



Thry'vors News

CANADIAN THYROID CANCER SUPPORT GROUP (THRY'VORS) INC.

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TSH Receptor mRNA Blood Test

by Rita Banach

Most thyroid cancer patients with differentiated forms of the disease (i.e. papillary and follicular) are familiar with the periodic request by their doctor to have blood tests. One such test assesses Thyroid Stimulating Hormone (TSH). TSH is the measure of the amount of thyroid hormone being produced and is directly affected by the dose of hormone replacement a thyroid cancer patient is on.

Thyroglobulin (Tg) is another blood test periodically requested. Tg is a unique protein produced only by thyroid tissue, and therefore acts as a “marker” of recurrence of thyroid cancer. Once a patient has had a total thyroidectomy (and especially if they have been treated with radioactive iodine [RAI]), any significant measure of Tg in the blood is presumed to be an indication of thyroid cancer cells remaining or recurring. As well, the Tg measure is proportional to the degree of recurrence. For example, a Tg of less than 10 ng/ug may indicate spread to local neck lymph nodes, whereas greater than 10 ng/ug may indicate distant metastases.



www.positivenation.co.uk/issue130/treatments/treatment2/treatment2.htm

A measure of Tg while stimulated (that is, while using Thyrogen) has a 98% predictability of recurrence. Combined with a WBS (Whole Body Scan using a test dose of RAI) the predictability rises to 99%, and combined with an ultrasound of the neck, it rises to 99.5%. Thus, it is the measure of Tg that is the most important variable in predictability.

However, about 20-30% of patients produce Thyroglobulin Antibodies (TgAb). For those who produce TgAb, the Tg test becomes unreliable, and the patient's doctor loses this quick and trustworthy means of following the affected patient. Although it has been argued that only thyroid tissue can produce TgAb and therefore in



This is the 25th in a series of seasonal newsletters, from the Canadian Thyroid Cancer Support Group (*Thry'vors*) Inc. Your comments and suggestions are most welcome.

Please direct your comments to the Newsletter Committee at thryvors@sympatico.ca

Editor's Note:

This issue takes a look at 'What's New' both in the field of thyroid cancer treatment and within our organization. *Thry'vors* wishes you a happy winter season and best wishes for 2010.

Sarah Lyons, *Editor*

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Offering information and support



itself it also serves as a marker of recurrence – it is certainly not as finely honed a blood test for this purpose.

Since 1996 scientists studying thyroid cancer have also been looking at “molecular markers” as means of predicting recurrence of thyroid cancer. One such test is being developed at the Cleveland Clinic and measures TSH receptors. All thyroid cells — cancerous or not — have a functional TSH receptor on their surface. And also on the inside of all normal or cancerous thyroid cells exist the building blocks or precursors of this TSH receptor -

these precursors are called the messenger RNA or TSHR-mRNA. The test developed at the Cleveland Clinic detects this TSHR-mRNA in the blood in the same blood draw used to measure Tg. Only a thyroid cancer cell should be able to escape into the bloodstream to have its TSHR-mRNA detected.

When the blood test was first developed, the report would indicate only “positive” or “negative” for TSHR-mRNA. The current generation of the TSHR-mRNA blood test detects a finite level of cancer cells – detecting as few as 10 thyroid cancer cells per ml of blood – and from this makes a quantitative report. A test value below 1 ng/ug is interpreted to mean there are no circulating thyroid cancer cells that can be detected.

Currently the test has a sensitivity rate of 72% (ie. ability to exclude thyroid cancer) and a specificity of 90% (ie. ability to detect cancer accurately when the TSHR-mRNA test is abnormal) whereas Tg tests have a 98% reliability when there are no antibodies. The performance of the TSHR-mRNA test is currently being analyzed with new information from 1,200 samples since August 2008 and this may show improved rates of sensitivity and specificity. Additionally, there can be false-positives with TSHR-mRNA, as the test measures the messenger cells from all thyroid tissue and some of that tissue may be benign. And importantly, both Tg and TSHR-mRNA test results are not useful for thyroid cancer tissue that has become less differentiated (more aggressive disease).

The TSHR-mRNA does have interesting potential. It is an independent test, that is, not related to Tg testing, and not affected by Tg antibodies. Unlike Tg testing, it can be used pre-operatively to predict disease. This is may be very significant as 13% of thyroid cancer is missed pre-operatively via ultrasound and 20% of Fine Needle Aspirations are false-negative. And inversely, 38% of patients who have partial thyroidectomies are subsequently found (via biopsy) to be disease-free, and may have avoided surgery if a reliable pre-operative test was available.

