular biology and cloning to a Cancer Centre project designed to successfully clone the CEA gene. She and other researchers, both inside and outside of the McGill ecosystem, went on to discover nearly 30 more genes that all relate in some way to the original CEA protein. By using these proteins as markers to track, treat, and understand cancer cells, they can develop targeted therapies based on gene expression profiles.

To Dr. Beauchemin, Dr. Gold is like a founding father whose footprints are visible everywhere she looks. “To this day, he still participates in meetings of the global CEA research community,” she shares. “That passion for discovery and possibility has never waned.”

If Dr. Beauchemin is a scientific granddaughter of Dr. Gold, Dr. Genevieve Genest is a great-granddaughter. Initially inspired to enter the field of immunology after an electrifying presentation by Dr. Gold in her undergraduate microbiology class, Dr. Genest is on track to become a clinician-researcher at the Montreal General. “He’s served as a mentor and a role model from the beginning,” she affirms. “He’s the type of person who can see what makes a person tick, ignites and nurtures that passion, and unwaveringly supports his mentees until they reach their goals.”

Honey over vinegar

In 1980, Dr. Gold returned to the Montreal General as Physician-in-Chief and simultaneously served as the Chairman of the Department of Medicine at McGill

University between 1985 and 1990. Dr. Christos Tsoukas, who has served as Director of the Division of Clinical Allergy and Immunology at the McGill University Health Centre (MUHC) since 2007, was a resident when Dr. Gold made his return. In those years, the Montreal General was “very much a reflection of the past,” Dr. Tsoukas recalls. “Dr. Gold’s predecessor ran the hospital like an army general. He was so intimidating that your knees would start to buckle whenever you ran into him.”

When Dr. Gold took the helm, the atmosphere shifted perceptibly. “Dr. Gold would go out of his way to relate to residents with enthusiasm and collegiality, and that’s an attitude that continues today through all of the directors and division leaders who were once residents,” says Dr. Tsoukas.

Dr. Tsoukas highlights a truth that surprises many people who meet Dr. Gold for the first time: While he is often the most revered person in the room, he’s also the kindest. “He’s always shaking your hand or giving you a hug,” says Dean Eidelman. “He has remarkably few enemies for someone at his level.”

According to Dr. Tsoukas, Dr. Gold is someone who would be called an “influencer” in today’s parlance, a cheerleader who rallies his team to greatness by setting an example. “He has always encouraged, not dictated, while maintaining a healthy sense of humour,” says Dr. Tsoukas.



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Dr. Tsoukas remembers the time when a visiting medical student from Greece was overwhelmed with excitement about meeting Dr. Gold, whose reputation had preceded him from across the globe. The student, who struggled to fully express himself in English, tried to tell Dr. Gold, “I want to be like you,” but what came out instead was, “I would like to be in your shoes.” With a twinkle in his eye, Dr. Gold took off his shoes and offered them to the bewildered student.

Dr. Gold has always maintained that people accomplish more with honey than with vinegar. “I genuinely enjoy being nice to people,” he affirms. “And when you’re nice to people, you find that they’re frequently nice to you.” But while kindness has always served him as a strategic asset, there is nothing calculating about his desire to make colleagues and patients feel seen and valued.

On one particularly memorable day, the condition of a terminal cancer patient at the Montreal General was declining quickly. The patient grew up on a farm in India, where people prefer to die as close to the land as possible. Dr. Gold fulfilled his patient’s dying wish by wheeling him out to the hospital lawn, where he lay with his family members and caregivers for several hours as he took his final breaths. As the sun rose, he died with dignity on the land. Dr. Gold sat with his patient for four hours on the lawn that day.

Untrammelled optimism

When Dr. Gold accepted the role as Physician-in-Chief at the Montreal General, he encountered a dire financial situation. “I went to the cupboard, and the cupboard was bare,” he says. “We had no money to do what we needed to do.” At the next departmental meeting, he announced the “three percent solution,” a plan for closing the gaps by taxing everyone who made a patient income at three percent of that income.

No one climbs to the top of the ladder without the ability to make unpopular decisions and endure high levels of stress. Dr. Gold has seemingly mastered the art of paddling furiously beneath the surface while maintaining a calm, jovial exterior. Before taking over as Chair of the Department of Medicine at McGill, he re-read an entire textbook on internal medicine from cover to cover. For a full decade, he chain-smoked his way through long hours of reading and survived on four hours of sleep a night. “There were often difficult days and sleepless nights,” he acknowledges, “but I tried to remain positive.” He would eventually quit smoking cold turkey out of a desire to spend more years with his beloved wife, Evelyn, whom he calls his “life,” and their three children.

“There is a lot of steel and ambition in him,” Dr. Cruess has observed. “But it’s all layered on top of this wonderful personality. Even the disagreements were fun.”

What strikes people most when they work with Dr. Gold in any capacity is his “untrammelled optimism,” says Dr. Fuks. “He has this can-do attitude combined with energy, and that makes him come across as larger than life. When you walk into a room, you know he’s there.” According to Dean Eidelman, Dr. Gold could be so unrelentingly optimistic that he could come across as unrealistic at times. Even in the bleakest funding environments, he could be relied upon to focus on what could be done, not what couldn’t be done. “He taught me that I have a significant ability to change my worldview if I choose to do so,” says Dean Eidelman.

Ultimately, Dr. Gold’s sunny outlook played an instrumental role in persuading donors to give generously and staff to economize willingly. By the time he stepped down in 1995 to become the Executive Director of the Clinical Research Centre at the MUHC, the cupboard was full again.

Passing the baton

Despite his decades of accomplishment as a clinician-researcher, Dr. Gold places the greatest value on his teaching efforts. “Research is ultimately a shot in the dark,” he reflects. “If you’re lucky, as I was, you win. But teaching the next generation is how you reproduce yourself.”

Dr. Fuks, who has written extensively on the power of metaphor in medical discourse and teaching, points to Dr. Gold’s famous use of metaphors in his immunology lectures. Former students like Dr. Genest can still recall in detail the way Dr. Gold likes to equate the immune system with two football teams, assigning each player on the team a role. “Phil knows how to tell a story rather than putting facts onto a board,” says Dr. Fuks.

Dr. Cruess and his wife, Dr. Sylvia Cruess, who once created a small group program to study professional identity formation, could always rely on Dr. Gold to light up a room with his quick wit and enthusiastic demeanor. “Phil in a small group with medical students is sheer magic,” Drs. Cruess have witnessed. “It’s hard to get him out of the room.”

Dr. Gold still teaches guest lectures when invited, but he is satisfied with the legacy he is leaving behind as he eases into retirement exactly 60 years after he became a first-year resident at the Montreal General. “That legacy is my students, my children, and my grandchildren, who have all gone on to do great things,” he affirms. “Now it’s their turn to carry the mantle. I’ve had the ride of a lifetime, and I’m grateful for it.”