Profile of Dr. Robert Hegele

Gordon Tsang (Meds 2012) and Joyce T. W. Cheung (Meds 2013)

Dr. Robert Hegele has been working in London, Ontario as a clinician-scientist with the University of Western Ontario (UWO) and the Robarts Research Institute since 1997. He obtained his medical degree from the University of Toronto in 1981, and went on to do a residency in Internal Medicine and sub-specialization in Endocrinology and Metabolism. He pursued further training in cardiovascular disease and genetics by doing fellowships at Rockefeller University in New York and the Howard Hughes Medical Institute in Salt Lake City, Utah. Dr. Hegele then returned to Canada, beginning his career at St. Michael’s hospital in Toronto before finally settling in London, Ontario as a clinician-scientist at UWO. Dr. Hegele is the current Director of the Blackburn Cardiovascular Genetics Lab and runs a tertiary referral lipid clinic. Throughout his career, he has won numerous awards for his genetics research, and has made numerous discoveries.

Robert Hegele was born in Toronto to parents who emigrated from Russia. He recalls having a wide range of interests in his youth and demonstrated this by going on to pursue an undergraduate degree in music. Though Dr. Hegele did not have any early strong aspirations towards medicine, he cites his parents an influence in steering him towards pursuing medicine (his brother, Dr. Gordon Tsang (Meds 2012) and Joyce T. W. Cheung (Meds 2013) in the 20th century was an endocrinologist. Many of my mentors at Toronto General Hospital were endocrinologists, and they were the ones who encouraged me to pursue endocrinology.”

We asked Dr. Hegele how he was able to endure through the many years of training to become an academic physician.

“It’s a balance and reward [system], so we’ve all learned, but it’s a different level [in doing research], your reward system is spread over a much longer time frame. Surgeons are the opposite, they need to be gratified almost moment to moment, and that’s instantaneous. Somebody who is involved in research, you need to defer that gratification for years.”

A typical week for Dr. Hegele involves teaching, research and seeing patients in his clinic. Approximately 80% of his time is spent in research and 20% in the clinic setting where he sees patients and teaches medical students and post-graduate trainees rotating through the lipid clinic. In the lab, Dr. Hegele and his team at the Blackburn Cardiovascular Genetics Lab work to understand the function of genes that are changed by disease. Where he differs from most physicians and researchers is that even though his position requires that he spend more time writing grants than filling in charts, he is never far away from his patients and truly has a unique perspective on their disease.

"Every research project started with a patient. Cardiology refers people with heart disease or severe cholesterol disorder or diabetes. We can now read the patient's whole genome profile using their spit or blood on a microarray. It allows me to try and find the molecular basis of their disease. Instead of indirectly deducing that a patient has inherited a gene from their family history, we can now know more definitively by screening their personal genetic profiles. We first started to look at two to three genes, now we're up to more than 30 genes for heart disease. Many genes that had no known function before recently; we try to learn what the gene product does, hoping to work backwards and eventually come up with a treatment.

"We see patients with lipid problems that are right off the scale. Often the usual drugs in the typical cardiology or community practice don't work [for these patients]. Studying their genetic profile to help come up with some new treatment, that would be [my goal]. Whether it's a drug or completely novel treatment plan, my goal in the next 5 years is to come up with something brand new for my patients with
severe dyslipidemia.”

Many researchers are often poached by other universities, lured away by various reasons. Dr. Hegele is no stranger to recruitment, but has fortunately chosen to remain at UWO.

“...One thing I like about London is that I have almost 2000 patients, and have established a personal relationship with each one. I wouldn’t want to suddenly leave and not have the chance to say goodbye. I already did it once in Toronto, and it was difficult. The second thing is that I have a great balance and quality of life here. It’s very manageable, the medical school and students are great, colleagues are great, my family is happy, I live close to work and I have a really nice house...we’re really enjoying living in London.”

The recent economic downturn has affected the distribution of federal funding in many ways. We asked Dr. Hegele whether the recent downturn has affected his research.

“My time [spent in research] has increased. It’s tougher to get research funding now, but I am a co-applicant on an NIH (National Health Institute) grant, part of the Obama stimulus package to NIH. I’m lucky to be a part of that. It’s not quite the same in Canada. In general, I personally haven’t felt it as badly, but research—like all aspects of the economy—has been hurting a little more.’’

We thought it would be interesting to get his thoughts on what he would like to see happen in the future, both in his career and in endocrinology.

“I’d really like trying to do something directly tangible (i.e. guidelines and clinical trials of new medications), so the bench research and experiments may diminish as I get older. I will focus more on translating the benefit to patients and health care providers on the front line. I liked the fact that endocrinology as a subspecialty was scientific...when I was training, a lot of clinician-scientists were endocrinologists. That has changed now to some extent. I also am committed to training. But there is an increased need for clinician-scientists in all fields in Canada. There need to be talented people who can speak both the language of medicine and of basic research. So I would want to see more MD/PhDs in the future and would try to foster that. I have three MD/PhDs working with me now – Piya Lahiry, Matt Lanktree and Chris Johansen. I want to make sure that there is a new generation of medical trainees who maintain an interest in science.’’

Outside his career in medicine, Dr. Hegele enjoys exercising and music. He also travels frequently to various conferences and meetings around the world, but still takes the time to enjoy his experiences. One memorable event he recounted for us was an opportunity to see a football match in Manchester, England earlier this year.

Before leaving his lab, Dr. Hegele showed us a piece of medical memorabilia that he inherited from Dr. James B. Collip, a former dean of Medicine at UWO (1947-1961) and the famous biochemist who worked with the Banting, Best and Macleod research team to purify insulin so that it could be used for testing in clinical trials. It was Dr. Collip’s desk from his years at UWO.

This desk—where Dr. Collip worked—serves as a source of inspiration for Dr. Hegele in his scientific research, and a reminder of his ultimate goal of improving the quality of life for his patients.

Does he have some last words of advice for current medical students?

“Work hard, and play hard. Don’t cut corners, but when you’re relaxing, fully enjoy relaxing as well. You need to get exposure of a wide range of career options from the beginning...try to identify what you really like to do because that’s what matters over the long term.”

Dr. Robert Hegele

(Seen in the background is a photograph of Dr. James B. Collip.)

Additional information

Read more about Drs. Gerard Burrow and Charles Hollenberg and the development of academic medicine at the University of Toronto at: http://www.deptmedicine.utoronto.ca/About_Us/History.htm

Read more about Dr. Hegele’s research at the Robarts Research Institute website: http://www.robarts.ca/rob-hegele