The researchers believe that the greatest potential applications for the TSHR-mRNA test are that it is a good alternative test for those who cannot use Tg testing (ie.

My Fight

by: Janice Veri

You ask ‘who is this one’–
This defiant soul?
It is I the conqueror,
Warring against my demon

Armour invisible
To the naked eye
yet I feel the strength–
iron clad, around me

Invincibility–
You say, is wasted,
Who are you to question
What power lies within me?

I fight this fight, secure,
No Don Quixote
Someone has blessed me
With the defence of courage

I am a survivor

As others before
I feel I’m not alone
We will fight him together

Send us your poems.
Email: thryvors@sympatico.ca

those with positive TgAb) and it may be an important test in the decision-making process for initial surgery.

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 The preceding is a summary of a lecture given at 11<sup>th</sup> International Thyroid Cancer Survivors' Conference (St. Louis, MO), by Mira M. Milas MD, Endocrine Surgeon at the Cleveland Clinic (Cleveland, Ohio) (lecture title: Introduction to a New Blood Test that will Detect the TSH Receptor Messenger RNA, Making it a Marker of Thyroid

Cancer Cells Circulating in the Blood, Saturday Oct 18/08).

These notes have been reviewed and updated by Dr. Milas (Oct 2009) and we thank her for kindly contributing her expertise. To view a copy of a brochure describing the TSHR-mRNA test and how samples are tested at the Cleveland Clinic, visit the Files section of *Thy'vors* Online Forum at <http://health.groups.yahoo.com/group/Thyrvors/> Dr. Milas is an Associate Professor at the Cleveland Clinic Lerner College of Medicine and Director of the Thyroid Center at the Cleveland Clinic.

## Call for Letters for Equitable Coverage of Thyrogen®

This is an urgent call for testimonial letters for the equitable coverage of Thyrogen® across Canada. Thyrogen® is a medication which can be taken by injection to replace the need to be hypothyroid for treatment and tests related to thyroid cancer. This is an opportunity for our small, but nimble group to make a change in Thyrogen® coverage standards across Canada.

As the recently appointed volunteer Thyrogen Campaign Leader, I kindly ask patient members, family members and friends to forward personal journey letters of having to go hypothyroid for treatments, scans and tests, as well as your experiences with using Thyrogen®, if applicable.

We are campaigning aggressively and as quickly as possible for all provinces that currently do not cover the cost of Thyrogen®, which includes Ontario, Alberta and some Atlantic provinces. Regardless of your location, letter-writing would be of great support to this cause.



Your letter may contain the following aspects:

- ✓ To Whom it May Concern (salutation & date)
- ✓ Your 'cancer story' in brief
- ✓ The reason you went hypothyroid and/or used Thyrogen® (eg. RAI, scan, Tg test)
- ✓ Your detailed reaction to being hypothyroid (effect on home, work, etc.)
- ✓ Your reaction to using Thyrogen® (if applicable)
- ✓ Your reasons why you think Thyrogen® should be readily available to all Canadians and covered under all provincial medical programs
- ✓ Your name, signature and town/city (detailed contact info optional)

Thank you in advance for your assistance and sharing your personal stories. Together, I believe we can win this campaign for equitable coverage of Thyrogen®.

Please forward your letters to me by December 31/09 via email, fax or mail as provided below. We will forward all letters to the appropriate officials as evidence of the need for all provinces to give equal and complete coverage of this important medication, which can often be used in place of hypothyroid preparation.

Regards,  
 Beatriz Leonardo  
 Volunteer Campaign Leader  
[leonardos@rogers.com](mailto:leonardos@rogers.com)

**Send letters to:**  
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## Help *Thry'vors* Through Canada Helps

*Thry'vors* participates in the CanadaHelps online portal. That is, we are listed there amongst the choices of charities that one can donate to online. This is *Thry'vors* way of making it convenient for donors to make immediate online donations, and receive a receipt for income tax purposes from the portal right away. We greatly appreciate your donations at [www.canadahelps.ca](http://www.canadahelps.ca) to support *Thry'vors*.

### Other Ways to Use CanadaHelps.ca

- Go to [www.canadahelps.ca](http://www.canadahelps.ca) and create your own "Giving Page" which names *Thry'vors* as the beneficiary. Then let your friends know that you have a Giving Page and that they can use it in lieu of gifts for your birthday, Christmas, or special occasion. Hey, wouldn't you appreciate it if your friends and family gave a gift to *Thry'vors* rather than giving you another funny Christmas sweater ☺
- Give a Gift Card at [www.canadahelps.ca](http://www.canadahelps.ca). Give the 'gift of giving' by purchasing [canadahelps.ca](http://www.canadahelps.ca) gift cards for your friends and family. It's a double win for you because you facilitate a wonderful gift to a charity of your friends' choice, and you immediately receive a tax receipt too.

