

## Hypothyroidism and Thyroid Replacement Therapy

T4 vs T4/T3 vs DTE

Public Education Webinar  
Thyroid Foundation of Canada

Hernan Franco Lopez  
Endocrinology Fellow, Western University  
London, Ontario, Canada



Remembering Phyllis



Laz's Story



The Eyes Have it - But not Always





*Founder / Fondatrice*  
 Diana Meltzer Abramsky, C.M., B.A.  
 1915 - 2000



The Voice and Face of Thyroid  
 Health in Canada

La voix et le visage de la santé  
 thyroïdienne au Canada

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May 25-31, 2022

This Year's Topic: **Thyroid and Communication**

Important Notice: The information within is for general information only and consequently cannot be considered as medical advice to any person. For individual treatment or diagnosis consult your health care professional.

## MESSAGE FROM THE PRESIDENT



Dear Members,

A few months ago, we received an email from a thyroid patient inquiring about the advocacy work that we do. We first established an Advocacy Plan back in 2018. Advocacy is a process used to increase awareness and to influence and effect positive change. These changes could be in attitude, policies and practices of government, business and general public perception.

Our plan has three objectives:

1. Improve thyroid patient care through advocacy with key health care stakeholders;
  2. Establish strategic alliances with other charities to share information and best practices and collaborate on projects of mutual interest to benefit thyroid patients in Canada; and
  3. Establish research projects on patient care and thyroid statistics and leverage findings to support advocacy and relationship building initiatives.
- TFC was founded by both thyroid physicians and patients and we continue to work with the medical community to improve thyroid patient care. We have a medical advisor who regularly answers questions from patients on a variety of thyroid issues.

In recent years, we established a good working relationship with the Canadian Society of Endocrinology and Metabolism (CSEM). We currently have an arrangement with them to manage our annual research grants of \$50,000 towards research that directly impacts thyroid patients. We announced our first award last fall. In 2019, we lobbied against Choosing Wisely Canada's (CWC) recommendation to limit initial thyroid testing to TSH. We were able to get CSEM and CWC to agree that T4/T3 testing could be done if patient and physicians were both in agreement (a partial success).

We have a good relationship with the Thyroid Federation International (TFI) organization which represents 37 thyroid country organizations. This relationship allows us to promote new thyroid procedures from around the

world, such as thyroid nodule ablation, to our Canadian community through webinars and printed material. Our own educational webinars are supported by speakers from the medical community and provide important patient feedback to them from webinar attendees.

We are trying to promote the use of thyroid nodule ablation in Canada. We have requested CSEM's support for a letter we plan to send to Health Canada to promote the adoption of this treatment which provides an alternative to surgery. CSEM has promised to conduct a review of this treatment. In February, we provided a letter of support for a new research study proposed by Dr. Sana Ghaznavi and her research group to explore thyroid patient care (see article in this issue on page 11).

There is a lot of work to be done with endocrinologists but even more with family practitioners. According to the Canadian Medical Association, there are about 86,000 physicians in Canada, half of which are family practitioners and 600 endocrinologists for all of Canada. For thyroid patients, this latter number is further reduced because many endocrinologists have specialized in diabetes health care or other endocrine areas. Most thyroid patients get their health care from family physicians and never even see an endocrinologist. So, focussing on endocrinologists alone may not be the best strategy.

Looking ahead, we need to ensure that new thyroid research and best practices are being introduced by endocrinologists and family physicians in their practice areas. Our sponsored research projects must include an implementation plan to ensure the new research gets adopted by endocrinologists and family physicians. We need to get a better understanding of the communication pathways and processes that currently exist in our medical community. Then we can advocate for the adoption of new research and best practices to enhance diagnostic and treatment options for thyroid patients across Canada.

Laz Bouros, President

## 42ND ANNUAL GENERAL MEETING

June 11, 2022

More information will be posted on our website and sent by email.  
Members of the Thyroid Foundation of Canada are invited to attend.