What is the benefit of an income tax receipt? If you make a \$100 donation, after the deductions the actual cost to you is between \$75.56 and \$78.95 depending on your income level. If you make a \$5,000 donation, with tax deductions your actual cost is between \$2,723.46 and \$3,030.32 (based on 2008 calculations for 'middle-income' earners).

## Illness Perception in Thyroid Cancer Patients

An article review by Charna Gord, BAsc, MEd, RD

*Charna Gord is a Registered Dietitian working as an Education Coordinator in an Ontario public health unit. She underwent a total thyroidectomy for thyroid cancer in December 2007. This is the seventh in a series of thyroid cancer related journal articles and other resource reviews that Charna has undertaken for *Thry'vors* News.*

In this review, Charna summarizes the findings of the following journal article:

**Hirsch D, Ginat M, Levy S, Benbassat C, Weinstein R, Tsvetov G, Singer J, Shraga-Slutsky I, Grozinski-Glasberg S, Mansiterski Y, Shimon I, Reicher-Atir R.**

**Illness perception in patients with differentiated epithelial cell thyroid cancer. *Thyroid*. 2009 May; 19(5):459-65.**

### Main Message

This study shows that patients with differentiated epithelial cell thyroid cancer (DTC) (papillary and follicular thyroid cancer), tend to perceive their illness subjectively and emotionally and unrelated to the clinical severity of their disease. The authors suggest ways that health care practitioners can provide support to patients to help them to better understand and manage their health.

### What was the research question?

Until recently, medical literature has measured cancer outcome based on survival time; the longer a person survives, the better the outcome. More recently, researchers are beginning to look at quality of life (QOL) as another important indicator of cancer outcome. Studying QOL can help evaluate the major impact that cancer diagnosis and management has on a patient's life. One of the measures of QOL is a patient's perception of their disease; how they make sense of and respond to their illness.

An Illness Perception Questionnaire is a research method used to assess how patients perceive and adapt to their disease. This type of questionnaire has been used to study patients with a wide range of conditions, including cancer.

The research objective of Illness Perception in patients with differentiated epithelial cell thyroid cancer was to investigate how patients with DTC perceive their illness and compare that to the actual severity of their disease, taking into account their individual characteristics.

### Who was in the study?

The study group was made up of 110 thyroid cancer patients who had undergone a thyroidectomy and were being treated with levothyroxine. These patients were seen for routine follow-up at an endocrine clinic of a major tertiary medical centre in Israel from November 2007 to January 2008. The majority of these patients were married and employed women in their mid-fifties.

### What was in the questionnaire?

The Illness Perception questionnaire consisted of three parts.

The first part of the questionnaire provided participants with a list of 14 commonly occurring symptoms. Patients were asked to rate whether they had experienced each symptom since their illness and whether they believed the symptom to be specifically related to their illness (yes or no). The more patients answered yes, the stronger their belief that the experienced symptoms were part of their illness.

The second part of the questionnaire asked patients to rate 38 statements on a 5-point scale (“strongly agree” to “strongly disagree”) measuring patient’s beliefs about their illness. Higher scores indicated stronger beliefs that their disease had serious consequences, was chronic or long term, and/or its symptoms were cyclical in nature. Higher scores showed a stronger belief in the patient’s own ability to control symptoms and in the effectiveness of treatment in controlling their illness. Finally, higher scores meant a higher degree to which patients believed they understood their illness.

The third part of the questionnaire contained 18 items rated according to the same 5-point scale, this time measuring what patients believed to have caused their cancer. The causes were divided into four categories: personal-psychological (patient’s own behaviour, stress or worry, family problems), risk factor related (genetics, eating habits, smoking), immune system related (virus, environmental pollution) and accidental (chance, bad luck, accident).

In order to determine the severity of the disease for each patient, the researchers looked at the duration of the disease (date of diagnosis), the disease stage, the number of operations, the number of radioactive iodine treatments (RAI), and the evidence of disease persistence or recurrence at the time the questionnaire was administered. Patient age and gender information, family and employment status, and level of education were gathered from patients or their medical records. The researchers considered all of these findings to formulate their conclusions.