### Update on TFC's Research Grant By Paul Stewardson

We will be receiving an update at our AGM on the progress of TFC's recent research grant. The grant was awarded to Dr. Ralf Paschke for his research on the Classification of Thyroid Tumours. Paul Stewardson, a PHD candidate who is working on this research project, will be giving a presentation on the latest developments. The aim of the proposed project is to improve diagnostic strategies for thyroid cancer tumours while limiting unnecessary diagnostic surgeries for patients. We look forward to learning more about Dr. Paschke's advancements to thyroid cancer research.

## THYROID FOUNDATION OF CANADA

### CALL FOR NOMINATIONS 2022-2023

The National Board is accepting nominations for positions on the Board for the coming year 2022-2023.

As per The By Laws, Article No. 17 (a) a. Number of Directors. The Board shall consist of a minimum of five (5) directors and up to a maximum of twelve (12) directors elected by the membership plus the immediate past-President if s/he agrees to serve. If vacancies exist on the Board, the Board may appoint directors up to a maximum of one-third of the Board. The term of any appointed director shall expire at the close of the next general meeting.

If you are interested or know of anyone who might be interested, please contact the Nominating Committee Chair at: [nominations@thyroid.ca](mailto:nominations@thyroid.ca) or call 1-800-267-8822. Closing date to be announced.

Kim McNally, Nominations 2022-2023 Committee Chair

## REMEMBERING PHYLLIS

By Kim McNally

Members and friends of the Thyroid Foundation of Canada, were deeply saddened to hear of the recent passing of Phyllis Mackey (January 31, 2022). For those who did not know Phyllis, she was a Charter Member of the Thyroid Foundation of Canada, National Board Member, and TFC's Archivist, taking many photographs at our Annual General Meetings and proudly displaying them at various events.

Many of us who worked with Phyllis, recall her unwavering dedication to the Foundation and support for all thyroid patients. As one of our Founding Members indicated, Phyllis was an asset to the Foundation and greatly contributed to its growth. Other members share similar reflections of Phyllis and fondly recall many years of laughter and enjoyable conversations with her at our Annual General Meetings. As one said, she looked forward to seeing her every year.

Phyllis kept in touch with the many friends she made through the National and Kingston Chapters, after retiring from her volunteer work with TFC. Living in Kingston, I myself would often see Phyllis in the community, where she would regale me with stories of the most recent happenings in her life. She had an infectious smile and was always kind to those she encountered. Her Obituary notes a full and charitable life, including having been a member of the Cataraqui United Church Choir for over 40 years, a member of the Kingston Sweet Adelines, an Avon representative for 25 years, and charter member of the Thyroid Foundation of Canada and Archivist for 18 years. She worked at Canadian Army Staff College as Photographer and Draughtsman for 18 years and Queen's University in the Visual Arts Center as Photographer and Draughtsman for 18 years. She will be fondly remembered and forever missed by those who knew her.



Phyllis with Joe Boyce (Past President) and Nathalie Gifford (Past President)



Phyllis with (L-R) Diana Abramsky, (Founder), Dr. Robert Volpe (Medical Advisor), Joe Boyce (Past President)



Phyllis with Dr. Jack R. Wall (Medical Advisor) and Rhoda Boyce (Secretary)

## THE EYES HAVE IT – BUT NOT ALWAYS

By Jack R. Wall

Sun exposure damages not only the skin but also the surface of the eyes and in the author’s experience the great majority of Australian women have mild inflammatory eye changes including bilateral pterygia due to chronic sun exposure, whereas this is much less common in Canadian women who are only confronted with the sun when cross-country skiing in the spring or on holidays in Florida or Arizona. The same applies to men, but since thyroid disease is about 8 times more common in women than men this is not a diagnostic issue in the less fair sex. Mild eye redness, swelling and wateriness due to conjunctival sunburn can easily be misinterpreted as early ophthalmopathy in fair skinned women with Graves hyperthyroidism living in hot countries.

Graves ophthalmopathy (GO) is characterized by inflammatory and congestive changes of the conjunctivae, periorbital tissues, eyelids and eye muscles. While there are no specific signs or symptoms of GO, proptosis (poppy eyes), double vision and reduced eye movement in an up and outward direction are the most recognizable abnormalities. Eye muscle dysfunction usually occurs with eye muscle volume increase as seen on orbital imaging. While most patients with ophthalmopathy have Graves hyperthyroidism, 3% have Hashimoto thyroiditis and a small proportion have no overt thyroid disease.

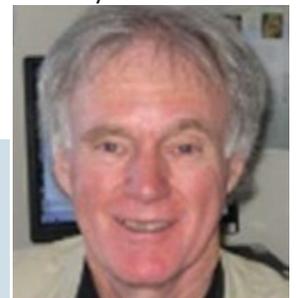


The most appropriate name for this eye and orbital disorder is thyroid associated ophthalmopathy/orbitopathy (TAO).

Of the various serum antibodies that have been associated with TAO those targeting the calcium binding protein Calsequestrin, which is expressed 5 times more in eye muscle than in other skeletal muscle, are the best markers for the eye muscle component of Graves disease. Other antibodies that have been identified in patients with TAO include; those targeting the TSH-Receptor, the IgF-1 Receptor and the orbital connective tissue and fibroblast protein type XIII collagen.

Measurement of serum calsequestrin and type XIII collagen antibodies may help in the differential diagnosis of mild inflammatory eye changes in women living in hot climates which, with climate warming, might eventually include Canada.

Prof. Jack R Wall MD, PhD, FRACP  
Honorary Professor of Medicine,  
Department of Health Sciences, Macquarie  
University Sydney, NSW, Australia



Don't miss our next TFC Webinar

### Thyroid Eye Disease

Sunday, April 24<sup>th</sup> 2022  
Dr. Kelsey Roelofs, Ophthalmologist

Dr. Kelsey Roelofs completed her medical education and residency training at the University of Alberta in Edmonton, Canada. Following this, she embarked on a one year ocular oncology fellowship at Moorfields Eye Hospital. She is currently completing an American Society of Ophthalmic Plastic and Reconstructive Surgery fellowship at the University of California, Los Angeles. She has published over 40 peer-review papers, 19 textbook chapters and was the 2021 recipient of the Bartley R. Frueh Research Award.

# HYPOTHYROIDISM AND THYROID REPLACEMENT THERAPY

## TFC Public Education Webinar Hypothyroidism and Thyroid Replacement Therapy

On February 27th, 2022, we held a very successful webinar on Hypothyroidism and Thyroid Replacement Therapy (*T4 vs T3 and Desiccated Thyroid*). Our guest speaker was Dr. Hernan Franco Lopez, who is an Endocrinology fellow at Western University in London, Ontario. He completed his medical school at the University of Ottawa, and his internal medicine training at McMaster University in Hamilton, Ontario. He has an interest in general Endocrinology, in particular Thyroid and Adrenal diseases. He is also interested in Medical Education and Health Advocacy, which are important in a field of chronic disease such as Endocrinology.

Once the presentation was completed, Dr. Franco Lopez answered numerous questions from the audience. A sample of the questions and responses from this webinar is provided on page 8. Katherine Keen, our administrator, acted as producer for this webinar. Some of our board directors also assisted. Hanista Premachandran looked after the Q & A section. Lauri Martin assisted in the Chat Room. This event was recorded and can be viewed at this link: [Hypothyroidism and Thyroid Replacement Therapy Webinar - YouTube](#)



Dr. Hernan Franco Lopez

Our next webinar will be on April 24th. Dr. Kelsey Roelofs will be speaking on “Thyroid Eye Disease”. Please mark your calendars for this interesting presentation.