### **What were some research findings?**

- Patients who believed they understood their illness showed less negative emotions (such as feeling the illness would last a long time, or that they did not believe they or the treatment could control the dis-

ease) and were less inclined to believe that the disease was unpredictable or had severe consequences.

- The higher the number of RAI treatments, the more patients viewed their illness as severe. Interestingly, the number of surgeries did not affect how patients perceived their illness.
- The longer the interval from the last treatment, the less likely the patient to view the disease as having a negative effect on their daily life.
- Almost 60% of participants believed that stress or worry, and almost 50% believed that family concerns, were related to the cause of their illness.
- The longer the interval from the last treatment, the less likely the patient was to consider hard work or aging as responsible for their disease.
- Educated patients had a better understanding of their illness and perceived its consequences as less severe than less educated patients.

### **What were the final recommendations?**

This study suggests that patients with DTC understand their illness according to their own beliefs and how they feel it has affected their life. This perception can be unrelated to how severe their disease actually is clinically. It is important therefore for health practitioners to understand and refer to the individual way a patient views their illness, and to pay special attention to less educated patients, and to patients who require repeated RAI.

As patients with DTC tend to perceive their illness on a subjective, emotional basis unrelated to its actual severity, the researchers advocate for the use of a trained psychologist on the multi-disciplinary team, better interpersonal techniques and physician reassurances. More detailed information about DTC symptoms, typical progression of the illness and its treatment, while addressing patient’s emotional reactions to cancer, could help support patients to achieve a more coherent understanding of their health.

## A Few New Things I Gleaned from the ThyCa 2009 Annual Survivors' Conference

by Rita Banach

- One small pharmaceutical company can spend \$300 million on 20 drugs in development, per year.<sup>1</sup>
- Because of the rarity of thyroid cancer (thyca) most studies are multi-national in order to get enough subjects
- Most of the new studies regarding differentiated thyca (DTC) are focused on targeting molecular abnormalities, especially for those with iodine resistant disease.<sup>2</sup>
- At least 10 drugs are in trial phases now for DTC.<sup>3</sup>
- A small study has been initiated at the University of Connecticut Health Center looking at blood samples of family members who have thyca, for common abnormalities. To date, 5% in their patient sample have a familial form of DTC.<sup>4</sup>
- An updated version of the American Thyroid Association guidelines has just been released. The number of recommendations has increased from 84 to 90. The most important predictive variable in regards to prognosis is age at diagnosis. As such, the emphasis of the guidelines is on staging and risk factors in regards to treatment of the disease.
- The “staging” process should begin before initial surgery. Not only is a pre-operative FNA biopsy recommended, but so is a Doppler ultrasound (U/S). The purpose of the U/S is to guide the surgery and especially to look for abnormal lymph nodes — sometimes behind the gland (not palpable) so that the surgeon knows they need to be removed.<sup>5</sup>
- At the Mayo Clinic, the surgeons routinely dissect (remove) all central compartment lymph nodes during a standard total thyroidectomy surgery whether they look affected or not. Dr. McIver cited a study that found that if one chooses any random thyca patient and removes every one of their neck lymph nodes (an 18 hour operation removing up to 300 lymph nodes in total); in 80% of the cases micro thyroid cancers will be found. 20% of the time these tiny “seeds” of thyca eventually develop into a “bulky” node (ie. a recurrence). Most lymph node recurrences are iodine-resistant.

- In cases where Tg is elevated, but the disease cannot be imaged in various tests (RAI, CT, PET, etc.) a highly skilled and experienced ultrasonographer can likely find the source in U/S.
- Patients with Stage I disease statistically have a 100% rate of survival whether or not they have RAI treatment, therefore it is not recommended for those at this level (ie. those under 45 years old, having disease without any aggressive features)
- New treatments modalities for patients with: progressive disease, where other treatments have failed, and where the anatomical features lend themselves to the alternatives — may be candidates for “alternative ablative techniques”. One is Ethanol Ablation (a type of alcohol is injected into the affected nodule in the lymph node). Thus far almost 350 patients have been treated at the Mayo with this technique. Another alternative treatment currently under study in the USA (at Brown University) is Radio-frequency Ablation. About 100 patients have undergone this experimental treatment.