## DIAGNOSIS AND MANAGEMENT OF THYROID DISORDERS USING ULTRASOUND

By Hanista Premachandran

A recent article by Dr. Jack Wall and colleagues (2021) discusses how thyroid ultrasonography is used by endocrinologists in the diagnosis and management of thyroid and parathyroid disorders. Endocrinologists use a portable ultrasound machine to ultrasound images with clinical and blood test results. Below are a few examples of different thyroid disorders and their characteristic ultrasound features:

- Benign (or “colloid”) nodules are characterized by compressed blood vessels, which appears as a wide and black ring on ultrasonography;
- Follicular nodules also have a black ring surrounding its structure and appear more solid and white in colour;
- Hot (or toxic) nodules share similar characteristics with colloid nodules and may contain fluid on biopsy;
- Thyroid cysts share similar features with hot nodules but tend to be larger and rounder;

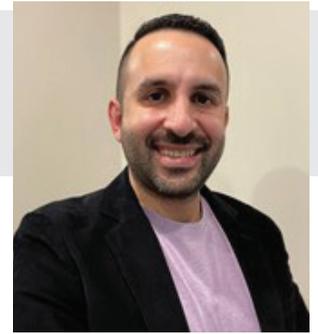
- Calcification in nodules, which is not found in normal thyroid glands, could be benign, however, if there are breaks in the wall of a calcified nodule, this may be indicative of cancer;
- Calcification may appear as spots or sheets throughout the thyroid gland. Calcification may also be present in Grave’s disease and Hashimoto’s thyroiditis;
- Grave’s hyperthyroidism is marked by an enlarged gland with increased vascularity and the gland texture is noted to be “patchy.” Following radio iodine treatment, an increase in scar tissue will be seen.

Overall, ultrasonography has become a common and very useful tool for the diagnosis and management of thyroid disorders. Importantly, novel ultrasound methods are currently being developed, such as shear wave elastography (which measures tissue stiffness), to aid with the identification of nodules that require biopsies.

The full article from Dr. Wall, can be found at: <https://thyroid.ca/wp-content/uploads/2022/03/E.12.C-Real-Time-Ultrasonography-J.-Wall.pdf>

## ASK THE DOCTOR

Dr. Hernan Franco Lopez



From the February 27th Webinar, *Hypothyroidism and Thyroid Replacement Therapy*

1 - If someone has low tsh but normal t3 and t4 levels should they be increasing their thyroxine dosage?

If I am assuming that is for primary hypothyroidism, that is a level of the thyroid gland, a low tsh essentially means that the body is feeling a little too much thyroid hormone so in that case it's actually decreasing the dose a little bit until the tsh level normalizes. However if you have pituitary hypothyroidism or central hypothyroidism then your tsh is always going to be low because again the pituitary gland does not produce tsh so whenever we measure it on bloodwork the tsh level is always going to be low no matter what level of hormone we give you, so if that's the case then we usually target the free hormone levels to make sure they're in the normal range and then we don't necessarily worry about the tsh only if it's a pituitary issue if it's just primary hypothyroidism a low tsh means that you're getting maybe a bit too much thyroid hormone and maybe decreasing the dose might be the best thing.

2 - What might it mean if tsh is high above lab range but t4 is normal within lab range?

That's actually a specific entity that we refer to as subclinical hypothyroidism. Essentially it means that your free hormones seem to be on the normal range of the blood work, however your tsh continues to be high. There's actually specific guidelines for the treatment of subclinical hypothyroidism and just to summarize, essentially if your tsh is between 5 and 10 then you only treat that if you have symptoms of hypothyroidism or if you have positive antibodies that might suggest that you have the beginnings of Hashimoto's, so anti-tpo and anti-thyroglobulin. However if you are being treated already for hypothyroidism and your t4 and t3 are in the normal range but your tsh is high above the normal, then that might suggest that you might need a little more to bring that down in the in the normal range. What we tend to do is, if it's just above the upper limit of normal then we tend to just wait it out and then repeat blood work about four to six weeks later, because we do have fluctuations of tsh levels, again based on other factors. So if you just came up from an illness or you have inflammation going on elsewhere, or you know you were not taking your pills as consistently and maybe restart taking them just before you took the blood work, then it might actually show a normal t3/t4 but your tsh might still be kind of lagging on the way down so it will vary depending as to what the situation is.

3 - If you're on levothyroxine for many years and the family physician says they like the numbers from your blood test results but the patient still reports feeling symptoms do you have any suggestions for cases like this?

Yes, we see that all the time. It's a matter of, number one, knowing your patient and then trying to figure out is the symptom they're reporting truly due to hypothyroidism or is there something else going on at the same time that might be clouding things, because the last thing that you want is just to focus so much on your thyroid that you're missing something else that's happening. Number two, if we think that this is due to low thyroid hormone and the numbers look good, there are studies showing that there's a subset of patients who maybe need just a little bit of t3 in addition to the t4 to be able to feel better. Then a conversation of having combination therapy could be had with the family physician and if they are comfortable doing that, there could be a short trial of four to six months and see if the symptoms improve. If they don't feel comfortable prescribing combination therapy then that's probably when an expert like an endocrinologist may be able to help in having some of those discussions but essentially it would be just kind of gauging is this thyroid related and if it is thyroid related, will a short trial of combination therapy work and then reassess after that.

4 - Is there a formula for dosage based on patient's weight and how do physicians decide on an optimal dosage?

If we assume that your thyroid is no longer producing any hormone or just very little hormone then we use the weight and the formula is 1.6 micrograms per kilogram of body weight and that's what we typically say as what your dose should be based on, but it is not a perfect formula, sometimes it could be 1.6 micrograms per kilograms of lean

From the February 27th Webinar, *Hypothyroidism and Thyroid Replacement Therapy* - cont.

body weight so that might change from individual to individual and there are some physicians that say we can just start with a slow dose of 25 or 50 micrograms if your TSH level is not too far off from the normal range. But if we use body weight as 1.6 micrograms per kilogram that's what we typically use as the as the full dose.

5 - Is suppressed TSH normal when taking ERFA Thyroid?

I would say no. So if we're going to take ERFA desiccated thyroid then we actually always try to target a TSH within the normal range, so if the TSH is suppressed or completely undetectable then we're giving too much of that of hormone, either T4 or T3 and that would be an indication to back down and then keep it in the normal range. The reason why we care about that is, if you have completely suppressed TSH levels for too long that's essentially your body telling you that you have too much thyroid hormone in the bloodstream and then that can put you at higher risk of arrhythmias or irregular heartbeat also higher risk of osteoporosis and that can also lead to symptoms of hyperthyroidism or too much thyroid hormone so you can go from constipated to now having very frequent loose bowel movements, you can start getting palpitations, you can get tremors, you can become quite sweaty, and it can affect your sleep. So sometimes people say, "I can't sleep because I'm hypothyroid" but you can also not be able to sleep because you're hyperthyroid and that can also affect your concentration if you're getting too much thyroid hormone. So if the TSH is completely suppressed then I would say you have too much of it and maybe a decrease in the dose may be warranted.

6 - Family practitioners don't feel empowered to prescribe combination therapy. Some even told me that they would get in trouble with the College of Physicians for doing so. Why is this?

Comfort and experience using combination therapy would be the main reason. As for getting in trouble with the College, it will depend as to what province they're practicing in and all of that. There are medications that myself as an endocrinologist don't feel comfortable prescribing because they're not within my specialty so I think it's completely reasonable if physicians don't feel comfortable for them to avoid prescribing it, because I think before we do anything else we have to make sure that we do something that is safe. So that's probably the biggest reason, lack of comfort or experience using these combination therapies and that would be where a referral to an endocrinologist might help. But I won't be able to comment on issues with the College because that varies from province to province.

7 . How can we approach or talk to our doctors about the benefits of combination therapy?