For a full list of speakers and topics, see the ThyCa website at [www.thyca.org](http://www.thyca.org)

<sup>1</sup> Charles Butler, Senior Director Corporate Communications, Exelixis

<sup>2</sup> Dr. Naifa Busaidy, Endocrinologist, MD Anderson

<sup>3</sup> Dr. Lori Wirth, Medical Oncologist, Harvard Medical School

<sup>4</sup> Dr. Carl Malchoff, Otolaryngologist, University of Connecticut

<sup>5</sup> Dr. Bryan McIver, Endocrinologist, Mayo Clinic

## What's New at Thy'vors?

### Administration

*Thy'vors* is a charitable organization and as such has a Board of Directors (all patient members). As well, it is guided by an Advisory Group of 25 members, who meet online every Friday via an emailed “*Thy'vors* Weekly Update”.

The Executive Committee meets monthly (in person). Our agenda is usually quite full -- averaging more than 20 items and taking between 3-4 hours per meeting.



**Thry'vors AGM attendees, 2009**

**Top L-R:** Ken Lam, Giorgio Barbato, Millie Phillips, Melissa Pecile, Bonnie Lee, Nina Moritsugu, Rosa Moskowitz, Rita Banach

**Bottom L-R:** Sue Legree, Despina Spencer, Katie Stoddart, Mia Guilló, Sarah Lyons, Nancy Brouillard

**Thry'vors Acts as Your Voice**

Thry'vors tries to represent your needs. For example, Beatriz Leonardo has begun a campaign to let provincial governments know that we feel it is unfair that some provinces cover the cost of Thyrogen (administered to patients for radioactive iodine therapy or scan and/or for thyroglobulin [Tg] testing) while other provinces do not. You can help Beatriz and the committee be successful in improving this inequitable situation by sending a letter of support to her. See page 3 for more information about this project.

**Getting the Word Out**

Thry'vors has been pro-active in thyroid cancer education. Recently, Charna Gord's article about the Low Iodine Diet was published in the widely distributed Dietitians of Canada (DC) Practice supplement (November 2009 issue).

**Online Forum**

The membership in Thry'vors Online Forum community grows exponentially each year. We currently have more than 1,200 participating members who posted about 7,200 messages in the last 12 months. This compares to 6,300 messages posted in the previous year. Big thanks go to the team of Online Forum moderators; especially to our new Chair, Melanie Thomson.

**In-Person Opportunities**

Thanks to the helping hands of many of our volunteers,

Thry'vors held 9 Patients Forums in 2008-2009. Most of these events were held thanks to our partnership with Genzyme Canada Inc. and included events held in Toronto, Edmonton, Montreal, Calgary, Ottawa, Halifax, Kitchener-Waterloo, Oakville and Windsor. In total 632 people attended these events!

**New projects**

A few months ago, Thry'vors developed a new resource known as the "Welcome Package". Each package contains: a welcome letter, a copy of each of our four publications and a 4-T4 disc – all contained in an attractive folder. Since instituting this resource for new members (who contact us by phone or email) we have sent out an average of 2-3 packages per week to 'newbies'.

Our most recent special project is the beginning of a mission to create French language support at Thry'vors, including translation of some of our publications and website. As well, we look forward to providing telephone support to Francophones. Terryl Mogk Stone (of Winnipeg) has kindly offered to help coordinate this project.

**Funding**

Thry'vors has no ongoing source of funding. No annual fundraiser or silent benefactor. Instead 'small & steady donations' is our financial theme. Our greatest source of income is the small individual donations made mainly by members. In 2008, our members and their friends/family donated over \$15,000. No donation is too big or too small and member's donations range from \$10 to \$5,000. Since Thry'vors has no paid staff, all donations go directly to our projects and programs. Slowly but surely we sock away as much as we can each year in hopes that some day we can fund larger projects (including thyroid cancer research) too.

Not all donors just take out their chequebook – some are very creative. For example this year a member gave a small party and raised \$610 from the attendees. Another member had a friend who passed-the-hat in her honour at a gathering of old friends and raised \$216. And the youngest contributor was a 10 year old who, along with her classmate raised \$200 from school mates in honour of her mother's recovery from thyroid cancer. As well individual clinicians, who ordered publications from us in the past year,

accompanied their orders with \$950 worth of donations as well.

Our biggest corporate sponsor continues to be Genzyme Canada Inc. Not only did they partner with us on 8 Patients Forums, but they also donated \$15,000 in 2009.

As well, Scott's Directories made an in-kind donation of 'MD Select' valued at more than \$1,000. The directory is an interactive software list of all Canadian doctors, which we use to contact clinicians about our programs and projects.

Also, Sunrise Senior Living (Thornhill) donates a room and refreshments for our monthly Executive Meetings. This ongoing generous donation of beautiful meeting space and tasty meals is very much appreciated!