As a patient sometimes we have to be our own advocates so I think it's having a good sincere discussion that maybe single therapy is not working as well and that there is data saying that combination therapy can work safely for a specific set of people if it's done well. The last thing that you want is to go on combination therapy and not be monitored ever because that's when things can go wrong. That's something that's discussed in the literature and I guess it has to do with the rapport that you have with the patient. Based on the relationship you have with your physician you can say "I don't feel well on levothyroxine alone, am I able to do combination therapy?" And if that physician is not comfortable they may suggest a referral to an endocrinologist that might have a little bit more experience.

[Dr. Hernan Franco is an Endocrinology Fellow at Western University in London, Ontario](#)

## LAZ'S STORY

By Laz Bouros



I'd like to provide a little background information before I get into all the endocrine details. First of all, I'm an immigrant! I was born in Athens, Greece. My father came to Canada in the early fifties to open a fur business. His decision to emigrate here was based on Canada being a land of opportunity, it's past reputation in furs and also to get medical care for my sister who had contracted polio at an early age. He settled in Montreal, opened a fur store and moved the rest of the family from Greece three years later. (The story goes that he first went as far as Toronto but arrived on a Sunday and couldn't get a drink anywhere, so he came back to Montreal.)

I grew up in Montreal and spoke Greek at home, French to my friends and attended an English protestant school. We soon moved from our downtown area to a larger apartment uptown and I attended Baron Byng High School (also known as Mordecai Richler's Fletcher Field High School in his books). We were not quite as bad as the characters in his books but I did learn a lot of Yiddish expressions!

I left Montreal during the 1981-82 recession and moved to Ottawa where jobs were still plentiful. I was a project manager at the time and the federal government had many projects on the go. In 1987, I went to my family doctor for a physical examination and mentioned that I had experienced some chest pains. This resulted in a variety of blood tests being conducted which included thyroid testing. This is where the first anomaly presented itself. The test showed that I had low TSH, low T4 and low T3. He sent me to an endocrinologist who didn't believe the initial results and had me repeat the test blood tests. Well, surprisingly enough, the results came back the same.

A few weeks went by while I waited to see him again. Then, one weekend I came down with an extreme migraine which landed me in the Ottawa Civic emergency. (I did not have a history of migraines). I was given some rather severe psychotic drugs and the migraine disappeared. I went back to see my family physician. He took me off the drugs, stating that they were very bad for me.

In the next few weeks, I slid into a condition known as myxedema (acute hypothyroidism). My skin turned grey and I felt very tired. My friends told me I looked like a

ghoul. I often tripped going up stairs. It was a miracle that I managed to keep working. I called my endocrinologist and explained my predicament. He scheduled me for a Triple Bolus test to assess my pituitary function. Three hormones, insulin and two other releasing hormones, were injected into my vein to stimulate the anterior pituitary gland and measure the gland's response. The result indicated that I had a pituitary problem.

I was admitted to the Ottawa Civic hospital and was fortunate to be put under the care of Dr. Peter Walker, who was of Chief of Endocrinology at the time. He requested a CT scan. The test came back showing an empty Sella (a bony structure at the base of the brain that protects the pituitary gland). This meant that I no longer had a pituitary gland! I was told that I had hypopituitarism and was immediately put on replacement hormones for my three secondary conditions: hypothyroidism, hypoadrenalism and hypogonadism. The transformation was amazing. In three weeks, the colour had returned to my skin and I went back to feeling like my regular self.

At the time I decided I would help out other patients and went looking for a pituitary association. There wasn't one in Canada (and there still isn't). I wound up going to an Ottawa Chapter educational meeting and became a Thyroid Foundation volunteer in 1988!