Another in-kind donation that we continue to benefit from is the newsletter design provided by Ursula Gallagher, Creative Director at Litmus Design. Ursula (sister to one of our members) generously donates her time and resources to design and layout this quarterly newsletter which is distributed to the over 1,400 patient-members on our mailing list and online.

### Future Needs

In our first five years of existence (2002-2007), our membership slowly inched-up to 782 patient members. In the past 2 years the membership has exploded, doubling in size to a total of more than 1,500 patient-members. We continue to work hard to support our members with our various programs.

As always, we carry on with the search for volunteers to help out with small jobs and big ones too. *Thry'vors* programs covered by volunteers include: telephone support (300 calls taken in 2008), email support, Online Forum, publications, special projects, in-person Con-neck-tion meetings, Patients Forums, website, Welcome Package, *Thry'vors News* and more! The need grows exponentially each year as we keep adding new support services to our roster. If you appreciate the support given by *Thry'vors* and want to (as Oprah says...) 'pay it forward', please contact us and we'd be happy to talk about how you can help.

Each year at this time, *Thry'vors* holds a campaign to remind our patient members that we appreciate their donations. A donation form is enclosed with this issue of *Thry'vors News*. I hope this article has helped illuminate where your donated funds go – what our needs and expenses are. Your support is greatly appreciated.

## Ask *Thry'vors*

by Mia Guilló

The members of *Thry'vors* Medical Advisory Panel are available to answer YOUR general questions about every aspect of thyroid cancer. A list of our Medical Advisory Panel members appears on our website at: [www.thryvors.org/AboutThryvors.html](http://www.thryvors.org/AboutThryvors.html)

### In This Issue:

We ask about the effects of Radioactive Iodine Treatment (RAI) on cats both as a treatment as necessary for diseases in cats, and also the effect human treatment may have on them. Our special guest responder is Heather J. Chalmers, DVM, Dipl. ACVR of the Ontario Veterinary College.

**Q1** - Briefly, how would you summarize the research you and your colleagues have performed regarding the output of I-131 by cats that have been treated with RAI for hyperthyroidism? Are people at risk of exposure to RAI from their cats or other pets – in what way, for how long, and what precautions should be taken?

### Background:

Feline hyperthyroidism is a common endocrine disorder affecting older cats. This condition is typically the result of thyroid adenoma or thyroid hyperplasia, both of which are benign. A common treatment for this is the administration of radioactive iodine (RAI), although other treatments exist including medical management with the anti-thyroid medication methimazole.

**A1** - We have performed two studies<sup>1</sup> to investigate the safety of RAI treatment for cats and their families. We were particularly concerned about the possible impact of the RAI on the family members of treated cats following release of the cat from



the hospital. Cats are typically housed for 3-10 days following treatment. The duration of hospitalization depends upon the radiation safety guidelines in each region. Since RAI is excreted in the saliva and the urine in treated cats, the grooming and litter box habits of the cat will impact the amount of activity that ends up on the surface of the cat's coat. Removable activity refers to radioactive particles that are on the surface of the cat (as opposed to the activity that is within the thyroid gland inside the cat). Removable activity is of particular concern to human health, as if human family members' hands become contaminated when petting the cat; the activity could be accidentally ingested. We measured the amount of removable activity on cats for the first 10 days following RAI treatment. In this study, we found that for the first 10 days following RAI treatment, the amount of activity on the surface of the cat that could be removed by stroking or petting the cat was on average about 295 dpm (disintegrations per minute) but could be up to 4148dpm in some samples. To put this level into perspective, the State limit for removable activity for a non-controlled area is <math><1000\text{dpm}/100\text{cm}^2</math>. We concluded that it is prudent to continue to advise owners of treated cats to observe appropriate hygiene precautions in order to minimize the risk to household members. This includes not allowing the cat to sleep on the lap or in the bed with the owners, and washing hands following handling the cat or the litter.

**Q2** - Please describe and comment on the JAMA article by Grigsby et al, Radiation Exposure from Outpatient Radioactive Iodine (I-131) Therapy for Thyroid Carcinoma. JAMA, 2000; 283(17):p 2272-2274<sup>2</sup>. In Dr. Grigsby's study, family members and pets wore radiation collection badges for 10 days following the discharge from hospital of a family member who had RAI treatment, to

help determine the level of exposure family and pets have to a patient treated with radioactive iodine.

**A2** - This paper was intended to quantify the radiation exposure to household members of patients receiving RAI therapy for thyroid carcinoma. The study involved measuring the exposure levels of all household members by having them wear a dosimeter, a portable device that detects and records radiation doses, for 24 hours a day for 10 days.

Dosimeters were also placed in various rooms of the household to see which rooms tended to have high radiation levels. The patients enrolled in the study were all being treated for thyroid cancer with doses ranging from 2.8-5.6 Gbq (average dose 4.3 GBq [116mCi]) and released immediately following treatment. Overall, the range of exposure to household members was found to be 0.01-1.09 mSv (average 0.24mSv), the range of exposure to pets was found to be 0.02-1.1mSv (average 0.37 mSv). The authors concluded that the exposure to household members was below the recommendations of the US Nuclear Regulatory Commission (US NRC) of 5.0 mSv.

One limitation of this criterion, from a veterinary perspective, is that the US NRC limit of 5.0 mSv is based on acceptable levels for human exposure. The acceptable levels of exposure for a pet have not been mandated by the NRC to date. The smaller body size of some pets and the difficulty in enforcing some common radiation safety precautions for pets (for example pets will not wash their hands!) may make this estimation insufficient for protecting the pet from harmful levels of radiation. However, to put this dose into perspective, an x-ray of a pet's chest or abdomen performed by a veterinarian for diagnostic purposes would result in an exposure of approximately 0.39mSv per view.

#### Resources in the File Section of *Thryvors* Online Forum

*Thryvors* Online Forum is not just a great place to chat with other members of our group on-line. It is also a place where we store lots of reference material for you to access in one place on the internet.

<http://health.groups.yahoo.com/group/Thryvors/files>

The study conducted by Dr. Grigsby did not measure removable activity, and this is commonly accepted to be substantially less than surface doses. For pets in the home with RAI treated patients, removable activity may be of greater concern than surface dose. Due to the strong tendency of RAI to localize in the thyroid tissue once internalized, ingestion of activity could result in some RAI uptake in the thyroid which may destroy some normal thyroid tissue. The ingested dose would have to be substantial (up to 4-5 mCi) to be of great concern for the induction of hypothyroidism. Ingestion of RAI by pets may be more likely than for human family members as pets are unable to wash their hands, are often unsupervised in the home, have a tendency to explore with their nose/mouth, and will commonly groom by licking their coats. For this reason, the RAI treated patient would be advised to wash his/her hands prior to handling a pet in order to limit the surface contamination of the pet. It may also be helpful to limit the pet's access to areas in the home that could be contaminated, such as the sleeping area of the RAI treated patient, even when the RAI treated patient is not in bed. By closing the bedroom door, the pet will not be able to rest on contaminated pillows or bedding, which should reduce the likelihood of contamination of the coat. For those pets that commonly drink from the toilet, the lid should be kept closed following RAI treatment so that the pet does not

drink toilet water that is potentially contaminated with RAI excreted in the urine.

While the likelihood of a clinically significant ingested dose of RAI by the pet of a RAI treated patient is likely minimal, following the above outlined precautions should further minimize the risk. Overall, if appropriate precautions are taken, with some emphasis on the pet specific measures outlined above, the potential for harmful exposure to pets following RAI therapy of the owner is minimal.

<sup>1</sup>Chalmers HJ, Scrivani P, Dykes NL, Hubble L, Hobbs J, Erb HN. Evaluation of agreement between two instruments in measurements of radiation dose rates in cats that underwent iodine 131 treatment. *AJVR* 68(4) 2007 p. 354-357.

Chalmers HJ, Scrivani PV, Dykes NL, Erb HN, Hobbs JM, Hubble LJ. Identifying removable radioactivity on the surface of cats during the first week after treatment with iodine 131. *Vet Radiol Ultrasound*. 2006 Sep-Oct;47(5):507-9.

<sup>2</sup><http://jama.ama-assn.org/cgi/content/abstract/283/17/2272>

Particular thanks to our guest responder, Heather J. Chalmers, DVM, Dipl. ACVR, Assistant Professor, Radiology, Ontario Veterinary College, University of Guelph, Guelph, ON, for her assistance with this special issue of *Ask Thy'vors*.

## Calling all Meddies

The American Thyroid Association has recently released the 2009 Medullary Thyroid Cancer - Management Guidelines. To access them online, see [www.thyroid.org/professionals/publications/documents/MTC\\_Guidelines.pdf](http://www.thyroid.org/professionals/publications/documents/MTC_Guidelines.pdf) or contact ThyCa [www.thyca.org](http://www.thyca.org) and they will mail you a hard copy.

If you or someone you know, has Medullary Thyroid Cancer (MTC), Sylvie Melanson, the spouse of a Canadian with MTC, invites you to contact her to share information and/or to get support concerning the disease. To contact her, leave your name, email and/or phone number at *Thry'vors* and we'll pass it on to her.