Laz in 1989 on the Board of Directors, Front row, 2nd from the left

## NEW RESEARCH STUDY TO EXPLORE THYROID STANDARD OF CARE



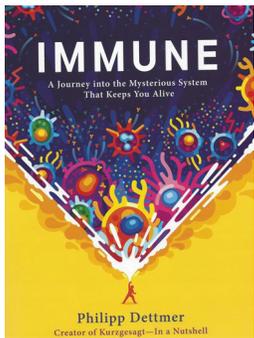
Dr. Sana Ghaznavi

The Thyroid Foundation of Canada has provided a letter of support for a new research study proposed by Dr. Sana Ghaznavi and her research group. The full title of the study is “Exploring limitations in the current standard of care for thyroid hormone replacement therapy in thyroid cancer survivors”. They have applied for a grant to fund this study via the MSI foundation (an Alberta-based health research funding organization).

The study is looking at physician attitude and patient experience with respect to thyroid hormone replacement therapy and quality of life issues. While the study population are post-thyroidectomy patients with thyroid cancer, the findings would be relevant to the general hypothyroid population as well. We regularly hear from patients on our TFC Help Line that they don’t have access to combination therapies to treat their hypothyroidism. Our Medical Advisor reviewed the Letter of Intent describing the study and stated that it seemed methodologically sound and consistent with TFC goals.

This study will be of great interest to TFC members and we are well positioned to assist the study by contacting interested members for survey purposes and disseminating the research findings. We believe the issues to be addressed in this study are important and wish Dr. Ghaznavi and her research group success with its development.

Dr. Sana Ghaznavi is a Clinical Assistant Professor, Endocrinology & Metabolism, Alberta Health Services, University of Alberta. She was the guest speaker at our *Management of Thyroid Nodules* Webinar in November 2021



## BOOK REVIEW IMMUNE - A Journey into the Mysterious System That Keeps You Alive by Philipp Dettmer

I never thought I’d read a scientific book written in everyday language that was full of humorous metaphors and delightful anecdotes that describes a complicated and most amazing human system. It has a cast of many characters, good and bad, like the macrophage immune cell that communicates, activates other cells, kills enemies and causes inflammation.

The conflict in the book is the daily wars fought and the struggle by our immune system to protect us from external aggressors like bacteria and viruses. For thyroid patients, there is one chapter dedicated to *autoimmune disease* which describes the three steps that take place to create this condition. Another chapter describes how your immune

system deals with cancer. There is a fascinating description of a hostile takeover by a flu virus and how the immune system responds to it. There’s even a chapter on the coronavirus pandemic.

Philipp Dettmer is not an immunologist but classifies himself as a “science communicator” and “immune system enthusiast”. There are wonderful colourful illustrations of immune cells throughout the book (as seen on the cover). If you’ve ever wanted to read a scientific book that wasn’t dry, difficult to understand, and full of long and unrecognizable names, this is the one! The book is available at your local library in hardcover and e-book formats.

Laz Bouros

## HAVE YOU GIVEN ANY THOUGHT TO LEAVING A BEQUEST TO TFC?



The Thyroid Foundation of Canada has been fortunate to receive several bequests recently for Thyroid Research. Important though research is, we are also in great need of funding to continue and expand our **Awareness** and **Support** Programs. You can make a lasting difference and help other thyroid patients!

By including the TFC in your will, your gift will help achieve the following:

- Raise public awareness of thyroid disease
- Lend moral support to thyroid patients and their families
- Assist in fund raising for thyroid disease research
- Receive **significant tax benefits** for your personal estate

With this gift, you can make a lasting impact for those suffering from thyroid disorders. Learn more on our website at: [thyroid.ca/bequest](http://thyroid.ca/bequest)

Contact us for more information: 1-800-267-8822 or [info@thyroid.ca](mailto:info@thyroid.ca)

### MEMBERSHIP AND DONATION FORM

Name:		Telephone:	
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<b>MEMBERSHIP LEVEL</b>			
ONE YEAR:		TWO YEAR:	
<input type="checkbox"/> Regular \$35	<input type="checkbox"/> Senior \$30	<input type="checkbox"/> Family \$45	<input type="checkbox"/> Regular \$60 <input type="checkbox"/> Senior \$50 <input type="checkbox"/> Family \$65
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