[thryvors@sympatico.ca](mailto:thryvors@sympatico.ca)  
416-487-8267



**CALL FOR PATIENTS IN A RESEARCH STUDY****Testing an Educational Website on Thyroid Cancer Treatment Options**

Seeking participants who have had thyroid cancer. To be eligible for the study, patients must be at least 18 years old, read English, and know how to operate a computer. The study involves one or two visits to the Toronto General Hospital (in Toronto). During the visits the participants will fill out a questionnaire, test a website, and provide feedback. Compensation will be provided.

For more information contact, A.M. Sawka, TGH, 416-340-4800 ext. 5886

**LID RECIPE BOX****Banana Cookies**

adapted from the banana muffin recipe, *Vive Le Vegan Cookbook*

- 1 cup quick oats
- 1 cup ground oats (use a food processor or spice grinder)
- 1/3 cup sugar
- 1/4 tsp non-iodized salt (optional)
- 1/2 tsp cinnamon (or 1/4 tsp ground cardamom)
- 1/4 tsp nutmeg
- 1 tsp baking powder
- 1 cup overripe banana, puréed (approximately 2 large bananas)
- 1 tsp pure vanilla extract
- 3 – 3 1/2 tbsp light oil, like canola



Preheat oven to 350°F (176°C).

Mix dry ingredients in a bowl. Combine well.

In another bowl mix the wet ingredients: puréed banana, vanilla and canola oil.

Add the wet mixture to the dry mixture and **ONLY** stir until combined. Don't over-mix.

Drop large spoonfuls onto an oiled baking sheet. Bake for 12-15 minutes, until lightly golden. Remove from oven and let cool on pan for 1 minute, then transfer to a cooling rack.

Makes 12 cookies

VARIATIONS: add 1/3 cup of nuts, sunflower seeds or chocolate chips

New Recipes are continuously added to the *Thry'vors* LID Recipe Index - now including almost 400. To view LID recipes, go to: <http://health.groups.yahoo.com/group/Thryvors> or view a sampling of recipes at [www.thryvors.org](http://www.thryvors.org)

## News and Events from the Community

### News from Supporters of the Interdisciplinary Thyroid Oncology Clinic at the QEII

On 19<sup>th</sup> September, at **Saint Mary's University, Halifax**, the **first annual fundraiser** for thyroid cancer took place with the specific goal of raising money for the **Interdisciplinary Thyroid Oncology Clinic** at the QEII HSC in Halifax Nova Scotia.

The evening was a huge success; a champagne reception with an alternative of Kir Royales and the sampling of 6 wines from the Mediterranean region followed. Antipasto, fresh fruit, hummus and other delectable food was paired with the wines.

Thanks to overwhelming support from the community, successful silent and live auctions were held. The auctions raised over \$8,000. An educational display about thyroid cancer and information from *Thry'vors* provided much needed information for people attending the event. The very prestigious and first **CCNS Excellence in Patient Care Award**, presented to the ITOC team, was on display.

With support from the QEII Foundation and others including sponsors and businesses, the event raised over \$15,000 in total. This money will go directly to the Interdisciplinary Thyroid Oncology clinic to purchase much needed software to enhance patient care and follow up.

The evening was a wonderful success serving over 1200 glasses of wine for tasting. The organizing committee, comprising of Dr. Mal Rajaraman, Karen Woodward, Anne Hiltz, Kathy Silverstein, Leanna Conrod and Carol Dodds, want to thank everyone who supported this event including the wonderful staff and caterers of Aramark and also Saint Mary's University.

If you would like to help next year please contact Carol Dodds at [mcdodds@nstu.ca](mailto:mcdodds@nstu.ca) or call 902 425 8228.

## Tell us what you think

Your comments and suggestions are welcome.



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**Like you, we have been touched by thyroid cancer. We are a non-profit organization and we are all volunteers. If you would like to donate or to become a volunteer please visit [www.Thryvors.org](http://www.Thryvors.org).**

**Donation cheques can be made payable to:** Canadian Thyroid Cancer Support Group (*Thry'vors*) Inc.

**Mail to:** Canadian Thyroid Cancer Support Group (*Thry'vors*) Inc.  
 PO Box 23007, 550 Eglinton Ave. West  
 Toronto, ON M5N 3A8

**Make a donation online today.**  
 **[www.canadahelps.org](http://www.canadahelps.org)**  
 enter the word **Thry'vors**